

LOGICRAFT

386WARE

for VMS

*Release 4.0
March 19, 1993*

Copyright © 1993 by Logcraft, Inc.

Copyright is held by Logcraft, Inc. All rights reserved. No part of this publication may be reproduced, transmitted, stored within a retrieval system, or translated into any language or computer language, in any form by any means, electronic, mechanical, magnetic, optical, chemical, manual, or otherwise, without the express written permission of Logcraft, Inc.

This product, software, and manual are protected by U.S. Copyright law (Title 17 United States Code). Unauthorized reproduction and/or sales may result in imprisonment of up to one year and fines of up to \$10,000 (Title 17 United States Code, Section 506). Copyright infringement may also subject the guilty party to civil liabilities.

Disclaimer

This manual is subject to change without notice. Logcraft, Inc. makes no representations of warranties with respect to the contents hereof and specifically disclaims any implied warranties of merchantability or fitness for any particular purpose. Further, Logcraft, Inc. reserves the right to revise this publication and product and to make changes from time to time in the contents hereof without obligation to notify any person of such revisions or changes.

Trademarks

386Ware, 486Ware, CD-Ware, OmniWare, and Fax-Ware are trademarks or registered trademarks of Logcraft, Inc.

ALL-IN-1, DEC, DECnet, DECwindows, LAT, PATHWORKS, PCSA, ThinWire, ULTRIX, VAX, VAXcluster, VMS, and the digital logo are trademarks or registered trademarks of Digital Equipment Corporation.

IBM, IBM PC, IBM PC/AT, RS/6000, AIX, and the IBM logo are trademarks or registered trademarks of International Business Machines Corporation.

MS-DOS, Microsoft Windows, and Word for Windows are trademarks or registered trademarks of Microsoft Corporation.

Motif and OSF/Motif are registered trademarks of The Open Software Foundation, Inc.

SCO is a registered trademark of the Santa Cruz Operation, Inc.

Open Look is a trademark and UNIX is a registered trademark of Unix Systems Laboratories, Inc.

X Window System is a trademark of The Massachusetts Institute of Technology.

MultiNet is a trademark of SRI International and TGV, Inc.

Sun, SunOS, SunView, OpenWindows, Sun-3, Sun-4, SPARCstation, and the Sun logo are trademarks or registered trademarks of Sun Microsystems.

HP, HP VUE, and the Hewlett-Packard logo are registered trademarks of Hewlett-Packard.

Intel and the Intel logo are registered trademarks of Intel.

OSx and the Pyramid logo are registered trademarks of Pyramid Technology Corp.

All other company and product names are trademarks or registered trademarks of their respective owners.

Master Contents

Preface

Introduction	i
Product Overview	ii
Server Hardware	ii
Software Overview.....	iii
About this Manual.....	iv
Typographical Conventions.....	vi
Customer Support.....	viii
Radio Frequency Interference Information ..	x
Standard Software License Agreement	xi

Release Notes

System Requirements	RN-1
Disk Space Needed	RN-2
Overview of Changes since Version 3.8x	RN-3
Release Caveats & Known Limitations for Version 4.0.....	RN-6
XNS Information	RN-9
Revision History	RN-11

Installation

Introduction	INS-1
Installation Checklist.....	INS-2
Server Installation	INS-3
System Console.....	INS-4
General Power Connection.....	INS-5
Ethernet Installation	INS-6
LEAC and SONIC.....	INS-7
LEFDA	INS-8
Standard Ethernet Connection	INS-8
ThinWire Ethernet Connection.....	INS-8

VMS Software Installation	INS-9
Upgrade Information.....	INS-9
Prerequisites.....	INS-10
Before Installing the Software.....	INS-11
Running VMSINSTAL.....	INS-11
VMSINSTAL Syntax.....	INS-12
Error and Warning Messages	INS-12
Default vs. Custom Installation	INS-14
Default Option, First-Time Installation	INS-15
Default Option, Upgrade Installation.....	INS-15
Custom Option, First-Time Installation.....	INS-16
Custom Option, Upgrade Installation	INS-17
Software Subsets.....	INS-18
Post-Installation Steps for TGV Servers	INS-19
Rebooting Your System.....	INS-20
Restarting DECwindows or Motif.....	INS-21
Upgrading the DECwindows or Motif Fonts.....	INS-21
Starting the 386Ware Software	INS-22
The 386Ware Start-Up File	INS-22
Multiple Ethernet Controllers	INS-23
386Ware's Symbol Definitions	INS-23
If You Have Both 386Ware and Omni-Ware.....	INS-24
Booting the Server	INS-25
The Master Boot Floppy	INS-26
Server Options	INS-26
Creating a Custom Boot Floppy.....	INS-27
Status Display	INS-30
Installing 386Ware as a Shared Image .	INS-32
Installing Logicaft's Fonts.....	INS-33
Macintosh with MacX	INS-33
PC with PC DECwindows	INS-35
VT1300 X Terminal.....	INS-37

Establishing a Session	INS-38
Deleting Privileged Utilities.....	INS-39
Setting Up User Accounts	INS-41
Minimum Privileges and Quotas.....	INS-41
DECwindows and Motif.....	INS-42
Software Overview	INS-43
SYS\$386WARE	INS-43
SYS\$LOGICRAFT_COMMON.....	INS-46
SYS\$STARTUP	INS-47
SYS\$UPDATE	INS-47
SYS\$HELP	INS-47

User's Guide

Introduction	UG-1
Overview.....	UG-2
Starting a Session	UG-2
Terminal Emulation.....	UG-2
Keyboard Mappings.....	UG-3
The SRV.COM Procedure	UG-4
Using the PC Mouse	UG-5
Activating the Mouse.....	UG-5
Using Copy and Paste.....	UG-6
Standard Mode	UG-6
Rubberband Mode	UG-7
Notes.....	UG-7

Session Configuration

Introduction	CFG-1
Logcraft Window Systems	CFG-2
Logical Disks	CFG-3
Creating a Logical Disk	CFG-3
Disk Storage for Users	CFG-5
Disk Storage for Applications Software	CFG-5
Configuring Printer Information.....	CFG-7
Command Syntax	CFG-10
Sample	CFG-11
Configuration Qualifiers	CFG-14
/AUX_PORT	CFG-18
/BINARY	CFG-19
/[NO]BREAK	CFG-20
/[NO]CACHE	CFG-21
/[NO]CLOSE	CFG-22
/COMMAND	CFG-23
/COPIES	CFG-24
/DEC	CFG-25
/[NO]DELETE	CFG-26
/DISKS	CFG-27
/[NO]FLAG.....	CFG-28
/[NO]FLUSH	CFG-29
/FORM.....	CFG-30
/[NO]HOT_KEY	CFG-31
/IBM	CFG-32
/INPUT.....	CFG-33

/KEYMAP	CFG-34
/LN03	CFG-35
/MEMORY	CFG-37
/MINMEMORY	CFG-38
/NOCTRL_SQ	CFG-39
/OUTPUT	CFG-40
/[NO]PASSALL	CFG-41
/PCTYPE	CFG-42
/PRINTER.....	CFG-43
/[NO]QUEUE	CFG-44
/READ_ONLY	CFG-45
/SERVER	CFG-46
/[NO]SHARE	CFG-47
/SLAVE	CFG-48
/TEXT.....	CFG-49
/TIMER_1, /TIMER_2, /TIMER_3	CFG-50
/[NO]TRAILER.....	CFG-52
/TYPEAHEAD	CFG-53

Pull-Down Menus CFG-54

Overview	CFG-54
Configuration Menu.....	CFG-56
Required Configuration Parameters.....	CFG-56
Printer Configuration Parameters.....	CFG-59
Auxiliary Configuration Parameters.....	CFG-63
VGA Remap Palette.....	CFG-66
Edit Menu.....	CFG-67
Configure.....	CFG-67
Fonts Menu	CFG-69
File Menu	CFG-69
Save.....	CFG-69
Load... ..	CFG-70
Use	CFG-70
Quit	CFG-70
Help Menu.....	CFG-71

System Manager's Guide

Introduction	SMG-1
Logical Name Summary	SMG-2
Memory Management	SMG-6
386Ware and Memory Allocation	SMG-7
Using /MINMEMORY	SMG-7
Calculating a Value for /MINMEMORY	SMG-8
Maximizing Memory for Software Applications	SMG-9
Important Notes	SMG-9
Using LHDRVR.SYS and UMBLOAD	SMG-10
Maximizing the Number of Simultaneous Sessions	SMG-12
Balancing Server Load	SMG-14
All Servers	SMG-14
Defining Server Groups	SMG-14
Keymap Directory File	SMG-16
Data File Format	SMG-16
Adding to the Data File	SMG-17
Checking the Data File	SMG-18
The Temporary Directory	SMG-20
System-Wide Temporary Directory	SMG-20
Temporary Directory for Each User	SMG-21
386Ware Logging Utility	SMG-22
Enabling the Logging Utility	SMG-22
Reading the Log File	SMG-22
Using 386HISTORY.COM and WRITE_LOG.EXE	SMG-23
Workstation Floppy Drives	SMG-24
Accessing the Drive	SMG-24

VGA/EGA Video Option SMG-26

The System Configuration Utility SMG-27

- Exiting the System Configuration Utility SMG-28
- Display Current System Configuration SMG-28
- Change Slave Configuration SMG-28
- Change Network Interface Configuration SMG-29
- Change System Console Configuration SMG-29
- Change Floppy Drive Configuration SMG-30
- Set the System Date and Time SMG-30
- Perform Slave Card Diagnostics SMG-30

Removing the 386Ware Software SMG-31

Troubleshooting SMG-32

- Verifying the Network Connection SMG-35
 - The ECHO Utility (XNS Only) SMG-35
 - The UCX LOOP Command SMG-36
 - The MultiNet PING Command SMG-37
- XCP Control Program SMG-38
 - START SMG-38
 - STOP SMG-39
 - SHOW SMG-39
 - STATUS SMG-40

Utilities & Drivers for DOS

Introduction DOS-1

Command Summary DOS-2

- ATTACH DOS-5
- COM n DOS-6
- DEVICE DOS-8
- FLOPPY DOS-12
- LPT n DOS-12
- ATTACH.SYS DOS-14

ATTRCNF/CAPTURE.....	DOS-15
Running ATTRCNF.....	DOS-16
Running CAPTURE.....	DOS-18
Example.....	DOS-18
BYE.....	DOS-21
CACHE.....	DOS-22
CHASTE.....	DOS-23
Running CHASTE.....	DOS-23
Character Editing.....	DOS-25
Example.....	DOS-26
DETACH.....	DOS-29
DISMOUNT.....	DOS-30
DLCEDIT.....	DOS-32
Logcraft's Character Sets.....	DOS-33
Running DLCEDIT.....	DOS-34
Character Editing.....	DOS-36
EMM.SYS.....	DOS-38
EMSRAM.SYS.....	DOS-40
EXTMEM.SYS.....	DOS-41
FPRINT.....	DOS-42
HELP.....	DOS-43
LANSI.SYS.....	DOS-45
LHDRVR.SYS.....	DOS-46
MOUNT.....	DOS-47
SEND.....	DOS-50
SETDRIVE.....	DOS-52
SETTERM.....	DOS-54
Video Emulation Parameters.....	DOS-57
Terminal Specific Parameters.....	DOS-58
Graphics Emulation Parameters.....	DOS-59
Text Emulation Parameters.....	DOS-61
Environment Variables.....	DOS-64
Graphics Timers.....	DOS-65
SETVGA.....	DOS-67

SHOW.....	DOS-68
CONFIG.....	DOS-69
DEVICE.....	DOS-69
DISKS.....	DOS-69
DMA.....	DOS-70
IO.....	DOS-70
IRQ.....	DOS-70
LST.....	DOS-70
MEMORY.....	DOS-71
PARTITIONS.....	DOS-72
USERS.....	DOS-72
SHUTDOWN.....	DOS-73
SRVDATE/SRVTIME.....	DOS-74
STOP.....	DOS-75
UMBLOAD.....	DOS-76
V86MOUSE.....	DOS-78
XPORT.....	DOS-80
Commands.....	DOS-81
CD or CHDIR.....	DOS-84
CHAINCHR.....	DOS-84
CHMOD.....	DOS-85
DELETE or ERASE.....	DOS-86
DIRECTORY.....	DOS-87
DOS.....	DOS-89
EXIT or QUIT.....	DOS-89
EXPORT.....	DOS-90
FREE.....	DOS-92
HELP.....	DOS-92
IMPORT.....	DOS-93
PROMPT.....	DOS-95
SWITCHAR.....	DOS-95
TYPE.....	DOS-96
UIC.....	DOS-96
VERSION.....	DOS-96
Using XPORT Batch Files.....	DOS-97
XSET.....	DOS-98

Utilities for VMS

Introduction	VMS-1
Logical Disk Commands	VMS-2
Disk and Directory Syntax	VMS-3
DOSCOPY	VMS-4
DOSDIR	VMS-8
DOSERA	VMS-10
DOSMAKE	VMS-12
DOSTYPE.....	VMS-14
The Info Utility.....	VMS-16
Keyboard Mapping Utilities	VMS-18
Terminology	VMS-18
Special Keys.....	VMS-20
Logcraft's Keyboard Mapping Files.....	VMS-21
Using Your Key Mapping in a PC Session	VMS-23
KeyUtil_X.....	VMS-24
Example.....	VMS-27
KeyUtil.....	VMS-30
7-Bit and 8-Bit Modes	VMS-30
Syntax	VMS-31
Creating a New Keyboard Mapping	VMS-31
Modifying an Existing Keyboard Mapping.....	VMS-32
The Main Menu	VMS-32
List All Current Host/PC Key Mappings	VMS-33
List PC Sequence Given Host Key Sequence.....	VMS-33
List Host Sequences for a Given PC Key Sequence	VMS-36
Assign/Modify a Host Key Sequence to a PC Sequence	VMS-37
Deassign a Host Key Sequence	VMS-38
Save Changes	VMS-38
Quit	VMS-39
Example.....	VMS-39

Appendix A: Terminal Set-Up

Terminal Set-Up	A-1
VT420	A-1
VT340 and VT330	A-2
VT320	A-3
VT220, VT240, and VT241	A-3
GraphOn 240 and 250	A-4
Microterm 4560	A-4
Tektronix 4205 and 4207	A-5
Wyse 99GT	A-5
VT100	A-6

Appendix B: Keyboard Mappings

Keyboard Mappings	B-1
DEC Keyboard: Window Systems 2 and 3	B-2
VT2xx, VT3xx, and VT4xx Terminals	B-5
Motif and Key Bindings	B-8
Function Keys	B-8
Alt Key	B-9
VT100-Series Terminals	B-11

Appendix C: Error Messages

386Ware Error Messages	C-1
Error Messages from the Logical Disk Commands	C-9
SETTERM/SETVGA Error Messages	C-13

Appendix D: Table of ASCII Codes

Appendix E: Cable Specifications

System Console	E-1
Printer Port	E-2

Index

List of Figures and Tables

Ethernet Interface Cards, End View.....	INS-6
LEAC and SONIC, Side View.....	INS-7
386Ware's Print Mechanism.....	CFG-8
Summary of Print Qualifiers.....	CFG-8
SRV Command Qualifier Summary.....	CFG-14
Pull-Down Menu Buttons.....	CFG-55
Required Configuration Parameters dialog box.....	CFG-56
Configuration menu.....	CFG-56
Printer Configuration Parameters dialog box.....	CFG-59
Auxiliary Configuration Parameters dialog box.....	CFG-63
VGA Remap Palette.....	CFG-66
Edit menu.....	CFG-67
Copy/Paste Configuration dialog box.....	CFG-68
Fonts menu.....	CFG-69
File menu.....	CFG-69
Help menu.....	CFG-71
Summary of Logcraft DOS Utilities/Drivers.....	DOS-2
SRLx I/O addresses and IRQs.....	DOS-7
PRLx I/O addresses and IRQs.....	DOS-13
ATTRCNF screen.....	DOS-16
ATTRCNF Edit Attribute window.....	DOS-17
ATTRCNF View Captured File example.....	DOS-19
ATTRCNF Edit Attribute example.....	DOS-20
CHASTE translation pairs screen.....	DOS-24
Logcraft Downloadable Character Set.....	DOS-28
Downloadable Character Sets.....	DOS-33
DLCEDIT screen.....	DOS-34
DLCEDIT Edit Menu.....	DOS-36
SETTERM Summary.....	DOS-54
Downloadable Character Sets.....	DOS-62

SHOW MEMORY sample screen.....	DOS-71
UMBLOAD example	DOS-77
Summary of XPORT Commands.....	DOS-82
Summary of Logical Disk Commands	VMS-2
Info utility sample screen	VMS-17
Special Keys for 386Ware	VMS-20
Keyboard Mapping Files.....	VMS-21
KeyUtil_X screen	VMS-25
KeyUtil_X example	VMS-27
KeyUtil_X example	VMS-28
KeyUtil_X example	VMS-28
KeyUtil main menu	VMS-32
KeyUtil List PC Sequence screen, left	VMS-34
KeyUtil List PC Sequence screen, detail	VMS-34
KeyUtil List PC Sequence screen, right.....	VMS-35
KeyUtil List Host Sequence screen, detail	VMS-36
KeyUtil List Host Sequence screen, example	VMS-36
KeyUtil Assign Host Sequence screen, detail.....	VMS-37
KeyUtil example.....	VMS-40
DEC Main Keyboard Mapping, Window System 2/3	B-3
DEC Auxiliary Keyboard Mapping, Window System 2/3	B-4
VT2xx/VT3xx/VT4xx Keyboard Mapping	B-6
VT100 Keyboard Mapping, Numeric Keypad	B-11
VT100 Keyboard Mapping, Arrow Keys	B-12
Table of ASCII Codes.....	D-1
RS232-to-9-Pin Cable Specifications	E-1
Parallel Printer Port Specification	E-2

PREFACE



Introduction

Logicaft's LS4012, 486Ware, and 386Ware products add the advantages of PC computing to your VMS system, connecting via an Ethernet network.

Once the server is installed, users can run PC-compatible software. A desktop workstation or terminal operates, in effect, like a high-performance, PC-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, plotters, etc.—are accessible from PC applications.

Depending on configuration, each Logicaft server can handle four to sixteen simultaneous users. In general, users can be located anywhere on the network and do not need physical access to the Logicaft server. As with any Ethernet device, each server has a unique network address, allowing you to connect multiple servers on the same network.

Users access PC applications by opening DOS sessions on their host workstations/terminals. The Logicaft server handles most of the processing needed for the PC applications; therefore, DOS sessions have minimal effect on the host system.

Logicaft software provides a graphical user interface using familiar widgets for DECwindows and OSF/Motif. A DOS session is established in an X window, and standard copy/paste tools can be used to transfer data between windows.

With the Logicaft DOS server, 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.

In addition, an optional local hard disk can be installed in the server, providing fast access to PC software and data.

Product Overview

Logicraft's DOS server products consist of both hardware and software. The hardware is a *server* that physically connects to the Ethernet. The software consists of a *boot floppy* and *system software* that is installed on the VMS host.

Details on all aspects of setting up and using your Logicraft server are included in this documentation. Refer to "About this Manual" on page iv for information on this document's organization.

Server Hardware

The hardware unit shipped with your system is called the LS4012, 386Ware, 486Ware, or CD-Ware server. It connects directly to your Ethernet local area network (LAN).

The major components of the server depend on which model you have; the following list gives an overview of the hardware common to this family of servers:

- one to four *slave cards*, each of which includes an 80486 or 80386 processor and from 4 to 16 megabytes of RAM
- an 80386 or 80286 motherboard, which acts as the server's I/O processor
- an Ethernet interface that includes connectors for ThinWire and standard (thick-wire) Ethernet
- one to three parallel port and two or four serial ports
- one or two floppy disk drives
- status display panel
- power supply

The server may also contain the following optional items:

- CD ROM drive(s) and controller
- 80387 math coprocessor for each 80386 slave card (the math coprocessor is built into 80486 slave cards)
- VGA/EGA graphics emulation hardware for each slave card
- one or two local hard disks

Software Overview

The software that comes with your Logcraft DOS server is called *386Ware*. As mentioned, this software consists of two components:

- the server boot floppy, which is used to start the server unit
- host software, used to make connections from the VMS host to the server, that is, to start DOS sessions.

Communication between the Logcraft server and the VMS host can use either XNS or the TCP/IP protocol suite:

- For the XNS version, Logcraft provides all necessary software.
- The TCP/IP version, which allows VMS and Unix hosts to share the same Logcraft servers, requires an implementation of TCP/IP for VMS: either TGV's MultiNet or DEC's TCP/IP Services for VMS (also called *ULTRIX Connection* or *UCX*).

The differences between XNS and TCP/IP servers are in software only; the hardware is the same.

About this Manual

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

The seven major sections and five appendices in this manual are as follows:

- *Release Notes* includes information on what's changed since previous versions and gives a list of known limitations and release caveats.
- *Installation* explains how to install the server hardware and software.
- *User's Guide* gives instructions that help you begin using your Logcraft server as quickly as possible.
- *Session Configuration* gives detailed information about the SRV command and the pull-down menus, which are used to configure and establish PC sessions.
- *System Manager's Guide* explains what the system manager needs to know in order to tailor and maintain 386Ware for use at your site.
- *Utilities & Drivers for DOS* discusses in detail the utilities that enable you to manage the 386Ware/MS-DOS environment. These utilities supplement the commands and utilities that are part of the MS-DOS operating system.
- *Utilities for VMS* discusses the 386Ware 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 386Ware 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 386Ware.
- *Appendix B: Keyboard Mappings* gives keyboard mapping diagrams and information for the most common host keyboards used with 386Ware.
- *Appendix C: Error Messages* lists the error messages associated with 386Ware.
- *Appendix D: Table of ASCII Codes* provides a table of ASCII character codes.
- *Appendix E: Electrical Specifications* gives cable specifications for 386Ware's system console and parallel ports.

Along with this documentation, additional manual sections or supplements are included for some server options.

Where appropriate, the topics in this manual refer you to related information. The tables of contents and index can also help you locate topics of interest.

In addition to the manual, a 386Ware Reference Card is available; this card summarizes the 386Ware VMS and DOS commands described in detail in the *Session Configuration*, *Utilities for VMS*, and *Utilities & Drivers for DOS* sections.

About this Manual

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

The seven major sections and five appendices in this manual are as follows:

- *Release Notes* includes information on what's changed since previous versions and gives a list of known limitations and release caveats.
- *Installation* explains how to install the server hardware and software.
- *User's Guide* gives instructions that help you begin using your Logcraft server as quickly as possible.
- *Session Configuration* gives detailed information about the SRV command and the pull-down menus, which are used to configure and establish PC sessions.
- *System Manager's Guide* explains what the system manager needs to know in order to tailor and maintain 386Ware for use at your site.
- *Utilities & Drivers for DOS* discusses in detail the utilities that enable you to manage the 386Ware/MS-DOS environment. These utilities supplement the commands and utilities that are part of the MS-DOS operating system.
- *Utilities for VMS* discusses the 386Ware 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 386Ware servers; and the keyboard mapping utilities, with which keyboard mappings can be created or customized.

-
- ▲ Important information, warning messages, and cautionary items are set off from surrounding text with a solid triangle and line, 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): 06-29-1993

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] ldisk
```

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

```
$ dosdir lotus22
$ dosdir /wide lotus22
```

For each of these examples, the *ldisk* 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.

(714) 969-9569 tel. Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.
Alberta, British Columbia, Saskatchewan.

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

You can also contact us via electronic mail; send to address support@logicraft.com.

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:

- Logcraft 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 386Ware 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 édicte par le ministère des Communications du Canada.

Standard Software License Agreement

Logicraft, Inc. retains the ownership of all software and subsequent copies of the software included in your purchase. By using this software or permitting its use, you indicate your consent to the terms and conditions of this License Agreement.

Copyright © 1987 – 1993 is held by Logicraft, Inc.
All rights reserved.

Licensing for Logicraft's VMS/Unix *host* software grants the right to install the Logicraft software on *one* CPU or VAXcluster. To install the Logicraft host software on *more than one* CPU, a separate *Right to Copy License* must be purchased from Logicraft.

A portion of this software and documentation contains products licensed from Meridian Technology Corporation. Copyright is held by Meridian Technology Corporation, all rights reserved. By using this software or permitting its use, you indicate your consent to the terms and conditions of the Meridian Technology License Agreement.

A portion of this software contains products licensed from Microsoft Corporation. By using this software or permitting its use, you indicate your consent to the terms and conditions of the Microsoft License Agreement.

You may not distribute, lease, or rent Logicraft's software or documentation. You may not alter or modify Logicraft's software or documentation (including, but not limited to, decompiling, unassembling, translating, or creating derivatives) without express written consent from Logicraft, Inc.

Failure to comply with any of the stated terms of this Standard Software License Agreement will result in its termination in compliance with U.S. Copyright protection policy.

Release Notes

386Ware for VMS
Version 4.0

March 19, 1993



System Requirements	RN-1
Disk Space Needed	RN-2
Overview of Changes since Version 3.8x	RN-3
Release Caveats & Known Limitations for Version 4.0	RN-7
XNS Information	RN-10
Revision History	RN-12

System Requirements

The system requirements depend on which type of 386Ware installation you are performing:

- **386Ware/XNS** requires a minimum of VMS version 5.0.
- **386Ware/UCX** requires a minimum of VMS version 5.3 and DEC TCP/IP Services for VMS (UCX) version 2.0.
- **386Ware/TGV** requires a minimum of VMS version 5.4 and TGV MultiNet version 3.0.

VT terminals, DECwindows, DECwindows/Motif, and OSF/Motif are all supported.

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-18 of *Installation*.

Subset	Size
Base Package, including logical disk commands	9,000 ¹
Logical Disk (D386C.DOS)	10,000
DECwindows	4,100
Motif	3,000
PC DECwindows	10,600
PATHWORKS/Macintosh	3,500
BDF Fonts	5,600

¹Subtract 1,000 if not using XNS.

Overview of Changes since Version 3.8x

The following list gives an overview of the changes for 386Ware version 4.0. When appropriate, references indicate where to look for additional information.

- All of the 386Ware documentation is included in a single binder. The version 4.0 documentation supersedes all previous document versions.
- The procedures for configuring the **server boot floppy** have been completely reworked to simplify server upgrades. Refer to "Booting the Server" on page INS-25 of *Installation*.

▲ **Important:** If you are *upgrading from a previous version*, it is very important that you read through the information regarding the new boot floppy procedures.

If you are upgrading from version 3.8x, you may want to configure the 4.0 boot floppy *before* upgrading the host software. To do so, follow these steps:

1. boot the server with a write-enabled 4.0 master floppy,
2. reboot with the 3.8x boot floppy,
3. connect to the server using the 3.8x host software, and
4. follow the instructions for creating a custom floppy beginning on page INS-27.

Once you have verified that the new custom floppy boots the server, install the new host software, replacing the old version.

- This release of 386Ware/XNS includes a new version of the MeriT/XNS software interface (v. 5.4A-0). If you are upgrading from a previous version of 386Ware or if you have OmniWare, refer to "XNS Information" on page RN-10.

- **Version 2.0 of UCX**, also known as **TCP/IP Services for VMS**, is supported for this release.
- A new **386Ware Ethernet interface**, called the **SONIC Ethernet Adapter**, is now fully supported. This interface allows each user to have a unique network address. In addition, a single Ethernet interface can be used to run multiple protocols in the user's DOS session.

These capabilities allow you to run off-the-shelf versions of PC LAN client software, including **PATHWORKS**, **NetWare**, and **PC NFS**, which means you can take advantage of all these packages' features. In addition, you can access more than one package or protocol at a time with a single **SONIC** card.

If you use **PATHWORKS** or **NetWare**, Logcraft *strongly* recommends that you upgrade your server hardware to include the **SONIC** card. Performance is significantly improved over previous Logcraft implementations of these packages. In addition, compatibility with future versions of **PATHWORKS** and **NetWare** is assured because you install the software directly from the manufacturer's media.

Logcraft continues to provide a non-**SONIC** implementation of **PATHWORKS/PCSA**. However, support for this implementation is limited, and no new development is planned. Note that the **SONIC** card is *required* to access **DEC's InfoServer** from a **386Ware** session.

For additional information on the **SONIC** card, refer to the **SONIC Support** supplement or contact your Logcraft sales representative.

- **386Ware** now supports **IDE local hard disks**. (ESDI disks are still supported.)
- The **Menu utility** is no longer supported and is not part of the version 4.0 host distribution.
- A new sample procedure, called **SRV.COM**, makes it easy to establish **386Ware** sessions. Refer to "The **SRV.COM** Procedure" on page **UG-4** of *User's Guide*.

- The Logcraft DOS utility 386MOUSE is now called V86MOUSE; its basic capabilities have not changed.
- The Logcraft DOS utility RXFMT utility is no longer supported and has been removed from the distribution. For information regarding workstation floppy drives, refer to “Workstation Floppy Drives” on page SMG-24 of *System Manager’s Guide*.
- The Logcraft DOS utility XSET ENV creates an additional variable called SRVNAME, for the server’s network name. Refer to the description on page DOS-98 of *Utilities & Drivers for DOS*.
- The Logcraft Lotus drivers are no longer supported and have been removed from the distribution.
- Several Term-Ware issues have been resolved:
 - Term-Ware sometimes failed to enter into PC-Term mode when a 386Ware was established. This problem, which occurred primarily in conjunction with certain terminal servers, has been fixed; changes were made both to Term-Ware and 386Ware.
 - PC-Term mode would occasionally hang. This problem has been fixed; changes were made both to Term-Ware and 386Ware.

If you use Term-Ware, ensure that you have version 4.0. Note that older versions of Term-Ware will work with 386Ware v. 4.0; however, you may encounter the problems mentioned above.

If you also use Term-Ware to access Logcraft’s Omni-Ware, contact Logcraft Customer Support for information on which Term-Ware version to use.

- Many screen resize, mouse, and display problems have been resolved.
- Problems with printing graphics to a local printer (attached directly to the server) have been fixed.

- Setting the **date and time** within the System Configuration utility now works properly.
- The **Danish character set** is now supported for VGA.
- **VGA emulation** now tracks and restores font and window sizes across mode changes.
- Logicraft DOS utility **SHOW CONFIG** displays information about a secondary Ethernet interface, if installed.
- Support for **blinking characters** has been added for Logicraft 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-2 of *System Manager's Guide*.
- A few new keyboard mapping files are available; these include: MACTERM.DAT and VERSATERM.DAT, for Macintoshes (extended keyboard) running MacTerminal and VersaTerm software, respectively. Refer to "Keyboard Mapping Utilities" on page VMS-18 of *Utilities for VMS* for information on 386Ware's keyboard mapping files.
- 386Ware's **on-line help** files have been updated. (Help is available at the VMS \$ prompt, from the pull-down menus, and at the DOS prompt.)

Release Caveats & Known Limitations for Version 4.0

The following lists known limitations of 386Ware version 4.0 and recommends work-arounds or alternatives as appropriate.

- The **Motif subset of the host software installation** does *not* include fonts. If you want to install the Motif subset, also install the DECwindows subset (in order to get compiled fonts). Alternatively, you can install the Motif and BDF fonts subsets and then compile the fonts.
- You cannot perform installations for both 386Ware and Omni-Ware concurrently on the same host CPU in *screen* mode. Install only one product at a time, or use hardcopy mode.
- To install 386Ware 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 386Ware 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.
- When using Motif with window system 2 or 3, the 386Ware window initially appears without the 25th line. To fix the display, make the window longer; it will snap back to the correct size.
- If a logical disk runs out of space when doing a DOSCOPY (VMS→DOS), a partial file is left on the logical disk, and no error message is generated.
- 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.

- With window systems 2 and 3, if you specify the SRV command with the /SLAVE qualifier and indicate a non-existent slave number, the error message is displayed too quickly to see.
- The KeyUtil utility does not allow you to map keys that send NUL (ASCII 0). For VT terminals, these keys include the Ctrl-2 and Ctrl-Space.
- The Logcraft DOS utility SHOW MEMORY reports memory segment A000 as available for UMBLOAD even if you have executed SETVGA (which uses that memory segment). If you use VGA emulation, do *not* use segment A000 for UMBLOAD.
- SHOW MEMORY/SLAVE and SHOW CONFIG/SLAVE do not work properly if you have more than one E2 slave card in the server. Correct information is displayed (for the current slave) if you omit the /SLAVE switch.
- Disconnect any PATHWORKS disk services before terminating the DOS session; otherwise, the disk service may not be available to subsequent sessions for several minutes (due to the way PATHWORKS operates).
- For servers with two IDE hard disks, the Logcraft DOS utility SHOW PARTITIONS does not display the information on the second disk. You can mount partitions from both drives (provided you know the partition name).
- When mounting local hard disk partitions, the MOUNT command does not verify the drive letter. If you mount a partition on a drive letter that should be unavailable, 386Ware reports that the partition was mounted successfully; however, the partition cannot be accessed.
- 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 4.0 of 386Ware 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 Omni-Ware/XNS version 1.7x (or earlier) and you install 386Ware 4.0 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 386Ware 4.0 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 Logiccraft 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
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 386Ware.

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

Revision History

The following list gives a brief overview of the changes for 386Ware from version 3.7x to version 3.8x:

- Microsoft Windows is no longer supported, and the Logcraft Windows drivers are no longer included oin the 386Ware distribution.
- The VMS software installation was completely reworked.
- UCX and MultiNet support were added.
- VGA/EGA graphics emulation hardware became available as a server option.
- Support for version 3.xx of Novell NetWare became available as a server option.
- 386Ware checks a slave card for available memory before allowing a DOS session to start.
- The valid range for the /MEMORY qualifier was changed to 512 – 704 (inclusive), with the default value at 640.
- The /MINMEMORY qualifier was added.
- UMBLOAD and LHDRVR.SYS were added.
- The memory address segment for 386Ware's disk cache was changed to F000, and the CACHE utility no longer allows the cache segment to be changed.
- The /[NO]CLOSE qualifier was added and the Printer Configuration Parameters dialog box of the pull-down menus was changed accordingly.
- The TIMER2 parameter was added to XSET.
- XSET ENV was updated to support multinational characters in the environment data.

- Starting a 386Ware session from an unknown terminal type is now allowed.
- Support was added for PowerTerm I, II, and III terminals.
- Several keyboard mapping files were added.

Revision History

Release Notes

386Ware for VMS
Version 4.0A
August 23, 1993

Overview of Changes since Version 4.0

The following list gives an overview of the changes for 386Ware version 4.0A. When appropriate, references indicate where to look for additional information.

- **VMS v. 6.0** is now fully supported. A change has been made to `SYSS$386WARE:UTIL.COM` to ensure that the XNS driver is started properly for the version of VMS currently running.
- The **KTDRIVER** is no longer included in the 386Ware distribution. If you have other devices (e.g., terminal servers) that use the XNS transport and require the **KTDRIVER**, contact Logicaft Customer Support for instructions.
- The **Motif software subset** now includes compiled fonts and can be installed independently of the DECwindows (or BDF) component.

Refer to the Release Notes for 386Ware version 4.0 for further information regarding this release.

Upgrade Notes

386Ware
for VMS
Version 4.0

September 7, 1993

Host Software	1
Rebooting the VAX	1
About the v. 4.0 Floppies	2
Cleaning the Server's Floppy Drive	2
Master Boot Floppy	3
Option Floppies	3
Custom Boot Floppy	3
Creating a Custom Boot Floppy	4

Host Software

Information about upgrading the host software is included in the *Installation* section of the 386Ware documentation, beginning on page INS-9.

Rebooting the VAX

If you use XNS, Logcraft *strongly* recommends that you reboot your VAX after installing the new 386Ware software. Rebooting ensures that you are running the latest version of the KXDRIVER.

-
- ▲ **Important:** If you are *not* running the latest version of the KXDRIVER, *your system will crash if you attempt to use the Logcraft software!*

The VMS software installation procedure warns you if you will need to reboot.

See also pages INS-20 (*Installation* section) and RN-10 (Release Notes) in the 386Ware manual for circumstances that require a system reboot.

About the v. 4.0 Floppies

Your upgrade package includes:

- two copies of the master boot floppy (either XNS or TCP/IP)
- any of the following option floppies, if appropriate for your server configuration:
 - CD ROM support
 - Local Hard Disk support
 - Novell NetWare support for *non*-SONIC servers
 - PATHWORKS/PCSA support for *non*-SONIC servers

Please read all of the following information before using any of the upgrade floppies!

Cleaning the Server's Floppy Drive

If you haven't used your server's floppy drive recently, you should clean the drive mechanism before using *any* of the upgrade floppies. Kits for this purpose are available at most computer supply stores.

You may want to check the drive's integrity before using any of the upgrade floppies; follow these quick steps:

1. Establish a 386Ware session, and attach the floppy drive.
2. Format a new floppy diskette.
3. Copy some files onto the new diskette.
4. Compare the files on the floppy to the source files.

While these steps do not ensure a perfectly functioning drive, they can catch many problems.

Master Boot Floppy

Logcraft provides two copies of the master boot floppy for your server. Use one copy to boot the server, and keep the second copy as a back-up for emergencies, if your server's hardware changes, or you purchase additional server options.

-
- ▲ **Important:** Store one copy of the master floppy in a safe place and *do not use it for any of the following procedures.*

The master boot floppy configures your server automatically, based on the hardware it finds during the boot sequence.

For more information about the master boot floppy, refer to "Boot-
ing the Server" on page INS-25 in the *Installation* section of the 386Ware manual.

Option Floppies

Option floppies contain optional software to be installed on the boot floppy, thus changing the server configuration to include the optional support.

To install server options, you must create a **custom boot floppy**. The necessary steps are given below.

Custom Boot Floppy

A custom boot floppy contains only the information needed for your server's configuration. It is created from the master boot floppy and any option floppies.

You must create a custom floppy to take advantage of any option floppies.

You may want to create a custom floppy even if you don't have any server options because booting the server from a custom floppy is faster than using the master boot floppy.

Creating a Custom Boot Floppy

Follow the steps below to create a custom boot floppy containing any server options.

▲ **Remember:** Work only with the first copy of the master boot floppy; *the second copy should not be used in the following procedure.*

1. Before continuing, ensure that you have the following items:
 - the master boot floppy, write enabled
 - a blank diskette, write enabled
 - any option floppies for your server, *write protected*
2. Ensure that the master boot floppy diskette is write enabled then boot the 386Ware with the master floppy. ¹
3. If you have not yet installed the version 4.0 software on the VMS host computer, reboot the server with the version 3.x boot floppy.
4. Log in to the host system as a privileged user, such as SYSTEM.
5. Establish a 386Ware session with write access to the D386C logical disk. Use a command like this:

```
$ srv sys$386ware:d386c /server=serv1
```

▲ **Important:** If you use PCSA (non-Sonic) *and* you booted the server with the 4.0 boot floppy, specify the server's Ethernet address (00-00-4F-xx-xx-xx) to connect to the server.

¹The disk must allow write access because the boot process writes configuration files onto the floppy based on the hardware configuration it finds.

For example, use a command like this:

```
$ srv d386c /server=00-00-4f-00-08-22
```

The server's DECnet-based address, AA-00-04-xx-xx-xx, is not yet configured on the 4.0 boot floppy, so you cannot use it or the server name to establish the session.

6. Attach the server's floppy drive(s):

```
C:\>attach floppy
```

7. Give this command:

```
C:\>a:mod_cnfg
```

This batch job modifies the logical disk's CONFIG.SYS. The original file is restored later.¹

8. Terminate the DOS session with the BYE command, then re-establish the session, using the same command as in Step 5.

The new session includes a RAM disk, usually the I: drive. A message indicates the assigned drive letter.²

The following steps assume that the RAM disk is the I: drive. If your session uses a different drive letter, use it in place of references to I: below.

The following steps modify the master floppy, turning it into a custom floppy.

9. Give the ATTACH FLOPPY command to attach the server's floppy drive(s).
10. Ensure that the disk is write-enabled, then insert the master boot floppy in the A: drive.

¹If the *original* CONFIG.SYS configures expanded memory with EMM.SYS, check the modified CONFIG.SYS before establishing a new session in Step 8. The modified file adds commands for EMM.SYS and EMSRAM.SYS. For best results, change the *modified* CONFIG.SYS to delete all but the last call to EMM.SYS (and EMSRAM.SYS, if appropriate).

²The custom boot floppy is actually created on the RAM disk, then copied to a new floppy when all changes have been made.

11. Give the following commands:

```
C:\>i:  
I:\>copy a:bootdisk.bat  
I:\>bootdisk i:
```

Eventually, a menu appears that allows you to add an option, create a boot floppy, or exit.

12. If you have options to install, *write protect* each option floppy, then select **Add an Option** from the menu, then follow the instructions on the screen. Repeat this step for *each* option.
13. When you have added all options (or you have no options install), choose **Create Boot Floppy** from the menu.

A screen appears showing your server's slave card, network card, and floppy drive configuration. You are given the opportunity to change the floppy drive type(s).

When prompted, ensure that the master boot floppy is in the diskette drive, then press a key to continue.

▲ **Important:** The boot-floppy maker expects the master floppy at this point; *do not try to use a blank diskette.*

14. Exit the boot-floppy maker.
15. Terminate the DOS session with the BYE command.
16. Reboot the server with the custom boot floppy.

Once you have verified that the custom boot floppy boots the server, use DISKCOPY to make a back-up copy of it.

LOGICRAFT

INSTALLATION

386Ware for VMS

*Release 4.0
March 19, 1993*

Contents

Introduction	INS-1
Installation Checklist.....	INS-2
Server Installation	INS-3
System Console.....	INS-4
General Power Connection.....	INS-5
Ethernet Installation	INS-6
LEAC and SONIC.....	INS-7
LEFDA	INS-8
Standard Ethernet Connection	INS-8
ThinWire Ethernet Connection.....	INS-8
VMS Software Installation	INS-9
Upgrade Information.....	INS-9
Prerequisites.....	INS-10
Before Installing the Software.....	INS-11
Running VMSINSTAL.....	INS-11
VMSINSTAL Syntax	INS-12
Error and Warning Messages	INS-12
Default vs. Custom Installation	INS-14
Default Option, First-Time Installation	INS-15
Default Option, Upgrade Installation.....	INS-15
Custom Option, First-Time Installation	INS-16
Custom Option, Upgrade Installation	INS-17

- Software Subsets INS-18
- Post-Installation Steps for TGV Servers INS-19
- Rebooting Your System INS-20
- Restarting DECwindows or Motif INS-21
- Upgrading the DECwindows or Motif Fonts INS-21

- Starting the 386Ware Software INS-22
 - The 386Ware Start-Up File INS-22
 - Multiple Ethernet Controllers INS-23
 - 386Ware's Symbol Definitions INS-23
 - If You Have Both 386Ware and Omni-Ware INS-24

- Booting the Server INS-25
 - The Master Boot Floppy INS-26
 - Server Options INS-26
 - Creating a Custom Boot Floppy INS-27

- Status Display INS-30

- Installing 386Ware as a Shared Image . INS-32

- Installing Logcraft's Fonts INS-33
 - Macintosh with MacX INS-33
 - PC with PC DECwindows INS-35
 - VT1300 X Terminal INS-37

- Establishing a Session INS-38

- Deleting Privileged Utilities INS-39

- Setting Up User Accounts INS-41
 - Minimum Privileges and Quotas INS-41
 - DECwindows and Motif INS-42

Software Overview	INS-43
SYS\$386WARE	INS-43
SYS\$LOGICRAFT_COMMON.....	INS-46
SYS\$STARTUP	INS-47
SYS\$UPDATE	INS-47
SYS\$HELP	INS-47

List of Figures and Tables

Ethernet Interface Cards, End View	INS-6
LEAC and SONIC, Side View.....	INS-7

Introduction

This section is written for the person who is responsible for installing the 386Ware hardware and software. Three major areas are covered:

- **Installing the 386Ware Hardware.** The first part explains how to install the 386Ware server hardware and connect it to your Ethernet network.
- **Host Software Installation.** The second part gives information and instructions on installing the necessary software on your VMS system in order to access 386Ware. It includes an overview of the VMS files associated with 386Ware.
- **Booting the Server.** The third part discusses booting the server for the first time, tailoring the boot floppy, and configuring the server appropriately for your site.

Before continuing in this section, check the Release Notes, which give important information about this version of 386Ware.

Installation Checklist

- check Release Notes.

Server Installation

- install server hardware. INS-3.
- attach a system console. INS-4.
- connect to power. INS-5.
- connect to Ethernet. INS-6.

Do not power-up yet!

Host Software Installation

- install host software, adding server information. INS-9.
- for 386Ware/TGV, add server information to the TGV host database. INS-24.
- reboot your system, if necessary. INS-20.
- restart DECwindows or Motif, if necessary. INS-21.
- purge the old DECwindows or Motif fonts, if appropriate. INS-21.
- add the 386Ware start-up file to the system-wide start-up file. INS-22.

- add the symbol definition procedure to the system-wide login command file. INS-23.

- install the 386Ware software as a shared image, if appropriate. INS-32.
- install the Logicaft fonts for MacX, PC DECwindows, or VT1300 terminals, if needed. INS-33.
- delete privileged utilities, if appropriate. INS-39
- set up user accounts with necessary privileges for 386Ware. INS-41.

Server Configuration

- for upgrades: ensure the master boot floppy is write-enabled, then insert the diskette in the server's floppy drive. INS-25.
- for upgrades: run the BOOTDISK batch file to add any options to the boot floppy. INS-27.
- for new installations: insert the custom boot diskette in the server's floppy drive. INS-25
- power up the server. INS-25.

Server Installation

The server is a self-contained computer system; it is important that it 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.

If your 386Ware 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, connected the server to the Ethernet, and installed a system console.*

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.

System Console

In order to see initialization messages and run-time errors, attach a system console—a standard serial terminal—to your server. If you have any problems booting your server, Logcraft Customer Support will require that you attach a console for troubleshooting purposes.

-
- ▲ **Important:** For UCX and TGV servers, you must attach a system console the first time you boot your server (in order to specify the server's network address).

You will also need a console if your server is configured for PATHWORKS/PCSA and it does *not* have a SONIC card.

Connect the system console to a serial port (labeled SRL x , where x is 1 to 4) located on the back of the server unit. Use the highest numbered port: If your unit has SRL1 and SRL2, attach the cable to SRL2; if it has SRL1 through SRL4, use SRL4.

If the console has a 9-pin serial connector, use the 9-pin to 25-pin adapter cable (included with the server) and a standard RS232 null modem female-to-female cable to attach the terminal. If you want to construct your own cable for this purpose, refer to *Appendix E: Cable Specifications*.

Once you have connected the terminal to the serial port, set the terminal characteristics as follows:

Baud Rate	9600
Parity	None
Character Bits	8
Stop Bits	1
XON/XOFF	Enabled

As discussed above, 386Ware is initially configured to use the highest labeled SRL port for the system console. You can change

the console's port; refer to "The System Configuration Utility" on page SMG-27 of *System Manager's Guide* for details.

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

Once you have placed your server in an appropriate location, attached a system console and the power cord, you can connect the server to your network.

The server contains a LEFDA, LEAC, or SONIC card¹ that includes a 15-pin standard (thick-wire) Ethernet connector and a round BNC connector for ThinWire. Each card can be configured for either type of network connection. Figure INS-1 below shows the end view for these cards.

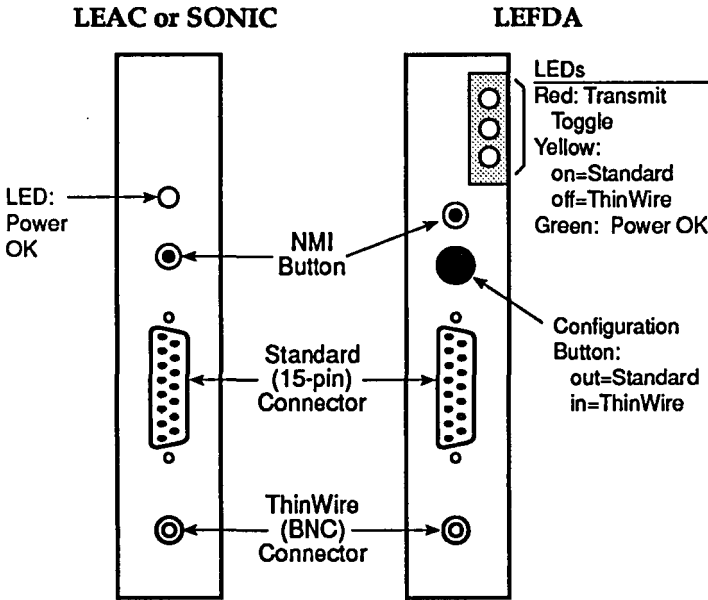


Figure INS-1: Ethernet Interface Cards, End View

¹For information on the older NP600 Ethernet interface, refer to earlier versions of the 386Ware documentation or contact Logcraft Customer Support.

Each card can be configured for either type of network connection. Logcraft 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. Instructions for each type of card are given below.

LEAC and SONIC

The LEAC and SONIC cards have a single LED located above the Ethernet connectors. To change the network type, ensure that the server is powered off and unplugged, then open the server chassis. (If you are not sure how to proceed, contact Logcraft Customer Support.) You should not need to remove the LEAC or SONIC card from the server to change the network type.

The top edge of the LEAC and SONIC 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 INS-2 below.

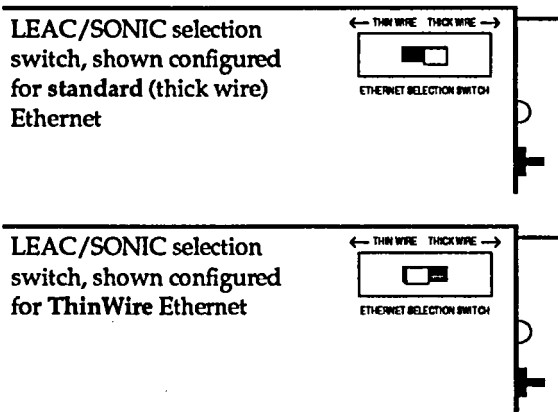


Figure INS-2: LEAC and SONIC, Side View

LEFDA

The LEFDA has red, yellow, and green status lights and a large black configuration button, all located above the Ethernet connectors. Look at the rear of the server and locate the LEFDA card.

If the configuration button is *in*, ThinWire is selected. If the button is *out*, standard Ethernet is selected. When the server is on, the yellow LED will be *on* for standard Ethernet, *off* for ThinWire.

Standard Ethernet Connection

To connect the server to a standard (thick wire) Ethernet, attach an Ethernet cable to the 15-pin connector on the server's Ethernet interface. Attach the cable's other end to an Ethernet transceiver.

For LEFDA cards: The black configuration button on the LEFDA card should be *out* for 15-pin use. When you switch the server on, the yellow light on the LEFDA card should be *on*. If not, press the black configuration button. The yellow light should come on.

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.

For LEFDA cards: The black button on the LEFDA card should be *in* for ThinWire use. When you switch the server on, the yellow light on the LEFDA panel should be *off*. If it is lit, press the black button. The yellow light should go out.

VMS Software Installation

Logcraft uses the `VMSINSTAL` command procedure to simplify the installation of the 386Ware host 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 386Ware software and the procedures for performing the actual installation. For an overview of 386Ware's directories and files, refer to "Software Overview" on page INS-43.

For information on supported systems and required disk space, refer to the Release Notes

Upgrade Information

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

If you are upgrading from a previous version of 386Ware/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 on page INS-14.)

-
- ▲ **Important:** If the `KXDRIVER` is stopped, all 386Ware/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 386Ware or Omni-Ware start-up file or issue *any* XCP commands without first rebooting your system!

For best results, ensure there are no active 386Ware or OmniWare (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 `SYSS$386WARE` and `SYSS$LOGICRAFT_COMMON`, purging 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 and can result in system crashes.*
- The default installation will remove any existing 386Ware 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 386Ware, complete the following steps before installing the new software:

1. Back up the files in the `SYSS$LOGICRAFT_COMMON` and `SYSS$386WARE` directories.
2. If you have made any site-specific modifications to files on `D386C.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 `D386C.DOS` is copied to your system.

In addition, copy any PC applications software or data files on `D386C.DOS` to another logical disk in a directory *other* than `SYSS$386WARE`. Be sure to follow vendor instructions for uninstalling and reinstalling PC software, if appropriate.

3. If you have 386Ware/XNS servers, ensure that the server names and addresses in the `LOGICRAFT_SERVER_TABLE` logical name 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 386Ware 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 Logcraft's Omni-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 SRV 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. The file is called SRV.xxx.RELEASE_NOTES.

Not all versions of 386Ware include on-line release notes.

▲ **Important:** Do *not* use *any* VMSINSTAL options other than N with the 386Ware software!

For example, to install 386Ware from device MUA0: using the release notes option, give this command:

```
$ @sys$update:vmsinstal srv 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 [N0]?
```

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 SYSS\$HELP:HELPLIB.HLB cannot be updated with 386Ware'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 clisymbtl
```

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

```
SYSGEN>set clisymbtl 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 386Ware server;
- specify the device/directory on which the software should be installed;
- select specific software subsets to install;
- prevent the installation from adding the 386Ware start-up file to the SYSMAN database; *or*
- upgrade from a previous version of 386Ware/XNS without stopping the KXDRIVER (as discussed page INS-9).

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

Default Option, First-Time Installation

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

- The base 386Ware 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 386Ware DECwindows and PATHWORKS for Macintosh subsets are installed. (The available subsets are described on page INS-18.)
- The software is installed in top-level directories called [386WARE] and [LOGICRAFT_COMMON] on the disk with the most available free space.

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

- You are asked to supply a name and the Ethernet address for one 386Ware server. If you have the UCX or TGV version, you are also asked for an Internet address.
- The 386Ware 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 386Ware 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 386Ware, the default installation includes the PC DECwindows subset when installing the new software. (The available subsets are described on page INS-18.)

- The XNS Ethernet driver is stopped, which will abort all active 386Ware/XNS and Omni-Ware/XNS connections, as well as any other products that use this driver.
- The software is installed in the existing [386WARE] 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 name and Ethernet address. If you have the UCX or TGV version, you are also asked for an Internet address.
- The new 386Ware 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 Omni-Ware 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-18.
- You are asked where to install the 386Ware software.

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

- You are asked to supply a name and the Ethernet address for one 386Ware 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 386Ware start-up file to the SYSMAN database.

Custom Option, Upgrade Installation

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

- **XNS only:** You are asked whether to stop the XNS Ethernet driver. Stopping this driver will abort all active 386Ware/XNS and Omni-Ware/XNS connections as well as any other products that use this driver. However, stopping the driver allows you to execute the 386Ware 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 D386C logical disk in SYS\$386WARE. As discussed on page INS-10, 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 386Ware software.

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

- 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 name and Ethernet address for the 386Ware 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 386Ware start-up file to the SYSMAN database.

Software Subsets

The following software subsets are included on the distribution media. 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 386Ware, including the files for the logical disk commands—DOSCOPY, DOSMAKE, DOSTYPE, etc.—with which you manage logical disks and DOS files.¹
- **Logical Disk Commands.** This subset adds the logical disk commands to DCLTABLES.EXE. If you do not install this subset, a file called SET_DOS_COMMANDS.COM is copied to SYS\$LOGICRAFT_COMMON. This procedure will add the commands to the command table.
- **Distribution Logical Disk.** This subset contains the D386C.DOS logical disk.
- **DECwindows.** This subset includes the executables, utilities, and fonts for 386Ware under DECwindows.
- **Motif.** This subset includes the executables, utilities, and fonts for 386Ware under Motif.

¹In some earlier versions of 386Ware, 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 386Ware from a PC running PC DECwindows.
- **PATHWORKS for Macintosh.** This subset includes the fonts needed to use 386Ware from a Macintosh running MacX software.
- **BDF fonts.** This component includes the Bitmap Distribution Format fonts, which allow you to compile 386Ware's fonts for use with an X platform for which compiled fonts are not provided. The distribution includes compiled fonts for the following:
 - X servers running DECwindows and/or Motif
 - PCs with PC DECwindows
 - Macintoshes with MacX software

Post-Installation Steps for TGV Servers

The 386Ware software installation does *not* automatically update the TGV host database with server information. Once you have installed the 386Ware software, edit the HOSTS.LOCAL file manually to include this information.

For example, the following lines in the host database define a 386Ware server called DOSBOX with Internet address 5.0.0.112:

```
: Local host definitions
:
:
HOST : 5.0.0.112 : DOSBOX : 386WARE : 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 386Ware/XNS and you use XNS for non-Logicraft products; *or*
- you performed the custom installation and you chose *not* to stop the XNS driver; *or*
- you are upgrading from a 386Ware release *prior* to version 3.71; *or*
- you have the 386Ware/XNS product *and* you use a version of Omni-Ware prior to 1.66; *or*
- you have Logiccraft'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 386Ware older than 3.71 or you have Omni-Ware prior to 1.66, do *not* execute the 386Ware start-up file without first rebooting your system.

If you have a VAXcluster and are running 386Ware or Omni-Ware 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 you use any X platforms. The Logcraft X windows fonts for 386Ware 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 386Ware will be accessed.

Upgrading the DECwindows or Motif Fonts

If you use DECwindows or Motif *and* you are upgrading from an earlier version of 386Ware (or you have Omni-Ware installed), you will have *two* copies of the Logcraft fonts when the 386Ware software installation is finished. The fonts are located in the directory `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 386Ware and/or Omni-Ware. The DECwindows/Motif server reads these files only once, during start-up. If you delete the version that it has read, 386Ware will fail to load the correct fonts. (Once you have restarted DECwindows or Motif, you can safely purge.)

Starting the 386Ware Software

386Ware includes a start-up file that performs the steps necessary to start the 386Ware software on the VAX. In addition, a separate command procedure defines symbols for 386Ware's utilities. These files are discussed below.

The 386Ware Start-Up File

386Ware's start-up procedure, 386STRUP.COM (in the SYS\$STARTUP directory), is used to start the 386Ware software on the VAX. This file must be executed before you can access your server.

-
- ▲ **Important:** If you performed the custom installation for 386Ware/XNS and you did *not* stop the Ethernet driver, do not execute the 386Ware or Omni-Ware 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:386strup
```

The 386Ware 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 386Ware 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:"
```

386Ware's Symbol Definitions

A procedure called 386WARE_SYMBOL_DECLARATION.COM is included in the SYS\$386WARE directory. This file contains definitions for the symbols used to run the 386Ware 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 386Ware server(s) you have.

For 386Ware/XNS, add the following lines to the system-wide login command file:

```
$ on error then continue  
$ @sys$386ware:386ware_symbol_declaration
```

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

For 386Ware/UCX, add the following lines to the system-wide login command file:

```
$ on error then continue
$ @sys$386ware:omniware_symbol_declaration ucx
```

For 386Ware/TGV, add the following lines to the system-wide login command file:

```
$ on error then continue
$ @sys$386ware: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 386Ware command procedure is not found.

If You Have Both 386Ware and Omni-Ware

Many of the symbol *names* in the 386Ware and Omni-Ware 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.

Booting the Server

Once you have connected your 386Ware server to power and to the network and have installed the software on the VMS system, you are ready to power up the server.

-
- ▲ **Important:** For UCX and TGV servers, you *must* have a system console attached the first time you boot your server.

If you have the PATHWORKS/PCSA option and your server does *not* have a SONIC card, you will need a system console to specify network information. Refer to the *PCSA Support* supplement for further information.

If your server has 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).

To power up the server, follow these steps:

1. For new installations, insert the *custom* boot floppy disk into the diskette drive slot.

For upgrade installations, ensure that the *master* boot floppy diskette is write enabled (*not* write protected), then place the master boot floppy disk into the diskette drive slot.

2. Power up the server with the on/off switch.
3. For UCX and TGV servers, enter the Internet (IP) address when the prompt appears on the system console. Ensure that you give the same IP address specified during the host software installation.

When you power up the server, it expects to find the boot floppy in the drive. If the floppy is not in the drive (or the drive latch is not closed), the server will beep until you correct the problem.

When the server boots, it runs some diagnostic tests and checks the server hardware. A sequence of messages on the status display

indicates the progress of the self-testing and boot sequence. If the server passes all self-tests, the status display begins cycling through its normal sequence (described on page INS-30).

The server is now ready to accept connections from the VMS host.

The Master Boot Floppy

The master boot floppy configures your server automatically, based on the hardware it finds during the boot sequence. In most cases, if you change your server hardware (for example, you add a slave card), the change will be recognized automatically the next time you boot the server with the master floppy.¹

Because the auto-configuration process is somewhat slow, using the master floppy to boot the server takes several minutes. You can speed up the boot process by creating a custom floppy that contains information specific to your server. (The custom floppy bypasses the auto-config procedure, so you will need to boot with the master floppy if the server's hardware changes.)

To create a custom boot floppy, follow the instructions in "Creating a Custom Boot Floppy" on page INS-27.

Server Options

The following server options are *not* configured automatically by the master boot floppy:

- CD ROM support
- Local Hard Disk support
- Novell NetWare support for *non-SONIC* servers
- PATHWORKS/PCSA support for *non-SONIC* servers

¹One exception occurs if you alter a slave card's DMA channel. *The master boot floppy cannot detect this hardware change.* If you change the DMA, you *must* use the System Configuration utility to identify the proper setting.

If you purchased any of these options, you received an "option floppy" that contains the necessary pieces to configure the boot floppy. To install the server options, you must create a custom boot floppy. The necessary steps are given below.

Creating a Custom Boot Floppy

Follow the steps below to create a custom boot floppy containing any server options. These instructions assume that you have installed the software on the VMS host, executed the start-up file and added the symbol declarations to the system-wide login command procedure, and booted the 386Ware with the master floppy.

-
- ▲ **Important:** If you are *not* upgrading from an earlier version of 386Ware, a custom boot floppy has already been created for you by Logicraft.

You should only need to follow the steps below if: (a) you are upgrading from an earlier version, (b) you have changed the hardware in your server, or (c) you are adding a new software option to your server.

1. Before continuing, ensure that you have the following items:

- master boot floppy
- one or more blank diskettes
- any option floppies for your server

2. Log in as a privileged user, such as SYSTEM.

3. Establish a 386Ware session with write access to the D386C logical disk. Use a command like this:

```
$ srv sys$386ware:d386c /server=serv1
```

where "serv1" represents the name of your 386Ware server.

4. Attach the server's floppy drive(s). Give this command:

```
C:\>attach floppy
```

5. Write-protect the master boot floppy, then make a copy. Give this command:

```
C:\>diskcopy a: a:
```

Insert the source and target diskettes when prompted.

-
- ▲ **Important:** It is *very strongly recommended* that you work with a *copy* of the master boot floppy!

If you have only one master boot floppy and something goes awry or your server hardware changes, you will not be able to boot the server without obtaining a new floppy from Logcraft Customer Support.

If you want to make more than one custom floppy for your server, diskcopy the master floppy an appropriate number of times. Alternatively, you can diskcopy the custom floppy once it is created.

6. Give this command:

```
C:\>a:mod_cnfg
```

This batch job makes some modifications to CONFIG.SYS that are necessary for the remaining steps. (The original file is restored later.)

7. Terminate the DOS session with the BYE command, then re-establish the session, using the same command as in Step 3.

The new session includes a RAM disk, which usually defaults to drive I:. A message indicating the drive letter will be displayed. (The custom boot floppy is actually created on the RAM disk, then copied to a new floppy when all changes have been made.)

The following steps assume that the RAM disk is the I: drive. If your session uses a different drive letter, use it in place of references to I: below.

8. Give the ATTACH FLOPPY command to attach the server's floppy drive(s).
9. Ensure that the disk is write-enabled, then insert the *new copy* of the boot floppy in the A: drive.
10. Give the following commands:

```
C:\>i:  
I:\>copy a:bootdisk.bat  
I:\>bootdisk i:
```

Eventually, a menu appears that allows you to add an option, create a boot floppy, or exit.

11. If you have options to install, select "Add an Option" from the menu, then follow the instructions on the screen. Repeat this step for *each* option floppy.
12. When you have added all options, choose "Create Boot Floppy" from the menu.

A screen appears showing your server's slave card, network card, and floppy drive configuration. You are given the opportunity to change the floppy drive type(s).

13. When prompted, ensure that the copy of the master boot floppy is in the diskette drive, then press a key to continue.

▲ **Important:** The boot-floppy maker expects a copy of the master floppy at this point; *do not try to use a blank diskette.*

14. When you've created all the floppies you want, exit the boot-floppy maker.
15. Terminate the DOS session with the BYE command.
16. Reboot the server with the custom floppy.

Once you have created a custom floppy and have verified that it boots the server, store the original master floppy in a safe place. You will need this floppy if your server's hardware changes or you purchase additional server options.

Status Display

Your server's status display will inform you of the current status of the unit during initialization and operation.

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

```
USERS CONFIGURED XX
USERS LOGGED ON XX
```

The *Users Configured* status describes the maximum number of users configured for the server. The *Users Logged On* status describes the number of users currently connected to the server. When the number of users logged on is the same as the number of users configured, no additional users are allowed to connect to this server. (The values shown represent the total number of system users configured and logged on, not the values of specific slave cards.)

When a user logs off the server there is a short delay before the user is actually deallocated. During the delay, the user may continue to be included in the count of *Users Logged On*. The count is corrected for the next display period.

```
I/O PROCESSOR LOAD
XXX%
```

The *I/O Processor Load* is a percentage that describes how busy the server's I/O processor is relative to when no server users are logged on.

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

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

The *Network Address* is the Ethernet (XNS) or Internet (UCX or TGV) address for this 386Ware 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.

Installing 386Ware as a Shared Image

If the 386Ware software will be used extensively on your system, you can reduce overhead and memory requirements on the VAX by installing the 386Ware 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 386Ware.

The name of the 386Ware executable depends on your server's interface and the host configuration:

Host Configuration	Executable Name
neither DECwindows nor Motif installed	386WARE.EXE 386WARE_UCX.EXE 386WARE_TGV.EXE
DECwindows installed	386WARE_DECW.EXE 386WARE_UCX_DECW.EXE 386WARE_TGV_DECW.EXE
Motif installed	386WARE_MOTIF.EXE 386WARE_UCX_MOTIF.EXE 386WARE_TGV_MOTIF.EXE
Info utility	386INFO.EXE 386INFO_UCX.EXE 386INFO_TGV.EXE

In 386Ware'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 Logcraft's Fonts

In order to use 386Ware from certain supported X platforms, you must first install the Logcraft 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; and
- VT1300 X terminals.

Macintosh with MacX

In order to use 386Ware from a Macintosh with DEC's PATHWORKS, you must include the PATHWORKS for Macintosh subset when installing the Logcraft software. In addition, you need:

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

Follow these steps:

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

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

¹These instructions assume that you have at least one VAXshare file service defined. If not, refer to DEC's documentation, or contact Logcraft Customer Support to obtain the MacX fonts on a Macintosh floppy (part no. 07-239).

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

2. On the Macintosh, open the Chooser. Click on the Apple-Share 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, if necessary. 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. Drag the appropriate Logcraft MacX fonts folder (either USA or Norway/Denmark) to the MacX fonts folder.

When you start your next MacX session, the font directory will be rebuilt automatically and will include the Logcraft 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$MANAGER>dismount "Logcraft MacX Fonts"  
MSA$MANAGER>remove "Logcraft MacX Fonts"
```

PC with PC DECwindows

If you are plan to use 386Ware 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 386Ware with PC DECwindows, you must include the PC DECwindows subset when installing the Logicaft software.

386Ware's PC DECwindows support includes:

- a PCSALAD disk, called PCDECWINDOWS.DSK in the SYSS386WARE 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 Logicaft 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$386ware: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 \LOGCRFT subdirectory. (To determine the font directory, see Step 5 below.) For example:

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

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:\pcdvw3\usa\*.* logcrft
```

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

5. Next, add a \LOGCRFT 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 \LOGCRFT as a subdirectory of the default font directory, separating it from the rest of the path with a semicolon. 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 386Ware under PC DECwindows. When you start 386Ware, 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-16 for details.

VT1300 X Terminal

In order to use 386Ware from a VT1300 X terminal, you must add the Logcraft fonts to the terminal's font path. Edit the terminal's data file (called EWSSLIBRARY:*nodename*.DAT, where *nodename* is the terminal's node name) to include a line like the following:

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

where *xx.xxx* is the DECnet node number for the VAX on which 386Ware 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 386Ware.) 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.

Establishing a Session

Once you have installed and started the host software and have configured and booted your server, establish a 386Ware/DOS session to ensure that everything is working properly. The following pages give brief information on establishing a session; for further details, refer to *Session Configuration*.

To establish a session, login to the VMS host from a privileged account¹ (such as SYSTEM) and give a command like this:

```
$ srv sys$386ware:d386c /server=serv1
```

where "serv1" represents the name of your server. This command establishes a session using the D386C logical disk for read/write access as the C: drive. (It assumes that you have VMS read and write access to the file SYS\$386WARE:D386C.DOS.)

For further information on the command syntax for the SRV command, refer to *Session Configuration*.

When you give the SRV command to establish a session, the MS-DOS window² appears on your screen, some initialization messages are displayed, and the DOS prompt appears.

When you are ready to return to your VMS session, give the following command at the DOS prompt:

```
C:\>bye
```

If you have difficulty establishing a session, refer to "Troubleshooting" on page SMG-32 of *System Manager's Guide*.

¹Information on the privileges and quotas needed to access 386Ware is given on page INS-41.

²If you use a non-X terminal, the MS-DOS session is established on your terminal screen, not in a separate MS-DOS window.

Deleting Privileged Utilities

The D386C.DOS logical disk contains several “privileged” utilities that affect the operation of the server for all users; these utilities, including STOP and SHUTDOWN, are located in the \PRV_UTIL directory. STOP is used to terminate any 386Ware user’s session. SHUTDOWN is used to shut down and restart the server. For obvious reasons, you may not want every 386Ware user to have access to these commands!

Before removing the privileged utilities from D386C.DOS, you should copy them for your own use. You can make a copy of the entire D386C.DOS logical disk file, specifying an appropriate VMS protection (or ACL) for the copy to restrict access.

To conserve disk space, however, you may prefer to copy just the privileged utilities from D386C to a smaller logical disk. Follow these steps:

1. Set your default directory to SYS\$386WARE, then use a command like the following to create a new logical disk called PRV_UTIL.DOS:

```
$ dosmake 360k prv_util
```

2. Set an appropriate VMS protection (or ACL) on the new disk to prevent other users from accessing it.
3. Create a temporary VMS directory to hold the files when copying from one logical disk to the other:

```
$ create/directory [.temp]
```

4. Copy the utilities from the original D386C logical disk to the temporary directory:

```
$ doscopy/binary d386c|\prv_util\*. * [.temp]
```

DOSCOPY confirms its actions; however, you can check that all files have been copied by comparing the files in the tempo-

rary directory with the files on the logical disk. Use the following command to see a directory listing of the \PRV_UTIL directory:

```
$ dosdir d386c|\prv_util
```

5. Copy the utilities from the temporary directory to the new logical disk:

```
$ doscopy/binary [.temp]*.* prv_util|\
```

(This two-step copy using a temporary directory is necessary because DOSCOPY does not allow you to copy files from one logical disk directly to another.)

6. Delete the utilities from D386C. Give the following command:

```
$ dosera d386c|\prv_util\*.*
```

7. Finally, clean up the temporary directory and delete it:

```
$ delete [.temp]*.*;*
$ set protection=(o:rwd) temp.dir
$ delete temp.dir;
```

For more information on the DOSMAKE, DOSCOPY, DOSDIR, and DOSERA commands, refer to "Logical Disk Commands" on page VMS-2 of *Utilities for VMS*. For a description of the privileged utilities, refer to *Utilities & Drivers for DOS*.

Setting Up User Accounts

Once you have installed the VMS software, executed the 386Ware start-up file, and booted the server, users can access 386Ware. Complete information on establishing 386Ware sessions is given in *Session Configuration*.

The default process quotas for most non-privileged accounts are insufficient to use 386Ware. 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 386Ware 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
ASTlm:	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, Prelm. These quotas control the number of detached processes and jobs that an account can have.

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

BIOlm, DIOlm, ASTlm. 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 386Ware software installation creates two directories: [LOGICRAFT_COMMON] and [386WARE]. Logical names are defined for these directories: SYS\$LOGICRAFT_COMMON and SYS\$386WARE, respectively. All files are owned by username SYSTEM.

The following gives a list of the files included in the 386Ware 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\$386WARE

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

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

386HISTORY.COM	386Ware logging utility.
386INFO.EXE	386Ware Info utility (XNS).
386INFO_TGV.EXE	386Ware Info utility (TGV).
386INFO_UCX.EXE	386Ware Info utility (UCX).
386WARE.EXE	XNS control program for terminals.
386WARE.UID	User Interface Description.
386WARE_DECW.EXE	XNS control program for DECwindows.
386WARE_MOTIF.EXE	XNS control program for Motif.
386WARE_MOTIF.UID	User Interface Description.
386WARE_SYMBOL_DECLARATION.COM	Symbol definitions; called by SYLOGIN.
386WARE_TGV.EXE	TGV control program for terminals.
386WARE_TGV_DECW.EXE	TGV control program for DECwindows.
386WARE_TGV_MOTIF.EXE	TGV control program for terminals.
386WARE_UCX.EXE	UCX control program for terminals.
386WARE_UCX_DECW.EXE	UCX control program for DECwindows.
386WARE_UCX_MOTIF.EXE	UCX control program for Motif.

ADD_KYBD_DECW.EXE	Vendor to keyboard mapping utility (DECwindows).
ADD_KYBD_MOTIF.EXE	Vendor to keyboard mapping utility (Motif).
ASCIITOPC.DAT	ASCII to PC keyboard make/break codes.
AUXCON.UID	User Interface Description.
AUXCON_MOTIF.UID	User Interface Description.
CLIPPER.DAT	Keyboard map for Intergraph 2000.
D386C.DOS	Logical disk containing Logcraft software.
DECWKEY.DAT	Keyboard map for DECwindows.
DISKCON.UID	User Interface Description.
DISKCON_MOTIF.UID	User Interface Description.
EXISTCON.UID	User Interface Description.
EXISTCON_MOTIF.UID	User Interface Description.
EXODUSKEY.DAT	Keyboard map for Macintosh computers running eXodus software.
GRAPHONKEY.DAT	Keyboard map for GraphOn OptimaX terminals.
HP9000KEY.DAT	Keyboard map for HP9000 (window system 2/3).
HPXTERM.DAT	Keyboard map for HP9000 (window system 0).
INFOSERVER_XNS.EXE	Detached process for Info utility (XNS).
INTEL.DAT	Keyboard map for Intel.
IS84IUS.DAT	Keyboard map for PC DECwindows.
IS84US.DAT	Keyboard map for PC DECwindows.
IS101US.DAT	Keyboard map for PC DECwindows.
ISENHIUS.DAT	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.DAT	Keyboard map for PC DECwindows.
LK250IUS.DAT	Keyboard map for PC DECwindows.
MACTERM.DAT	Keyboard map for Macintoshes running MacTerminal.
MACXKEY.DAT	Keyboard map for Macintoshes with MacX.

NCDPCKEY.DAT	Keyboard map for NCD X terminals with PC keyboard.
NCDVTKEY.DAT	Keyboard map for NCD X terminals with PC keyboard.
PCDECWINDOWS.DSK	PATHWORKS LAD disk containing the PC DECwindows fonts.
PRINTCON.UID	User Interface Description.
PRINTCON_MOTIF.UID	User Interface Description.
PT2KEY.DAT	Keyboard map for PowerTerm II and III terminals.
READ_LOG.EXE	Logging utility program.
RS6000KEY.DAT	Keyboard map for IBM RISC/System 6000.
SAVECON.UID	User Interface Description.
SAVECON_MOTIF.UID	User Interface Description.
SEEDLL.EXE	Datalink diagnostic tool.
SRV.COM	Sample command procedure for starting a session.
SUN3KEYS.DAT	Keyboard map for Sun 3-series systems.
SUN4KEYS.DAT	Keyboard map for Sun 4-series systems.
TEKXP101.DAT	Keyboard map for Tektronix XP27, VT100 keyboard.
TEKXP220.DAT	Keyboard map for Tektronix XP27, VT200 keyboard.
TEKXP330.DAT	Keyboard map for Tektronix XP27, VT300 keyboard.
UTIL.COM	Utility routines called by the 386Ware start-up file, 386STRTUP.COM.
VERSATERM.DAT	Keyboard map for Macintosh computers running VersaTerm.
VISUAL101.DAT	Keyboard map for Visual RE1520, VT100 keyboard.
VISUALXDS.DAT	Keyboard map for Visual RE1520, VT200 keyboard.
VT100KEY.DAT	Keyboard map for VT1xx terminals.
VT200KEY.DAT	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.CLD	DOSCOPY command line definition.
DOSCOPY.EXE	DOSCOPY logical disk command.
DOSDIR.CLD	DOSDIR command line definition.
DOSDIR.EXE	DOSDIR logical disk command.
DOSERA.CLD	DOSERA command line definition.
DOSERA.EXE	DOSERA logical disk command.
DOSMAKE.CLD	DOSMAKE command line definition.
DOSMAKE.EXE	DOSMAKE logical disk command.
DOSSTAT.CLD	DOSSTAT command line definition.
DOSSTAT.EXE	DOSSTAT logical disk command.
DOSTYPE.CLD	DOSTYPE command line definition.
DOSTYPE.EXE	DOSTYPE logical disk command.
ECHO.EXE	Echo program, used for testing Ethernet (XNS).
KEYMAP.DIR	Data file for ADDKYBD utility.
KTDRIVER.EXE	XNS Ethernet device driver (XNS).
KXDRIVER.EXE	XNS Ethernet device driver (XNS).
MACXFONT.SDIR	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.
SET_DOS_COMMANDS.COM	Procedure to add logical disk commands to DCLTABLES.
TMP.DIR	Subdirectory for temporary files. Protection is S:RWED, O:RWED, G:RWED, W:RWED.
XCP.EXE	XNS Control Program for configuring network interface.

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

TMP.DIR is the default temporary directory used by several of 386Ware'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 "The Temporary Directory" on page SMG-20.

SYS\$STARTUP

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

386STRTUP.COM

Start-up command procedure for 386Ware.

SYS\$UPDATE

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

DEINSTALL_386WARE.COM

386Ware deinstallation command procedure.

SYS\$HELP

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

DECW_386WARE.HLB

386Ware help library for DECwindows (accessed from pull-down menus).

386WARE.HLB

386Ware help library (added to HELPLIB.HLB).

LOGICRAFT

USER'S GUIDE

386Ware for VMS

*Release 4.0
March 19, 1993*

Contents

Introduction	UG-1
Overview	UG-2
Starting a Session	UG-2
Terminal Emulation	UG-2
Keyboard Mappings	UG-3
The SRV.COM Procedure	UG-4
Using the PC Mouse	UG-5
Activating the Mouse	UG-5
Using Copy and Paste	UG-6
Standard Mode	UG-6
Rubberband Mode	UG-7
Notes	UG-7

Introduction

This section discusses what you need to know to get started with 386Ware as quickly as possible and gives some basic information about using 386Ware. 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 386Ware sessions is given below, along with indications of where to look for additional information.

Starting a Session

Generally, you establish a 386Ware session by executing a command procedure that contains an appropriate SRV command. Your system manager may provide you with such a command procedure. 386Ware's software includes a sample procedure, called SYS\$386WARE:SRV.COM.

SRV.COM is discussed further in "The SRV.COM Procedure" on page UG-4. For detailed information on configuring 386Ware sessions, refer to *Session Configuration*.

After you initiate your 386Ware session, the DOS prompt, C:\>, appears. The commands contained in the DOS file called AUTOEXEC.BAT are executed automatically. You can then issue DOS commands and run PC software. When you want to end your DOS session and return to VMS, give the BYE command at the DOS prompt.

Terminal Emulation

When you initiate a 386Ware 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 a utility called SETTERM sets the appropriate characteristics for you automatically. In a few cases, however, it may be necessary to change some of the characteristics of the default ter-

terminal emulation. The SETTERM utility includes many parameters for this purpose. For information on SETTERM, refer to its description on page DOS-54 of *Utilities & Drivers for DOS*.

Keyboard Mappings

In addition to setting the terminal emulation, 386Ware 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.

386Ware 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-18 of *Utilities for VMS*.

The SRV.COM Procedure

If your system manager doesn't provide you with a command procedure to start 386Ware sessions, you can create your own or you can execute SRV.COM, included with the 386Ware software. This file is located in SYS\$386WARE.

Give this command:

```
$ @sys$386ware:srv
```

For workstations and X terminals, the 386Ware 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 386Ware window disappears, and you are returned to your terminal session. If you use a VT terminal, the VMS prompt should reappear on your terminal.

¹SRV.COM uses Logcraft window system 2 by default; this window system provides a separate X window for the 386Ware 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 "Pull-Down Menus" on page CFG-54 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 386Ware includes a program called V86MOUSE.EXE to provide mouse support. For information on V86MOUSE, refer to its description on page DOS-78 of *Utilities & Drivers for DOS*.

V86MOUSE allows 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. 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

V86MOUSE 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 386Ware 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 386Ware 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.

¹In order to use the mouse, you must use Logcraft 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 "Logcraft Window Systems" on page CFG-2 of *Session Configuration*.

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 386Ware.

With 386Ware and window system 2,¹ two copy and paste modes are available: standard (or DECterm) mode and Rubberband mode. You indicate which copy/paste mode you want to use on the "Configure..." item on the Edit pull-down menu of the 386Ware window. This menu item is discussed on page CFG-67 of *Session Configuration*.

Standard 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 386Ware 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.

¹Logicaft window system 2 establishes the 386Ware session in its own X window and includes pull-down configuration menus. For information on window systems, refer to "Logicaft 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 386Ware's PC mouse, as discussed on page UG-5.

Rubberband Mode

Rubberband mode allows you to copy selected contiguous *columns* of the 386Ware window to the clipboard. That is, 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 a 386Ware window.

Within the 386Ware 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 termination sequence* 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-67 of *Session Configuration*.

Notes

When using copy and paste with the 386Ware window, keep the following in mind:

- When selecting text to copy from the 386Ware 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

386Ware 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; 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, particularly when using rubberband mode.

LOGICRAFT

SESSION CONFIGURATION

386Ware for VMS

*Release 4.0
March 19, 1993*

Contents

Introduction	CFG-1
Logiccraft Window Systems	CFG-2
Logical Disks	CFG-3
Creating a Logical Disk	CFG-3
Disk Storage for Users	CFG-5
Disk Storage for Applications Software	CFG-5
Configuring Printer Information.....	CFG-7
Command Syntax	CFG-10
Sample	CFG-11
Configuration Qualifiers	CFG-14
/AUX_PORT	CFG-18
/BINARY	CFG-19
/[NO]BREAK	CFG-20
/[NO]CACHE	CFG-21
/[NO]CLOSE	CFG-22
/COMMAND	CFG-23
/COPIES	CFG-24
/DEC	CFG-25
/[NO]DELETE	CFG-26
/DISKS	CFG-27
/[NO]FLAG.....	CFG-28
/[NO]FLUSH	CFG-29

/FORM.....	CFG-30
/[NO]HOT_KEY	CFG-31
/IBM	CFG-32
/INPUT	CFG-33
/KEYMAP	CFG-34
/LN03	CFG-35
/MEMORY	CFG-37
/MINMEMORY	CFG-38
/NOCTRL_SQ	CFG-39
/OUTPUT	CFG-40
/[NO]PASSALL	CFG-41
/PCTYPE	CFG-42
/PRINTER.....	CFG-43
/[NO]QUEUE	CFG-44
/READ_ONLY	CFG-45
/SERVER	CFG-46
/[NO]SHARE	CFG-47
/SLAVE	CFG-48
/TEXT.....	CFG-49
/TIMER_1, /TIMER_2, /TIMER_3.....	CFG-50
/[NO]TRAILER.....	CFG-52
/TYPEAHEAD	CFG-53

Pull-Down Menus CFG-54

Overview	CFG-54
Configuration Menu.....	CFG-56
Required Configuration Parameters...	CFG-56
Printer Configuration Parameters.....	CFG-59
Auxiliary Configuration Parameters.....	CFG-63
VGA Remap Palette.....	CFG-66
Edit Menu.....	CFG-67
Configure.....	CFG-67
Fonts Menu	CFG-69

File Menu	CFG-69
Save.....	CFG-69
Load...	CFG-70
Use	CFG-70
Quit	CFG-70
Help Menu.....	CFG-71

List of Figures and Tables

386Ware's Print Mechanism	CFG-8
Summary of Print Qualifiers.....	CFG-8
SRV Command Qualifier Summary	CFG-14
Pull-Down Menu Buttons	CFG-55
Required Configuration Parameters dialog box	CFG-56
Configuration menu.....	CFG-56
Printer Configuration Parameters dialog box	CFG-59
Auxiliary Configuration Parameters dialog box	CFG-63
VGA Remap Palette	CFG-66
Edit menu	CFG-67
Copy/Paste Configuration dialog box	CFG-68
Fonts menu	CFG-69
File menu	CFG-69
Help menu.....	CFG-71

Introduction

This section discusses two mechanisms for configuring 386Ware sessions:

- the **SRV command**. The parameters and qualifiers you include on the command provide the information 386Ware needs to configure your session according to your needs. This method lets you utilize the full capabilities of the SRV 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 SRV command begins on page CFG-10. For a discussion of the pull-down menus, refer to page CFG-54.

Logiccraft Window Systems

If you have a workstation or X terminal (using Motif or DECwindows), the action of the SRV 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.

A 386Ware session in window system 0 runs in your current terminal window. It supports Hercules or CGA graphics and is essentially the same as using 386Ware from a VT terminal. You cannot use the workstation or X terminal mouse with PC applications.

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 2 is the default if you have an X display.¹

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 3:

```
$ define logiccraft_window_system 3
```

For information on customizing the appearance of the MS-DOS window and icon, refer to "Logical Name Summary" on page SMG-2 of *System Manager's Guide*.

¹The window system is set by the symbol declaration procedure (discussed on page INS-23), which checks to see whether it can open an X display. If you login to a non-X display, then SET DISPLAY to an X platform, you will need to define the window system explicitly.

Logical Disks

The SRV command lets you configure up to six logical disks per 386Ware session. A *logical disk* is a VMS file that has been initialized to emulate a PC hard disk for use with 386Ware. Each user needs access to a logical disk called D386C.DOS in order to establish DOS sessions; this disk contains the PC operating system files. Logical disks are also used to store individual work and PC applications software.

When configuring a 386Ware session, you specify the type of access for each logical disk:

- **Read Only/Share.** Allows you to read information from the disk, but you cannot save data on it. More than one user is allowed to read information from the disk at the same time.
- **Read Only/Exclusive.** Allows you to read information from the disk, but you cannot save data on it. Only one person can use the disk at a time.
- **Read/Write.** Allows you to read and write information on the disk with no restrictions. Only one person can use the disk at a time.

Some general information on logical disks is given below. For instructions on configuring disks for a 386Ware session, refer to "Command Syntax" on page CFG-10.

Creating a Logical Disk

Use the DOSMAKE command to create a logical disk. Brief instructions are given below; for further information, refer to the description of DOSMAKE on page VMS-12 of *Utilities for VMS*.

The DOSMAKE command syntax looks like this:

```
DOSMAKE size filespec
```

where *size* indicates how big to make the logical disk and *filespec* 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. 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 can 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-13 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.

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
```

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

Disk Storage for Users

Each user needs at least one logical disk to store his or her own work (PC data and document files).

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.

Disk Storage for Applications Software

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

You can create shared or public logical 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 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, attach the floppy drive (with the `ATTACH FLOPPY` command, described on page DOS-12 of *Utilities & Drivers for DOS*), then follow the vendor’s instructions.

Configuring Printer Information

The SRV command and pull-down menus each provide two mechanisms for printing from the 386Ware 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 386Ware session, you can define two printer assignments, called LST1 and LST2, each of which can be configured for either of the two available print mechanisms.

The LST1 and LST2 printer assignments are configured with the SRV command or pull-down menus on the host. Before any printing from DOS can occur, however, you also need to associate these printer assignments with DOS's print mechanism, the LPT logical devices.

When you establish a DOS session, the AUTOEXEC.BAT file on D386C executes ATTACH commands that associate LST1 with the DOS logical printer device LPT1 and LST2 with LPT2.¹ Any DOS printing on LPT1 or LPT2 is then redirected to the LST1 or LST2 printer assignment, respectively.

Figure CFG-1 below shows the relationship between an MS-DOS application, DOS's logical printer device LPT1, the ATTACH command, and the LST1 printer assignment.

¹You can also use ATTACH to print from a DOS session to a printer connected directly to the 386Ware server. Refer to the description of the ATTACH LPTn command on page DOS-12 of *Utilities & Drivers for DOS*.

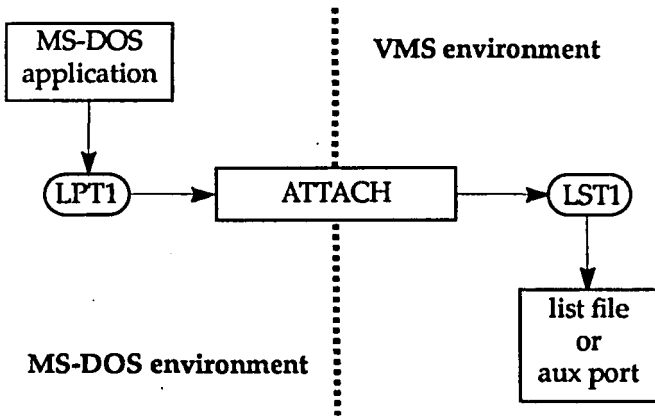


Figure CFG-1: 386Ware's Print Mechanism

SRV command qualifiers let you control a variety of printing parameters. The qualifiers you can specify depend on which printing method you are using. Figure CFG-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	<code>lfile1/PRINTER=LST1/QUEUE</code> <code>lfile2/PRINTER=LST2/QUEUE</code>	<code>/BINARY, /TEXT</code> <code>/[NO]CLOSE</code> <code>/COPIES</code> <code>/DEC, /IBM, /LN03</code> <code>/[NO]DELETE</code> <code>/[NO]FLAG</code> <code>/FORM</code> <code>/[NO]PASSALL</code> <code>/[NO]TRAILER</code> <code>/[NO]FLUSH</code>
store print data in a list file, but <i>don't</i> print automatically to a VMS print queue	<code>lfile1/PRINTER=LST1/NOQUEUE</code> <code>lfile2/PRINTER=LST2/NOQUEUE</code>	<code>/BINARY, /TEXT</code> <code>/[NO]CLOSE</code> <code>/DEC, /IBM, /LN03</code> <code>/[NO]FLUSH</code>
print to the terminal's auxiliary port	<code>LST1/AUX_PORT</code> <code>LST2/AUX_PORT</code>	<code>/BINARY, /TEXT</code> <code>/DEC, /IBM, /LN03</code>

Figure CFG-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-59.

Command Syntax

The syntax for the SRV command looks like this:

```
SRV  ldisk_1 [dsk_qual] -  
     [, ldisk_2 [dsk_qual]] ... [, ldisk_6 [dsk_qual]] -  
     [, prtassgn_1 [prt_qual]] [, prtassgn_2 [prt_qual]] -  
     [cmd_qual] /SERVER=srvr
```

where:

ldisk_n Indicates the logical disk(s) to mount for the 386Ware session; you may specify up to six disks.

dsk_qual Specifies one or more qualifiers pertaining to logical disks.

prtassgn_n 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 or LST2 when printing to a terminal's auxiliary port. Refer to Note 13 below.

prt_qual Specifies one or more qualifiers pertaining to printing.

cmd_qual Specifies one or more command qualifiers, which pertain to neither logical disks nor printing.

/SERVER=*srvr* Identifies which 386Ware server to use.

Sample

The following is a sample SRV command:

```
$ srv sys$386ware:d386c/share, -  
  dosdisks:lotus/rea/nosha, -  
  sys$login:dosdata, -  
  lst1/aux/text/ibm, -  
  tempfile/pri=lst2/queue=post -  
    /del/noclose/flag -  
  /flush/hot/mem=640/minmem=1024 -  
  /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 (*pri_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 (*pri_qual*s).
5. The */SERVER* qualifier is *mandatory*; you must indicate which 386Ware 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 ses-

sion. For best results, /SERVER should be the last item on the SRV command, particularly when using load balancing.

6. Logical disk names and list file names can have any file type or extension you choose; however, 386Ware will assume a default extension where none is specified: .DOS or .DSK for a logical disk and .LIS for a list file.
7. The first logical disk specified should be the D386C.DOS logical disk or a copy. You can have a maximum of six logical disks defined per 386Ware session. The first logical disk name that appears in the SRV command is assigned to the C: drive, the second logical disk is assigned to the D: drive, and so on until the H: drive is assigned.
8. Commas isolate the specifications for logical disks and printer assignments. The example shows commas separating the logical disks D386C, LOTUS, and DOSDATA and the printer assignments LST1 and TEMPFILE.
9. Multiple commas can be used to "reserve" a drive letter. For example, the syntax SRV D386C,, DISK3,,DISK5... mounts D386C on the C: drive, DISK3 on the E: drive, and DISK5 on the G: drive. Drives D:, F:, and H: are assigned default logical disks, if possible, or remain unassigned. (See Note 10.)
10. If you do not specify all six logical disks, 386Ware attempts to mount default disks on the drive letters that you have not explicitly assigned.
 - a. The default disk name for the C: drive is D386C.DOS or D386C.DSK. If you do not specify any logical disks on the command line and the default disk for C: does not exist, an error is generated. (See Note 11.)
 - b. The default disk names for the remaining drives are of the form DISKx.DOS or DISKx.DSK, where x is the drive letter. If neither default disk exists (.DOS or .DSK) for any drive letter from D: through H:, no error is generated and no disk is mounted (see Note 11).

For example, if you specify five logical disks on the command line, 386Ware attempts to mount a sixth disk called

DISKH.DOS; if this disk does not exist, 386Ware attempts to mount DISKH.DSK. If neither default disk exists, no error is generated and no disk is mounted.

11. Once all six drive letters are assigned logical disk names (either explicitly or by default), the *first* logical disk is checked for validity. If the first disk does not exist (or does not contain COMMAND.COM) or if you are not allowed access to the disk, an error message is displayed.

If any other disk is invalid (e.g., it does not exist or you are not allowed access to it), the 386Ware session starts, but no disk is mounted on the drive letter associated with the invalid disk.

12. If you do not specify both list files, 386Ware assigns default file names: SPOOLA.LIS for LST1 and SPOOLB.LIS for LST2. If no printing qualifiers are specified for either printer assignment, the default values are used.
13. When printing to the auxiliary port on a terminal or workstation, the *prtassgn_n* parameter is replaced with the keyword LST1 or LST2, identifying the printer assignment. No list file is actually used; 386Ware sends print data directly to the auxiliary port. Refer to the description of /AUX_PORT on page CFG-18 for additional information.

Configuration Qualifiers

The following table gives a brief description of each SRV command qualifier. 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). The Page column indicates where to find detailed information on the qualifier.

Qualifier	Type	Description	Page
/AUX_PORT	P	Specifies the auxiliary printer port.	CFG-18
/BINARY	P	Indicates binary printer output; no text conversion is performed. Default is /TEXT unless /PASSALL is included.	CFG-19
/[NO]BREAK	C	Enables/disables Break key. Default is /NOBREAK.	CFG-20
/[NO]CACHE	C	Specifies whether to use 386Ware's 64K disk cache for this DOS session. Default is /CACHE.	CFG-21
/[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-22
/COMMAND	C	Indicates DCL command to execute whenever the Hot key is used.	CFG-23
/COPIES	P	Specifies how many copies of the list file to print. Default is one copy.	CFG-24

Figure CFG-3: SRV Command Qualifier Summary

Qualifier	Type	Description	Page
/DEC	P	Indicates a non-Sixel DEC printer; PC-to-DEC character translation is performed on print data.	CFG-25
/[NO]DELETE	P	Specifies whether to delete the list file after printing. Default is /DELETE.	CFG-26
/DISKS	C	Specifies the number of drive letters to reserve for 386Ware. Default is 6.	CFG-27
/[NO]FLAG	P	Indicates whether to include a flag page before print data. Default is /NOFLAG.	CFG-28
/[NO]FLUSH	C	Selects manual or auto print buffer flushing. Affects both LST1 and LST2. Default is /NOFLUSH (auto flushing).	CFG-29
/FORM	P	Indicates the printer form to use. Default form is the default for the queue.	CFG-30
/[NO]HOT_KEY	C	Indicates whether to enable the Hot key (Ctrl-?), which spawns a VMS subprocess. Default is /NOHOT_KEY.	CFG-31
/IBM	P	Indicates an IBM PC-compatible printer; no PC-to-DEC character translation is performed. Default is /DEC.	CFG-32
/INPUT	C	Sends input to a Hot key subprocess.	CFG-33
/KEYMAP	C	Overrides the default keyboard mapping.	CFG-34

Figure CFG-3: SRV Command Qualifier Summary (Cont'd)

Qualifier	Type	Description	Page
/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-35
/MEMORY	C	Specifies the amount of conventional memory in kilobytes for the DOS session. Default is 640K.	CFG-37
/MINMEMORY	C	Specifies the minimum amount of memory in kilobytes needed on the slave card to establish this session.	CFG-38
/NO_CTRLSEQ	C	Disables XON/XOFF on terminal I/O. Used only with Term-Ware.	CFG-39
/OUTPUT	C	Indicates a file name for batch output from a DOS session.	CFG-40
/[NO]PASSALL	P	Specifies whether to bypass print symbiont formatting. Default is /NOPASSALL.	CFG-41
/PCTYPE	C	Specifies the kind of PC to emulate, PC/AT or PC/XT. Default is PC/AT.	CFG-42
/PRINTER	P	Associates the list file with the LST1 or LST2 printer assignment.	CFG-43
/[NO]QUEUE	P	Specifies whether to send the list file to a VMS print queue after closing the file. Default is /QUEUE=SYS\$PRINT.	CFG-44
/READ_ONLY	D	Indicates a read-only logical disk or device.	CFG-45

Figure CFG-3: SRV Command Qualifier Summary (Cont'd)

Qualifier	Type	Description	Page
/SERVER	C	Identifies which 386Ware server to use.	CFG-46
/[NO]SHARE	D	Indicates whether a read-only disk or device can be shared by other users. Default is /NOSHARE.	CFG-47
/SLAVE	C	Selects the slave card to use. Default is the least-busy slave on the selected server.	CFG-48
/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-49
/TIMER_1 /TIMER_2 /TIMER_3	C	Control 386Ware's internal network timers for transmitting keyboard input.	CFG-50
/[NO]TRAILER	P	Indicates whether to include a trailer page after print data. Default is /NOTRAILER.	CFG-52
/TYPEAHEAD	C	Controls the size of the typeahead buffer. Default size is 2048.	CFG-53

Figure CFG-3: SRV Command Qualifier Summary (Cont'd)

/AUX_PORT

This qualifier directs printer output to the auxiliary port on the terminal or workstation. /AUX_PORT applies either to LST1 or LST2, depending on the preceding keyword.

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 printer assignment.

Syntax

LST*n*/AUX_PORT

where *n* is either 1 or 2.

Example

```
$ srv d386c. lst1/aux_port/ibm -  
  spoolb.lis/printer=lst2/noqueue -  
  /server=best_server
```

Related

/BINARY, page CFG-19
/DEC, page CFG-25
/IBM, page CFG-32
/LN03, page CFG-35
/[NO]QUEUE, page CFG-44
/TEXT, page CFG-49

/BINARY

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

/BINARY applies either to LST1 or LST2, depending on its location in the command line.

Syntax

/BINARY

/BINARY and /TEXT are mutually exclusive; specify only one per printer assignment.

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

```
$ srv d386c, -  
  spoola.lis/queue=hp_sales/binary -  
  /server=best_server
```

Related

/AUX_PORT, page CFG-18
/IBM, page CFG-32
/LN03, page CFG-35
/[NO]PASSALL, page CFG-41
/PRINTER, page CFG-43
/[NO]QUEUE, page CFG-44
/TEXT, page CFG-49

//[NO]BREAK

/[NO]BREAK

The `/BREAK` qualifier defines and enables a key that terminates the 386Ware session. `/NOBREAK` disables the Break key, indicating that only the `BYE` command is used to end the session.

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.

Examples

```
$ srv d386c /break/server=best_server  
$ srv d386c /break=10/server=best_server
```

Related

/[NO]HOT_KEY, page CFG-31
BYE, page DOS-21

/[NO]CACHE

/CACHE specifies that a 64 K disk cache is used during the DOS session. /NOCACHE indicates that the disk cache is not used.

386Ware's disk cache feature saves the most current logical disk accesses in server memory. Ethernet traffic for disk I/O is thereby greatly reduced.

You can use the CACHE utility at the DOS prompt to achieve the same result.

Syntax

```
/CACHE  
/NOCACHE
```

The default is /CACHE.

Example

```
$ srv d386c/nocache/server=best_server
```

Related

"Memory Management," page SMG-6
CACHE, page DOS-22

//[NO]CLOSE

/[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 386Ware session is terminated.

/[NO]CLOSE applies to either LST1 or LST2, depending on its location in the command line. This qualifier is ignored when specified with /AUX_PORT. It is relevant only in conjunction with /[NO]QUEUE.

Syntax

/CLOSE
/NOCLOSE

The default is /CLOSE.

Example

```
$ srv d386c. spoola.lis/noclose/queue=2up. -  
  spoolb.lis/close/noqueue/binary -  
  /server=best_server
```

Related

/[NO]FLUSH, page CFG-29
/PRINTER, page CFG-43
/[NO]QUEUE, page CFG-44

/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 386Ware environment.

This qualifier is ignored for window systems 2 and 3.

Syntax

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

where *dclcmd* indicates the DCL command to execute.

Example

```
$ srv d386c /hot_key/command="mail" -  
/server=best_server
```

Related

/[NO]HOT_KEY, page CFG-31

/INPUT, page CFG-33

/COPIES

This qualifier indicates the number of copies of the list file to print. It applies to either LST1 or LST2, depending on its location in the command line.

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

Syntax

/COPIES=numcopies

where *numcopies* is between 1 and 255 (inclusive).

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

Example

```
$ srv d386c. -  
  spoola.lis/printer=lst1/copies=5 -  
  /server=best_server
```

Related

/PRINTER, page CFG-43
/[NO]QUEUE, page CFG-44

/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.

This qualifier applies to either LST1 or LST2, depending on its location in the command line.

Syntax

`/DEC`

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

Example

```
$ srv d386c, spoola.lis/dec/que=post -  
  /server=best_server
```

Related

`/AUX_PORT`, page CFG-18
`/IBM`, page CFG-32
`/LN03`, page CFG-35
`/[NO]QUEUE`, page CFG-44
`/PRINTER`, page CFG-43

//[NO]DELETE

/[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.

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

/[NO]DELETE applies to either **LST1** or **LST2**, depending on its location in the command line.

Syntax

/DELETE
/NODELETE

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

Example

```
$ srv d386c, -  
  spoola.lis/nodelete/printer=lst1 -  
  /server=best_server
```

Related

/PRINTER, page CFG-43
/[NO]QUEUE, page CFG-44

/DISKS

The /DISKS qualifier indicates the maximum number of disks (drive letters) you want to access from your DOS session. By changing the number of disks reserved for 386Ware, you can control what drive letters are available for other purposes, such as NetWare or PATHWORKS. For example, if you indicate 2 disks for 386Ware, then E: is the first available drive letter.

Syntax

/DISKS=numdisks

where *numdisks* is between 1 and 6 (inclusive).

If you specify a value less than six, you can still include configuration information for as many as six disks, but the number you specify with this qualifier determines how many of the six are actually mounted.

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

Example

```
$ srv d386c,lotus22/rea/sha/disks=2. -  
  /server=best_server
```

/[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. The qualifier applies to either LST1 or LST2, depending on its location in the command line.

/[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

```
$ srv d386c, spoola.lis/printer=lst1/flag, -  
  spoolb.lis/printer=lst2/queue-post/noflag -  
  /server=best_server
```

Related

/PRINTER, page CFG-43
/[NO]QUEUE, page CFG-44
/[NO]TRAILER, page CFG-52

/[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 redefined with the XSET utility.

/[NO]FLUSH applies to both LST1 and LST2, regardless of its location in the command line. **/[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

```
$ srv d386c, spoola/pri=lst1/flush/serv=best_server
```

Related

/[NO]CLOSE, page CFG-22
XSET, page DOS-98
"Keyboard Mapping Utilities," page VMS-18

/FORM

This qualifier specifies that a particular form name is used when printing the list file. It applies to either LST1 or LST2, depending on its location in the command line.

/FORM is ignored when specified with /NOQUEUE 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.

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 386Ware session.

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

Example

```
$ srv d386c. -  
  spoola.lis/printer=lst1/form=narrow -  
  /server=best_server
```

Related

/PRINTER, page CFG-43
/[NO]QUEUE, page CFG-44

/[NO]HOT_KEY

The /HOT_KEY qualifier enables the Hot key feature, which allows your 386Ware 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 386Ware, 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

```
$ srv d386c /hot_key /server=best_server
```

Related

/[NO]BREAK, page CFG-20
 /COMMAND, page CFG-23
 /INPUT, page CFG-33
 "Keyboard Mapping Utilities," page VMS-18

¹If you press Ctrl-Y after you use the Hot key, your 386Ware 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 386Ware session will continue from the point at which you pressed Ctrl-Y.

/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.

/IBM applies either to LST1 or LST2, depending on its location in the command line.

Syntax

/IBM

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

Example

```
$ srv d386c. -  
  spoola.lis/printer=lst1/queue=proprinter -  
  /ibm/binary, -  
  /server=best_server
```

Related

- /AUX_PORT, page CFG-18
- /BINARY, page CFG-19
- /DEC, page CFG-25
- /LN03, page CFG-35
- /PRINTER, page CFG-43
- /[NO]QUEUE, page CFG-44

/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

```
$ srv d386c /hot_key/input=data.com -  
  /server=best_server
```

Related

/COMMAND, page CFG-23
/[NO]HOT_KEY, page CFG-31

/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, 386Ware looks for the appropriate default file (with file extension or type .DAT) in the specified directory. This feature allows you to modify copies of the keyboard files provided with the 386Ware distribution, store them in your own directory, and have 386Ware automatically load one of them depending on the type of workstation or terminal you are using.

Examples

```
$ srv d386c, mydisk -  
  /keymap=[.kybds]test1/server=best_server
```

```
$ srv d386c, mydisk -  
  /keymap=tweety$user:[mydir.kybds] -  
  /server=best_server
```

Related

“Keyboard Mapping Utilities,” page VMS-18

“Keymap Directory File,” page SMG-16

/LN03

This qualifier indicates that your printer is a DEC Sixel printer, such as the LN03 or LN03PLUS. /LN03 applies either to LST1 or LST2, depending on its location in the command line.

When /LN03 is specified, 386Ware 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 printer assignment.

If none of the three is specified, the default is /DEC.

Example

```
$ srv sys$386ware:d386c/share, -
  spoola.lis/lm03/binary/queue=lm03$1ta2 -
  /server=best_server
```

Related

- /AUX_PORT, page CFG-18**
- /BINARY, page CFG-19**
- /DEC, page CFG-25**
- /IBM, page CFG-32**
- /PRINTER, page CFG-43**
- /[NO]QUEUE, page CFG-44**
- /TEXT, page CFG-49**

/MEMORY

This qualifier indicates the amount of conventional memory for the DOS session.

Before allowing the session to start, 386Ware checks to see if the slave card has sufficient memory, including memory for terminal emulation and video RAM. Refer to "Memory Management" for further information.

Syntax

`/MEMORY=nnn`

where *nnn* indicates the amount of memory in kilobytes and is a number between 512 and 704 (inclusive). Memory is allocated in 4 K increments; in other words, the value you specify should be a multiple of 4. (If it is not, 386Ware increases the value to the next multiple of 4.)

If *nnn* is not specified or the qualifier is omitted, the default value is 640.

Because of memory conflicts, do not request more than 640 K of conventional memory when using VGA emulation.

Example

```
$ srv d386c/memory=512/server=best_server
```

Related

"Memory Management," page SMG-6
/MINMEMORY, page CFG-38
EMM.SYS, page DOS-38
EXTMEM.SYS, page DOS-41
LHDRVR.SYS, page DOS-46
UMBLOAD, page DOS-76

/MINMEMORY

This qualifier indicates the minimum amount of free memory that must be on the slave card in order to establish the DOS session. It ensures that sufficient memory will be available, even if you do not indicate a specific server and slave card (i.e., when using load-balancing).

In particular, you should include /MINMEMORY with an appropriate value if you want to use VGA emulation, extended memory, expanded memory, or UMBLOAD. This precaution ensures that the slave card has enough free memory to meet your needs.

When checking for sufficient memory, 386Ware adds to the amount specified with /MINMEMORY to account for terminal emulation, video RAM, and the disk cache. Refer to "Memory Management" for further information.

Syntax

`/MINMEMORY=nnn`

where *nnn* indicates the amount of memory in kilobytes and is a number between 512 and 14336 (14 megabytes), inclusive. For best results, *nnn* should be a multiple of 64.

Example

```
$ srv d386c/minmemory=2048/server=best_server
```

Related

"Memory Management," page SMG-6
/MEMORY, page CFG-37
EMM.SYS, page DOS-38
EXTMEM.SYS, page DOS-41
LHDRVR.SYS, page DOS-46
UMBLOAD, page DOS-76

/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, 386Ware 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 386Ware 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

```
$ srv d386c /noctrl_sq /server=best_server
```

Related

/PCTYPE, page CFG-42

/OUTPUT

The /OUTPUT qualifier is used with batch (non-interactive) processes. When running 386Ware from 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.

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

To control the batch job once the DOS session is established, include appropriate commands in the AUTOEXEC.BAT file. Ensure that the final command in this file is BYE, or your batch job will not terminate without intervention.

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 unless you include directory and/or device information as part of *filespec*.

If you omit *filespec*, the default output file is BATCH.SCRIPT in the SYS\$LOGIN directory.

Example

```
$ srv d386c /output=dosbatch.log -  
  /server=serv1
```

/[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. /[NO]PASSALL applies to either LST1 or LST2, depending on its location in the command line.

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

```
$ srv d386c, spoola/que=laser/passall/pri=lst1 -  
  /server=best_server
```

Related

```
/BINARY, page CFG-19  
/[NO]QUEUE, page CFG-44  
/TEXT, page CFG-49
```

/PCTYPE

This qualifier specifies which type of PC emulation to use, either PC/AT or PC/XT.

You should *rarely* need to use /PCTYPE=XT. Specify it when:

- you use a PC with Logcraft's Term-Ware product and your PC does *not* have an enhanced (101-key) PC/AT-style keyboard.
- you have an older application that specifically requires a PC/XT in order to function properly.

You can use the XSET utility at the DOS prompt to achieve the same result.

Syntax

/PCTYPE=AT

/PCTYPE=XT

The default is /PCTYPE=AT.

Example

```
$ srv d386c/pctype=xt/noctrl_sq -  
  /server=best_server
```

Related

/NOCTRL_SQ, page CFG-39

XSET, page DOS-98

/PRINTER

This qualifier identifies a file name as a list file (rather than a logical disk) and associates the list file name with either the LST1 or LST2 printer assignment.

Syntax

`/PRINTER=LST n`

where LST n is either LST1 or LST2. You cannot define LST2 without first defining LST1. The LST1 or LST2 parameter is optional; if you specify neither, LST1 is assumed.

`/PRINTER` and `/AUX_PORT` are mutually exclusive; specify only one per printer assignment.

Example

```
$ srv sys$386ware:d386c/share. -
  spoola.lis/printer=lst1/queue=postscript -
    /form=2up/nodelete/trailer. -
  spoolb.lis/printer=lst2/que=foo_faxps/delete -
    /server=best_server
```

Related

<code>/BINARY</code> , page CFG-19	<code>/IBM</code> , page CFG-32
<code>/[NO]CLOSE</code> , page CFG-22	<code>/LN03</code> , page CFG-35
<code>/DEC</code> , page CFG-25	<code>/[NO]PASSALL</code> , page CFG-41
<code>/[NO]DELETE</code> , page CFG-26	<code>/[NO]QUEUE</code>
<code>/[NO]FLAG</code> , page CFG-28	<code>/TEXT</code> , page CFG-49
<code>/[NO]FLUSH</code> , page CFG-29	<code>/[NO]TRAILER</code> , page CFG-52
<code>/FORM</code> , page CFG-30	

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

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

Example

```
$ srv d386c, -  
  spoola.lis/printer=lst1/queue=post/flag, -  
  spoolb.lis/printer=lst2/noqueue/text -  
  /server=best_server
```

Related

/BINARY, page CFG-19	/IBM, page CFG-32
/[NO]CLOSE, page CFG-22	/LN03, page CFG-35
/DEC, page CFG-25	/[NO]PASSALL, page CFG-41
/[NO]DELETE, page CFG-26	/TEXT, page CFG-49
/[NO]FLAG, page CFG-28	/[NO]TRAILER, page CFG-52
/[NO]FLUSH, page CFG-29	

/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

```
$ srv sys$386ware:d386c/read_only. -  
  dosdisks:lotus/share, sys$logon:dosdata -  
  /server=best_server
```

Related

/[NO]SHARE, page CFG-47

/SERVER

This qualifier identifies the server to use for your 386Ware 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

```
$ srv d386c /server=svr1  
$ srv d386c /server=00-00-4f-00-20-23  
$ srv d386c /server=mktng_srvrs  
$ srv d386c /server=best_server
```

Related

“Balancing Server Load,” page SMG-14

/[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

```
$ srv sys$386ware:d386c/share, -
  dosdisks:acctg/read/noshare, -
  sys$login:dosdata/server=best_server
```

Related

/READ_ONLY, page CFG-45

/SLAVE

This qualifier indicates the specific slave card to use when the DOS session is established or requests a session on the least busy slave card of a specified group. /SLAVE applies only to servers with multiple 80386 or 80486 processors.

Before establishing a session on any slave card, 386Ware checks that sufficient memory is available for the session. Refer to "Memory Management" on page SMC-6 of *System Manager's Guide* for details.

Syntax

```
/SLAVE=slave#  
/SLAVE="slave# slave# [slave#]"  
/SLAVE=0
```

where *slave#* is a value from 1 to 4 (inclusive) indicating the specific slave card to use.

You can specify more than one *slave#* parameter, provided that you separate them with spaces and enclose them in double-quotes. In this case, your session is established on the least busy slave card of the group specified.

Specifying /SLAVE=0 requests the least loaded slave card.

If you omit this qualifier (or do not specify a *slave#* parameter), the default is /SLAVE=0

Examples

```
$ srv d386c/slave=2/server=serv1  
$ srv d386c/slave="1 3 4"/server=serv2
```

/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. /TEXT applies to either LST1 or LST2, depending on its location in the command line.

Syntax

/TEXT

/TEXT and /BINARY are mutually exclusive; specify only one per printer assignment.

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

```
$ srv d386c, spool.lis/text -  
  /server=best_server
```

Related

/BINARY, page CFG-19
/[NO]PASSALL, page CFG-41
/PRINTER, page CFG-43

/TIMER_1, /TIMER_2, /TIMER_3

These qualifiers specify the values, in milliseconds, for 386Ware's three keyboard timers. The timers are relevant only if you use a VT terminal.

- **Timer 1.** When you press a terminal key, 386Ware pauses to see if you type any more; if so, 386Ware can send the key-strokes as a single transmission, reducing network load. The length of the pause is determined by the first timer.
- **Timer 2.** Some keys on VT terminals produce key sequences that identify the key you pressed. The second timer specifies how long 386Ware waits to receive a complete key sequence. If 386Ware 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. VT 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 386Ware 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 386Ware'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 386Ware start-up file; usually, they are 30 for */TIMER_1*, 100 for */TIMER_2*, and 250 for */TIMER_3*.

Examples

```
$ srv d386c /timer_3=900/server=best_server
```

```
$ srv d386c /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. The qualifier applies to either LST1 or LST2, depending on its location in the command line.

/[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

```
$ srv d386c -  
  spoola.lis/pri=lst1/que=ansi/noflag/trailer. -  
  spoolb.lis/pri=lst2/que=post/flag/notrailer -  
  /server=best_server
```

Related

```
/[NO]FLAG, page CFG-28  
/PRINTER, page CFG-43  
/[NO]QUEUE, page CFG-44
```

/TYPEAHEAD

This qualifier specifies the amount of space in the keyboard type-ahead buffer. If the buffer fills too quickly, any additional input characters will be discarded and your terminal bell may sound.

The buffer size must be 2048 to use window system 2 copy and paste functions.

Some applications software may not behave properly with the typeahead buffer set to a large value, such as 2048. If you experience difficulties, particularly when typing in information, try setting the buffer size to 16.

Syntax

`/TYPEAHEAD=buffersize`

where *buffersize* is a value from 16 to 2048 (inclusive). The default is 2048.

Example

```
$ srv d386c/typeahead=1024/server=best_server
```

Related

`/TIMER_1`, `/TIMER_2`, `/TIMER_3`, page CFG-50

Pull-Down Menus

As mentioned earlier, you can use the window system 2 pull-down menus to configure your 386Ware 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 "Logicaft Window Systems" on page CFG-2 for information on the three available window systems.

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

```
$ srv
```

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 Cancel or Dismiss. Figure CFG-4 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.
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 CFG-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:

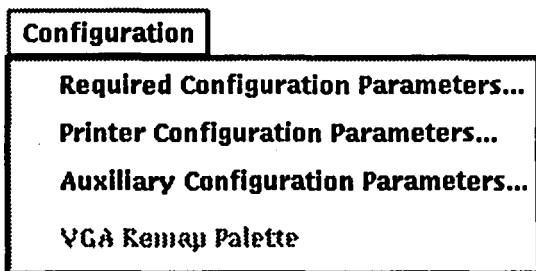


Figure CFG-5: Configuration menu

Each of these menu items 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:

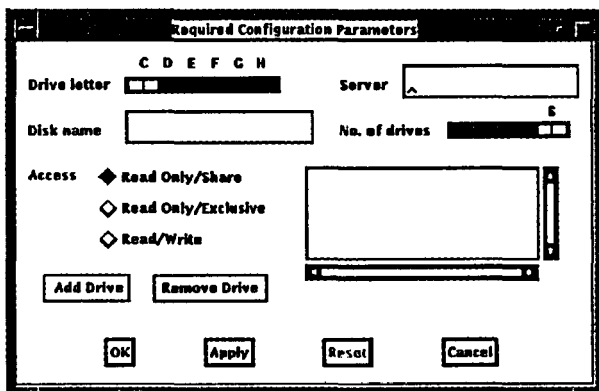


Figure CFG-6: Required Configuration Parameters dialog box

Drive Letter

Specifies which drive letter to associate with the logical disk named in the Disk Name field. The disk associated with the C: drive should be D386C.DOS (or a copy).

Disk Name

Indicates the file specification for a logical disk to include in this session configuration. 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 Only/Share. Allows you to read information from the disk, but you cannot save data on it. More than one user is allowed to read information from the disk at the same time. Corresponding qualifier: `/[NO]SHARE` (page CFG-47).

Read Only/Exclusive. Allows you to read information from the disk, but you cannot save data on it. Only one person can use the disk at a time. Corresponding qualifier: `/READ_ONLY` (page CFG-45).

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

Add/Remove Drive Buttons

When you have specified the Drive letter, Disk Name, and Access, 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 six 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.

Server

Indicates which server to use for the session, may be one of the following:

- the server's name.
- the server's Ethernet address (XNS servers only).
- 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-14 of *System Manager's Guide*.
- 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 `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-46).

No. of Drives

Indicates the maximum number of drive letters you want to be able to access from your DOS session. You can indicate a value from 1 to 6.

Corresponding qualifier: `/DISKS` (page CFG-27).

Printer Configuration Parameters...

The Printer Configuration Parameters dialog box is used to specify information for printing from the 386Ware session. This dialog box looks like the following:

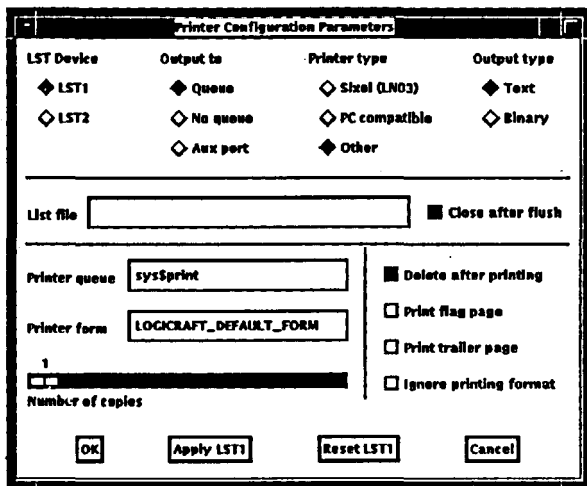


Figure CFG-7: Printer Configuration Parameters dialog box

LST Device

Indicates the printer assignment you are configuring.

386Ware lets you configure two printer assignments, called LST1 and LST2. For additional information on printer assignments, refer to "Configuring Printer Information" on page CFG-7.

You cannot change the selection to LST2 until valid entries have been given for LST1 and you have clicked the Apply button.

Output To

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-44).

No Queue. Saves printer output in the list file name you specify. Corresponding qualifier: `/[NO]QUEUE` (page CFG-44).

Aux Port. Directs output to a printer attached to the auxiliary port on your workstation or X terminal. Corresponding qualifier: `/AUX_PORT` (page CFG-18).

Printer Type

Indicates the type of printer:

Sixel (LN03). Indicates a Sixel printer. Corresponding qualifier: `/LN03` (page CFG-35).

PC Compatible. Indicates an IBM PC-compatible printer. Corresponding qualifier: `/IBM` (page CFG-32)

Other. Indicates a printer other than a Sixel or PC-compatible. Corresponding qualifier: `/DEC` (page CFG-25).

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

Output Type

Indicates the type of printer output.

Text. For ASCII text files. Corresponding qualifier: `/TEXT` (page CFG-49).

Binary. For files containing graphics and/or special control sequences. Corresponding qualifier: `/BINARY` (page CFG-19).

List File

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.

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-22).

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-44).

Printer Form

Indicates the VMS form name to use when printing the list file. The default is `LOGICRAFT_DEFAULT_FORM`, which represents the default printer form for the print queue you specify. Corresponding qualifier: `/FORM` (page CFG-30).

Number of Copies

Specifies how many copies of the list file to print. The default is 1; the maximum is 255. Corresponding qualifier: `/COPIES` (page CFG-24).

Delete after Printing

Indicates whether the list file should be deleted after it is printed. Corresponding qualifier: `/[NO]DELETE` (page CFG-26).

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. Corresponding qualifiers: `/[NO]FLAG` (page CFG-28) and `/[NO]TRAILER` (page CFG-52).

Ignore Printing Format

Indicates whether PC printer output from the 386Ware session should be interpreted by the VMS print symbiont.

Toggle On. The VMS print symbiont does *not* interpret the 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 the output.

Corresponding qualifier: `/[NO]PASSALL` (page CFG-41).

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:

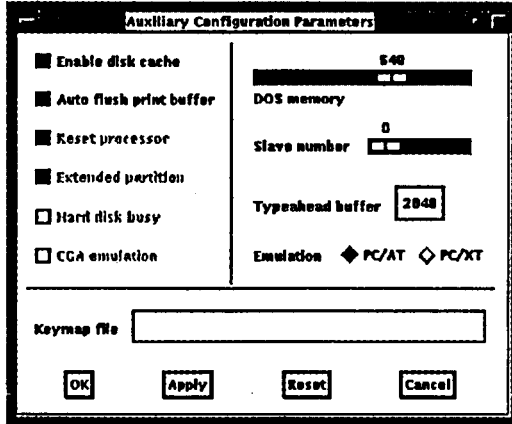


Figure CFG-8: Auxiliary Configuration Parameters dialog box

- ◇ **Note:** A few items in this dialog box are dimmed or inoperable; they are used with other Logcraft products and are not relevant to 386Ware.

Enable Disk Cache

Enables or disables 386Ware's disk cache. Caching is recommended. Corresponding qualifier: /[NO]CACHE (page CFG-21).

Auto Flush Print Buffer

Indicates whether to flush the print buffer automatically.

Toggle On. 386Ware 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-29).

DOS Memory

Indicates the amount of conventional memory to allocate for the DOS session. You can select values from 512K to 704K. Corresponding qualifier: /MEMORY (page CFG-37).

Slave Number

Specifies which slave card to use when establishing a DOS session. Choose a number from 1 to 4 to select a specific slave card. The default 0 indicates that your session should be established on the least busy available processor. Corresponding qualifier: /SLAVE (page CFG-48).

¹You can change the five-second timer value by using XSET at the DOS prompt. Refer to page DOS-98 of *Utilities & Drivers for DOS* for details.

²You can redefine the Flush key. For details, refer to "Keyboard Mapping Utilities" on page VMS-18 of *Utilities for VMS*.

Typeahead Buffer

Indicates the size for the keyboard typeahead buffer. When the buffer gets full, additional characters that you type get discarded and your terminal bell may sound.

Specify a value from 16 to 2048. The default is 2048, which is required when using copy and paste functions.

Some applications software may not behave properly with the typeahead buffer set to a large value, such as 2048. If you experience difficulties, particularly when typing in information, try setting the buffer size to 16.

Corresponding qualifier: /TYPEAHEAD (page CFG-53).

Emulation

Indicates whether to emulate a PC/AT or PC/XT. You should *rarely* need to choose PC/XT. Corresponding qualifier: /PCTYPE (page CFG-42).

Keymap File

Indicates the name of a keyboard mapping file created with one of the keyboard mapping utilities. If you do not specify a file, the default mapping for your terminal or workstation is used. Corresponding qualifier: /KEYMAP (page CFG-34).

VGA Remap Palette

This item can only be selected after you have established a session on a 386Ware 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 386Ware 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, 386Ware uses any available colors for its own display without tampering with the colors in other windows. Instead, 386Ware 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 in Figure CFG-9.

You can disable remapping at any time by selecting VGA Remap Palette again. 386Ware will then use true VGA colors for the PC window.

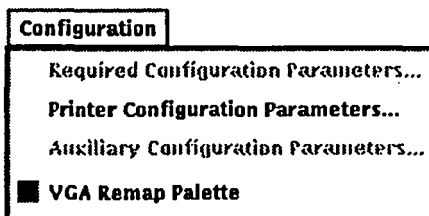


Figure CFG-9: VGA Remap Palette

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.

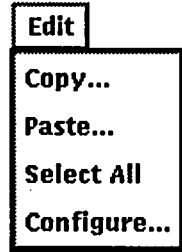


Figure CFG-10:
Edit menu

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-6 of *User's Guide*.

Configure...

Selecting **Configure...** brings up the Copy/Paste Configuration dialog box, shown in Figure CFG-11.

Selection Mode

Indicates which copy/paste mode to use:

Standard or DECterm. Allows you to copy the complete window or selected contiguous *rows* of the window to the clipboard.

Rubberband. Lets you copy selected contiguous *columns* to the clipboard.

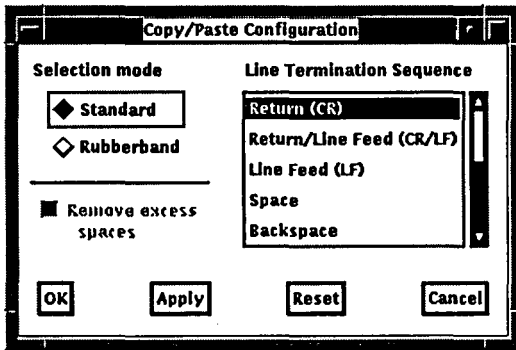


Figure CFG-11: Copy/Paste Configuration dialog box

Line Termination Sequence

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

Remove Excess Spaces

Relevant only for Rubberband mode. 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 text-mode font displayed in your window. Each option describes the width and height of the characters in pixels. 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.

The font size can also be changed by defining logical names: LOGICRAFT_WINDOW_HEIGHT and LOGICRAFT_WINDOW_WIDTH. These logicals are discussed on page SMG-4.

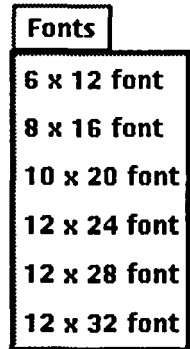


Figure CFG-12:
Fonts menu

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 session. These items are discussed below.

Save...

This option saves the current configuration (as 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.

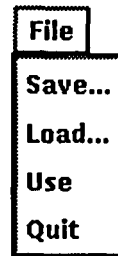


Figure CFG-13:
File menu

If you have not entered a disk name for the C: drive, a message is displayed indicating that you need to "Complete Required Configuration Parameters."

Load...

This option restores a configuration you have already created. You can then establish a 386Ware 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... replaces these values with the ones in the loaded file.

Use

This option establishes a 386Ware 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 386Ware session. You are allowed to change the printer configuration parameters and the copy/paste configuration.

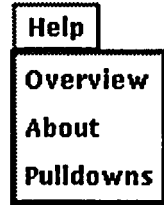
Quit

This option closes the MS-DOS window. Selecting Quit is equivalent to the BYE command, discussed on page DOS-21 of *Utilities & Drivers for DOS*.

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 386Ware.
- **About.** Opens a Help window that contains general information about 386Ware.
- **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.



*Figure CFG-14:
Help menu*

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

LOGICRAFT

**SYSTEM
MANAGER'S
GUIDE**

386Ware for VMS

*Release 4.0
March 19, 1993*

Contents

Introduction	SMG-1
Logical Name Summary.....	SMG-2
Memory Management	SMG-6
386Ware and Memory Allocation	SMG-7
Using /MINMEMORY.....	SMG-7
Calculating a Value for /MINMEMORY.....	SMG-8
Maximizing Memory for Software Applications.....	SMG-9
Important Notes.....	SMG-9
Using LHDRV.R.SYS and UMBLOAD	SMG-10
Maximizing the Number of Simultaneous Sessions...	SMG-12
Balancing Server Load	SMG-14
All Servers.....	SMG-14
Defining Server Groups.....	SMG-14
Keymap Directory File	SMG-16
Data File Format.....	SMG-16
Adding to the Data File.....	SMG-17
Checking the Data File.....	SMG-18
The Temporary Directory.....	SMG-20
System-Wide Temporary Directory.....	SMG-20
Temporary Directory for Each User	SMG-21

386Ware Logging Utility	SMG-22
Enabling the Logging Utility.....	SMG-22
Reading the Log File.....	SMG-22
Using 386HISTORY.COM and WRITE_LOG.EXE	SMG-23
Workstation Floppy Drives	SMG-24
Accessing the Drive	SMG-24
VGA/EGA Video Option	SMG-26
The System Configuration Utility	SMG-27
Exiting the System Configuration Utility	SMG-28
Display Current System Configuration.....	SMG-28
Change Slave Configuration	SMG-28
Change Network Interface Configuration	SMG-29
Change System Console Configuration.....	SMG-29
Change Floppy Drive Configuration.....	SMG-30
Set the System Date and Time.....	SMG-30
Perform Slave Card Diagnostics.....	SMG-30
Removing the 386Ware Software	SMG-31
Troubleshooting	SMG-32
Verifying the Network Connection	SMG-35
The ECHO Utility (XNS Only).....	SMG-35
The UCX LOOP Command	SMG-36
The MultiNet PING Command	SMG-37
XCP Control Program	SMG-38
START	SMG-38
STOP	SMG-39
SHOW	SMG-39
STATUS.....	SMG-40

Introduction

This section is written for the system manager, that is, for the person who is responsible for providing users with access to 386Ware.

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*.

Logical Name Summary

The following table gives a brief description of the logical names recognized by 386Ware. Unless otherwise noted, 386Ware first checks the process table for logical name definitions, then checks the system-wide table LOGICRAFT_PARAM_TABLE. (Definitions in the process table override system-wide definitions.)

LOGICRAFT_ALLIN1

Define as ON to use 386Ware from ALL-IN-1. Do *not* define in user mode (i.e., with the DEFINE/USER command). To override a system-wide definition of ON, define in process table as 0 (zero).

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 the text-mode font used in the 386Ware window is bold. Value is 0 for bold font off, 1 for bold font on. Default is 1.

LOGICRAFT_DOSENV

Lets you pass information to the 386Ware 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-98 of *Utilities & Drivers for DOS*.

LOGICRAFT_ERROR

If this logical name is defined and the SRV 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 SRV command error conditions are considered fatal.

LOGICRAFT_ICON_IMAGE

Lets you replace the 386Ware 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 386Ware icon. Value is a text string specified in double-quote characters. Default is MS-DOS.

LOGICRAFT_ICON_X

Specifies horizontal location for the 386Ware icon. Value is pixels. Default is 0. Has no effect with window system 3.

LOGICRAFT_ICON_Y

Specifies vertical location for the 386Ware icon. Value is pixels. Default is 0. Has no effect with 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 bit/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 386Ware's logging utility. Refer to "386Ware Logging Utility" on page SMG-22.

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. See also the logical name MULTINATIONAL, described below.

LOGICRAFT_START_ICONIFIED

Determines whether the 386Ware 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 window system 3.

LOGICRAFT_TEMPORARY

Indicates the parent directory for 386Ware's temporary directory TMP.DIR. Defined in system or process table. Refer to "The Temporary Directory" on page SMG-20.

LOGICRAFT_TITLE_TEXT

Indicates the text to incorporate in the 386Ware window title bar. Value is a text string specified in double-quote characters. Default is MS-DOS.

LOGICRAFT_WINDOW_HEIGHT

Indicates the 386Ware 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 Logcraft window system. Value may be 0, 2, or 3. Refer to "Logcraft Window Systems" on page CFG-2 of *Session Configuration* for additional information.

LOGICRAFT_WINDOW_WIDTH

Indicates the 386Ware 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 386Ware window, measured from the upper left corner of the screen. Value is given in pixels. Default is 0. Has no effect with window system 3 under Motif.

LOGICRAFT_WINDOW_Y

Specifies vertical start-up location for the 386Ware window, measured from the upper left corner of the screen. Value is given in pixels. Default is 0. Has no effect with window system 3 under Motif.

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. 386Ware comes with two files (in the SYS\$386WARE directory): MULTINATIONALUS and MULTINATIONALNR, for the US and Norway/Denmark character sets, respectively. Default is specified during installation.

SYS\$386WARE

Points to the directory containing 386Ware's files. Defined in the system table.

SYS\$LOGICRAFT_COMMON

Points to the directory containing files that are common to 386Ware and Omni-Ware. Defined in the system table.

TIMER_1, TIMER_2, TIMER_3

Defined in start-up file. Determines system-wide value in milliseconds for `TIMER_1`, `TIMER_2`, and `TIMER_3`. Defaults are 30, 100, and 250, respectively. Can be overridden with the `/TIMER_1`, `/TIMER_2`, and `/TIMER_3` qualifiers on the `SRV` command; see these qualifiers' descriptions on page CFG-50 of *Session Configuration*.

Memory Management

386Ware includes many tools that allow you to configure DOS sessions to make the most effective use of the available memory in your server. Briefly, these tools include:

- The SRV command's /MEMORY qualifier lets you specify the amount of conventional DOS memory to allocate for the DOS session. This qualifier is described on page CFG-37.
- The /MINMEMORY qualifier lets you specify the minimum amount of memory that must be available on the slave for the session. This qualifier is described on page CFG-38.
- The LHDRVR.SYS driver and UMBLOAD utility allow you to use upper memory blocks (between 640K and 1M) for DOS terminate-and-stay-resident (TSR) programs. This frees up conventional DOS memory for applications. LHDRVR.SYS is discussed on page DOS-46 and UMBLOAD on page DOS-76 of *Utilities & Drivers for DOS*.
- The EMM.SYS and EXTMEM.SYS drivers configure expanded and extended memory, respectively, allowing applications that recognize this memory to work more efficiently. These drivers are discussed on page DOS-38 and page DOS-41 of *Utilities & Drivers for DOS*.
- The /NOCACHE qualifier and CACHE OFF utility disable 386Ware's disk cache, freeing up 64 K per DOS session. Note, however, that disabling the cache will generally result in increased network traffic and reduced performance on logical and local disk I/O. CACHE is discussed on page DOS-22 of *Utilities & Drivers for DOS*, and /[NO]CACHE is described on page CFG-21 of *Session Configuration*.
- The SHOW MEMORY command, discussed on page DOS-71 of *Utilities & Drivers for DOS*, lets you check what memory is free and what is in use on the server.

These qualifiers, utilities, and drivers are described in detail on the indicated pages. The following discussion gives an overview of how you can make use of these tools to manage your server's memory.

386Ware and Memory Allocation

When a user requests a DOS session, 386Ware checks to see that sufficient memory is available on the slave card before allowing the session to start. In calculating the amount of memory required, the following formula is used:

$$\begin{array}{ccccccc}
 \text{amount requested} & & & & & & \\
 \text{with /MEMORY} & & & & & & \\
 \text{(default is 640K) or} & & & & & & \\
 \text{amount requested} & + & \text{64K for disk} & & \text{64K for} & & \text{64K for} \\
 \text{with /MINMEM-} & & \text{cache, unless} & + & \text{video} & + & \text{terminal} \\
 \text{ORY, whichever is} & & \text{/NOCACHE} & & \text{RAM} & & \text{emulation} \\
 \text{greater} & & \text{is specified} & & & &
 \end{array}$$

In addition, a contiguous block of memory equal to the amount requested with /MEMORY is needed at a 64K address boundary.

Using /MINMEMORY

The default formula (without /MINMEMORY) does not account for any expanded or extended memory, which are configured in the CONFIG.SYS file; memory allocated by LHDRVRSYS and UMBLOAD; or the additional 256K memory required by VGA emulation. If you plan to use any of these items during a session, you can ensure that sufficient memory is available by specifying an appropriate value with the /MINMEMORY qualifier on the SRV command.

/MINMEMORY is particularly useful if you have more than one slave card (in one or more servers) with sufficient memory. By indicating the session's memory needs, you can make effective use of 386Ware's load-balancing capabilities. For further information, refer to "Balancing Server Load" on page SMG-14 and to the description of the /SLAVE qualifier on page CFG-48 of *Session Configuration*.

Calculating a Value for /MINMEMORY

To compute a value for /MINMEMORY, use the following chart:

amount of conventional memory (from /MEMORY)	_____
add amount of extended memory	_____
add amount of expanded memory	_____
add amount configured with the LHDRVR.SYS driver (max. of 384 K)	_____
add 256K for VGA	_____
subtract 64K if /NOCACHE is included	_____
<hr/>	
Total is value for /MINMEMORY	_____

For best results, you should round up the /MINMEMORY value to a multiple of 64.

For example, to configure a VGA session for 640K conventional memory with 256K allocated for LHDRVR.SYS and 1M of extended memory, include /MINMEMORY=2240 ($640 + 256 + 0 + 1,024 + 258 - 0 = 2178$, rounded up to the next multiple of 64). In order for this session to start, a slave card must have at least 2432K free; 386Ware automatically adds an additional 192 K to account for the disk cache, video RAM, and terminal emulation.

Maximizing Memory for Software Applications

Making the best use of available memory for software applications depends largely on the applications you have. If an application recognizes extended or expanded memory, you can make this memory available by configuring the `EXTMEM.SYS` or `EMM.SYS` driver, respectively, in the `CONFIG.SYS` file. These drivers are discussed in detail in *Utilities & Drivers for DOS*.

If an application uses only conventional DOS memory, you can free up some of this memory by taking advantage of *upper memory*, which is that area of memory between 640K and 1M (hex addresses A000 to FFFFF). Logisoft's `LHDRV.SYS` driver and `UMBLOAD` utility allow you to load terminate-and-stay-resident (TSR) programs into unused upper memory blocks. These TSRs, such as `SETTERM` and `V86MOUSE`, would otherwise occupy conventional DOS memory, making it unavailable for your application.

Important Notes

If you plan to use `LHDRV.SYS` and `UMBLOAD`, note the following important points:

- `SETTERM` uses different memory ranges depending on the emulation it sets. If you plan to use the same `CONFIG.SYS` with different devices (workstations and VT terminals, for example) **do not** use memory segment `C000 – CFFF` for `LHDRV.SYS` and `UMBLOAD`.
- `SETVGA` uses the memory segment `A000 – AFFF`; however, `SHOW MEMORY` does not report this segment in use, even when `SETVGA` is loaded. If you use VGA emulation, **do not** use memory segment `A000 – AFFF` for `LHDRV.SYS` and `UMBLOAD`.

Using LHDRV.R.SYS and UMBLOAD

To make use of upper memory blocks, follow these steps:

1. Establish a DOS session, configuring it *exactly* as you will for future sessions *except* for LHDRV.R.SYS and UMBLOAD information.

In particular, make sure you specify an appropriate amount for the /MEMORY qualifier, configure all relevant drivers in CONFIG.SYS, and load all TSRs (including SETTERM and V86MOUSE, for example). If you plan to use PATHWORKS, execute the STARTNET batch file.

2. Give the SHOW MEMORY command to determine what memory ranges are available for UMBLOAD. For example, you might see a display like this:

```
C:\>show memory
```

```
·  
·  
·
```

Mappable logical memory segments available for UMBLOAD

Segment Range (hex)	Size
A000 TO AFFF	64K
D000 TO EFFF	128K

3. Edit CONFIG.SYS to load the LHDRV.R.SYS driver, specifying the memory segments reported by SHOW MEMORY. For example, include a line like the following:

```
DEVICE=C:\UTIL\LHDRV.R.SYS /R:A000-AFFF /R:D000-EFFF
```

Note that all address ranges configured with LHDRV.R.SYS allocate the requested memory to the user, even if nothing is loaded into the memory range.

-
- ▲ **Important:** Refer to the previous page for important notes regarding memory segments for SETTERM and SETVGA.

4. Edit AUTOEXEC.BAT, including UMBLOAD commands to load programs into the upper memory blocks (configured with LHDRV.RSYS). For example, include lines like the following:

```
UMBLOAD SETTERM 340  
UMBLOAD V86MOUSE
```

If you use PATHWORKS, you may want to edit the file \DEC-NET\STARTNET.BAT to use UMBLOAD for PATHWORKS components (e.g., SCH, REDIR, LAD, etc.).

5. Terminate the session, then re-establish it with the same SRV command. The LHDRV.RSYS driver and UMBLOAD commands take effect.

If UMBLOAD cannot load the program you requested into upper memory, it issues an error and then attempts to load the program in conventional memory.

6. Give the UMBLOAD command with no parameters to see which upper memory blocks are in use. UMBLOAD reports information like the following:

Memory Block	Size	Program Name
A800 - A80D	32K	Used (setterm)
A80E - A81D	8K	Free Upper Memory Block
A81E - A98C	5K	Used
A98D - ABA7	8K	Used
ABAB - ACDD	4K	Used
ACDE - AFFF	12K	Free Upper Memory Block
D000 - D90F	36K	Used (NETICPT)
D910 - E100	31K	Used
E109 - EFFF	23K	Free Upper Memory Block

7. If any large upper memory blocks remain unused, adjust the address ranges for LHDRV.RSYS to conserve slave memory. For example, the UMBLOAD display from Step 6 shows an unused memory block of 23K; to make this memory available for other 386Ware users, configure LHDRV.RSYS as follows:

```
DEVICE=C:\UTIL\LHDRV.RSYS /R:A000-AFFF /R:D000-E109
```

(Compare this line to the one shown in Step 3.)

8. When you are done making changes to AUTOEXEC.BAT and CONFIG.SYS, establish a new DOS session with the revised files to ensure that everything works as you expect.

For additional information on LHDRVRSYS, UMBLOAD, and SHOW MEMORY, refer to *Utilities & Drivers for DOS*.

Maximizing the Number of Simultaneous Sessions

Each 386Ware server is configured for a maximum number of users, such as four or eight. The actual number of simultaneous sessions allowed, however, depends on how much memory is available and how it is allocated to each user. When configuring DOS sessions, then, you need to balance memory needs with expectations on the number of simultaneous sessions.

A typical 386Ware or 486Ware slave card has four megabytes of memory and is configured for four users. (It is possible to have a slave card configured for more memory and more users.) Some of the slave card's memory is reserved to the system; the actual amount depends on the slave number and the server configuration. Give the SHOW MEMORY /SLAVE=ALL command at the DOS prompt to see the actual values for your server. (This command is discussed on page DOS-68 of *Utilities & Drivers for DOS*.)

For slaves 1, 2, and 3, the system typically reserves approximately 350 – 500K of memory; slave 4 reserves 1,000 – 1,250K.

A common 386Ware session configuration provides the user with 640K of memory plus 192K overhead (disk cache, video RAM, terminal emulation) for a total of 832 K. Four users, then would need a total of 3,328K. Add in the amount of memory for the system, and you can see that four users will not fit in 4 M of memory on slave number 4. However, if the users on slave 4 are configured for 512K each, the slave card will have sufficient memory for four sessions.

The problem becomes more acute if you want to use expanded or extended memory, VGA emulation, and/or upper memory blocks. Any memory allocated to these items is no longer available for additional user sessions.

For example, a VGA session with 640K of conventional memory, 258K allocated for LHDRVR.SYS, and 1M of extended memory requires 2,370K of memory, more than half of the 4M available on the typical 386Ware slave!

To maximize the number of simultaneous users, then, note the following guidelines:

- Use the `SHOW MEMORY /SLAVE=ALL` command to determine how much memory is available on each slave card in your server. Once you have this information, you can better determine how to allocate it among your users.
- When configuring user sessions, specify the `/MEMORY` qualifier to establish each session with the minimum amount of memory needed.
- Avoid allocating expanded memory, extended memory, or memory for LHDRVR.SYS and UMBLOAD unless it is essential.
- As a last resort, disable the disk cache either by specifying the `/NOCACHE` qualifier or giving the `CACHE OFF` command at the DOS prompt; this frees 64 K of memory per user. However, the decreased performance may offset any gain from the increased available memory.

If the number of simultaneous sessions is important and the memory in your server is insufficient, consider adding additional memory. Contact Logcraft for further information.

Balancing Server Load

If you have more than one 386Ware, 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 386Ware sessions. This name is defined by Logcraft for this purpose and is internal to 386Ware'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-16 of *Utilities for VMS*.)

Logcraft's Omni-Ware product also uses the name `BEST_SERVER` to load-balance servers. If you have both 386Ware and Omni-Ware 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 `SRV` command, your session will be established on a 386Ware server; if you use the `OMNI` command, it will be established on an Omni-Ware 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 a 386Ware session on either dept1a or dept1b (which-ever is less busy), use a command like this:

```
$ srv sys$386ware:d386c /server=dept1
```

Similarly, to request a session on dept2a, dept2b, or dept2c, use a command like this:

```
$ srv sys$386ware:d386c /server=dept2
```

To request a session on the least busy of all five servers, use a command like this:

```
$ srv sys$386ware:d386c /server=best_server
```

Keymap Directory File

386Ware 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 386Ware 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 an X platform that is already recognized in KEYMAP.DIR.
- 386Ware 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.DIR`. Initially, this file contains information on the keyboard mapping files that Logicroft 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 Logicroft 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), 386Ware looks at the X server vendor and attempts to match it to one in KEYMAP.DIR.

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.DIR. 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 kybdfile
```

where *kybdfile* 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 SYSS386WARE. Do *not* include the file type or extension (or even a period) when specifying the *kybdfile* parameter.

For example, assume KeyUtil_X was used to create a keyboard mapping called SYSS386WARE:BRANDX.DAT. To add the necessary information to the keymap directory file, give the following command, executed from the Brand X terminal:

¹The default keyboard mapping is DECWKEY.DAT. To override the default, specify /KEYMAP when configuring the session. This qualifier is discussed on page CFG-34 of *Session Configuration*.

```
$ addkybd brandx
```

```
Updating SYS$LOGICRAFT_COMMON:KEYMAP.DIR
```

```
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.DAT 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.DIR 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.DIR 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.DIR:

```
NetworkComputingDevicesInc. ncdpkey 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, 386Ware searches KEYMAP.DIR 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 386Ware has to search through the redundant data for any entries that follow.

The Temporary Directory

386Ware requires a temporary directory to which users have write access. Several 386Ware utilities, including the SRV 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 386Ware's temporary directory does not exist or its protections do not provide write access, users will see error messages when they execute the 386Ware utilities that require temporary files.

System-Wide Temporary Directory

If you prefer to have 386Ware 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 386Ware start-up file to ensure that the logical name is defined after each reboot.

For example, if you want all 386Ware 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 386Ware start-up file. You can then delete SYSS\$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 386Ware user’s login directory. Ensure that the user owns the directory and that the protection allows for owner read, write, and execute access.

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)
```

2. Add the following command to 386Ware’s symbol declaration file, 386WARE_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 386Ware start-up file.

386Ware 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 386Ware and Omni-Ware 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`, 386Ware'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 `SYSS386WARE:SERVER.LOG`, use the following command to define the logical name:

```
$ define/table=logicraft_param_table -
_ $ logicraft_log_file sys$386ware:server.log
```

To ensure that this logical name is defined whenever the system is rebooted, add the `DEFINE` command to 386Ware'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, `SYSS386WARE:READ_LOG.EXE`. Give the following command:

```
$ run sys$386ware:read_log
```

READ_LOG displays information on the screen. If you want to redirect the output to a file or a printer, redefine SYSS\$OUTPUT, run the READ_LOG program, then deassign SYSS\$OUTPUT.

Using 386HISTORY.COM and WRITE_LOG.EXE

The 386HISTORY.COM procedure and WRITE_LOG.EXE program, both included in the SYSS\$386WARE directory, augment the logging information discussed above. Every fifteen minutes, 386HISTORY calls WRITE_LOG, which polls available servers for information. (You can change the fifteen-minute time period by editing the command procedure.)

To use 386HISTORY and WRITE_LOG, first enable logging by defining the logical name LOGICRAFT_LOG_FILE as discussed earlier. Next, submit the 386HISTORY command procedure to a batch queue. Give a command like this:

```
$ submit/nolog/noprint sys$386ware:386history.com
```

When 386HISTORY executes the WRITE_LOG program, server information to the log file. 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 386Ware's log file, perhaps to write your own utility to manipulate this data, contact Logicraft 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.

Workstation Floppy Drives

386Ware allows you to read from and write to previously 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's SHARE privilege before establishing a 386Ware 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

The workstation floppy drives are configured in the same manner as logical disks, using the device name for the drive¹ instead of a logical disk file name:

- With the SRV command, include the device name on the command line where a logical disk name would go.
- With the window system 2 pull-down menus, specify the device name in the "Disk name" text entry field in the Required Configuration Parameters dialog box.

You do not need to include the colon as part of the device name, although it is useful to remind you that you are specifying a

¹To mount a logical disk with a file name that duplicates an floppy drive device name, include enough of the logical disk's file specification to distinguish it from that device name.

device name rather than a file name. Specify the disk access (read/write or read/only, shared or exclusive) just as you would for a logical disk.

You can also mount and dismount a workstation floppy drive from the DOS prompt. See the descriptions for MOUNT and DISMOUNT.

Notes

- From the 386Ware session, you can *reformat* a floppy in a workstation drive with the FORMAT command; however, this only works if the floppy has previously been formatted for DOS. (In other words, you cannot format a floppy that has never been formatted.)
- You cannot format a bootable system floppy with the workstation drive; that is, the FORMAT /S command does not work.
- Do *not* use an RX drive with 386Ware to read from or write to *low-density* (360K or 720K) MS-DOS floppy diskettes.

Related

MOUNT, page DOS-47
DISMOUNT, page DOS-30
RXFMT, page DOS-50

VGA/EGA Video Option

Logcraft's optional VGA/EGA support for 386Ware is 100% BIOS compatible. It allows color workstations and X terminals to run applications that use VGA and EGA resolution graphics. If your server includes VGA support, note the following:

- You *cannot* use VGA from a *black and white* workstation or X terminal.
- The VGA hardware allows up to four simultaneous sessions to use VGA emulation, provided that sufficient memory is available. Refer to "Memory Management" on page SMG-6.
- Only standard VGA is supported for 386Ware; 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 386Ware. 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.
- In some VGA modes (such as 320 x 200), you can resize the 386Ware/VGA window, provided that your display can accommodate the new window size.
- 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 386Ware to provide the exact 256 colors requested by the VGA application.

If you prefer, you can have 386Ware 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-66 of *Session Configuration*.

The System Configuration Utility

When you boot the 386Ware server, the following prompt is displayed on the console:

```
Do you want to change 386Ware system
configuration [Y/N]?
```

If you do not enter anything within ten seconds, the server assumes you do not want to modify any system parameters, and the system start-up sequence continues.

To change your system configuration, press Y at the prompt within ten seconds; no Return is required. The following menu¹ is displayed:

1. Display current system configuration
2. Change slave configuration
3. Change network interface configuration
4. Change system console configuration
5. Change floppy drive configuration
6. Set date and time
7. Perform slave card diagnostics

Choice:

You can exit from most menus by pressing the Return or Esc key.

The menu choices are discussed below.

¹Another option, "Modify the PCSA/DECNET configuration," appears if you have the PCSA-emulation (non-SONIC) version of 386Ware; this item is discussed in the PCSA *Support* supplement. Similarly, if your server has a local hard disk, another menu item, "Perform local hard disk management," is available; this menu item is discussed in the *Local Hard Disk Support* supplement.

-
- ▲ **Important:** "Change slave configuration" should *not* be chosen unless you are instructed to do so by Logcraft Customer Support.

"Change network interface configuration" should *only* be chosen to set a UCX or TGV server's Internet address or if you are instructed to do so by Logcraft Customer Support.

Exiting the System Configuration Utility

If you press the Return or Esc key from the System Configuration utility's main menu, the utility asks if you want to exit. If you indicate "yes" and any modifications have been made, you are then asked whether those modifications should be saved. If you want to save the changes, ensure that the boot floppy diskette is *not* write-protected. If you answer no, any changes that you made are lost.

Display Current System Configuration

This option displays the server hardware configuration, including the parameters for the slave card(s), network interface, floppy drive(s), and system console.

Change Slave Configuration

Do not choose this option unless instructed to do so by Logcraft Customer Support. Changing values could adversely affect your system!

Change Network Interface Configuration

Unless you are setting or changing a UCX or TGV server's Internet address, do not choose this option unless instructed to do so by Logcraft Customer Support. Changing other values could adversely affect your system!

Select Option 4, "Set the Internet address," from the network configuration menu to change the server's network address. When you choose this option, a prompt like the following appears:

```
Current value is 128.204.1.5
Valid values are of the form n.n.n.n where
n is 0 to 255
Internet address:
```

Type in the address for the server, or press Return without entering an address to keep the current value.

Change System Console Configuration

This option prompts you to select which I/O device to use for the system console. Although "disabled" is one of the choices, it is *strongly* recommended that you *always* attach a working console, in order to receive run-time errors. Refer to "System Console" on page INS-4 of *Installation*.

Choosing Option 8, "default device," tells the system to autoselect the console device. In this case, the server looks for a monochrome video adapter, then a color video adapter, and then finally the highest numbered SRL port. The one found first becomes the default. For most systems, SRL2 will be the default. (The parallel devices are not available as defaults.)

-
- ▲ **Important:** If you set the console to a parallel device or disabled, then you will *not* be able to input information to the System Configuration utility on subsequent boot-ups. En-

sure that you have another copy of the boot floppy *before* selecting a parallel device or disabled so that you will be able to reconfigure your console device later, if necessary.

Change Floppy Drive Configuration

This option allows you to change the type of floppy drive(s) configured. If you add a floppy drive or change the type of floppy drive in the system, set the configuration with this option.

Set the System Date and Time

Use this option to set the server date and time so that any error messages displayed on the system console have accurate date and time stamps. (This option does not affect the date or time information for user sessions on 386Ware, which obtain the date/time from the host system.)

Enter the new date (*mm/dd/yy* or *mm-dd-yy*) and new time (24-hour format) as you are prompted.

Refer also to the descriptions of SRVDATE and SRVTIME on page DOS-74 of *Utilities & Drivers for DOS*.

Perform Slave Card Diagnostics

This menu option is for troubleshooting the server's slave card(s). These diagnostics are run automatically when you exit the System Configuration utility's main menu, so you should rarely need this option. However, you may need to run the diagnostics manually if a problem arises or if instructed to do so by Logcraft Customer Support.

Removing the 386Ware Software

386Ware includes a file called `DEINSTALL_386WARE.COM` in the `SYSS$UPDATE` directory. Executing this command procedure removes all of 386Ware's files, including the files in the `SYSS$386WARE` and `SYSS$LOGICRAFT_COMMON` directories and 386Ware's help libraries.

If you use DECwindows and/or Motif, the Logiccraft 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 386Ware removes files that are common to Logiccraft's Omni-Ware. If you have Omni-Ware servers, you should *not* execute the deinstall procedure unless you also plan to deinstall Omni-Ware.

The deinstallation procedure must be executed from the `SYSTEM` account, and it requires `CMKRNL`, `NETMBX`, `SYSPRV`, `SYSNAM`, and `BY-PASS` privileges.

Troubleshooting

If it is apparent that something is wrong when attempting to use 386Ware, check the following areas. If you follow these guidelines and still experience problems, contact Logcraft Customer Support for assistance.

- If the server will not boot, ensure that the boot floppy is in the A: drive. If you do not have a system console attached, connect one following the instructions “System Console” on page INS-4 of *Installation*, then attempt to reboot. The console may display an error message that will assist in troubleshooting.
- 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-6 of *Installation*.
- If the status display indicates an error message, 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 a 386Ware session, verify the network connection by following the instructions on page SMG-35.
- If a VMS error message like the following is displayed:

```
%DCL-W-IVVERB, unrecognized command verb - check
validity and spelling \SRV\
```

it means you have not executed the 386Ware symbol declaration procedure. Give the following command:

```
$ @sys$386ware:386ware_symbol_declaration
```

then retry the SRV command. For additional information, refer to “386Ware’s Symbol Definitions” on page INS-23 of *Installation*.

- Attempt a 386Ware 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-41 of *Installation*.

In addition, check the file protection on the 386Ware 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 386Ware as a Shared Image" on page INS-32 of *Installation* for details.

- If an error message is displayed, check Appendix C for additional information.
- When you start a 386Ware session, a temporary mailbox is created to receive messages associated with the terminal (PHONE, MAIL, etc.). The logical is created in the logical name table LNM\$TEMPORARY_MAILBOX.

On most systems, this logical points to the job table LNM\$JOB_xxxx. If this logical name has been changed to point to LNM\$PROCESS_TABLE or LNM\$SYSTEM_TABLE, then the 386Ware executable must be installed with GRPNAM or SYSNAM privilege respectively. The 386Ware start-up procedure installs the 386Ware executable with GRPNAM and SYSNAM privileges.

- 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-16 of *Utilities for VMS*.
- For XNS servers, ensure that the Ethernet address you specified during the software installation matches the server's actual address. The 386Ware start-up file defines a logical name for each 386Ware that translates to the server's Ethernet address. Give a command like the following to see the server's definition:

```
$ show logical/table=logicaft_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 your server does not have a status display, reboot the server, run the System Configuration utility, and display the server configuration. (For more information about the System Configuration utility, refer to page SMG-27.)

If the Ethernet address defined in the logical name table does *not* match the server's actual address, edit the 386Ware 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 386Ware 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-23 of *Installation*.
- For UCX and TGV servers, ensure that you specified the *same* Internet address when installing the host software and when configuring the server boot diskette. The server's address in the system host database should match the address configured on the server boot diskette. Check the server's status dis-

play for the network address, or reboot the server, run the System Configuration utility, and display the server configuration. (For more information about the System Configuration utility, refer to page SMG-27.)

- 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 386Ware/XNS.

Verifying the Network Connection

If you experience problems connecting to a 386Ware 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 386Ware 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:

- | | |
|---------------|-------------------------------------------|
| -Haddr | Indicates the 386Ware's Ethernet address. |
| -Cxxx | Specifies the number of packets to send. |
| -Lyyyy | 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 386Ware 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 Logi-craft 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 386Ware server is accessible. Give a command like this:

```
$ ucx loop srvname
```

where *srvname* indicates the name of the 386Ware 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 386Ware server is accessible. Give a command like this:

```
$ multinet ping srvname
```

where *srvname* indicates the name of the 386Ware 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 386Ware 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]
          [-Lnm] [-Hxx-xx-xx-xx-xx-xx]
```

Parameters

- | | |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <i>device</i> | Indicates the name of the Ethernet device, for example, <i>_XQA</i> : |
| -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 386Ware and Omni-Ware 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 386Ware).
- 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 386Ware.

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 386Ware user has two KX devices.
- C Shows XNS protocol counters.
- R Shows XNS routing table.
- Sn Gives information about the specified socket *n* (where *n* 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**

386Ware for VMS

*Release 4.0
March 19, 1993*

Contents

Introduction	DOS-1
Command Summary.....	DOS-2
ATTACH.....	DOS-5
COM n	DOS-6
DEVICE	DOS-8
FLOPPY	DOS-12
LPT n	DOS-12
ATTACH.SYS.....	DOS-14
ATTRCNF/CAPTURE	DOS-15
Running ATTRCNF.....	DOS-16
Running CAPTURE.....	DOS-18
Example	DOS-18
BYE.....	DOS-21
CACHE.....	DOS-22
CHASTE	DOS-23
Running CHASTE	DOS-23
Character Editing	DOS-25
Example	DOS-26
DETACH.....	DOS-29
DISMOUNT	DOS-30
DLCREDIT.....	DOS-32
Logiccraft's Character Sets	DOS-33
Running DLCREDIT.....	DOS-34
Character Editing	DOS-36
EMM.SYS.....	DOS-38
EMSRAM.SYS.....	DOS-40

EXTMEM.SYS	DOS-41
FPRINT	DOS-42
HELP	DOS-43
LANSI.SYS	DOS-45
LHDRVR.SYS.....	DOS-46
MOUNT.....	DOS-47
SEND.....	DOS-50
SETDRIVE	DOS-52
SETTERM	DOS-54
Video Emulation Parameters	DOS-57
Terminal Specific Parameters	DOS-58
Graphics Emulation Parameters.....	DOS-59
Text Emulation Parameters.....	DOS-61
Environment Variables	DOS-64
Graphics Timers	DOS-65
SETVGA	DOS-67
SHOW	DOS-68
CONFIG	DOS-69
DEVICE	DOS-69
DISKS	DOS-69
DMA	DOS-70
IO.....	DOS-70
IRQ	DOS-70
LST	DOS-70
MEMORY.....	DOS-71
PARTITIONS.....	DOS-72
USERS.....	DOS-72
SHUTDOWN.....	DOS-73
SRVDATE/SRVTIME	DOS-74
STOP	DOS-75
UMBLOAD	DOS-76
V86MOUSE.....	DOS-78

XPORT	DOS-80
Commands	DOS-81
CD or CHDIR	DOS-84
CHAINCHR	DOS-84
CHMOD.....	DOS-85
DELETE or ERASE.....	DOS-86
DIRECTORY	DOS-87
DOS.....	DOS-89
EXIT or QUIT	DOS-89
EXPORT.....	DOS-90
FREE.....	DOS-92
HELP	DOS-92
IMPORT.....	DOS-93
PROMPT	DOS-95
SWITCHAR.....	DOS-95
TYPE.....	DOS-96
UIC	DOS-96
VERSION.....	DOS-96
Using XPORT Batch Files	DOS-97
XSET.....	DOS-98

List of Figures

Summary of Logcraft DOS Utilities/Drivers	DOS-2
SRLx I/O addresses and IRQs	DOS-7
PRLx I/O addresses and IRQs	DOS-13
ATTRCNF screen	DOS-16
ATTRCNF Edit Attribute window	DOS-17
ATTRCNF View Captured File example	DOS-19
ATTRCNF Edit Attribute example	DOS-20
CHASTE translation pairs screen.....	DOS-24
Logcraft Downloadable Character Set.....	DOS-28
Downloadable Character Sets.....	DOS-33
DLCEDIT screen.....	DOS-34
DLCEDIT Edit Menu	DOS-36

SETTERM Summary.....DOS-54
Downloadable Character Sets.....DOS-62
SHOW MEMORY sample screenDOS-71
UMBLOAD exampleDOS-77
Summary of XPORT CommandsDOS-82

Introduction

This section discusses the utilities and drivers that are available, in addition to standard MS-DOS commands, in a 386Ware DOS session. The material is presented in a reference format, and a working knowledge of MS-DOS is assumed.

386Ware 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.

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 \UTIL directory of the D386C.DOS logical disk.

Command Summary

Figure DOS-1 gives brief descriptions of the utilities and drivers discussed on the following pages.

Utility/Driver	Description	Page
ATTACH	Attaches or allocates server resources (floppy drive, serial port, parallel port, etc.).	DOS-5
ATTACH.SYS	Allows you to attach server resources in CONFIG.SYS.	DOS-14
ATTRCNF	ATTRibute CoNFIGuration editor. Corrects character attributes such as bold, blinking, and reverse video.	DOS-15
BYE	Terminates a 386Ware session.	DOS-21
CACHE	Enables or disables disk caching.	DOS-22
CAPTURE	"Captures" the current screen for ATTRCNF.	DOS-15
CHASTE	CHAracter Set Translation Editor. Changes the way PC characters are translated for display.	DOS-23
DETACH	Releases a resource allocated with ATTACH.	DOS-29
DISMOUNT	Releases a logical disk, workstation floppy drive, local hard disk partition, or printer list file.	DOS-30
DLREDIT	The Down-Loadable Character set EDITor. Creates or modifies a downloadable character set.	DOS-32

Figure DOS-1: Summary of Logcraft DOS Utilities/Drivers

Utility/Driver	Description	Page
EMM.SYS	Provides expanded memory support (EMS).	DOS-38
EMSRAM.SYS	Configures a RAM disk in expanded memory; used with EMM.SYS.	DOS-40
EXTMEM.SYS	Provides extended memory support (XMS).	DOS-41
FPRINT	Provides a faster alternative to the standard PRINT command.	DOS-42
HELP	Displays on-line information about 386Ware/DOS topics.	DOS-43
LANSI.SYS	Provides a faster alternative to the MS-DOS driver ANSI.SYS.	DOS-45
LHDRVR.SYS	Identifies and configures upper memory blocks for use with UMBLOAD.	DOS-46
MOUNT	Mounts a logical disk, local hard disk partition, or workstation floppy drive on the drive letter you specify. Also used to mount a printer assignment and list file.	DOS-47
SETDRIVE	Indicates whether a logical drive is fixed or removable, local or network.	DOS-52
SETTERM	Sets the terminal emulation for your workstation or terminal.	DOS-54
SETVGA	Sets VGA emulation for window system 2 or 3.	DOS-67
SHOW	Displays information about the 386Ware environment.	DOS-68

Figure DOS-1: Summary of Logicaft DOS Utilities/Drivers (Cont'd)

Utility/Driver	Description	Page
SHUTDOWN	Shuts down the 386Ware server and performs a remote reboot.	DOS-73
SRVDATE	Sets the server date.	DOS-74
SRVTIME	Sets the server time.	DOS-74
STOP	Terminates one or more 386Ware sessions.	DOS-75
UMBLOAD	Loads DOS TSRs into upper memory blocks configured with LHDRVR.SYS.	DOS-76
V86MOUSE	Allows you to use your workstation or X terminal mouse with PC applications.	DOS-78
XPORT	Allows you to manipulate VMS and DOS files from the DOS session.	DOS-80
XSET	Lets you change certain operation parameters of the session.	DOS-98

Figure DOS-1: Summary of Logcraft DOS Utilities/Drivers (Cont'd)

ATTACH

The ATTACH utility allows you to access a physical resource (floppy drive, parallel port, serial port, etc.) on the 386Ware server and, if appropriate, prevents other users from accessing the resource until you DETACH it or terminate your DOS session.

Syntax

ATTACH *logdev* [*physdev*]

Parameters

<i>logdev</i>	Indicates the logical device to attach: COM1, COM2, COM3, COM4, DEVICE, FLOPPY, LPT1, LPT2, LPT3, LPT4. These choices are discussed below.
<i>physdev</i>	Indicates the physical device to associate with the logical device. The possible choices for this parameter depend on which <i>logdev</i> you specify; see below.

Notes

- All of the parameters can be abbreviated to their shortest unique spellings. For example, you could type "attach f" for the ATTACH FLOPPY command.
- If you omit a needed parameter or specify invalid syntax, a list of available options is displayed.

Related

ATTACH.SYS, page DOS-14
DETACH, page DOS-29
SHOW, page DOS-68

ATTACH COM n

This command attaches the logical DOS device COM1, COM2, COM3, or COM4; these usually refer to serial communications ports. With 386Ware, COM1 – COM4 may refer either to a serial port on the server or to a host printer assignment.

◊ **Note:** Interrupts are not supported for COM3 or COM4.

The *physdev* parameters used with the ATTACH COM n command are discussed below.

ATTACH COM n LST x

Associates the specified COM n port with either the LST1 or LST2 printer assignment. Normally, these printer assignments are attached to the DOS logical printer devices LPT1 and LPT2, respectively. With the ATTACH command, you can change the default printer assignments.

For example, to associate COM2 with the LST1 printer assignment, give the following command:

```
C:\>attach com2 lst1
```

Any output sent to the COM2 port would then be redirected to the LST1 printer assignment.

For information on printer assignments, refer to “Configuring Printer Information” on page CFG-7 in *Session Configuration*.

ATTACH COM n SRL x

Associates the specified COM n port with a serial port on the server, where SRL x is SRL1 through SRL4. This command allows you to access a device (e.g., a modem) connected to the serial port.

386Ware includes at least two serial ports, SRL1 and SRL2; two additional ports (SRL3 and SRL4) are optional. Figure DOS-2 gives the I/O addresses and IRQs for these serial ports.¹

Port	I/O Address	IRQ
SRL1	3F8h – 3FFh	4
SRL2	2F8h – 2FFh	3
SRL3	3E8h – 3EFh	5
SRL4	3E0h – 3E7h	2

Figure DOS-2: SRLx I/O addresses and IRQs

If you attach a physical device to the serial port, you may need to adjust 386Ware's timing emulation. Refer to the description of XSET STEP and XSET TIMER2 on page DOS-100.

ATTACH COMn SRLx BASE=*baseaddr*

Changes the default SRLx I/O address (listed in Figure DOS-2), where *baseaddr* is a hexadecimal base number from 100-3FF.

ATTACH COMn SRLx IRQ=*interrupt*

Allocates the specified IRQ, where *interrupt* is between 2 and 7 (inclusive). IRQ 0, 1, and 8 through 15 cannot be attached.

Depending on server configuration, certain interrupts are *reserved* and cannot be attached. The SHOW IRQ command, discussed on page DOS-70, displays the interrupts currently in use.

Example:

```
C:\>attach com1 srl1 irq=2
```

¹Older I/O cards for SRL3 and SRL4 use the following I/O addresses: SRL3, 2E8h-2EFh; SRL4, 2E0h-2E7h. The IRQs are the same. To determine the addresses used by your server, give these commands at the DOS prompt:

```
C:\>attach com3 srl3
C:\>attach com4 srl4
C:\>show device
```

ATTACH DEVICE

ATTACH COM n SRL x RTS

Implements RTS handshaking on the specified serial port. Using it prevents data overflow with applications that recognize RTS.

ATTACH COM n SRL x XON

Implements XON/XOFF handshaking on the specified serial port. Using it prevents data overflow with applications that recognize XON/XOFF.

ATTACH DEVICE

This command attaches a particular I/O port range, DMA channel, IRQ, etc., to the DOS session. These *physdev* parameters are discussed below.

Various third party hardware I/O devices are available for the PC. Many of these devices can be installed in the 386Ware server.¹ To access these devices from a DOS session, issue the ATTACH DEVICE command, using one or more *physdev* parameters appropriate for the hardware device involved. Refer also to the description of ATTACH.SYS on page DOS-14.

ATTACH DEVICE DMA=*ch1*
ATTACH DEVICE DMA=*ch1* - *ch2*

Allocates the specified DMA channel(s) to the 386Ware session, where *ch1* is a single integer and *ch1*-*ch2* is a range of integers; *ch1* and *ch2* are between 0 and 7 (inclusive). Multiple values and/or ranges can be specified, separated by commas.

Depending on server configuration, some DMA channels are *reserved* and cannot be attached. The SHOW DMA command, discussed on page DOS-70, displays the DMA channels in use.

¹Contact Logicaft Customer Support if you have questions about which devices are supported.

Examples:

```
C:\>attach device dma=2
C:\>attach device dma=0,2-3
```

ATTACH DEVICE IO=*address1*
ATTACH DEVICE IO=*address1-address2*

Provides input and output capabilities to the I/O address(es) specified, where *address1* is a single hexadecimal value and *address1-address2* is a hexadecimal range; *address1* and *address2* are between 000 and 3FF (inclusive). Multiple values and/or ranges can be specified, separated by commas.

Depending on server configuration, some I/O addresses are *reserved* and cannot be attached. The SHOW IO command, discussed on page DOS-70, displays the addresses currently in use.

Examples:

```
C:\>attach device io=3A0
C:\>attach device io=320-327,145,340-345
```

ATTACH DEVICE IO=*address(es)* COM*n*=*comaddr*

Provides direct access to the serial port, where *n* is 1 to 4 (inclusive) and *comaddr* is the base hexadecimal I/O address for the communications port. This parameter sets the PC BIOS data variables with the I/O addresses for programs that read these BIOS variables directly.

The COM*n* parameter eliminates emulation of the communications port; no buffering of data takes place, which means that you risk losing data. Most serial port applications require buffering, so normally you would use the ATTACH COM*n* SRL*x* command (discussed on page DOS-6).

Example:

```
C:\>attach device io=3F8-3FF com1=3F8
```

ATTACH DEVICE

ATTACH DEVICE IO=*address(es)* LPT*n*=*prtaddr*

Provides direct access to the parallel port, where *n* is 1 to 4 (inclusive) and *prtaddr* is the base hexadecimal I/O address for the printer port.

The LPT*n* parameter sets the PC BIOS data variables with the I/O addresses, allowing PC applications that read these variables directly to run properly. This parameter eliminates the emulation of the printer port; no buffering of data takes place.

For example, certain PC applications require a hardware lock device (a form of copy-protection) to be plugged into the parallel port accessed by the application. When the ATTACH LPT1 PRL1 command is used, these applications may time out (never locate the hardware lock) because all input and output to the parallel port are buffered. (The ATTACH LPT command is discussed on page DOS-12.)

Example:

```
C:\>attach device io=378-37F lpt1=378
```

ATTACH DEVICE IRQ=*interrupt1*

ATTACH DEVICE IRQ=*interrupt1-interrupt2*

Allocates the specified IRQ(s), where *interrupt1* is a single integer and *interrupt1-interrupt2* is a range of integers; *interrupt1* and *interrupt2* are between 2 and 7 (inclusive). Multiple values and/or ranges can be specified, separated by commas. IRQ 0, 1, and 8 - 15 cannot be attached.

Depending on server configuration, certain interrupts are *reserved* and cannot be attached. The SHOW IRQ command, discussed on page DOS-70, displays the interrupts currently in use.

Examples:

```
C:\>attach device irq=3
C:\>attach device irq=4-6
C:\>attach device irq=3,4-6
```

ATTACH DEVICE MEM=*logaddr*
ATTACH DEVICE MEM=*logaddr-physaddr*

Provides direct access to the specified memory address, where *logaddr* is a logical memory segment address and *physaddr* is an optional physical memory segment address. Multiple addresses and/or address ranges can be specified for *logaddr* and *physaddr*, separated by commas.

-
- ▲ **Important:** This parameter is *not* valid for 386Ware servers that have Rev. B slave cards. Give the SHOW CONFIG command, discussed on page DOS-69, to determine your server's slave card configuration.

The *logaddr* is the address that the software accesses. The optional *physaddr* must correspond with the address configured on the board being placed in the server. If no *physaddr* is specified, it defaults to the *logaddr*.

Depending on server configuration, some memory addresses are *reserved* and cannot be attached. The SHOW MEMORY command, discussed on page DOS-71, displays the addresses in use.

ATTACH DEVICE MEM=*address(es)* PAGES=*numpages*

Attaches the specified number of 4K pages of memory, where *numpages* is a single integer or a range of integers. Multiple values and/or ranges can be specified, separated by commas. The number of 4K pages *must* correspond to the value(s) specified with the MEM= parameter.

If no value for PAGES= is given, ATTACH defaults to one page.

ATTACH FLOPPY

This command attaches the floppy disk drive(s) available on the 386Ware server. If your server has two floppy drives, the ATTACH FLOPPY command attaches both to your session.

No *physdev* parameter is associated with this command.

The floppy disk controller, when attached, occupies physical I/O port range 3F0h – 3F7h, IRQ 6, and DMA channel 2.

Only one user can have the floppy drive(s) attached at a time. If someone else is using the floppy and you try to attach it, a message like the following is displayed:

```
C:\>attach floppy
IO already attached by user #2.
```

The SHOW USERS command, described on page DOS-72, displays information about current users on 386Ware, including user numbers and usernames.

ATTACH LPT n

This command attaches the logical DOS device LPT1, LPT2, LPT3, or LPT4. In the PC environment, these logical devices usually refer to parallel ports for printing. With 386Ware, LPT n may refer either to a parallel port on the server or to a printer assignment.

The *physdev* parameters used with the ATTACH LPT n command are discussed below.

ATTACH LPT n LST x

Associates the specified LPT n port with either the LST1 or LST2 printer assignment. Normally, these printer assignments are attached to the DOS logical printer devices LPT1 and LPT2, respec-

tively. With the ATTACH command, you can change the default printer assignments.

For example, to associate LPT3 with the LST1 printer assignment, give the following command:

```
C:\>attach lpt3 lst1
```

Any output sent to the LPT3 port would then be redirected to the LST1 printer assignment.

For information on configuring the LST1 and LST2 printer assignments, refer to "Configuring Printer Information" on page CFG-7 of *Session Configuration*.

ATTACH LPTn PRLx

Associates the specified LPTn device with a parallel port on the server, where PRLx is PRL1, PRL2, or PRL3. This command allows you to access a printer (or other device) connected to the parallel port.

386Ware includes at least one parallel port, PRL1. Two additional ports (PRL2 and PRL3) are optional. Figure DOS-3 gives the I/O addresses and IRQs for these parallel ports.

Port	I/O Address	IRQ
PRL1	378h – 37Bh	7
PRL2	278h – 27Bh	5
PRL3	3BCh – 3BFh	7

Figure DOS-3: PRLx I/O addresses and IRQs

Because the logical LPT devices support output only, you cannot input information with a physical device connected to a parallel port attached to the LPT device.

ATTACH.SYS

This device driver, when included in CONFIG.SYS, allocates or attaches server resources during session initialization.

Syntax

DEVICE=C:\UTIL\ATTACH.SYS *parameters*

Parameters

The *parameters* are the same as those for the ATTACH utility. Refer to the description beginning on page DOS-5.

Notes

- Be sure to include the keyword **DEVICE** prior to any physical device parameter or list of parameters. Refer to the examples below.
- Some hardware devices require that a DOS device driver be installed in the CONFIG.SYS file in order to operate the device. If this is the case, usually you must also install the ATTACH.SYS device driver, making sure that it comes before the third-party hardware device driver.

Examples

```
device=c:\util\attach.sys device io=3a0
```

```
device=c:\util\attach.sys device io=340-345 dma=3 irq=4
```

```
device=c:\util\attach.sys floppy
```

ATTRCNF/CAPTURE

The ATTRCNF (ATTRibute CoNfiguration) utility is a screen attribute translation editor. It lets you change character attributes—bold, highlighting, reverse—that do not display properly on the screen. Changes can be saved into an attribute translation table for a future session or used only for the current session.

The ATTRCNF utility cannot be used with Logcraft window systems 2 and 3; it may be used with window system 0.

To load a previously saved attribute file for a new DOS session, use the ATTR=*file* parameter on the SETTERM command. Refer to the description of this parameter on page DOS-61.

Syntax

```
ATTRCNF [transfile] [screenfile]
```

Parameters

- | | |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <i>transfile</i> | An existing file that contains an attribute translation table. The standard attribute table supplied by Logcraft is called ATTR.DAT. |
| <i>screenfile</i> | An existing screen file created by the CAPTURE utility, as discussed on page DOS-18. |

Both *transfile* and *screenfile* are optional. To load a screen file without also loading a translation file, use a “-” character in place of the *transfile* parameter.

Related

SETTERM, page DOS-54

Running ATTRCNF

When you invoke ATTRCNF, a screen like the following appears:

```

01 = 01  10 = 01  20 = 01  30 = 02  40 = 01  50 = 01  60 = 01  70 = 02
02 = 01  11 = 01  21 = 01  31 = 01  41 = 01  51 = 01  61 = 01  71 = 01
03 = 01  12 = 01  22 = 01  32 = 01  42 = 01  52 = 01  62 = 01  72 = 01
04 = 01  13 = 01  23 = 01  33 = 01  43 = 01  53 = 01  63 = 01  73 = 01
05 = 01  14 = 01  24 = 01  34 = 01  44 = 01  54 = 01  64 = 01  74 = 01
06 = 01  15 = 01  25 = 01  35 = 01  45 = 01  55 = 01  65 = 01  75 = 01
07 = 01  16 = 01  26 = 01  36 = 01  46 = 01  56 = 01  66 = 01  76 = 01
08 = 01  17 = 01  27 = 01  37 = 01  47 = 01  57 = 01  67 = 01  77 = 01
08 = 00  18 = 08  28 = 08  38 = 08  48 = 08  58 = 08  68 = 08  78 = 02
09 = 08  19 = 08  29 = 08  39 = 08  49 = 08  59 = 08  69 = 08  79 = 08
0A = 08  1A = 08  2A = 08  3A = 08  4A = 08  5A = 08  6A = 08  7A = 08
0B = 08  1B = 08  2B = 08  3B = 08  4B = 08  5B = 08  6B = 08  7B = 08
0C = 08  1C = 08  2C = 08  3C = 08  4C = 08  5C = 08  6C = 08  7C = 08
0D = 08  1D = 08  2D = 08  3D = 08  4D = 08  5D = 08  6D = 08  7D = 08
0E = 08  1E = 08  2E = 08  3E = 08  4E = 08  5E = 08  6E = 08  7E = 08
0F = 08  1F = 08  2F = 08  3F = 08  4F = 04  5F = 08  6F = 08  7F = 08

```

```

Attribute Configuration v3.71                               Copr. 1987-1991 by Logicraft Inc.

```

```

Arrow keys select, PgDn/PgUp show other screen           current attribute ->
[C]aptured file: ATTRCNF.CAPTURE
[L]oad attribute table from a file           [E]dit current attribute
[W]iew captured file                       [S]ave this table
[D]efault table                            [Q]uit the program

```

Figure DOS-4: ATTRCNF screen

The top part of the screen shows translation pairs, each of which consists of two hexadecimal numbers separated by an equals sign. The left number is an attribute byte from PC video memory, and the right number controls how that attribute is displayed on the terminal screen.

The arrow keys move the highlight bar among translation pairs, and the PgUp and PgDn keys switch from one screenful of translation pairs to the other. Press the Return key to select the highlighted pair for editing.

The bottom part of the screen is a menu of the program's command options; these options are discussed below.

[C]aptured file

Loads a file containing a captured screen.

[L]oad attribute table from a file

Loads an attribute translation table from a file.

[E]dit current attribute

Edits the currently highlighted attribute translation pair. When this option is selected, a window containing the valid translation values appears; it looks like this:

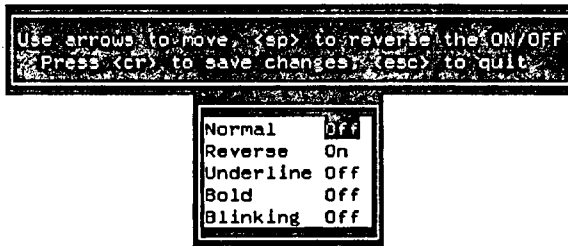


Figure DOS-5: ATTRCNF Edit Attribute window

In this window, the spacebar toggles a translation value on or off, the Return key saves any changes made to that translation pair, and the Esc key aborts the edit.

[V]iew captured file

Views the current captured screen. A section of the file is displayed in a window on the screen. The arrow keys and the Home and End keys move through the file. The Return key selects the attribute at the cursor for editing. The Esc key exits the window.

[S]ave this table

Saves the current attribute translation table. The table can be saved in a file for use in subsequent DOS sessions, or it can replace the translation table currently in use (that is, used for this session).

[D]efault table

Loads the default translation table.

[Q]uit the program

Exits the program, returning to DOS.

Running CAPTURE

To create a screen file with CAPTURE, give this command:

```
C:\>capture
```

Run your application package and view the character whose attribute you want to change. Press Alt-Right Shift to capture the screen. The first captured file is called CAPTURE.000. If you capture more than one screen, the file extension is incremented to create unique file names; for example, the second capture would be called CAPTURE.001.

CAPTURE creates files on the disk and directory *from which it is called*. For example, if you invoke CAPTURE, then switch to another drive to run your application, the CAPTURE.000 file will *not* be on the drive containing your application.

-
- ▲ **Important:** Ensure that you have write access to the current drive *before* executing the CAPTURE utility.

Example

This example changes a character attribute in the Lotus 1-2-3 package. The example assumes a DOS session has been established with D386C.DOS as the C: drive and a logical disk containing Lotus 1-2-3 (version 2.01) as the D: drive.

First run the CAPTURE program:

```
C:\>capture
```

Next, run Lotus 1-2-3 to display the attribute that needs altering. The initial 1-2-3 menu contains the characters whose attributes are to be changed.

Capture the screen by pressing Alt-Right Shift. The CAPTURE program creates a file called CAPTURE.000.

Exit 1-2-3, and run the attribute translation editor:

```
D:\123>c:
C:\>attrcnf
```

The main screen of the attribute translation editor appears. (A sample of this screen is shown in Figure DOS-4 on page DOS-16.)

Press C to load the captured file. The program prompts for the name of the file. Type CAPTURE.000 and press Return. The file name now appears at the "[C]aptured file:" line in the menu.

Press V to view the captured file. The file appears, overlaying the screen of translation pairs.

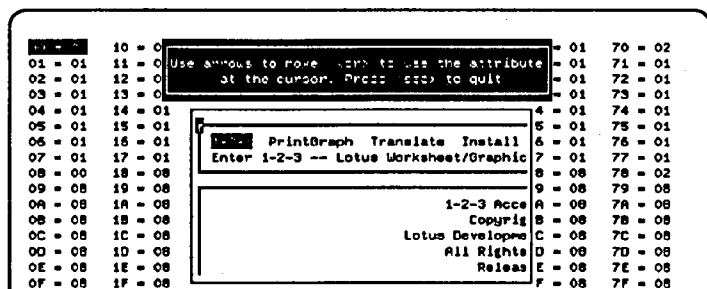


Figure DOS-6: ATTRCNF View Captured File example

The cursor is initially positioned at the upper left corner of the captured screen. Use the arrow keys to move the cursor so that it is resting within the reverse video 1-2-3 prompt, and press Return.

Note that a new attribute is now highlighted in the table of 128 translation pairs.

Press E to edit the selected attribute. Use the arrow keys and spacebar to change the Reverse attribute's On setting to Off and the Bold attribute's Off setting to On. At this point, the top part of the screen looks like this:

```

00 = 00 10 = 00 20 = 01 30 = 01 40 = 01 50 = 01 60 = 01 70 = 01
01 = 01 11 = 01 21 = 01 31 = 01 41 = 01 51 = 01 61 = 01 71 = 01
02 = 01 12 = 01 22 = 01 32 = 01 42 = 01 52 = 01 62 = 01 72 = 01
03 = 01 13 = 01 23 = 01 33 = 01 43 = 01 53 = 01 63 = 01 73 = 01
04 = 01 14 = 01 24 = 01 34 = 01 44 = 01 54 = 01 64 = 01 74 = 01
05 = 01 15 = 01 25 = 01 35 = 01 45 = 01 55 = 01 65 = 01 75 = 01
06 = 01 16 = 01 26 = 01 36 = 01 46 = 01 56 = 01 66 = 01 76 = 01
07 = 01 17 = 01 27 = 01 37 = 01 47 = 01 57 = 01 67 = 01 77 = 01
08 = 00 18 = 08 28 = 08 38 = 08 48 = 08 58 = 08 68 = 08 78 = 02
09 = 08 19 = 08 29 = 08 39 = 08 49 = 08 59 = 08 69 = 08 79 = 08
0A = 08 1A = 08 2A = 08 3A = 08 4A = 08 5A = 08 6A = 08 7A = 08
0B = 08 1B = 08 2B = 08 3B = 08 4B = 08 5B = 08 6B = 08 7B = 08

```

Use arrows to move. ^p to reverse the On/Off
Press ^c to save changes, ^q to quit

Normal	Off
Reverse	Off
Underline	Off
Bold	On
Blinking	Off

Figure DOS-7: ATTRCNF Edit Attribute example

Finally, press Return to accept the values as changed.

The screen returns to the ATTRCNF translation-pairs display. Press S to save the changed setting. You can choose to save the changes permanently, storing them in a file that can be loaded (with SETTERM) for future DOS sessions. Alternatively, you can choose to have the changes remain in effect for this DOS session only, or you can choose not to save the changes at all.

If you save the changes permanently, the changes will *not* affect your current DOS session unless you *also* save the table for this session only or use the SETTERM ATTR command to load the table after you exit ATTRCNF.

BYE

The BYE command terminates your DOS session.

When the session is terminated, all logical disks are closed, peripheral devices are released, PATHWORKS/PCSA file and printer service connections are closed, Ethernet links are terminated, printer buffer I/O (if any) is flushed and the printer list file(s) 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-70 of *Session Configuration*.

Syntax

BYE

Note

- The BYE command does *not* terminate connections to PATHWORKS/PCSA disk services, due to the way PATHWORKS operates. You should *always* explicitly disconnect these disk services by issuing the *USE drive: /D* command before terminating your DOS session. Otherwise, it may take some time before PATHWORKS deallocates the disk service, and the service may be unavailable during that period.

Related

/[NO]BREAK, page CFG-20

CACHE

This utility turns disk caching on or off. If caching is on, a 64K disk cache is used during the DOS session.

The disk cache feature of 386Ware saves the most current logical and local disk accesses in server memory. Ethernet traffic for disk I/O is thereby greatly reduced.

Syntax

```
CACHE ON  
CACHE OFF
```

Parameters

ON Turns disk caching on.
OFF Turns disk caching off, deallocating the cache.

Examples

```
C:\>cache on  
Disk caching has been enabled.  
  
C:\>cache off  
Disk caching has been disabled.
```

Related

/[NO]CACHE, page CFG-21

CHASTE

The CHASTE (CHARacter Set Translation Editor) utility allows you to change the way PC characters are translated for display on an ANSI terminal. CHASTE was created to handle differences between the United States and Denmark/Norway PC character sets.

The CHASTE utility cannot be used with Logcraft window systems 2 and 3; it may be used with window system 0.

To use a table previously created with CHASTE, include the PC_OUTPUT=*file* parameter on the SETTERM command. For further information, refer to page DOS-62.

Syntax

CHASTE [*transfile*]

Parameters

transfile Indicates the name of an existing character translation file. This parameter is optional. If you omit it, the default character table is used.

Related

SETTERM, page DOS-54

Running CHASTE

When you invoke the CHASTE utility, a screen showing 128 translation pairs is displayed; this screen is shown in Figure DOS-8. Each translation pair consists of two values separated by an equals sign. The value on the left is the hexadecimal ASCII value that is in PC memory. The number on the right consists of two val-

```

00 = A7 10 = A5E 20 = A20 30 = A30 40 = A40 50 = A50 60 = A60 70 = A70
01 = C40 11 = A3C 21 = A21 31 = A31 41 = A41 51 = A51 61 = A61 71 = A71
02 = C40 12 = A5E 22 = A22 32 = A32 42 = A42 52 = A52 62 = A62 72 = A72
03 = A48 13 = A21 23 = A23 33 = A33 43 = A43 53 = A53 63 = A63 73 = A73
04 = C60 14 = B36 24 = A24 34 = A34 44 = A44 54 = A54 64 = A64 74 = A74
05 = A43 15 = B27 25 = A25 35 = A35 45 = A45 55 = A55 65 = A65 75 = A75
06 = A53 16 = A5F 26 = A26 36 = A36 46 = A46 56 = A56 66 = A66 76 = A76
07 = B37 17 = A5E 27 = A27 37 = A37 47 = A47 57 = A57 67 = A67 77 = A77
08 = A6F 18 = A5E 28 = A28 38 = A38 48 = A48 58 = A58 68 = A68 78 = A78
09 = A6F 19 = A76 29 = A29 39 = A39 49 = A49 59 = A59 69 = A69 79 = A79
0A = A6F 1A = A3E 2A = A2A 3A = A3A 4A = A4A 5A = A5A 6A = A6A 7A = A7A
0B = B73 1B = A3C 2B = A2B 3B = A3B 4B = A4B 5B = A5B 6B = A6B 7B = A7B
0C = B67 1C = C6D 2C = A2C 3C = A3C 4C = A4C 5C = A5C 6C = A6C 7C = A7C
0D = A64 1D = A3E 2D = A2D 3D = A3D 4D = A4D 5D = A5D 6D = A6D 7D = A7D
0E = A64 1E = A5E 2E = A2E 3E = A3E 4E = A4E 5E = A5E 6E = A6E 7E = A7E
0F = B28 1F = A76 2F = A2F 3F = A3F 4F = A4F 5F = A5F 6F = A6F 7F = C61

```

```

CHAR. Set Translation Editor v3.71                               Copr. 1987-1991 by Logcraft Inc.

```

```

Currently editing default table
[E]dit current character           [S]ave this table
[L]oad another table              [Q]uit the program
Character:
Arrows move, PgUp/PgDn show other screen

```

Figure DOS-8: CHASTE translation pairs screen

ues: a single letter indicating the character set, and the hexadecimal offset into that character set.

The arrow keys move the highlight bar among translation pairs, and the PgUp and PgDn keys switch from one screenful of translation pairs to the other. As you move the highlight bar, the current character appears after the "Character:" line in the bottom of the screen. Press the Return key to edit the highlighted pair.

The bottom part of the screen is a menu of the program's command options; these options are discussed below.

[E]dit current character

This option edits the translation pair currently highlighted in the character set box. Character editing is discussed below.

[S]ave this table

Saves the current translation table. The table can be saved in a file for use in future DOS sessions, or it can replace the table currently in use (that is, used for this session).

If you save the changes permanently, the changes will *not* affect your current DOS session unless you *also* save the table for this session only or use SETTERM to load the table after you exit CHASTE.

[L]oad another table

This option loads a different translation table from a file. If changes have already been made but not saved, then you are given the opportunity to save your changes before the other table is loaded.

[Q]uit the program

This option terminates the CHASTE utility, returning you to DOS. If changes have been made but not saved, you are given the opportunity to save your changes first.

Character Editing

When you choose the [E]dit current character option from the CHASTE main menu, a window with two options appears: **Select character set** and **Change character value**. Use the spacebar to highlight your choice, the Return key to accept the highlighted choice, and the Esc key to return to the translation-pairs screen without changing anything.

Select Character Set

If you choose **Select character set**, a menu showing the available character sets appears. The available choices are not all visible. Use the arrow keys to move past the last entry in the window, and additional choices will appear. The entry highlighted initially is the character set containing the character you are editing.

Use the arrow keys to select the character set you want, then press Return. The Esc key returns you to the previous window without changing the character set.

You should rarely need the British, Dutch, Finnish, etc., character sets because these are used only when your terminal is set for National mode. Logcraft recommends that your terminal always be set in Multinational mode, so you only need the DEC Multinational Character Set (which contains all the characters found in the national character sets).

The programmer's reference manual for your terminal should list character set tables corresponding to each of the choices in the CHASTE character set window (except for the Downloadable Character Set). You may also need to reference the IBM PC character set table, found in most higher-level DOS manuals.

The Logcraft downloadable character set contains characters that the PC has but DEC does not provide in any of its character sets. Figure DOS-9 on page DOS-28 gives the mapping between DEC and PC character values for the downloadable character set.

Change Character Value

If you choose to change the character value, a window pops up displaying the valid characters in the current character set. The arrow keys move among characters, Return selects the currently highlighted character, and the Esc key returns you to the previous window, taking no action.

Example

The following example illustrates why Logcraft created the CHASTE utility for the Denmark/Norway character set.

In the U.S. PC character set, the hexadecimal value 9D corresponds to the ¥ (yen) sign, and the hex value 9B corresponds to the ¢ sign. In the Denmark/Norway character set, however, 9D and 9B correspond to the upper- and lower-case œ characters, respectively (Ø and ø). CHASTE is used to change 9D and 9B to point to Ø and ø instead of to ¥ and ¢.

The following example assumes that the terminal is a VT320.

First, execute CHASTE:

```
C:\>chaste
```

The CHASTE translation-pairs screen appears. (An example of this screen is given in Figure DOS-8 on page DOS-24.)

Press the PgDn key to display the second screenful of translation pairs. Use the arrow keys to highlight the ASCII value 9D. Note that the "Character" line in the bottom portion of the screen shows the ¥ character.

Press E to edit the current character. The Select character set/Change character value window appears. Choose **Select character set**. The window of character set choices appears. Press Return to select **DEC Multinational Character Set** (which is already highlighted because it contains the ¥ character you are editing).

Now choose **Change character value**. Using the arrow keys, highlight the Ø (uppercase) character. Press Return, then press Esc to get back to the main menu.

Now, use the arrow keys to highlight the ASCII value 9B. Note that the "Character" line shows the ç character. Press E to edit this character. Choose **Select character set**, then press Return to select **DEC Multinational Character Set**.

Choose **Change character value**. Using the arrow keys, highlight the ø (lowercase) character and press Return. Then press Esc to get back to the translation-pairs main menu.

Press S to save this table, then P to save it permanently. At the "File to save to:" prompt, type NORWAY.DAT and press Return. You could then load this table for a DOS session by giving this command:

```
C:\>setterm pc_output=norway.dat
```

Press Q to quit CHASTE and return to the DOS prompt.

Logiccraft Downloadable Character Set (All values are hexadecimal.)					
DEC Char.	PC Char.	DEC Char.	PC Char.	DEC Char.	PC Char.
21	01	41	A9	61	D7
22	02	42	AA	62	D8
23	03	43	B0	63	DB
24	05	44	B1	64	DC
25	06	45	B2	65	DD
26	07	46	B5	66	DE
27	08	47	B6	67	DF
28	09	48	B7	68	E0
29	0A	49	B8	69	E2
2A	0B	4A	B9	6A	E4
2B	0C	4B	BA	6B	E5
2C	0D	4C	BB	6C	E6
2D	0E	4D	BC	6D	E7
2E	10	4E	BD	6E	E8
2F	11	4F	BE	6F	E9
30	12	50	C6	70	EA
31	13	51	C7	71	EB
32		52	C8	72	EC
33	16	53	C9	73	
34	17	54	CA	74	EE
35	18	55	CB	75	EF
36	19	56	CC	76	F0
37	1A	57	CD	77	F4
38	1B	58	CE	78	F5
39	1C	59	CF	79	F6
3A	1D	5A	D0	7A	F7
3B	1E	5B	D1	7B	F9
3C	1F	5C	D2	7C	FB
3D	7C	5D	D3	7D	FC
3E	7F	5E	D4	7E	FE
3F	9E	5F	D5	7F	
40	9F	60	D6		

Figure DOS-9: Logiccraft Downloadable Character Set

DETACH

This utility releases a resource on the 386Ware server that was allocated with the ATTACH utility.

Syntax

```
DETACH logdev [physdev]
```

Parameters

The parameters for DETACH are the same as for the ATTACH utility. Refer to the description of ATTACH on page DOS-5.

Notes

- To release a serial, parallel, or list device, detach the logical device (COM*n* or LPT*n*) to which it is attached.
- When you exit a DOS session, all attached resources are automatically detached.
- If you specify invalid syntax, a list of available options is displayed.
- As with ATTACH, all parameters can be abbreviated to their shortest unique spellings; e.g., you can type "detach f" for the DETACH FLOPPY command.

Examples

```
C:\>detach floppy
```

```
C:\>detach device io=320-327
```

DISMOUNT

This utility releases a logical disk, workstation floppy drive, local hard disk partition, 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 LSTx
```

Parameters

<i>drive</i>	Indicates the drive letter associated with the logical disk, local hard disk partition, or workstation floppy drive to dismount, may be C through H. (The colon may be included or omitted.)
LST <i>x</i>	Indicates the printer assignment to dismount, either LST1 or LST2.

Notes

- **Important:** Do *not* use this utility to dismount the drive containing the Logcraft DOS utilities! If you do so, you will no longer have access to these utilities, including MOUNT and BYE.
- You cannot dismount the current drive.
- When you use the BYE command or select Quit from the File pull-down menu, all mounted drives and printer assignment(s) are automatically dismounted.
- If you specify invalid syntax, a list of available options is displayed.

Examples

```
C:\>dismount e:  
E: successfully dismantled.
```

```
C:\>dismount lst1  
LST1: successfully dismantled.
```

```
D:\>dismount d  
Unit could not be dismantled.  
Unable to dismant current drive.
```

```
D:\>c:  
C:\>dismount d:  
D: successfully dismantled.
```

```
C:\>
```

Related

MOUNT, page DOS-47

DLCEDIT

This utility, the DownLoadable Character set EDITor, creates or modifies a downloadable character set. DLCEDIT is relevant only for terminals that support downloadable character sets.

- ▲ **Important:** Do *not* use DLCEDIT with workstations, X terminals, or VT100-series terminals; these units do not have downloadable character sets.

To use a downloadable character set within a DOS session, include the `DLCS=file` parameter on the `SETTERM` command. Refer to page DOS-54 for further information.

Syntax

DLCEDIT *filename* [*rows*] [*columns*]

Parameters

<i>filename</i>	Indicates a file containing an existing character set. This parameter must be present; to enter the utility without specifying an actual file name, specify a "-" character as a placeholder.
<i>rows</i>	Indicates the number of rows in each character, from 1 to 20 (inclusive). This parameter is optional; if omitted, the default is 20. Check your terminal's programmer reference manual for the correct value to specify for <i>rows</i> .
<i>columns</i>	Indicates the number of columns in each character, from 1 to 15 (inclusive). This parameter is optional; if omitted, the default is 15. Check your terminal's programmer reference manual for the correct value to specify for <i>columns</i> .

Notes

- If you omit all parameters, the DLCEDIT syntax is displayed.
- You *must* edit or create a character set on the terminal for which the character set is intended to ensure that the size and resolution of the characters are correct. For example, do *not* use a VT420 to modify a character set intended for a VT320.
- When you create or edit a character, leave the appropriate blank columns and/or rows within the editing grid so that adjacent characters do not run into each other. Consult your terminal's programmer reference manual for information on which rows or columns to leave blank.

Related

SETTERM, page DOS-54

Logcraft's Character Sets

Because the PC character set contains characters not available on most terminals, Logcraft supplies downloadable character sets for several terminals; these sets are listed in Figure DOS-10. Each

File	Description
DLCS220.DAT	VT220 terminals
DLCS320.DAT	VT320 terminals
DLCS330.DAT	VT330 and VT340 terminals
DLCS420.DAT	VT420 terminals displaying one window
DLCS420S.DAT	VT420 terminals displaying two windows (split screen)
DLCS99GT.DAT	Wyse 99GT terminals
DLCSPT3.DAT	PowerTerm III terminals

Figure DOS-10: Downloadable Character Sets

of these character set files, located in the \UTIL directory of D386C, contains the PC characters that the terminal is missing, allowing all 256 PC characters to be displayed on your terminal.

Typically, DLCEDIT is used to modify an existing character set. You should *rarely* need to create a character set from scratch.

Running DLCEDIT

When you invoke DLCEDIT, a screen like the one shown in Figure DOS-11 appears.

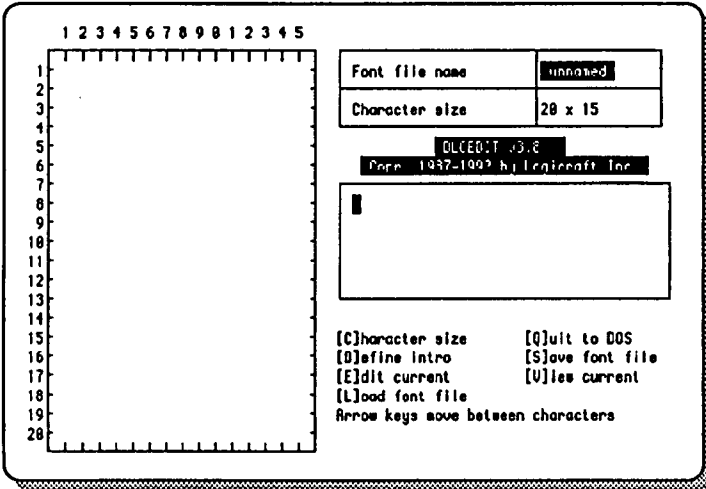


Figure DOS-11: DLCEDIT screen

The box on the left is the editing grid, where you create or edit a character. The box on the top right indicates the file name of the current character set and the number of rows and columns.

The character set box in the middle right portion of the screen contains the characters, shown actual size, in the current character set. If you load a character set, its characters appear in this box; if you create or add characters, they also appear. Use the arrow keys to move the highlight to the character you want to view or edit.

The lower right portion of the screen is the menu area. Initially, the main menu is displayed. Certain options have their own menus; when you choose one of these options, the appropriate menu is displayed in the menu area.

The options on the main menu are discussed below.

[C]haracter size

Prompts for the number of rows and columns to use for the character cell. Refer to your terminal's programmer reference manual for this information. After you enter the values, the editing grid changes to reflect those values.

[D]efine intro

Lets you define the intro sequence characters for the character set. You should *rarely* need this option. Refer to your terminal's programmer reference manual.

Use this option with caution! Specifying incorrect information will render the character set unusable.

[E]dit current

Edits the character currently highlighted in the character set box. More information about this option is given below.

[L]oad font file

Prompts for a file name containing a character set.

[Q]uit to DOS

Exits DLCEDIT and returns to the DOS prompt. If changes have been made but not saved, you are given the opportunity to save them before exiting.

[S]ave font file

Prompts for the name of a file in which to save the character set.

[V]iew current

Displays the currently highlighted character (from the character set box) in the editing grid.

Character Editing

From the main menu, pressing E (or the Return key) switches to editing mode for the current character. The character cell is displayed in the editing grid, the cursor changes to XX, and the main menu is replaced with the edit menu, shown in Figure DOS-12.

```

[S]hift   [G]et old back  [F]lip  [W]ipe
[I]nvert  [P]ick up     [O]rop  [R]otate
[E]xpand  [C]ontract
Arrow keys move, space bar toggles
Return key exits
Escape key exits without saving changes

```

Figure DOS-12: DLCEDIT Edit Menu

In edit mode, the arrow keys move the XX cursor between individual pixels in the character cell, the spacebar toggles a pixel on or off, the Esc key exits edit mode *without* saving any changes, and the Return key exits edit mode and saves the changes.

In addition, the following options are available.

[S]hift

Shifts the entire character cell one pixel. Use the arrow keys to indicate the direction for the shift, the Return key to exit, and the Esc key to exit without saving any changes.

[I]nvert

Toggles all pixels in the cell, as if you had moved to each pixel and pressed the spacebar.

[E]xpend

Inserts a row or column into the character at the cursor's position. Press R to insert a row or C to insert a column. The Return key exits; the Esc key exits without saving.

[G]et old back

Restores the character to its original condition.

[P]ick up

Copies the character to memory for later "dropping" into another character. See the [D]rop function.

[C]ontract

Removes a column or row at the cursor's position. Press R to remove a row or C to remove a column. The Return key exits; the Esc key exits without saving.

[F]lip

Flips the character along the horizontal or vertical axis. Press H to flip on the horizontal axis or V to flip on the vertical axis. The Return key exits; the Esc key exits without saving.

[D]rop

Copies a character previously "picked up" into the current character. Dropping an empty character will have no visible effect. See the [P]ick up function.

[W]ipe

Clears all pixels in the character cell, effectively erasing it.

[R]otate

Works in the same way as [S]hift, except that pixels that are shifted past the edge of the cell are brought back in at the opposite side.

EMM.SYS

This driver, when included in CONFIG.SYS, provides for expanded memory support (EMS). Once EMM.SYS is installed, programs that conform to the Lotus Intel Microsoft (LIM) specification version 4.0 can use the expanded memory.

Syntax

DEVICE=C:\UTIL\EMM.SYS *pages handles*

Parameters

<i>pages</i>	Specifies the number of 16K pages to allocate for EMS; once allocated, that memory is reserved. The minimum number of pages is 4 (64K); the maximum is 1024 (16M). You cannot configure more memory than is available on the slave card.
<i>handles</i>	Indicates the number of memory handles. This parameter is optional and typically is not needed. The minimum number of handles is 32; the maximum, 255. The default is 65.

Notes

- Although LIM 4.0 provides for up to 32M of expanded memory, 386Ware allows for only 16M. (You cannot have more than 16M of memory on a slave card.)
- The EMM.SYS driver is always loaded at memory segment E000h. Be careful when assigning or attaching memory segments that you do not specify this address.

Example

To allocate one megabyte of expanded memory, include the following line in CONFIG.SYS:

```
device=c:\util\emm.sys 64
```

Related

EMSRAM.SYS, page DOS-40

EXTMEM.SYS, page DOS-41

"Memory Management," page SMG-6

EMSRAM.SYS

This driver, when included in CONFIG.SYS, creates a RAM disk in expanded memory. To use EMSRAM.SYS, you must first install EMM.SYS (to configure the necessary expanded memory).

Syntax

DEVICE=C:\UTIL\EMSRAM.SYS *pages*

Parameter

pages Indicates the number of 16K pages to allocate for the RAM disk. Valid range is 1 to the number of pages specified for EMM.SYS (inclusive).

Notes

- The number of pages specified for EMSRAM.SYS cannot exceed the number of pages specified for EMM.SYS.
- When using this driver, a message is displayed during session initialization that indicates the drive letter for the RAM disk and how much EMS memory is allocated to it.

Example

To allocate 64 pages (1M) of expanded memory and use all of it for a RAM disk, include these lines in CONFIG.SYS:

```
device=c:\util\emm.sys 64  
device=c:\util\emsram.sys 64
```

EXTMEM.SYS

This driver, when included in CONFIG.SYS, provides extended memory support (XMS).

Syntax

DEVICE=C:\UTIL\EXTMEM.SYS *pages*

Parameter

pages Indicates the number of 4K pages to use for extended memory. The maximum value is equivalent to the amount of RAM available on the slave card; the minimum is one page.

Example

To allocate one megabyte of extended memory, include the following line in CONFIG.SYS:

```
device=\util\extmem.sys 256
```

When you establish a DOS session using this CONFIG.SYS file, 386Ware displays messages like the following:

```
Extended Memory Allocation Driver vx.xx  
Copyright (c) 1987-1993 by Logcraft Inc.  
1024 Kb of Extended Memory Allocated to DOS user
```

Related

EMM.SYS, page DOS-38
"Memory Management," page SMG-6

FPRINT

The FPRINT utility copies a DOS file to an output device or file, expanding tabs and inserting page breaks. FPRINT works significantly faster than the standard DOS command PRINT.

Syntax

```
FPRINT [-Odevice] [-Pn] [-Tm] filename
```

Parameters

- O*device* Sends output to *device*, which may be any DOS logical device or file name. The default is PRN.
- P*n* Sends a form feed after every *n* lines. If *n* is 0, no form feeds are sent. The default is 55 lines.
- T*m* Sets tab expansion to *m* columns. The default is 8 columns.
- filename* Indicates the name of a file to print; wildcards are allowed.

Examples

```
C:\>fprint myfile.txt
```

```
C:\>fprint -olpt2 -t4 -p60 myfile2.txt
```

HELP

The HELP command gives on-line information about 386Ware/DOS topics.

Syntax

```
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

- 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 D386C logical disk.
- The /DIRECTORY, /LINES, and /NOPAUSE switches can each be abbreviated to one character.

HELP

- 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

LANSI.SYS

This driver, when included in CONFIG.SYS, is an alternative to the MS-DOS driver ANSISYS.

Certain PC software packages require that you install ANSISYS in the CONFIG.SYS file. For 386Ware, Logcraft's LANSI.SYS is faster than ANSISYS and should be used instead.

The original ANSISYS driver distributed with MS-DOS version 3.3 has been renamed DANSISYS and is located in the \DOS directory of D386C.

Syntax

```
DEVICE=C:\UTIL\LANSI.SYS
```

Note

- The CONFIG.SYS file included on D386C.DOS installs the LANSI.SYS driver.

LHDRVR.SYS

This driver, when included in CONFIG.SYS, identifies one or more memory ranges for use with the UMBLOAD utility, which loads TSRs into upper memory blocks (between 640K and 1 M).

Syntax

```
DEVICE=C:\UTIL\LHDRVR.SYS /R:strtaddr1-endaddr1  
  [/R:strtaddr2-endaddr2] ... [/R:strtaddrn-endaddrn]
```

Parameters

<i>strtaddr</i>	Starting memory segment for UMBLOAD, from A000 to F800 (inclusive).
<i>endaddr</i>	Ending memory segment for UMBLOAD, from A000 to F800 (inclusive).

Note

- The actual addresses available for configuring with the LHDRVR.SYS driver depend on the session and server configuration; use the SHOW MEMORY command for a list of available addresses.

Example

```
device=c:\util\lhdrvr.sys /r:d000-e000 /r:f000-f800
```

Related

SHOW MEMORY, page DOS-71
UMBLOAD, page DOS-76
"Memory Management," page SMG-6

MOUNT

This utility mounts a logical disk, workstation floppy drive, or local hard disk partition on the drive letter you specify. You can access up to six logical disks, floppy drives, and/or partitions simultaneously during a DOS session, assigned to drives C: through H:.

MOUNT is also used to mount a list file for a printer assignment.

Syntax

```
MOUNT drive ldisk [READ_ONLY] [EXCLUSIVE]
MOUNT drive device [READ_ONLY] [EXCLUSIVE]
MOUNT drive part LOCAL [PASSWORD=pwd]
    [READ_ONLY]
MOUNT LSTx listfile
```

Parameters

<i>drive</i>	Specifies the drive letter to associate with the logical disk or, device you are mounting, C through H. The colon is not required.
<i>ldisk</i>	Specifies the file name for the 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> .
LST <i>x</i>	Indicates the printer assignment, either LST1 or LST2.
<i>listfile</i>	Specifies the name of the list file to associate with the LST <i>x</i> printer assignment. If the file type or extension is omitted, .LIS is assumed.

MOUNT

- READ_ONLY** Write-protects the mounted disk. If omitted, read/write access is assumed. Analogous to the /READ_ONLY configuration qualifier.
- EXCLUSIVE** Specifies that the mounted logical disk cannot be shared by other users. If omitted, exclusive access is assumed unless READ_ONLY is included, in which case shared access is assumed. Analogous to the /NOSHARE qualifier.
- part* **LOCAL** Mounts a local hard disk partition. Refer to *Local Hard Disk Support* supplement for details.
- PASSWORD=*pwd***
Specifies the password for a local hard disk partition. If omitted for a password-protected partition, MOUNT prompts for the password. Refer to *Local Hard Disk Support* for details.

Notes

- **Important:** Do *not* use this utility to mount a new disk/device on the drive containing the Logcraft DOS utilities! If the new disk does not contain the Logcraft utilities, you will no longer have access to the MOUNT and BYE utilities.¹
- 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 the *drive* specified is in use, the existing disk or device is dismounted before the new disk or device is mounted.
- If you attempt to mount a logical disk to which you are not allowed access by VMS, the disk is not mounted and an error is displayed.

¹Although 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.

- If you try to mount a disk that another user has mounted read/write or read-only exclusive, an error is displayed. Similarly, an error is displayed if you try to mount a disk for read/write access when another user has it mounted.
- If you use /DISKS to specify a maximum number of disks fewer than the default six, you cannot use MOUNT to access more logical disks than you specified.
- You cannot mount a workstation floppy drive more than once from a given DOS session.¹
- You cannot specify a logical disk whose file name duplicates the device name for a workstation floppy drive without including enough of the logical disk's file specification to distinguish it from the device name.

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.
```

Related

DISMOUNT, page DOS-30
/DISKS on page CFG-27
/READ_ONLY, page CFG-45
/[NO]SHARE, page CFG-47

¹You can mount the same floppy drive on the same drive letter; in this case, the drive is dismounted before being mounted again.

SEND

This utility sends brief text messages from your DOS session to other users on the same VAX or VAXcluster.

SEND is located in the \PRV_UTIL directory of D386C.

Syntax

```
SEND USERNAME usr [CLUSTER] [DISABLE] "msg"  
SEND TERMINAL termid [DISABLE] "msg"  
SEND DISABLE
```

Parameters

<i>usr</i>	Indicates the username of the recipient.
<i>termid</i>	Specifies the terminal ID for the recipient.
<i>msg</i>	Indicates the text of the message to send, specified within double quotes.
CLUSTER	Indicates that the recipient of the message is on a different system in the same VAXcluster.
DISABLE	Disables inbound messages. Similar to VMS's SET TERMINAL /NOBROADCAST command.

Notes

- The parameter keywords CLUSTER, DISABLE, TERMINAL, and USERNAME may each be abbreviated to a single character.
- Using the DISABLE keyword is *not* recommended because it prevents you from seeing important messages, such as a notification of system shutdown.

- To include quote characters within the message text itself, specify two quote characters for each one in the message. (See example below.)
- If you disable messages, then use SEND to send a message, messages are again enabled. To send a message and keep messages disabled, include the DISABLE keyword on the SEND command along with the message text.
- When you send a message, SEND reports on the number of terminals (users) it notifies or indicates if an error occurred. Due to the way VMS broadcast messages work, however, this report does *not* include information on messages sent to users on a VAXcluster member other than the one you are using.

For example, if you send a message to someone on a different system in the same cluster, SEND may report "Unable to send message" even though the message was sent and received.

Examples

```
C:\>send user msmith cluster "Hello. Mary"
```

```
C:\>send terminal tta2 "Tell Jay ""Hello"" for me"
```

```
C:\>send terminal tta5 disable "Please log out"
```

SETDRIVE

The SETDRIVE utility adjusts certain characteristics of a logical disk for the current DOS session, including whether the disk is removable or fixed and whether it is a local or network drive.

Logical disks are treated as removable media because they can be mounted and dismounted. However, certain applications do not function correctly unless they can locate a drive which is believed to be a hard disk drive, that is, a non-removable drive. Similarly, some applications look explicitly for a network drive. By default, 386Ware logical disks are considered non-network drives.

Syntax

SETDRIVE

SETDRIVE *drive*:

SETDRIVE *drive*: /D

SETDRIVE *drive*: [/F | /R] [/L | /N]

Parameters

- | | |
|----------------|-------------------------------------------------------------------------------|
| <i>drive</i> : | Specifies the drive letter; may be A: through H:. The colon must be included. |
| /D | Deletes any characteristics set previously with SETDRIVE. |
| /F | Sets <i>drive</i> : as fixed, i.e., non-removable. |
| /R | Sets <i>drive</i> : as removable. |
| /L | Indicates <i>drive</i> : is a local (non-network) drive. |
| /N | Indicates <i>drive</i> : is a network drive. |

Notes

- If you specify a *drive:* parameter but no *switches*, SETDRIVE displays the status of the specified *drive*. If no parameters are specified, SETDRIVE displays the status of any drive for which characteristics have been set.
- /F and /R are mutually exclusive, as are /L and /N.
- If you use SETDRIVE to set one characteristic for a disk, then issue another SETDRIVE command to set a different characteristic for the *same* disk, only the characteristic set with the second command will be in effect. To set two characteristics, use a single SETDRIVE command and specify both switches.

Example

```
C:\>setdrive d: /f /n
SETDRIVE Utility
Copyright (C) 1987-1993 by Logcraft Inc.
```

```
C:\>setdrive d:
SETDRIVE Utility
Copyright (C) 1987-1993 by Logcraft Inc.
```

```
D:    network fixed
```

```
C:\>setdrive d: /d
SETDRIVE Utility
Copyright (C) 1987-1993 by Logcraft Inc.
```

```
C:\>setdrive
SETDRIVE Utility
Copyright (C) 1987-1993 by Logcraft Inc.
```

```
No drives are remapped
```

SETTERM

The SETTERM command is not used for VGA emulation. Refer to the description of the SETVGA utility on page DOS-67.

The SETTERM utility automatically configures 386Ware for your type of display and keyboard characteristics. SETTERM recognizes all of the supported workstations and terminals.

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 workstation or terminal. However, you should explicitly issue a SETTERM command in some situations. Figure DOS-13 below summarizes the most common circumstances for which an explicit SETTERM command is needed.

Circumstances	SETTERM Parameter	Page
to use a black & white X platform with window system 2 or 3	HERC	DOS-57
to use a PC package configured for Hercules graphics with window system 2 or 3	HERC	DOS-57
to display PC graphics using CGA emulation on a GraphOn, Microterm, Wyse, or a Tektronix terminal	GRAPHON 4560 99GT 4205 4207	DOS-60 DOS-59 DOS-59 DOS-58 DOS-58
to use a split-screen VT420	SPLIT	DOS-58

Figure DOS-13: SETTERM Summary

Circumstances	SETTERM Parameter	Page
to use 7-bit terminal escape sequences only (preventing SETTERM from changing to 8-bit)	7BIT	DOS-61
to prevent using the status line for the PC's 25th line, speeding up terminal emulation	NOSTATUS	DOS-63
to use the Norway/Denmark PC character set; to load a character table created with CHASTE	PC_OUTPUT	DOS-62
to change how often SETTERM updates graphics images	GRAPH_WRITE GRAPH_MAX	DOS-60
to download a character set (created with DLCEDIT) other than the default	DLCS	DOS-61
to prevent downloading a character set or remove one that has been loaded	NODLCS	DOS-62
to disable horizontal scrolling, speeding up terminal emulation	NO_HSCROLL	DOS-62
if you have a terminal that does not support selective updating	NO_SELECT	DOS-60
if you have a black & white terminal that responds as a VT241	SIXEL	DOS-59
if your terminal supports ReGIS, but not Sixel	REGIS	DOS-59
if you have a terminal that supports a status line but does not respond accordingly	STATUS	DOS-63

Figure DOS-13: SETTERM Summary (Cont'd)

Circumstances	SETTERM Parameter	Page
if you have a terminal that supports selective updating but does not respond accordingly	SELECT	DOS-60
to use a PowerTerm, PowerTerm II, or PowerTerm III terminal.	PT, PT2, PT3	DOS-58
to load an attribute table (created with ATTRCNF) other than the default	ATTR	DOS-61

Figure DOS-13: SETTERM Summary (Cont'd)

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-64). This SHELL command is included in the CONFIG.SYS file on the D386C 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.

Video Emulation Parameters

Specify only one of CGA, HERC, and MONO at a time.

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.

If you do not have a workstation or X terminal, 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 or 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*.

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!

PT Emulation for a PowerTerm I or II terminal. This
PT2 emulation makes use of a character set translation table called PT.DAT. If you have a PowerTerm I or II terminal, give one of these SETTERM commands:

```
C:\>setterm pt pc_output=pt.dat
```

```
C:\>setterm pt2 pc_output=pt.dat
```

PT3 Emulation for a PowerTerm III terminal.

SPLIT Specifies a VT420 terminal displaying two windows. The terminal must be set up properly for two sessions. Refer to Appendix A for details.

WKSCGA Emulation for workstations and X terminals. Includes selective updating for graphic images. Provides color text support (non-ANSI) for color workstations and uses bold, blinking, underlining, and reverse video attributes for black and white workstations.

Graphics Emulation Parameters

- ◊ **Note:** Graphics support is *not* available for VT420, VT320, VT220, or VT100-series terminals.

Specify only one of 241, 330, 340, 4560, 99GT, GRAPHON, REGIS and SIXEL at a time.

- 241** 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. For a black and white terminal that responds as a VT241, override this default with the **SIXEL** parameter.
- 330**
340 Uses VT330 gray-scale or VT340 color Sixel graphics for PC graphics emulation. These are the defaults for terminals responding as VT330s or VT340s.
- REGIS** Uses color ReGIS graphics for PC graphics emulation; specify this only as a last resort due to the slow speed of ReGIS graphics and only if your terminal supports ReGIS (color) but not Sixel.
- SIXEL** Uses black and white Sixel graphics for PC graphics emulation. Specify this parameter for a black and white terminal that responds as a VT241.

The 4560, 99GT, and GRAPHON parameters are required to display PC graphics on Microterm, Wyse, and GraphOn terminals, respectively. Note that these terminals disable certain keys (such as the function and arrow keys) when they enter graphics mode.

- 4560** Uses the Microterm 4560's Tektronix graphics for PC graphics emulation.
- 99GT** Uses the Wyse 99GT's Tektronix graphics for PC graphics emulation.

GRAPHON Uses the GraphOn 240/250's Tektronix graphics for PC graphics emulation. For proper operation, ensure that the terminal is set for **SHORT** commands (on the **GENERAL** set-up menu).

GRAPH_MAX=*time*

Defines the maximum amount of time an application writes to video memory before **SETTERM** updates the screen, measured in $\frac{1}{18}$ -second intervals. Valid range is 1 – 255 (inclusive); default is 255. For additional information, refer to "Graphics Timers" on page DOS-65.

GRAPH_WRITE=*time*

Defines the amount of time to wait after a graphics application has written to video RAM before updating the screen, measured in $\frac{1}{18}$ -second intervals. Valid range is 1 – 255 (inclusive); default is 4. For additional information, refer to "Graphics Timers" on page DOS-65.

PX=*pixels*
PY=*pixels*

Used with **Sixel** to center graphics images. Specify the number of horizontal (**PX**) and vertical (**PY**) pixels on the screen. The **PX** default is 800 for VT graphics terminals, 640 for workstations. The **PY** default is 480 for VT graphics terminals, 400 for workstations. These parameters are rarely needed.

*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.

NO_SELECT Disables selective updating, causing the entire graphic image to be redisplayed whenever it is changed. Use this parameter only 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.
- ATTR=file** Overrides the default attribute table. This parameter is useful for applications that need cosmetic attribute changes. Refer to the descriptions of ATTRCNF and CAPTURE on page DOS-15 for details. Not supported for window system 2 or 3.

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.
- 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 in the file you specify. SETTERM searches your DOS path if it does not find the data file in the current directory.

Important: Workstations, X terminals, and VT100-series terminals do *not* provide for downloadable character sets. Do *not* try to load one.

Figure DOS-14 lists the character sets provided in the \UTIL directory of D386C.

File	Terminal
DLCS220.DAT	VT220
DLCS320.DAT	VT320
DLCS330.DAT	VT330, VT340
DLCS420.DAT	VT420, one screen
DLCS420S.DAT	VT420, split screen
DLCS99GT.DAT	Wyse 99GT
DLCSPT3.DAT	PowerTerm III

Figure DOS-14: Downloadable Character Sets

If your terminal is not compatible with any of the files listed above, use `DLCEDIT`, discussed on page DOS-32, to create a character set.

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 file to override the default character table. Refer to the discussion of `CHASTE` on page DOS-23. If you use the Denmark/Norway character set, give one of the following commands to load the correct table:

```
C:\>setterm pc_output=danishd1.dat
C:\>setterm pc_output=danish.dat
```

Specify DANISHDL.DAT if you want to use the downloadable character set; otherwise, specify DANISH.DAT.

If you use the PowerTerm I or PowerTerm II terminal, you should reference PT.DAT, as discussed on page DOS-58.

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 VT100- and VT200-series terminals.
- ROWS25** Indicates a 25-line display. This parameter should *only* be used on terminals that 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 VT3xx and VT420 terminals.
- NOSTATUS** Disables the use of the status line as the 25th row of the DOS display. Improves 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.

Specify only one of VT100 and VT200 at a time.

- VT100** Uses VT100 escape sequences for PC text emulation. This is the default if the terminal responds as a VT100.
- 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, which are described below, 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.

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 24-line terminal (uses status line or Toggle key for 25th line).
- 25 Specifies a 25-line terminal (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.

VT100, 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:

- **GRAPH_WRITE** indicates how long SETTERM waits after a PC application stops writing to video RAM before updating the screen. If more is written before GRAPH_WRITE expires, SETTERM resets the timer and does not update the screen. The default value is $\frac{1}{8}$ second ($\text{GRAPH_WRITE}=4$).
- **GRAPH_MAX** 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 $14\frac{3}{8}$ second ($\text{GRAPH_MAX}=255$).

For example, suppose a PC graphics package writes to RAM every $\frac{5}{8}$ second and that GRAPH_WRITE is set for $\frac{3}{8}$ second. Also, suppose that the application writes the characters in the word "Time" 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 "T" to RAM. SETTERM detects its presence and waits $\frac{3}{8}$ second. The GRAPH_WRITE timer expires and the "T" is written to the screen. Because the application doesn't have time to write another letter to RAM during the $\frac{3}{8}$ -second time-out period, each letter is written separately.

SETTERM: Graphics Timers

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 "T" to video RAM. SETTERM waits $\frac{6}{18}$ second, during which time the application writes the "I", causing SETTERM to wait another $\frac{6}{18}$ second, and so on, until all four letters have been written. After the "e" 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. Specify a low value for GRAPH_WRITE to have the screen updated frequently or a high value to have the screen updated less often.
- If the PC package never stops writing to video RAM 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.

SETVGA

The SETVGA utility, like SETTERM, automatically configures 386Ware for your type of display and keyboard characteristics. However, SETVGA is used only to configure a window system 2 or 3 session on a slave card that has the VGA/EGA option installed.

When establishing a VGA session, you can specify a maximum of 640K of memory for that session; otherwise, the session memory conflicts with the memory needed for the VGA emulation. (The amount of session memory is 640 K, unless you specify otherwise with /MEMORY.)

Refer to "VGA/EGA Video Option" on page SMG-26 of *System Manager's Guide*.

Syntax

SETVGA

Notes

- SETVGA is relevant only for a color workstation or X terminal using window system 2 or 3.
- If you execute the SETVGA command from a non-X terminal or from window system 0, an error is displayed.
- If you establish the session with more than 640K of memory then attempt to run SETVGA, an error is displayed:
- You cannot use SETVGA after executing SETTERM.
- When SETVGA is executed, the VGA ROM code is loaded into memory. This code is located in the file \UTIL\SETVGA.ROM on D386C.
- For a complete list of SETVGA errors, refer to *Appendix C: Error Messages*.

SHOW

This utility displays information about the 386Ware environment.

Syntax

SHOW *item* [*switches*]

Parameters

item Indicates the item about which you want information. Possible choices are:

CONFIG	IO	MEMORY
DEVICE	IRQ	PARTITIONS
DISKS	LST	USERS
DMA		

switches Indicates optional switches that alter the way SHOW works. The possible switches depend on what *item* you specify; see below.

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 386Ware server, including the revision levels of the hardware and software in your system, the server name (or network address), the floppy drive types, etc.

SHOW CONFIG /SLAVE=*slavecard*

Requests information about the slave card specified, where *slavecard* is 1 – 4 (inclusive). To request information about all available slave cards, specify the ALL keyword for the *slavecard* parameter.

If you omit /SLAVE=*slavecard*, the default is the slave card to which you are currently attached.

SHOW DEVICE

This command displays information about any physical devices allocated to your DOS session, that is, devices that you have attached with the ATTACH utility.

SHOW DISKS

This command describes the currently mounted logical disks, workstation floppy drives, and/or local hard disk partitions,¹ including file or device name, node address, and access mode.

¹Partitions are relevant only if your server includes a local hard disk. Refer to the *Local Hard Disk Support* supplement for further information.

SHOW DMA

This command displays each DMA channel currently allocated and who or what has it attached.

SHOW IO

This command displays each I/O address currently allocated and who or what has it attached.

SHOW IRQ

This command displays each IRQ currently allocated and who or what has it attached.

SHOW LST

This command displays information about the LST1 and LST2 printer assignments, including the list files associated with them. If the printer assignment is associated with a terminal's auxiliary port, the keyword LST1 or LST2 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 displays information about the memory on the server's slave card(s), including memory ranges that can be allocated with the LHDRVRSYS driver and UMBLOAD utility. Example:

```

C:\>show memory

SHOW MEMORY UTILITY

Slave #1
  Real Memory:  81896K (400000 hex)
  Available Memory: 82932K (200000 hex)

Memory Range (hex)  K Used  User
-----
000000 TO 05CFFF    372K   System
050000 TO 122FFF    792K     2
123000 TO 3FFFFF    2932K  Unused

Mappable logical memory segments available for UMBLOAD

Segment Range (hex)  Size
-----
0000 TO 05FF        24K
BC00 TO EFFF        200K

C:\>

```

Figure DOS-15: SHOW MEMORY sample screen

SHOW MEMORY /SLAVE=*slavecard*

Gives information about memory for the slave card specified, where *slavecard* is 1 – 4 (inclusive). To request information about all available slave cards, specify ALL for *slavecard*.

If you omit /SLAVE=*slavecard*, the default is the slave card to which you are currently attached.

SHOW MEMORY /DEVICE

Displays information about the memory on the server's mother-board; this memory may be used by expansion boards.

SHOW PARTITIONS [/NAME=*names*]

This command displays information about local hard disk partitions; refer to the *Local Hard Disk Support* supplement for details.

SHOW USERS

This command displays information about all users currently accessing the 386Ware server, including user number,¹ slave number, host node name, username, process ID (PID), and terminal ID. An asterisk denotes your session.

¹The user number is relevant for other Logcraft commands, including STOP.

SHUTDOWN

This utility shuts down the 386Ware server and performs a remote reboot.

The system manager may choose to restrict this utility, which is located in the \PRV_UTIL directory of D386C.DOS. Refer to "Deleting Privileged Utilities" on page INS-39 of *Installation*.

Syntax

SHUTDOWN [FAST]

Parameter

FAST Shuts down the server and reboots immediately.

Notes

- When you reboot a server, 386Ware expects to find the boot floppy in the drive; the server cannot boot if the floppy is not present.
- If the **FAST** parameter is omitted, the server terminates each active session on the unit and closes any active or pending network connections before shutting down and rebooting the server. If many active sessions need to be terminated, the shutdown/reboot process takes somewhat longer than if the **FAST** parameter is included.

Examples

```
C:\>shutdown
2 other user(s) are currently logged onto server SRV1
Are you SURE you want to perform a shutdown [y/N] y

$
```

SRVDATE/SRVTIME

These utilities set the system date and time for the 386Ware server, which is used to time-stamp any messages logged on the system console. Once set, the date and time are maintained by 386Ware.

SRVDATE and SRVTIME are in the \PRV_UTIL directory of D386C.DOS.

You can also set the server date and time from the System Configuration utility as described on page SMG-30.

Syntax

SRVDATE [*mm/dd/yyyy*]

SRVTIME [*hh:mm* [:*ss*]]

Parameter

mm/dd/yyyy The date to set.

hh:mm:ss The time to set, specified in 24-hour format; seconds are optional.

Notes

- If you omit the date or time parameter, SRVDATE or SRVTIME displays the current server date or time and prompts for a new one.
- These commands do not affect the date or time information for user sessions on the server, which obtain the date/time from the host system.
- If you specify an invalid date (e.g., month greater than 12) or time (e.g., hour greater than 24), an error is displayed and you are asked to enter a new one.

STOP

This utility terminates one or more 386Ware sessions. It may be used to terminate your own session or the sessions of other users.

The system manager may choose to restrict this utility, which is located in the \PRV_UTIL directory of D386C.DOS. Refer to "Deleting Privileged Utilities" on page INS-39 of *Installation*.

Syntax

```
STOP username
STOP username username ...
STOP ALL
```

Parameters

username The number of the user whose session you want to stop. This information is displayed by the SHOW USERS command. To stop the sessions of multiple users, separate the user numbers with spaces.

ALL Stops all sessions, including your own.

Note

- The STOP command asks you to confirm its action.

Examples

```
C:\>stop 1
C:\>stop all
C:\>stop 2 3
```

Related

SHOW, page DOS-68

UMBLOAD

This utility loads terminate-and-stay-resident (TSR) programs into available memory between 640K and 1M (upper memory blocks), thereby freeing up conventional DOS memory.

Before using UMBLOAD, the LHDRVR.SYS driver must be loaded, indicating the memory ranges that are available for UMBLOAD.

Syntax

UMBLOAD [*command*]

Parameter

command Indicates the name of the TSR to load above 640K, including any parameters or options. (See example below.)

Notes

- If the *command* parameter is omitted, UMBLOAD displays the memory address ranges that have been configured with LHDRVR.SYS and indicates which ranges are in use.
- If UMBLOAD cannot load the program you request into the upper memory area, the program is loaded below 640K. For example, if you attempt to load a program that will not fit into the available memory above the 640K boundary, UMBLOAD loads the program in conventional memory.
- The following Logcraft utilities can be UMBLOADED: SETTERM, SETVGA, and V86MOUSE. Do *not* attempt to use UMBLOAD with any other Logcraft utilities.
- Use caution when UMBLOADING SETTERM. This utility uses different memory ranges depending on the terminal emulation it sets. For additional information, refer to "Memory Management" on page SMG-6 of *System Manager's Guide*.

Examples

C:\>umbload

Memory Block	Size	Program Name
D000 - DFFF	64K	Free Upper Memory Block
E000 - EFFF	64K	Free Upper Memory Block

C:\>umbload setterm 340

SETTERM Display Adapter Emulation Installed
 Copyright (c) 1987-1993 by Logicraft Inc.
 Color Graphics Adapter text is being emulated.
 UT200 text processing used for text emulation.
 Down Loadable Character Set Loaded from: C:\UTIL\DLCS320.DAT
 CGA graphics are being emulated.
 UT241/UT340 Color Sixel graphics used for graphics emulation.
 Selective graph updates are enabled.
 GRAPH_MAX value: 255
 GRAPH_WRITE value: 4
 24 line terminal, but using the STATUS LINE for line 25.
 Communication mode: 8 bit

C:\>umbload

Memory Block	Size	Program Name
D000 - D800	32K	Used (setterm)
D80E - DFFF	31K	Free Upper Memory Block
E000 - EFFF	64K	Free Upper Memory Block

C:\>

Figure DOS-16: UMBLOAD example

Related

LHDRVR.SYS, page DOS-46
 SHOW MEMORY, page DOS-71
 "Memory Management," page SMG-6

V86MOUSE

V86MOUSE is a terminate-and-stay-resident (TSR) program that lets you use your workstation or X terminal mouse with PC software applications. V86MOUSE.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-5 of *User's Guide* for additional information.

Syntax

V86MOUSE

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, V86MOUSE 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 X window managers.)
- To activate the PC mouse after loading V86MOUSE, 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.
- V86MOUSE.EXE *cannot* be used with window system 0.

- If you use the mouse during most DOS sessions, you may want to run V86MOUSE.EXE from AUTOEXEC.BAT. If you do so, make sure you put the V86MOUSE command *after* the SETTERM or SETVGA command.
- To avoid using conventional DOS memory for the mouse driver, you may prefer to use UMBLOAD to load it into the upper memory area.
- A few software packages are known not to work with V86MOUSE, including IBM's DisplayWrite. If you are unsure about your package, check with Logcraft Customer Support.

Related

UMBLOAD, page DOS-76

Example

```
C:\>v86mouse
```

```
386/486Ware Mouse Driver v. x.xx  
Copyright (c) 1987-1993 by Logcraft Inc.
```

```
C:\>
```

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 how 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-84
CHAINCHR	Displays or changes the current XPORT chain character.	DOS-84
CHMOD	Sets a VMS file protection.	DOS-85
DELETE ERASE	Deletes DOS or VMS files.	DOS-86
DIRECTORY	Displays a DOS or VMS directory.	DOS-87
DOS	Executes MS-DOS commands.	DOS-89
EXIT QUIT	Exits from XPORT's interactive mode.	DOS-89
EXPORT	Copies files from DOS to VMS.	DOS-90
FREE	Displays the amount of free space on DOS disks.	DOS-92
HELP	Gives information about XPORT commands.	DOS-92
IMPORT	Copies files from VMS to DOS.	DOS-93
PROMPT	Changes XPORT's interactive prompt.	DOS-95
SWITCHAR	Displays or sets the XPORT switch character.	DOS-95
TYPE	Displays the contents of a DOS or VMS file.	DOS-96
UIC	Displays your host user identification code.	DOS-96
VERSION	Displays XPORT's version number.	DOS-96

Figure DOS-17: 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 indicates a DOS argument.
 - 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 by including the node name as part of the VMS file specification. However, 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 after leaving XPORT.
- 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 page DOS-97 for more information.

XPORT CD [*newdir*]
XPORT CHDIR [*newdir*]

Changes the current DOS or VMS directory to *newdir*. If *newdir* is omitted, the current DOS and VMS directories are displayed.

Directory changes take effect immediately. DOS directory changes remain in effect when XPORT is terminated. VMS directory changes do *not* remain in effect when you quit XPORT.

Examples

```
Xport C:\>cd
```

```
DOS: C:\  
VMS: TWEETY$QA:[TEST.PRINT]
```

```
Xport C:\>chdir util  
Xport C:\UTIL>cd [-.dos]  
Xport C:\UTIL>cd
```

```
DOS: C:\UTIL  
VMS: TWEETY$QA:[TEST.DOS]
```

```
Xport C:\UTIL>quit
```

```
C:\UTIL>
```

XPORT CHAINCHR [*newchar*]

Changes the current XPORT chain character to *newchar*. If *newchar* is omitted, the current chain character is shown. This command affects only the current XPORT interactive session.

The XPORT chain character separates multiple XPORT commands on a single line. The default chain character is the ampersand (&).

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).

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. 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.

XPORT DELETE

- 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.
- Delete access is not explicitly supported; however, if Write access is assigned, Delete access is also assigned.
- 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:\>exit
```

```
C:\>xport chmod/con [.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] *filespec* XPORT ERASE [/CONFIRM] *filespec*

Deletes the DOS or VMS file(s) indicated by *filespec*, 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]OLDDATA.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, 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). Relevant only when viewing DOS directories.

XPORT DIRECTORY

Directory information includes file size (in bytes) and date/time,¹ unless /WIDE 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.

Examples

Commands for viewing DOS directories:

```
Xport C:\>dir
Xport C:\UTIL>dir /pause ..\
Xport C:\>dir autoexec
C:\>xport dir *.bat
C:\>xport dir /wide \util
```

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 [...]
```

¹For 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.

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:\UTIL>quit
C:\UTIL>
```

XPORT EXPORT [*switches*] *dosfile* [*hostdir*]

Copies files from DOS to VMS, where

- | | |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>dosfile</i> | Indicates what DOS file or files to copy; wild-cards may be included. |
| <i>hostdir</i> | Indicates the VMS destination directory to which the files should be copied. If this parameter is omitted, the current VMS directory is the default. If you are not allowed to write to the specified directory, an error is displayed. |

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 /CONFIRM . |
| /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 /APPEND . |
| /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
```

```
Logicraft Import/Export Facility vx.xx
Copyright (c) 1987-1993 by Logicraft 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*] *hostfile* [*dospath*]

Copies files from VMS to DOS, where:

hostfile 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 **/CONFIRM**.

/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 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 **/APPEND**.

/SELECT Asks you to confirm whether a file should be copied; the default response is No.

XPORT IMPORT

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) 1987-1993 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 6-12-1993>
```

XPORT SWITCHAR [*newchar*]

Changes the character that designates XPORT switches to *newchar*. 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

XPORT TYPE [*switches*] *filespec*

Displays the contents of the specified file, where *filespec* 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 COPYOUT 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 copyout
```

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:\>copyout
```

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 par-1 [=val-1] [par-2 [=val-2]] ... [par-n [=val-n]]
```

Parameters

par-1 through *par-n* can be any of the following:

CPU Sets which PC processor to emulate. The *val* parameter may be 8086, 80286, or 80386. These values may be abbreviated to 86, 286, and 386, respectively. If the value is omitted, the default is 80386.

ENV Sets four DOS environment variables for the DOS session:

- USERNAME is set to your VMS username.
- USERNUM is set to your 386Ware user number (displayed by SHOW USERS).
- SRVNAME is set to the 386Ware 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.

INT13 Allows you to run the COCOON software application (a data recovery program). The *val* parameter may be either ON or OFF. Specify INT13=ON to use COCOON. The default is INT13=OFF.

COCOON assumes the disk device driver generates INT 13 calls for disk requests. Logcraft provides this XSET parameter specifically for COCOON to override the default support in 386Ware, which does not generate INT 13 calls.

Important: When using INT13=ON, more overhead is added to disk requests. To avoid a decrease in performance, use INT13=ON *only* when running COCOON.

INT16_COUNT

Sets the number of INT 16 status calls allowed before performing an automatic task swap.

LSTx_FLUSH

Sets the flush time out value for the LST1 or LST2 printer assignment. Specify the number of timer ticks (approximately 1/8 second per tick) before the print buffer is flushed automatically.

MACHINE

Sets the machine ID byte to the value for PC, PC/XT, or PC/AT. The *val* parameter may be PC, XT, or AT. The default is AT.

This parameter serves the same function as the /PCTYPE qualifier discussed on page CFG-42 of *Session Configuration*.

RETRACE_COUNT

Sets the countdown value used to toggle the CRT vertical retrace bit.

SHIFT_TIMEOUT

Sets the number of milliseconds to wait before sending a break code for a shift key (Ctrl, Alt, Right Shift, and Left Shift). This parameter should *rarely* be needed. It serves the same function as the /TIMER_3 qualifier discussed on page CFG-50 of *Session Configuration*.

See "Keyboard Mapping Utilities" on page VMS-18 of *Utilities for VMS* for information on make/break codes.

STEP Sets the number of foreground CPU instructions that are guaranteed to be executed between back-to-back timer ticks (approximately $\frac{1}{18}$ second per tick). The minimum value for *val* is 0.

Certain communications packages will not operate properly unless you set this parameter. An initial *val* of 5 is recommended for these packages.

TIMER2 Sets 386Ware's timer emulation to work with the Kermit terminal emulation/file transfer utility. You should only need this parameter if you are using Kermit.

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.

Note that the other variables (USERNAME, USERNUM, and SRVNAME) are set.

- 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.

- When using the STEP parameter, you should never need to specify a value above 25; larger values will slow the session to the point of inoperability.

Examples

```
C:\>xset cpu=386 machine=pc
```

```
C:\>xset cpu=286 machine=at 1st2_flush=360
```

```
C:\>xset 1st1_flush=360
```

```
C:\>xset env
```

```
C:\>xset env 1st1_flush=360
```

LOGICRAFT

UTILITIES FOR VMS

386Ware for VMS

*Release 4.0
March 19, 1993*

Contents

Introduction	VMS-1
Logical Disk Commands	VMS-2
Disk and Directory Syntax	VMS-3
DOSCOPY	VMS-4
DOSDIR	VMS-8
DOSERA	VMS-10
DOSMAKE	VMS-12
DOSTYPE.....	VMS-14
The Info Utility.....	VMS-16
Keyboard Mapping Utilities	VMS-18
Terminology	VMS-18
Special Keys.....	VMS-20
Logiccraft's Keyboard Mapping Files.....	VMS-21
Using Your Key Mapping in a PC Session.....	VMS-23
KeyUtil_X.....	VMS-24
Example	VMS-27
KeyUtil.....	VMS-30
7-Bit and 8-Bit Modes.....	VMS-30
Syntax.....	VMS-31
Creating a New Keyboard Mapping.....	VMS-31
Modifying an Existing Keyboard Mapping.....	VMS-32
The Main Menu	VMS-32
List All Current Host/PC Key Mappings	VMS-33
List PC Sequence Given Host Key Sequence.....	VMS-33
List Host Sequences for a Given PC Key Sequence	VMS-36

Assign/Modify a Host Key Sequence to a PC Sequence	VMS-37
Deassign a Host Key Sequence	VMS-38
Save Changes	VMS-38
Quit	VMS-39
Example	VMS-39

List of Figures and Tables

Summary of Logical Disk Commands.....	VMS-2
Info utility sample screen	VMS-17
Special Keys for 386Ware	VMS-20
Keyboard Mapping Files.....	VMS-21
KeyUtil_X screen.....	VMS-25
KeyUtil_X example.....	VMS-27
KeyUtil_X example.....	VMS-28
KeyUtil_X example.....	VMS-28
KeyUtil main menu	VMS-32
KeyUtil List PC Sequence screen, left	VMS-34
KeyUtil List PC Sequence screen, detail	VMS-34
KeyUtil List PC Sequence screen, right	VMS-35
KeyUtil List Host Sequence screen, detail.....	VMS-36
KeyUtil List Host Sequence screen, example	VMS-36
KeyUtil Assign Host Sequence screen, detail.....	VMS-37
KeyUtil example	VMS-40

Introduction

This section discusses the 386Ware-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 386Ware 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 SRV command, used to establish PC sessions, refer to *Session Configuration*.

Logical Disk Commands

386Ware 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. Relevant only for Omni-Ware's partitionable logical disks; not used with 386Ware.	<i>n/a</i>
DOSTYPE	Displays the contents of a DOS file.	VMS-14

Figure VMS-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:\UTIL.

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 \UTIL directory of the D386C.DOS logical disk, use this syntax:

D386C| \UTIL or D386C& \UTIL

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 *outdir* 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.

/MULTNATIONAL

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 This qualifier is not used with 386Ware; it applies only to Omni-Ware's partitionable disks.

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.

/FIXED Creates a VMS file with 512-byte fixed-length records and no record attributes. This is the default if **/BINARY** is included.

/STCR Creates a VMS file with stream-CR record format and carriage return carriage control.

/STLF Creates a VMS file with stream-LF record format and carriage return carriage control.

/STM 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 files from DOS to DOS, copy the files from the source logical disk to VMS, then use a second DOSCOPY command to copy the files 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, you must use the *outfile* parameter if *infile* does not represent a valid DOS file name. 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\

```

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 []

```

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 This qualifier is not used with 386Ware; it applies only to Omni-Ware's partitionable disks.

/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 disk|\docs
```

DOSERA

This command deletes a file or files from within a logical disk.

Syntax

DOSERA *dosfilespec*

Parameter

dosfilespec Indicates the name of the DOS file to delete, including logical disk and directory path information. Wildcards may be specified.

/PARTITION This qualifier is not used with 386Ware; it applies only to Omni-Ware's partitionable disks.

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 dosdisk|autoexec.bat
```

```
$ dosera dosdisk|\auto*.bat,lotus|\*.set
```

```
$ dosera [.dosdisks]pdisk|\junk\*.*
```

DOSMAKE

This command creates a logical disk in the specified VMS file. The logical disk may range in size from 360 kilobytes to 32 megabytes.

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.

Syntax

DOSMAKE *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.

The minimum value for *size* is 360K (720 blocks); the maximum is 32M (65536 blocks).

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.

Qualifier

/PARTITION This qualifier is not used with 386Ware; it applies only to Omni-Ware's partitionable disks.

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.

Examples

```
$ dosmake 360K mydisk
$ dosmake 5m [doscommon.disks]lotus
$ dosmake 2048 temp1. [-]temp2. [-]temp3
```

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.

DOSTYPE

This command displays the contents of a DOS file (or files) located within a logical disk (or disks).

Syntax

DOSTYPE [*qualifiers*] *dosfilespec*

Parameters

dosfilespec 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., ù, 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 This qualifier is not used with 386Ware; it applies only to Omni-Ware's partitionable disks.

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.)
- You may type more than one file by specifying multiple *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.

Examples

```
$ dostype dosdisk|autoexec.bat
$ dostype mydisk|\docs\*.txt
$ dostype /multi mydisk|\letters\pierre.ltr
$ dostype [.docs]rpts|\rpts\rpt1.txt
```

The Info Utility

The Info utility displays information about available 386Ware servers. Info is useful for determining who is using a particular server if that server has no logins remaining.

You can also use the Info utility to initiate a remote reboot of a server from the VMS prompt. This function is analogous to the SHUTDOWN utility (used from the DOS prompt) described on page DOS-73 of *Utilities & Drivers for DOS*.

Fox XNS servers, Info is generally installed with PRMMBX privilege; if it is not, you will need PRMMBX to execute it.

Syntax

```
SRVINFO [-L] [-Tnn] [svr(s)]  
SRVINFO -R svr
```

Parameters

svr(s) Indicates the name(s) or XNS Ethernet addresses of the 386Ware server(s) about which to display information. To specify multiple servers, 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, 386Ware polls again before giving up.

-L Indicates a long display, which includes technical information about the set-up for each slave card.

-Tnn Specifies a maximum delay of *nn* seconds to wait for a server response. The default is five seconds.

-Rsrvr Initiates a remote reboot of the specified server. The *srvr* parameter is required. The **-R** switch requires **SYSPRV** privilege.

When you reboot a server, 386Ware expects to find the boot floppy in the A: drive; the server cannot complete the boot sequence if the floppy is not present.

Example

```

$ srvinfo kkh
Info - XMS Transport v4.00

Server KKH
Response time      : 0.030 seconds
Ethernet address   : 00-00-4F-00-00-25
Product options    : None
Slaves configured  : 1
Simultaneous users : 0
Logins remaining   : 7
Percent I/O Load   : 0
Accepted connects  : 0
Rejected connects  : 0
Failed connects    : 0

Data Link Layer Information

Bytes Received     : 0
Bytes Transmitted  : 0
Receive Failures   : 0
Transmit Failures  : 0
Slave Number: 1

Hardware revision  : C0
Memory (4K pages) : 2040
Users (used/max)   : 1/0

User #  Node      Username      Pid      Terminal  Slave  Task
1       ZEKE       HOFFMAN      20203207 LTA5000   1      1

```

Figure VMS-2: Info utility sample screen

The information shows the server's name and address, how long it took to respond to the Info request, product options, server configuration, connection information, and slave card configuration.

If the server is in use, each user's node name, username, process ID, and terminal are displayed.

Keyboard Mapping Utilities

Logicraft's keyboard mapping utilities 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 a 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 and release a key. The PC keyboard actually sends two code sequences: the *make* code and the *break* code.

Make Code/Break Code — the two code 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 386Ware, 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, 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 PC; they are used specifically for 386Ware. These keys are as follows:

Key	Description
Flush	<p>Flushes the print buffer manually. For additional information, refer to the discussion of <code>/[NO]FLUSH</code> on page CFG-29 of <i>Session Configuration</i>.</p> <p>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 <code>KeyUtil_X</code>.</p>
Hot key	<p>Spawns a VMS subprocess. For additional information, refer to the discussion of <code>/[NO]HOT_KEY</code> on page CFG-31 of <i>Session Configuration</i>.</p> <p>The default Hot key is Ctrl-?. This key is not relevant for window systems 2 and 3 and it cannot be defined with <code>KeyUtil_X</code>.</p>
Refresh	<p>Redraws the display. This key is useful if your terminal's communications line is subject to noise.</p> <p>The default Refresh key is Ctrl-W. This key is not relevant for window systems 2 and 3 and cannot be defined with <code>KeyUtil_X</code>.</p>
Toggle	<p>Toggles the display between lines 1-24 and 2-25. The VT200 and VT100 keyboard mapping files map the terminal's keypad comma key to be the Toggle key.</p>

Figure VMS-3: Special Keys for 386Ware

Logiccraft's Keyboard Mapping Files

Logiccraft includes several keyboard mapping files for use with 386Ware; these files are all located in SYS386WARE and all have the file type or extension .DAT. 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
graphonkey	GraphOn X terminals
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
macterm	Macintoshes running MacTerminal
macxkey	Macintoshes running MacX
ncdpckey	NCD X terminals, PC keyboard
ncdvtkey	NCD X terminals, VT keyboard
rs6000key	IBM RISC System/6000

Figure VMS-4: Keyboard Mapping Files

Mapping	Terminal/Workstation
sun3keys	Sun 3-series systems
sun4keys	SPARCstations and Sun 4-series systems
tekxp101	Tektronix XP27, VT100 keyboard
tekxp220	Tektronix XP27, VT200 keyboard
versaterm	Macintoshes running VersaTerm software
visual101	Visual RE1520, VT100 keyboard
visualxds	Visual RE1520, VT200 keyboard
vt200key	VT200-, VT300-, and VT400-series terminals

Figure VMS-4: Keyboard Mapping Files (Cont'd)

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 386Ware session by including it when you establish the session:

- If you give the SRV command, use the /KEYMAP qualifier to specify the name of your keyboard mapping file. This qualifier is discussed on page CFG-34 of *Session Configuration*.
- If you use the window system 2 pull-down menus, specify the name of the keyboard mapping file as the “Key map file” in the Auxiliary Configuration Parameters dialog box, as discussed on page CFG-65 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-16 of *System Manager’s Guide* for details.

An explanation of KeyUtil_X begins on the next page; the discussion of KeyUtil begins on page VMS-30.

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-30.

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 .DAT.

-O outfile Indicates the VMS file in which to save the keyboard mapping when you exit the utility; if no file type is specified, .DAT 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.DAT in the default directory.

-M mode Specifies the keyboard mapping mode, **-M1** for 386Ware or **-M2** for Omni-Ware. If this parameter is omitted, **-M1** 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.DAT in the default directory, give a command like the following:

```
$ keyutil_x -isys$386ware:decwkey -omydecwkey
```

When you invoke KeyUtil_X, a window like this appears:

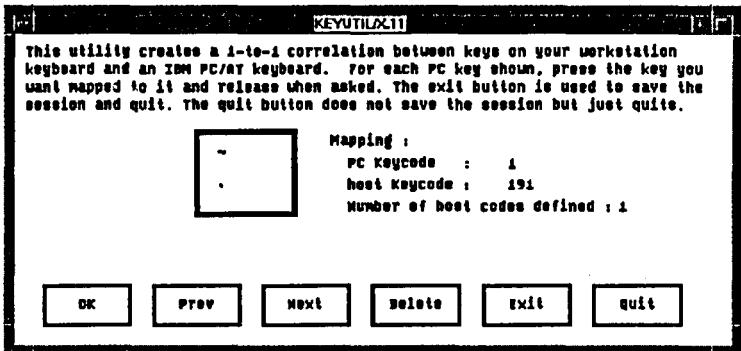


Figure VMS-5: KeyUtil_X screen

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$386ware:decwkey -omydecwkey
```

This command loads the default keyboard mapping for a VAXstation and will save any changes in the file "mydecwkey.dat" in the default directory.

The initial KeyUtil_X screen shows the ~ key, which needs to be remapped. (Refer to Figure VMS-5 on page VMS-25.)

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:

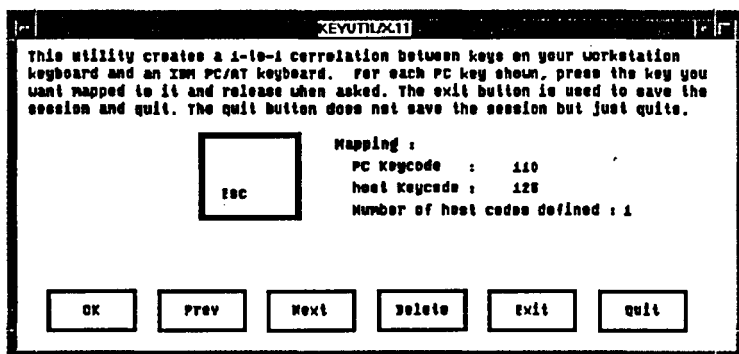


Figure VMS-6: KeyUtil_X example

Click Delete to remove the mapping for this key. Press ~ to map that key to the PC Esc key, then click OK:

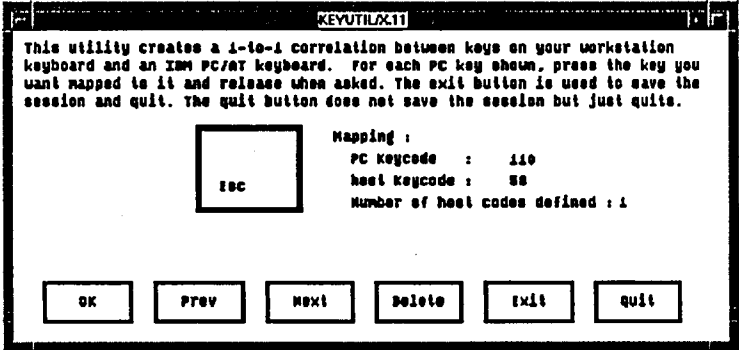


Figure VMS-7: KeyUtil_X example

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:

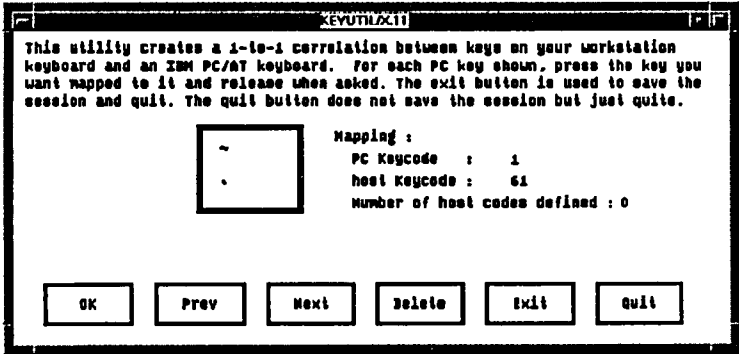


Figure VMS-8: KeyUtil_X example

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 a 386Ware session and specify 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.

7-Bit and 8-Bit Modes

Before using KeyUtil, be sure that your terminal is set up as it will be when you run 386Ware. In particular, if you plan to run 386Ware 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 386Ware 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.

Syntax

To invoke KeyUtil, give this command syntax:

```
KEYUTIL [keybxx]
```

where the keybxx parameter indicates the nationality to use for the keyboard, one of the following:

Param.	Language	Param.	Language
keybus	United States	keybsg	Swiss-German
keybit	Italian	keybsf	Swiss-French
keybfr	French	keybdk	Denmark
keybgr	German	keybbd	Belgium
keybsp	Spanish	keybno	Norway
keybuk	United Kingdom	keybsv	Sweden
keybpo	Portugal	keybsu	Finland

The default keyboard is keybus.

For example, to invoke KeyUtil for the Belgium keyboard, give this command:

```
$ keyutil keybbd
```

When you start 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:

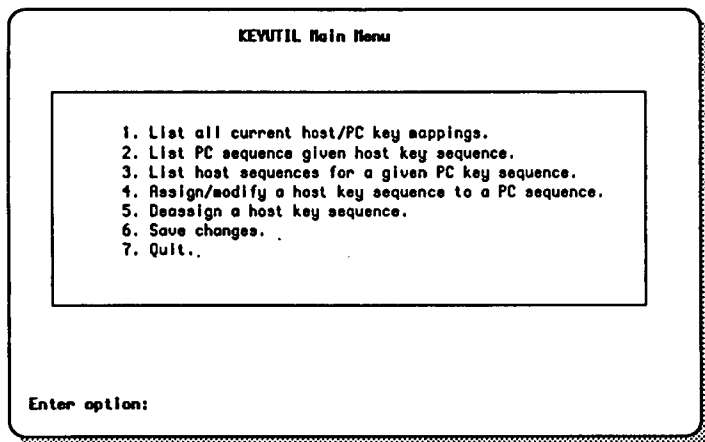


Figure VMS-9: KeyUtil main menu

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 Key-Util 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:

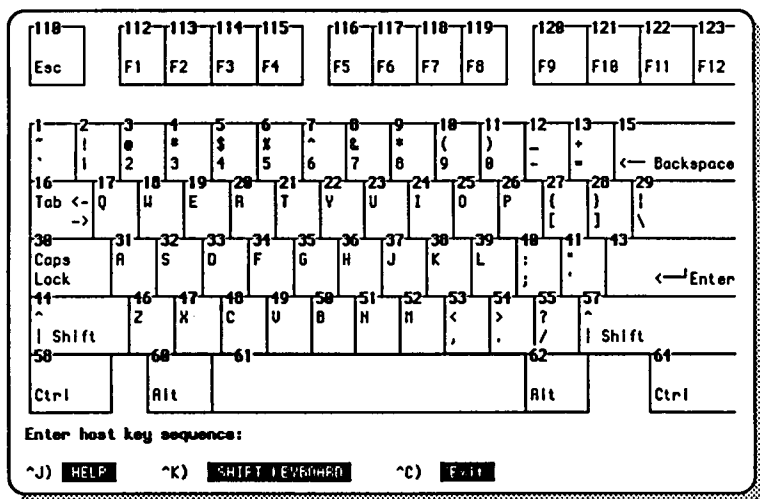


Figure VMS-10: KeyUtil List PC Sequence screen, left

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:

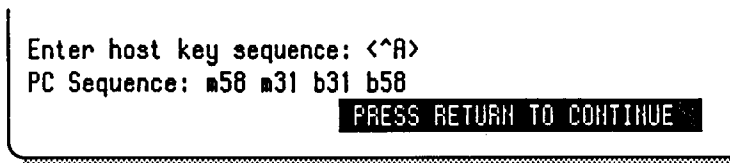


Figure VMS-11: KeyUtil List PC Sequence screen, detail

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 keypad:

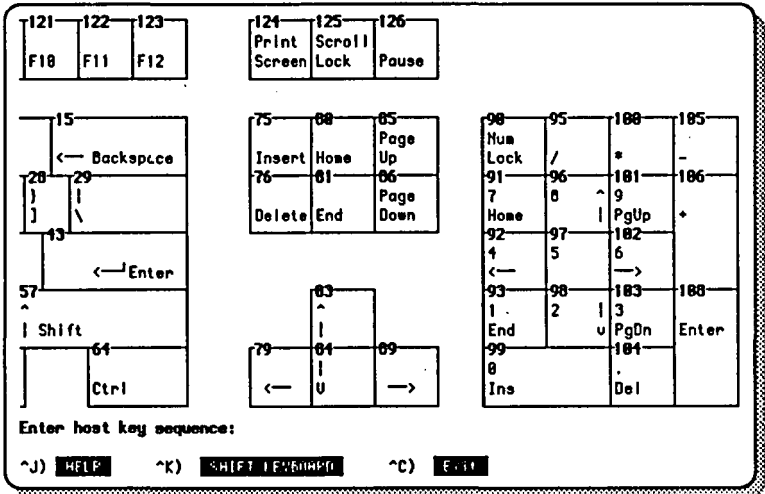


Figure VMS-12: KeyUtil List PC Sequence screen, right

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 in Figure VMS-10 on page VMS-34 appears, except the lower portion of the screen looks like this:

```
Enter PC key sequence:  
^J)  HELP      ^K)  SHIFT KEYBOARD  ^C)  Exit
```

Figure VMS-13: KeyUtil List Host Sequence screen, detail

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 (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
```

Figure VMS-14: KeyUtil List Host Sequence screen, example

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.

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 in Figure VMS-10 on page VMS-34 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
  
```

Figure VMS-15: KeyUtil Assign Host Sequence screen, detail

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. (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 $\langle \wedge A \rangle \langle \wedge B \rangle$ because $\langle \wedge A \rangle$ 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 $\langle \wedge A \rangle \langle \wedge B \rangle$, you must first deassign the default mapping for $\langle \wedge A \rangle$ (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. These keys are discussed in Figure VMS-3 on page VMS-20.

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 a 386Ware 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 `SYSS$386WARE:VT200KEY.DAT`.

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:

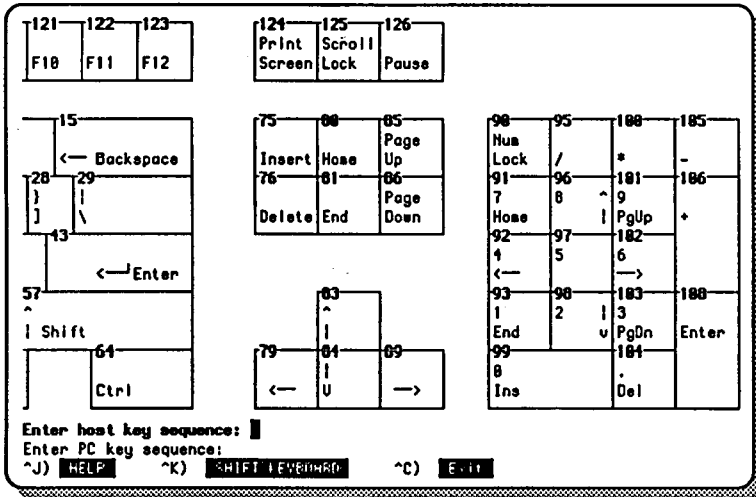


Figure VMS-16: KeyUtil example

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

Terminal Set-Up

The settings given on the following pages are important for the proper operation of 386Ware. 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.

VT420

Global

On Line

Display

80 Columns

Interpret Controls

Jump Scroll

3 x 24 Pages

24 Lines/Screen

Communications

XOFF at 128

General

VT420 ID

User Defined Keys Unlocked

User Features Unlocked

No New Line

UPSS DEC Supplemental

Keyboard

Warning Bell High

Character Mode

<X> Delete

Tabs

Set 8 column tabs

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-58 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 (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

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

Communications

Transmit Flow Control:
XON/XOFF

Display

Scrolling: jump

Column Mode: 80

Control Representation Mode:
interpret controls

New Line Mode: no new line

Graphics

Graphics Cursor: disabled

Sixel Scrolling: enabled

Keyboard

Warning Bell: high

<XJ Key: delete

Tabs

Set 8 Column Tabs

VT320

Set-Up

On Line

Display

80 Columns

Interpret Controls

Jump Scroll

Keyboard

Warning Bell

<X> Delete

General

VT320 ID

User Defined Keys Unlocked

User Features Unlocked

No New Line

UPSS DEC Supplemental

Communications

XOFF at 128

Tabs

Set 8 column tabs

VT220, VT240, and VT241

Set-Up

On Line

Display

80 Columns

Interpret Controls

Jump Scroll

General

VT200 Mode, 8 Bit Controls

User Defined Keys Unlocked

User Features Unlocked

Multinational

No New Line

Communications

XOFF at 128

Keyboard

Warning Bell

Tabs

Set 8 Column Tabs

Graphics

No Graphics Cursor

GraphOn 240 and 250

General

Terminal is online
host downloading is enabled
short system commands
screen format is full resolution
for Tek emulation and win-
dows

Memory

25 rows long

Microterm 4560

Set-Up

On Line

Tabs

Set 8 column tabs

Display

80 Columns
Interpret Controls
Jump Scroll

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

General

VDT200 Mode, 8 Bit Controls
User Defined Keys Unlocked
User features unlocked
Multinational
No New Line

Custom

VDT ID: VDT200
25th Line
Protocol From Host:
XON - XOFF
: Delete

Communication

XOFF at 128

Keyboard

Warning Bell

Tektronix 4205 and 4207

The terminal set-up parameters for these terminals are set automatically by 386Ware'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

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

VT100

Set-Up A

On-Line

Default Tab Settings (every 8 columns)

Set-Up B

0xxx xx11 x000 1000 P=8N T=19200 R=19200

x can be either 0 or 1

Appendix B

KEYBOARD MAPPINGS

Keyboard Mappings

When you run 386Ware, 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.”

386Ware 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; and
- VT100-series terminals and compatibles.

Information on each of these mappings is given below. For a complete list of the keyboard mappings provided by Logcraft, refer to Figure 4 on page VMS-21 of *Utilities for VMS*.

When you first initiate a 386Ware 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 a 386Ware session, you can create a DECWSMOTIFBIND.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, 386Ware interprets them as the single PC key combination, Right Shift-F1. If you do not press them in succession quickly enough, 386Ware sees them as *two* separate keys.

DEC Key
PC Key

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 Scm	F2 Print Scm	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

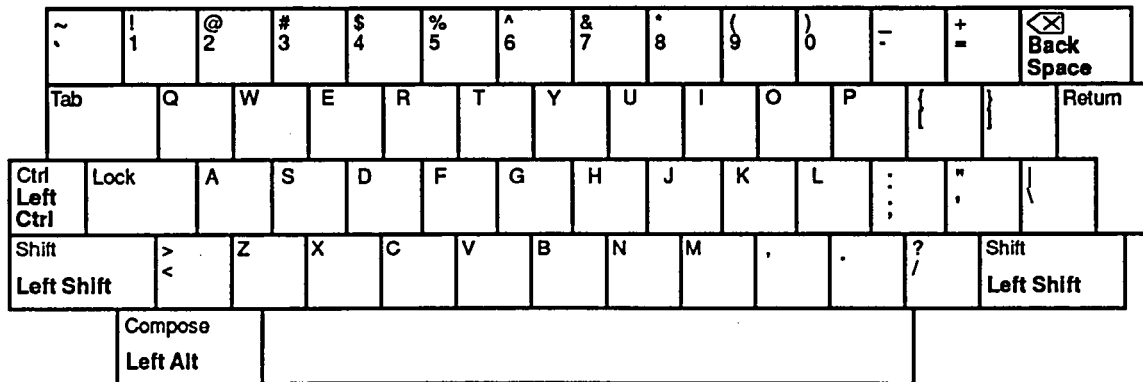


Figure B-1: DEC Main Keyboard Mapping, Window System 2/3

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	Remove
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 B-2: DEC Auxiliary Keyboard Mapping, Window System

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

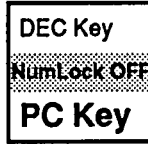
The VT terminal keyboard includes two Shift keys on the main keyboard, which are both mapped to the PC keyboard's Left Shift key. You can use the VT keys to perform PC Shift functions most of the time.

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, 386Ware interprets them as the single PC key combination, Right Shift-F1. If you do not press them in succession quickly enough, 386Ware 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-50 of *Session Configuration* and to the description of XSET in *Utilities and Drivers for DOS*.



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



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 Home	8 ↑	9 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 B-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, 386Ware interprets them as the single PC key combination for Ctrl–F1. If you do not press them in succession quickly enough, 386Ware 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, 386Ware interprets them as the single PC key combination for Alt–A. If you do not press them in succession quickly enough, 386Ware 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–50 of *Session Configuration* and to the description of XSET in *Utilities and Drivers for DOS*.

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 a 386Ware 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 them for the 386Ware 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     _L      Alt<Key>F3      f.separator
  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     _L      f.separator
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     _L      Alt<Key>L      f.separator
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.

VT100-Series Terminals

Figures B-4 and B-5 show the default keyboard mapping for VT100-series terminals.

DEC Key
NumLock OFF
PC Key

Numeric Keypad Mapping VT100-Series Terminals

PF1	PF2 Num Lock	PF3 Ctrl	PF4 Alt
7 Home 7	8 ↑ 8	9 PgUp 9	-
4 ← 4	5 5	6 → 6	' Toggle
1 End 1	2 ↓ 2	3 PgDn 3	Enter
0 Insert 0		. Del .	+ +

Figure B-4: VT100 Keyboard Mapping, Numeric Keypad

VT100-Series Arrow Keys

The arrow keys (to the right of the main cluster, just above the keys -, +, ~, and Back Space) are mapped to the PC's arrow keys. The VT100-series arrow keys are also used to perform other PC functions. To use these other functions, first press the PF1 key, then press the arrow key.

In addition, the PC's PrtSc (Print Screen) key is mapped to the two-key sequence, PF1 P (or PF1 p).

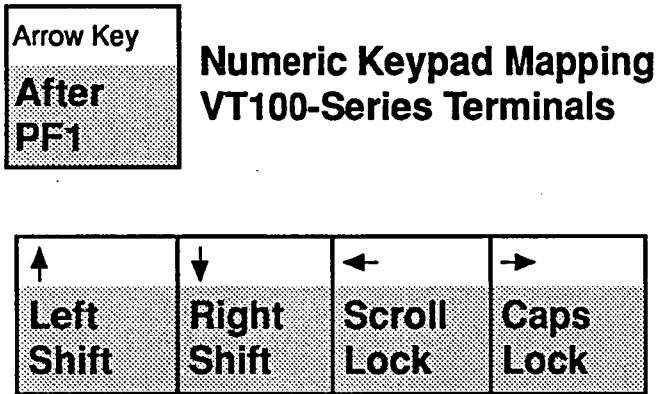


Figure B-5: VT100 Keyboard Mapping, Arrow Keys

The Shift, Ctrl, and Alt Keys

The PC distinguishes between the Left and Right Shift keys, and many applications packages use them for different functions. For example, Left Shift-F1 might perform a function different from Right Shift-F1.

The VT100-series terminal keyboard has two Shift keys on the main keyboard, but they are not distinguishable. As a result, both of these Shift keys are mapped to the PC's Left Shift, and another key combination, PF1 ↓, is mapped to the PC's Right Shift Key.

The terminal's Ctrl key is mapped to the PC's; however, the terminal's Ctrl key can only be used with certain keys, including A–Z (i.e., Ctrl–A through Ctrl–Z), 2–8, [, /,], ~, ?, and the space bar. You cannot use the VT100 Ctrl key for other PC Ctrl functions, for example, to generate a PC key such as Ctrl–End. The keyboard mapping defines PF3 on the terminal keyboard as another Ctrl key, which can be used to generate any PC Ctrl sequence.

To generate a PC key such as Ctrl–End, press the terminal's PF3, release it, and press the Keypad 1 key immediately. (Keypad 1 is mapped to the PC's End key if NumLock is off.) If you press the two keys in succession quickly enough, 386Ware interprets them as the single PC key combination for Ctrl–End. If you do not press them in succession quickly¹ enough, 386Ware sees them as *two* separate keys.

VT100-Series Function Keys

MS-DOS allows for up to forty function keys. Although the PC has only ten physical function keys, you can augment them by pressing multiple keys.

On VT100-series terminals, a two-key sequence is used to obtain function codes F1 – F10. All sequences begin with the PF1 key followed by a number (0 – 9). The number must be entered from the numeric keypad.

To obtain function key codes F11 – F40, enter them as a three key sequence. The sequence begins with the PF1 key followed by the function number entered from the numeric keys on the top row of the main cluster of keys on the keyboard. Do *not* enter the numbers from the numeric pad.

¹You can change the timeout period for the Shift, Ctrl, Alt keys. Refer to the description of /TIMER_3 in *Session Configuration* and to the description of XSET in *Utilities and Drivers for DOS*.

Examples:

PC Key	VT100 Keys	PC Key	VT100 Keys
F1	PF1 keypad-1	F10	PF1 keypad-0
F1	PF1 0 1	F15	PF1 1 5
F5	PF1 keypad-5	F40	PF1 4 0

Appendix C

ERROR MESSAGES

386Ware Error Messages

The following error messages are generated by the SRV command. These error messages are common to Logcraft's OmniWare family of servers; some of the messages do not apply to 386Ware.

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 SYS\$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.
DECNETHOST	080180C4	Unable to obtain DECnet node number.
DEVNAMREQ	0801813C	SCSI device name required.

Error Code	\$Status	Cause/Remedy
DEVNOTASN	080182AC	Unable to assign channel to SCSI LUN.
DEVNOTOURS	08018144	Address is neither an Omni-Ware or 386Ware 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.
INFSRVDOWN	0801810C	InfoServer down or not responding. Execute the 386Ware start-up file to restart the InfoServer.
INQUIRYFAIL	08018154	SCSI inquiry failed or not Logicraft 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 SYS\$386WARE 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 Omni-Ware/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 386Ware 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	386Ware 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.
OUTFNFSIZE	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.
TCPGTSKTNAME	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 Logcraft Customer Support.
VRCIRCUIT	0801825C	Error establishing connection with 386Ware. Reattempt connection.
WINDOWSYS	08018264	Incorrect usage of window system logical name.
WKTIMEOUT	0801826C	Connection rejected... Server connect timeout. The 386Ware server is no longer accepting incoming connections from the VAX. Check cables to the 386Ware 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 386Ware start-up file and reattempt the command.
XLIBNODISPLAY	08018274	XLIB unable to create connection to display.
XLIBNOFONT	0801827C	XLIB unable to locate 386Ware 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.
XTNWRTRERR	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> .
CPYOSAME	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., SYSS386WARE: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 386Ware 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 386Ware 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 Messages from the Logical Disk Commands

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 386Ware 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/SETVGA

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 allocating memory for video emulation

For SETVGA: your session is configured with more than 640K of memory, or four VGA sessions have already been established on this slave card. Otherwise, there is not enough memory left on the server to run SETTERM or SETVGA.

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.

Error detecting VGA hardware for video emulation

You cannot use SETVGA unless your session is established on a slave card that includes the VGA hardware.

Error loading file SETVGA.ROM

Check that the file SETVGA.ROM (usually located in the \UTIL directory of D386C) exists and is in your DOS path.

Error detecting VGA hardware for video emulation

You cannot use SETVGA unless your session is established on a slave card that includes the VGA hardware.

Error loading file SETVGA.ROM

Check that the file SETVGA.ROM (usually located in the \UTIL directory of D386C) exists and is in your DOS path.

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).

SETVGA.EXE or SETTERM.EXE already loaded

You cannot execute SETVGA after loading setterm or vice versa.

SETVGA.EXE can only be executed in a graphics system window

You cannot use VGA emulation from window system 0 or from a non-X terminal.

SETVGA.EXE or SETTERM.EXE already loaded

You cannot execute SETVGA after loading SETTERM or vice versa.

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
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 D-1: Table of ASCII Codes

System Console

An RS232-to-9-pin adapter interface cable is supplied to connect your system console to the 9-pin serial port. RS232 is a standard for serial line communications set by the Electronics Industry Association (EIA). The following is a description of the pin connections for that cable.

9-Pin	Signal/Abbreviation	25-Pin
1	Data Carrier Detect DCD	8
2	Receive Data RxD	3
3	Transmit Data TxD	2
4	Data Terminal Ready DTR	20
5	Ground GND	7 and 1
6	Data Set Ready DSR	6
7	Request To Send RTS	4
8	Clear To Send CTS	5
9	Ring Indicator RI	22

Figure E-1: RS232-to-9-Pin Cable Specifications

System Console

An RS232-to-9-pin adapter interface cable is supplied to connect your system console to the 9-pin serial port. RS232 is a standard for serial line communications set by the Electronics Industry Association (EIA). The following is a description of the pin connections for that cable.

9-Pin	Signal/Abbreviation	25-Pin
1	Data Carrier Detect DCD	8
2	Receive Data RxD	3
3	Transmit Data TxD	2
4	Data Terminal Ready DTR	20
5	Ground GND	7 and 1
6	Data Set Ready DSR	6
7	Request To Send RTS	4
8	Clear To Send CTS	5
9	Ring Indicator RI	22

Figure E-1: RS232-to-9-Pin Cable Specifications

Printer Port

The printer port is specifically designed to attach printers with a standard PC parallel interface. The following chart describes the pin configuration of the 386Ware server's parallel printer port.

Pin	Signal Name	Pin	Signal Name
1	-Strobe	10	-Acknowledge
2	+Data Bit 0	11	+Busy
3	+Data Bit 1	12	+PEnd (out of paper)
4	+Data Bit 2	13	+Select
5	+Data Bit 3	14	-Auto Feed
6	+Data Bit 4	15	-Error
7	+Data Bit 5	16	-Initialize Printer
8	+Data Bit 6	17	-Select Input
9	+Data Bit 7	18-25	Ground

Figure E-2: Parallel Printer Port Specification

Index

386HISTORY.COM INS-43,
SMG-23
386INFO.EXE INS-43
See also Info
386INFO_TGV.EXE INS-43
386INFO_UCX.EXE INS-43
386STRUP.COM INS-47
See also start-up file
386Ware start-up file
See start-up file
386WARE.EXE INS-43
386WARE.HLB INS-47
386WARE.UID INS-43
386WARE_DECW.EXE INS-43
386WARE_MOTIF.EXE INS-43
386WARE_MOTIF.UID INS-43
386WARE_SYMBOL_DECLARA-
TION.COM INS-23 -
INS-24, INS-43
386WARE_TGV.EXE INS-43
386WARE_TGV_DECW.EXE
INS-43
386WARE_TGV_MOTIF.EXE
INS-43
386WARE_UCX.EXE INS-43
386WARE_UCX_DECW.EXE
INS-43
386WARE_UCX_MOTIF.EXE
INS-43

A

accounts, user INS-41 - INS-42
ADD_KYBD_DECW.EXE INS-44
ADD_KYBD_MOTIF.EXE INS-44
ADDKYBD SMG-16, SMG-19
ALL-IN-1 SMG-2
Alt key B-2, B-7, B-12
ANSI.SYS DOS-45
applications, installing CFG-5
Apply button CFG-55
ASCII code chart D-1
ASCIITOPC.DAT INS-44
ATTACH DOS-5 - DOS-13
COM n DOS-6 - DOS-8
DEVICE DOS-8 - DOS-11
FLOPPY DOS-12
LPT n DOS-12 - DOS-13
See also DETACH
ATTACH.SYS DOS-14
See also ATTACH; DETACH
ATTRCNF DOS-15 - DOS-20
example DOS-18 - DOS-20
auto-configuration INS-26
/AUX_PORT CFG-18
AUXCON.UID INS-44
AUXCON_MOTIF.UID INS-44
Auxiliary Configuration Param-
eters... CFG-63 - CFG-65
auxiliary port
printing to CFG-7, CFG-18,
CFG-60

A - E - Appendices
CFG - Session Configuration
DOS - Utilities & Drivers for DOS
INS - Installation

RN - Release Notes
SMG - System Manager's Guide
UG - User's Guide
VMS - Utilities for VMS

B

balancing load
 all servers SMG-14
 groups of servers SMG-14 -
 SMG-15
batch job. *See* /OUTPUT
BDF.DIR INS-46
BEST_SERVER CFG-46,
 CFG-58, SMG-14
/BINARY CFG-19
binary printer output CFG-19,
 CFG-60
blinking text SMG-2
bold font SMG-2
boot floppy INS-25 - INS-29
 configuring SMG-27 -
 SMG-30
 custom INS-25, INS-27 -
 INS-29
 master INS-25
 options INS-26 - INS-27
BOOTDISK INS-29
/[NO]BREAK CFG-20
Break key CFG-20
broadcast messages
 sending DOS-50
BYE UG-4, DOS-21

C

/[NO]CACHE CFG-21, SMG-6
CACHE SMG-6, DOS-22
Cancel button CFG-55
CAPTURE DOS-15 - DOS-20
 example DOS-18 - DOS-20
CD ROM option INS-26
character set translation DOS-23
 loading table with SETTERM
 DOS-62

CHASTE DOS-23 - DOS-28
 character editing DOS-25 -
 DOS-26
 example DOS-26 -
 DOS-27
 See also SETTERM:
 PC_OUTPUT
CLIPPER.DAT INS-44
/[NO]CLOSE CFG-22
COCOON DOS-98
COM1 - COM4 DOS-6
/COMMAND CFG-23
command files. *See* SRV com-
 mand
communications port, attaching
 DOS-6 - DOS-8
CONFIG.SYS SMG-7 - SMG-12,
 DOS-14, DOS-38, DOS-40,
 DOS-41, DOS-45, DOS-46
Configuration menu CFG-56 -
 CFG-66
configuration qualifiers. *See* SRV
 command
configuration, displaying server
 DOS-69
Configure... CFG-67 - CFG-68
console SMG-29
 cable specifications E-1
/COPIES CFG-24
Copy UG-6, CFG-67
copy and paste UG-6 - UG-8,
 CFG-67 - CFG-68
 notes on use UG-7 - UG-8
 remove excess spaces CFG-68
Rubberband mode UG-7,
 CFG-67
 standard mode UG-6,
 CFG-67
copying files. *See* DOS files: copy-
 ing; VMS files: copying
Ctrl key B-2, B-7, B-12

A - E - Appendices
CFG - Session Configuration
DOS - Utilities & Drivers for DOS
INS - Installation

RN - Release Notes
SMG - System Manager's Guide
UG - User's Guide
VMS - Utilities for VMS

custom boot floppy INS-25,
INS-27 – INS-29
custom installation
 See software installation,
 VMS: custom installation
customer support, phone num-
bers viii
cut and paste. *See* copy and paste

D

D386C.DOS INS-44, CFG-3 –
CFG-4, CFG-12
 deleting privileged utilities
 INS-39 – INS-40
DANISH.DAT DOS-62
DANISHDL.DAT DOS-62
DANSI.SYS DOS-45
date, setting server SMG-30,
DOS-74
/DEC CFG-25
DEC printer CFG-25, CFG-60
DECW\$MOTIFBIND.DAT B-8
DECW\$MWM_RC.DAT B-10
DECW_386WARE.HLB INS-47
DECwindows
 copy and paste. *See* copy and
 paste
 keyboard mapping B-2 – B-4
 mouse. *See* mouse
 pull-down menus. *See* pull-
 down menus
 purging fonts INS-21
 restarting INS-21
 starting 386Ware as an icon
 SMG-4
 window system. *See* window
 system
DECWKEY.DAT INS-44

default installation
 See software installation,
 VMS: default installation
DEINSTALL_386WARE.COM
 INS-47, SMG-31
/[NO]DELETE CFG-26
Denmark/Norway character set
 SMG-5, DOS-62
DETACH DOS-29
FLOPPY DOS-29
 See also ATTACH
device
 attaching DOS-8
 displaying attached DOS-69
disk cache CFG-21, SMG-6,
DOS-22
DISKCON.UID INS-44
DISKCON_MOTIF.UID INS-44
/DISKS CFG-27, CFG-58
Dismiss button CFG-55
DISMOUNT DOS-30 – DOS-31
 See also MOUNT
DLCREDIT DOS-32 – DOS-37
 Logicaft's character sets
 DOS-34
DLCS220.DAT DOS-33, DOS-62
DLCS320.DAT DOS-33, DOS-62
DLCS330.DAT DOS-33, DOS-62
DLCS420.DAT DOS-33, DOS-62
DLCS420S.DAT DOS-33,
DOS-62
DLCS99GT.DAT DOS-33,
DOS-62
DLCSPT3.DAT DOS-33, DOS-62
DMA channel
 attaching DOS-8
 changing for slave INS-26
 displaying attached DOS-70
 floppy drive DOS-12
 reserved DOS-8, DOS-70

A – E – Appendices
CFG – *Session Configuration*
DOS – *Utilities & Drivers for DOS*
INS – *Installation*

RN – *Release Notes*
SMG – *System Manager's Guide*
UG – *User's Guide*
VMS – *Utilities for VMS*

DOS files
 copying
 from VMS DOS-93 –
 DOS-94, VMS-4 –
 VMS-7
 to VMS DOS-90 –
 DOS-91, VMS-4 –
 VMS-7
 deleting from logical disk
 DOS-86 – DOS-87,
 VMS-10 – VMS-11
 directory of logical disk
 DOS-87 – DOS-88,
 VMS-8 – VMS-9
 typing contents of DOS-96,
 VMS-14 – VMS-15

DOS session
 ending INS-38, UG-4,
 CFG-20, CFG-70, DOS-21
 starting INS-38, UG-2,
 CFG-70

DOSCOPY VMS-4 – VMS-7
 DOSCOPY.CLD INS-46
 DOSCOPY.EXE INS-46
 DOSDIR VMS-8 – VMS-9
 DOSDIR.CLD INS-46
 DOSDIR.EXE INS-46
 DOSERA VMS-10 – VMS-11
 DOSERA.CLD INS-46
 DOSERA.EXE INS-46
 DOSMAKE CFG-3 – CFG-4,
 VMS-12 – VMS-13
 DOSMAKE.CLD INS-46
 DOSMAKE.EXE INS-46
 DOSSTAT.CLD INS-46
 DOSSTAT.EXE INS-46
 DOSTYPE VMS-14 – VMS-15
 DOSTYPE.CLD INS-46
 DOSTYPE.EXE INS-46

downloadable character set
 DOS-32
 loading with SETTERM
 DOS-61 – DOS-62
See also DLCEDIT

E

ECHO utility SMG-35
 ECHO.EXE INS-46
 Edit menu UG-6, CFG-67 –
 CFG-68
 EMM.SYS SMG-9, DOS-38 –
 DOS-39
 EMSRAM.SYS DOS-40
 environmental variables
 for SETTERM DOS-64 –
 DOS-65
 error messages
 386Ware C-1 – C-8
 Ethernet (XNS) driver C-7 –
 C-8
 logical disk commands C-9 –
 C-12
 SETTERM C-13 – C-15
 SETVGA C-13 – C-15

Ethernet
 address INS-3
 connection INS-6 – INS-8
 errors from XNS C-7 – C-8
 multiple controllers INS-23
 standard INS-8
 ThinWire INS-8
 EXISTCON.UID INS-44
 EXISTCON_MOTIF.UID INS-44
 EXODUSKEY.DAT INS-44
 expanded memory SMG-9,
 DOS-38
 extended memory SMG-9,
 DOS-41
 EXTMEM.SYS SMG-9, DOS-41

A – E – Appendices
 CFG – *Session Configuration*
 DOS – *Utilities & Drivers for DOS*
 INS – *Installation*

RN – *Release Notes*
 SMG – *System Manager's Guide*
 UG – *User's Guide*
 VMS – *Utilities for VMS*

F

File menu CFG-69 - CFG-70
file protection
 directories and files INS-43 -
 INS-47
 setting DOS-85
/[NO]FLAG CFG-28
flag page, printing CFG-28,
 CFG-62
floppy drive
 attaching DOS-12
 configuration SMG-30
 DMA channel DOS-12
 I/O addresses DOS-12
 IRQ DOS-12
floppy drives, workstation
 SMG-24 - SMG-25
/[NO]FLUSH CFG-29
Flush key CFG-29, CFG-64,
 VMS-20
flushing the print buffer
 CFG-29, CFG-64
font, changing size CFG-69,
 SMG-4
Fonts menu CFG-69
fonts, installing INS-33 - INS-37
 MacX INS-33 - INS-34
 PC DECwindows INS-35 -
 INS-37
 VT1300 INS-37
fonts, purging for DECwindows
 or Motif INS-21
/FORM CFG-30
FPRINT DOS-42

G

global sections/pages INS-32
GraphOn 240, 250 DOS-60
 set-up A-4
GRAPHONKEY.DAT INS-44

H

hardware installation INS-3 -
 INS-5
HELP DOS-43 - DOS-44
Help menu CFG-71
host key sequence VMS-18
Hot key CFG-23, CFG-31,
 CFG-33, VMS-20
/[NO]HOT_KEY CFG-31
HP9000.DAT INS-44
HPXTERM.DAT INS-44

I

I/O addresses
 attaching DOS-8
 displaying attached DOS-70
 floppy drive DOS-12
 parallel ports DOS-13
 reserved DOS-7, DOS-8,
 DOS-9, DOS-10, DOS-70
 serial ports DOS-6
/IBM CFG-32
IBM PC printer CFG-32, CFG-60
icon
 changing image SMG-3
 changing position SMG-3
 changing text SMG-3
 starting session as SMG-4
idle sessions, terminating SMG-3
image printer output CFG-19,
 CFG-60

A - E - Appendices
CFG - Session Configuration
DOS - Utilities & Drivers for DOS
INS - Installation

RN - Release Notes
SMG - System Manager's Guide
UG - User's Guide
VMS - Utilities for VMS

Info VMS-16 – VMS-17
 example VMS-17
 INFOSERVER_XNS.EXE INS-44
 /INPUT CFG-33
 installation
 overview INS-1 – INS-2
 server hardware INS-3 –
 INS-5
 INSTALLing images INS-32
 INTEL.DAT INS-44
 Internet address INS-25
 specifying, for server
 SMG-28, SMG-29
 IRQ
 attaching DOS-8
 displaying attached DOS-70
 floppy drive DOS-12
 parallel ports DOS-13
 reserved DOS-70
 serial ports DOS-7
 IS101US.DAT INS-44
 IS84IUS.DAT INS-44
 IS84US.DAT INS-44
 ISENHIUS.DAT INS-44

K
 Kermit DOS-100
 key sequence VMS-18
 keyboard mapping utilities
 VMS-18 – VMS-40
 keyboard mappings B-1 – B-10
 configuring for DOS session
 CFG-34, CFG-65,
 SMG-16
 DECwindows B-2 – B-4
 default B-1
 files VMS-21 – VMS-22
 introduction UG-3
 Motif B-2 – B-4
 specifying defaults SMG-16 –
 SMG-19
 summary VMS-21 – VMS-22
 timing CFG-50, DOS-99
 VTxxx B-5 – B-7, B-11
 /KEYMAP CFG-34, VMS-23
 keymap directory file SMG-16 –
 SMG-19
 KEYMAP.DIR INS-46,
 SMG-16 – SMG-19
 KeyUtil VMS-30 – VMS-40
 example VMS-39
 KEYUTIL.EXE INS-44
 KeyUtil_X VMS-24 – VMS-29
 example VMS-27
 syntax VMS-24
 KEYUTIL_X.EXE INS-44
 KEYUTIL_X_MOTIF.EXE INS-44
 KTDRIVER.EXE INS-46
 KXDRIVER.EXE INS-46

L
 LANSI.SYS DOS-45
 LEAC card INS-6, INS-7
 diagram INS-6, INS-7
 LEFDA card INS-8
 diagram INS-6
 LGFT_4010 DOS-64
 LGFT_COLOR_TEXT DOS-64
 LGFT_GRAPHICS DOS-64
 LGFT_HERC DOS-64
 LGFT_ROWS DOS-64
 LGFT_SELECTIVE DOS-64
 LGFT_TERM DOS-65
 LHDRV.R.SYS SMG-9, DOS-46
 displaying available memory
 ranges DOS-71
 See also UMBLOAD; SHOW:
 MEMORY

A – E – Appendices
 CFG – Session Configuration
 DOS – Utilities & Drivers for DOS
 INS – Installation

RN – Release Notes
 SMG – System Manager's Guide
 UG – User's Guide
 VMS – Utilities for VMS

- line termination sequence CFG-68
 - See also* copy and paste
- list file CFG-7 - CFG-9, CFG-18,
 - CFG-19, CFG-22, CFG-25,
 - CFG-26, CFG-28, CFG-29,
 - CFG-30, CFG-32, CFG-35,
 - CFG-41, CFG-43, CFG-44,
 - CFG-49, CFG-52, CFG-60 -
 - CFG-61
- closing CFG-22, CFG-29,
 - CFG-64
- configuring CFG-7 - CFG-9
 - printing CFG-44, CFG-60
 - saving CFG-26, CFG-44,
 - CFG-60
- LK250DUS.DAT INS-44
- LK250IUS.DAT INS-44
- /LN03 CFG-35 - CFG-36
- LN03 printer CFG-35, CFG-60
 - See also* Sixel printer
- load balancing
 - all servers SMG-14
 - groups of servers SMG-14 -
 - SMG-15
 - slave cards CFG-38, CFG-48,
 - SMG-7
- Load... CFG-70
- local hard disk
 - displaying mounted parti-
 - tions DOS-69
 - displaying partition informa-
 - tion DOS-72
- local hard disk option INS-26
- logging utility SMG-22 -
- SMG-23
- 386HISTORY.COM SMG-23
- LOGICRAFT_LOG_FILE
- SMG-22
- READ_LOG.EXE SMG-22 -
- SMG-23
- WRITE_LOG.EXE SMG-23
- logical disk
 - access CFG-45, CFG-47,
 - CFG-57
 - applications storage CFG-5 -
 - CFG-6
 - changing size VMS-13
 - configuring CFG-10 -
 - CFG-13, CFG-57
 - copying files VMS-4 - VMS-7
 - from VMS DOS-93 -
 - DOS-94, VMS-4 -
 - VMS-7
 - to VMS DOS-90 -
 - DOS-91, VMS-4 -
 - VMS-7
 - creating CFG-3 - CFG-4,
 - VMS-12 - VMS-13
 - definition i, CFG-3
 - deleting files from DOS-86 -
 - DOS-87, VMS-10 -
 - VMS-11
 - directory of files DOS-87 -
 - DOS-88, VMS-8 - VMS-9
 - dismounting DOS-30 -
 - DOS-31
 - displaying mounted DOS-69
 - free space available DOS-92
 - managing VMS-2 - VMS-15
 - mounting DOS-47 - DOS-49
 - overview CFG-3 - CFG-6
 - setting characteristics DOS-52
 - typing contents of files
 - DOS-96, VMS-14
 - user storage CFG-5
- logical disk commands VMS-2 -
- VMS-15
- disk and directory syntax
- VMS-3
- DOSCOPY VMS-4 - VMS-7
- DOSDIR VMS-8 - VMS-9
- DOSERA VMS-10 - VMS-11

A - E - Appendices
 CFG - Session Configuration
 DOS - Utilities & Drivers for DOS
 INS - Installation

RN - Release Notes
 SMG - System Manager's Guide
 UG - User's Guide
 VMS - Utilities for VMS

logical disk commands (<i>cont'd</i>)	LOGICRAFT_TITLE_TEXT
DOSMAKE VMS-12 -	SMG-4
VMS-13	LOGICRAFT_WINDOW_-
DOSTYPE VMS-14 - VMS-15	HEIGHT SMG-4
error messages C-9 - C-12	LOGICRAFT_WINDOW_SYS-
summary VMS-2	TEM CFG-2, SMG-4
logical names	LOGICRAFT_WINDOW_-
LOGICRAFT_ALLIN1 SMG-2	WIDTH SMG-4
LOGICRAFT_BLINK_MODE	LOGICRAFT_WINDOW_X
SMG-2	SMG-4
LOGICRAFT_BOLD_FONT	LOGICRAFT_WINDOW_Y
SMG-2	SMG-5
LOGICRAFT_DOSENV	MULTINATIONAL SMG-5
SMG-2, DOS-98	summary SMG-2 - SMG-5
LOGICRAFT_ERROR SMG-2	SYSS\$386WARE SMG-5
LOGICRAFT_FATAL_ERROR	SYSS\$LOGICRAFT_COMMON
SMG-2	SMG-5
LOGICRAFT_ICON_IMAGE	TIMER_1 SMG-5
SMG-3	TIMER_2 SMG-5
LOGICRAFT_ICON_TEXT	TIMER_3 SMG-5
SMG-3	LOGICRAFT_ALLIN1 SMG-2
LOGICRAFT_ICON_X	LOGICRAFT_BLINK_MODE
SMG-3	SMG-2
LOGICRAFT_ICON_Y	LOGICRAFT_BOLD_FONT
SMG-3	SMG-2
LOGICRAFT_IMAGE_BIT_-	LOGICRAFT_DEFAULT_FORM
ORDER SMG-3	CFG-61
LOGICRAFT_IMAGE_-	LOGICRAFT_DOSENV SMG-2,
BYTE_ORDER SMG-3	DOS-98
LOGICRAFT_INACTIVITY_-	LOGICRAFT_ERROR SMG-2
TIMEOUT SMG-3	LOGICRAFT_FATAL_ERROR
LOGICRAFT_LOG_FILE	SMG-2
SMG-3	LOGICRAFT_ICON_IMAGE
LOGICRAFT_MICROGNO-	SMG-3
SIS KYBD SMG-3	LOGICRAFT_ICON_TEXT
LOGICRAFT_NORWAY_-	SMG-3
FONT SMG-4	LOGICRAFT_ICON_X SMG-3
LOGICRAFT_START_ICON-	LOGICRAFT_ICON_Y SMG-3
IFIED SMG-4	LOGICRAFT_IMAGE_BIT_OR-
LOGICRAFT_TEMPORARY	DER SMG-3
SMG-4, SMG-20	

A - E - Appendices
 CFG - Session Configuration
 DOS - Utilities & Drivers for DOS
 INS - Installation

RN - Release Notes
 SMG - System Manager's Guide
 UG - User's Guide
 VMS - Utilities for VMS

LOGICRAFT_IMAGE_BYTE_ORDER SMG-3
 LOGICRAFT_INACTIVITY_TIMEOUT SMG-3
 LOGICRAFT_LOG_FILE SMG-3, SMG-22
 LOGICRAFT_MICROGNOSIS_KYBD SMG-3
 LOGICRAFT_NORWAY_FONT SMG-4
 LOGICRAFT_START_ICONIFIED SMG-4
 LOGICRAFT_TEMPORARY SMG-4, SMG-20
 LOGICRAFT_TITLE_TEXT SMG-4
 LOGICRAFT_WINDOW_HEIGHT SMG-4
 LOGICRAFT_WINDOW_SYSTEM CFG-2, SMG-4
 LOGICRAFT_WINDOW_WIDTH SMG-4
 LOGICRAFT_WINDOW_X SMG-4
 LOGICRAFT_WINDOW_Y SMG-5
 LOOP SMG-36
 LSTx CFG-43, CFG-59, DOS-6, DOS-12
See also printing

M

Macintosh, installing Logicaft fonts INS-33 - INS-34
 MACTERM.DAT INS-44, INS-45
 MACXFONT.SDIR INS-46
 MACXKEY.DAT INS-45
 make/break code VMS-19

master boot floppy INS-25, INS-26
 /MEMORY CFG-37, SMG-7 - SMG-12
 memory SMG-6 - SMG-13
 allocation SMG-7
 configuring for DOS session CFG-37, CFG-38
 conventional CFG-37, SMG-9
 displaying information about SMG-12, DOS-71
 EMM.SYS DOS-38
 EMSRAM.SYS DOS-40
 expanded DOS-38
 extended DOS-41
 EXTMEM.SYS DOS-41
 RAM disk DOS-40
 reserved addresses DOS-11
 specifying amount needed CFG-38
 messages, sending DOS-50
 Microterm 4560 DOS-59
 set-up A-4
 /MINMEMORY CFG-38, SMG-7 - SMG-8
 MOD_CNFG INS-28
 modem, attaching serial port DOS-6 - DOS-8
 Motif
 copy and paste. *See* copy and paste
 key bindings B-8 - B-10
 keyboard mapping B-2 - B-4
 mouse. *See* mouse
 pull-down menus. *See* pull-down menus
 purging fonts INS-21
 restarting INS-21
 MOUNT DOS-47 - DOS-49
See also DISMOUNT

A - E - Appendices
 CFG - Session Configuration
 DOS - Utilities & Drivers for DOS
 INS - Installation

RN - Release Notes
 SMG - System Manager's Guide
 UG - User's Guide
 VMS - Utilities for VMS

mouse UG-5
 activating UG-5
 V86MOUSE DOS-78 –
 DOS-79
multicast address SMG-36
MULTINATIONAL SMG-5
MULTINATIONAL.NR INS-46
MULTINATIONAL.US INS-46
MultiNet
 PING SMG-37
 See also TGV

N

NCDPCKEY.DAT INS-45
NCDVTKEY.DAT INS-45
NetWare
 specifying number of drive let-
 ters CFG-27, CFG-58
NetWare option INS-26
/NOCTRL_SQ CFG-39
Norway/Denmark character set
 SMG-5, DOS-62
Novell. *See* NetWare
NumLock key B-1

O

OK button CFG-55
option floppy INS-26 – INS-27
 CD ROM INS-26
 local hard disk INS-26
 NetWare INS-26
 PATHWORKS/PCSA INS-26
options
 server INS-26 – INS-27
/OUTPUT CFG-40
overview ii
 software/files INS-43 –
 INS-47

P

parallel port
 attaching DOS-12
 cable specifications E-2
 I/O addresses DOS-13
 IRQs DOS-13
/[NO]PASSALL CFG-41
Paste UG-6, CFG-67
PATHWORKS for DOS
 installing Logicaft fonts
 INS-35 – INS-37
PATHWORKS for Macintosh
 installing Logicaft fonts
 INS-33 – INS-34
PATHWORKS/PCSA
 loading components into up-
 per memory SMG-11
 PCSA option INS-26
 specifying number of drive let-
 ters CFG-27
PC DECwindows
 installing Logicaft fonts
 INS-35 – INS-37
PC key sequence VMS-19
PC-compatible printer CFG-32,
 CFG-60
PCDECWINDOWS.DSK INS-45
/PCTYPE CFG-42
phone numbers, customer sup-
 port viii
PING SMG-37
PostScript printer CFG-25
power, connecting server to
 INS-5
 powering up the server INS-25 –
 INS-29
PowerTerm terminal DOS-33,
 DOS-62
print buffer
 closing CFG-22, CFG-64
 flushing CFG-29, CFG-64

A – E – Appendices
CFG – Session Configuration
DOS – Utilities & Drivers for DOS
INS – Installation

RN – Release Notes
SMG – System Manager's Guide
UG – User's Guide
VMS – Utilities for VMS

PRINTCON.UID INS-45
PRINTCON_MOTIF.UID INS-45
/PRINTER CFG-43

printer

assignment CFG-7 - CFG-9,
DOS-70
attaching COM n DOS-6
attaching LPT n DOS-12
dismounting DOS-30 -
DOS-31
mounting DOS-47 -
DOS-49

output

binary CFG-19, CFG-60,
CFG-62
deleting after printing
CFG-62
flag page CFG-62
form CFG-61
formatting CFG-62
number of copies CFG-61
text CFG-49, CFG-60
trailer page CFG-62
queue CFG-44, CFG-61
type CFG-25, CFG-32,
CFG-35, CFG-60
DEC CFG-25, CFG-60
IBM PC CFG-32, CFG-60
Sixel (LN03) CFG-35,
CFG-60

Printer Configuration Parameters... CFG-59 - CFG-62

printer port. *See* parallel port

printing CFG-7 - CFG-9

attaching COM n DOS-6
attaching LPT n DOS-12
auxiliary port CFG-7,
CFG-18, CFG-60

binary output CFG-19,
CFG-41, CFG-60

bypassing print symbiont
CFG-41, CFG-62

closing the buffer CFG-22,
CFG-29, CFG-61

configuring CFG-7 - CFG-9,
CFG-18, CFG-43,
CFG-44, CFG-59 -
CFG-62

copies, number of CFG-24,
CFG-61

DEC printer CFG-25, CFG-60

deleting list file after printing
CFG-26, CFG-62

flag page CFG-28, CFG-62
flush time out value, setting
DOS-99

flushing the buffer CFG-22,
CFG-29, CFG-61

form, specifying CFG-30,
CFG-61

FPRINT DOS-42

list file CFG-7, CFG-44,
CFG-59, CFG-60

non-Sixel printer CFG-25,
CFG-32, CFG-60

PostScript printer CFG-25
queue, specifying CFG-44,
CFG-60

text output CFG-49, CFG-60
trailer page CFG-52, CFG-62

privileged utilities

deleting from D386C INS-39 -
INS-40

SEND DOS-50

SHUTDOWN DOS-73

SRVDATE DOS-74

SRVTIME DOS-74

STOP DOS-75

privileges needed to run

386Ware INS-41 - INS-42

PT.DAT DOS-58

A - E - Appendices

CFG - Session Configuration

DOS - Utilities & Drivers for DOS

INS - Installation

RN - Release Notes

SMG - System Manager's Guide

UG - User's Guide

VMS - Utilities for VMS

PT2KEY.DAT INS-45
 pull-down menus CFG-2,
 CFG-54 - CFG-71
 About CFG-71
 Apply button CFG-55
 Auxiliary Configuration Pa-
 rameters... CFG-63 -
 CFG-65
 Cancel button CFG-55
 Configuration menu
 CFG-56 - CFG-66
 Configure... CFG-67 -
 CFG-68
 Copy UG-6, CFG-67
 Dismiss button CFG-55
 Edit UG-6
 Edit menu CFG-67 - CFG-68
 File menu CFG-69 - CFG-70
 Fonts menu CFG-69
 Help menu CFG-71
 Load... CFG-69
 OK button CFG-55
 Overview CFG-71
 Paste UG-6, CFG-67
 Printer Configuration Parame-
 ters... CFG-59 - CFG-62
 Pulldowns CFG-71
 Quit CFG-70
 Required Configuration Pa-
 rameters... CFG-56 -
 CFG-58
 Reset button CFG-55
 Save... CFG-69
 Use CFG-70
 VGA Remap Palette CFG-66
 purging fonts for DECwindows
 or Motif INS-21

Q

/[NO]QUEUE CFG-44
 queue, specifying CFG-44,
 CFG-60
 quotas needed to run 386Ware
 INS-41 - INS-42

R

RAM disk DOS-40
 read/write access CFG-57
 READ_LOG.EXE INS-45,
 SMG-22
 /READ_ONLY CFG-45
 read-only access CFG-45,
 CFG-47, CFG-57
 exclusive CFG-47, CFG-57
 share CFG-47, CFG-57
 reboot, remote DOS-73, VMS-16
 Refresh key VMS-20
 ReGIS graphics DOS-59
 release notes, installing INS-12
 remove excess spaces. *See* copy
 and paste
 removing the 386Ware software
 SMG-31
 Required Configuration Parame-
 ters... CFG-56 - CFG-58
 Reset button CFG-55
 restarting DECwindows or Motif
 INS-21
 RS6000KEY.DAT INS-45
 RTS handshaking DOS-8
 rubberband copy and paste
 CFG-67
See also copy and paste

A - E - Appendices
 CFG - Session Configuration
 DOS - Utilities & Drivers for DOS
 INS - Installation

RN - Release Notes
 SMG - System Manager's Guide
 UG - User's Guide
 VMS - Utilities for VMS

RX floppy drives
 configuring SMG-24 -
 SMG-25
 dismounting DOS-30,
 DOS-47
 mounting DOS-30, DOS-47

S

Save... CFG-69
 VGA Remap Palette SMG-26
SAVECON.UID INS-45
SAVECON_MOTIF.UID INS-45
SEEDLL.EXE INS-45
Select All CFG-67
SEND DOS-50 - DOS-51
serial port
 attaching DOS-6
 I/O addresses DOS-7
 IRQs DOS-7
/SERVER CFG-46
server
 displaying information about
 DOS-69, VMS-16 -
 VMS-17
 groups SMG-14 - SMG-15
 overview ii, INS-3 - INS-5
 powering up INS-25 - INS-29
 setting date/time SMG-30,
 DOS-74
server options INS-26 - INS-27
session
 configuring CFG-10 -
 CFG-13, CFG-56 -
 CFG-58
 ending CFG-70, DOS-21
 establishing UG-4, CFG-70
 idle, terminating SMG-3
 starting as icon SMG-4
SET_DOS_COMMANDS.COM
 INS-46

SETDRIVE DOS-52 - DOS-53
SETTERM DOS-54 - DOS-66
 24- or 25-line terminals
 DOS-63
 241 DOS-59
 330 DOS-59
 340 DOS-59
 4205 DOS-58
 4207 DOS-58
 4560 DOS-59
 7BIT DOS-61
 8BIT DOS-61
 99GT DOS-59
 BW DOS-61
 CGA DOS-57
 COLOR DOS-61
 DLCS DOS-61
 downloadable character set
 DOS-61 - DOS-62
 environment variables
 DOS-64 - DOS-65
 error messages C-13 - C-15
 GRAPH_MAX DOS-60,
 DOS-65
 GRAPH_WRITE DOS-60,
 DOS-65
 graphics emulation paramet-
 ers DOS-59 - DOS-60,
 DOS-65 - DOS-66
 GRAPHON DOS-60
 HERC DOS-57
 IBMPc DOS-58
 loading into upper memory
 SMG-9
 MONO DOS-57
 NO_HSCROLL DOS-62
 NO_SELECT DOS-60
 NODLCS DOS-62
 NOSTATUS DOS-63
 PC_OUTPUT DOS-62
 PT DOS-58

A - E - Appendices
CFG - Session Configuration
DOS - Utilities & Drivers for DOS
INS - Installation

RN - Release Notes
SMG - System Manager's Guide
UG - User's Guide
VMS - Utilities for VMS

SETTERM (*cont'd*)

- PT2 DOS-58
- PT3 DOS-58
- PX DOS-60
- PY DOS-60
- REGIS DOS-59
- ROWS24 DOS-63
- ROWS25 DOS-63
- SELECT DOS-60
- SIXEL DOS-59
- SPLIT DOS-58
- STATUS DOS-63
- status line DOS-55
- summary DOS-54 - DOS-56
- syntax DOS-56
- terminal specific parameters
DOS-58
- text emulation parameters
DOS-61 - DOS-63
- video emulation parameters
DOS-57
- VT100 DOS-63
- VT200 DOS-63
- for VT420 DOS-58
- WKSCGA DOS-58
- SETVGA DOS-67
 - error messages C-13 - C-15
- /[NO]SHARE CFG-47
- shared image, installing 386Ware
as INS-32
- Shift key B-2, B-5, B-12
- SHOW DOS-68 - DOS-72
 - CONFIG DOS-69
 - DEVICE DOS-69
 - DISKS DOS-69
 - DMA DOS-70
 - IO DOS-70
 - IRQ DOS-70
 - LST DOS-70
 - MEMORY SMG-10, SMG-12,
DOS-71

- PARTITIONS DOS-72
- USERS DOS-72
- SHUTDOWN DOS-73
- Sixel graphics DOS-59
- Sixel printer CFG-35 - CFG-36,
CFG-60
- /SLAVE CFG-48
- slave card
 - diagnostics SMG-30
 - selecting for session CFG-48,
CFG-64
- software installation, VMS
 - INS-9 - INS-21
 - before running VMSINSTAL
INS-11
 - custom installation INS-16 -
INS-18
 - default installation INS-15 -
INS-16
 - default vs. custom INS-14 -
INS-18
 - error messages INS-12 -
INS-13
 - purging fonts for DECwin-
dows or Motif INS-21
 - release notes, displaying
INS-12
 - shared image INS-32
 - software subsets INS-18 -
INS-19
 - TGV host database, updating
INS-19
 - upgrading INS-9 - INS-10
 - VMSINSTAL
 - running INS-11 - INS-13
 - syntax INS-12
 - software subsets INS-18 -
INS-19
 - software, overview of files
INS-43 - INS-47

A - E - Appendices
 CFG - Session Configuration
 DOS - Utilities & Drivers for DOS
 INS - Installation

RN - Release Notes
 SMG - System Manager's Guide
 UG - User's Guide
 VMS - Utilities for VMS

SONIC card INS-6, INS-7
 diagram INS-6, INS-7
 spool file. *See* list file
 SRV command CFG-1 - CFG-53
 /AUX_PORT CFG-18
 /BINARY CFG-19
 /[NO]BREAK CFG-20
 /[NO]CACHE CFG-21
 /[NO]CLOSE CFG-22
 /COMMAND CFG-23
 /COPIES CFG-24
 /DEC CFG-25
 /[NO]DELETE CFG-26
 /DISKS CFG-27, CFG-58
 /[NO]FLAG CFG-28
 /[NO]FLUSH CFG-29
 /FORM CFG-30
 /[NO]HOT_KEY CFG-31
 /IBM CFG-32
 /INPUT CFG-33
 /KEYMAP CFG-34, VMS-23
 /LN03 CFG-35 - CFG-36
 /MEMORY CFG-37, SMG-7 -
 SMG-12
 /MINMEMORY CFG-38,
 SMG-7 - SMG-8
 /NOCTRL_SQ CFG-39
 /OUTPUT CFG-40
 /[NO]PASSALL CFG-41
 /PCTYPE CFG-42
 /PRINTER CFG-43
 printer, configuring CFG-7 -
 CFG-9
 qualifier summary CFG-14 -
 CFG-17
 /[NO]QUEUE CFG-44
 /READ_ONLY CFG-45
 sample command CFG-11
 /SERVER CFG-46
 /[NO]SHARE CFG-47
 /SLAVE CFG-48
 syntax CFG-10 - CFG-13
 /TEXT CFG-49
 /TIMER_1 CFG-50 - CFG-51
 /TIMER_2 CFG-50 - CFG-51
 /TIMER_3 CFG-50 - CFG-51
 /[NO]TRAILER CFG-52
 /TYPEAHEAD CFG-53
 SRV.COM INS-45, UG-4
 SRVDATE DOS-74
 SRVINFO. *See* Info
 SRVTIME DOS-74
 standard copy and paste
 See also copy and paste
 STARTNET.BAT
 loading into upper memory
 SMG-11
 start-up file INS-22 - INS-23,
 INS-47
 multiple Ethernet controllers
 INS-23
 status display, messages
 INS-30 - INS-31
 STOP DOS-75
 stopping 386Ware/XNS SMG-39
 summary
 configuration qualifiers
 CFG-14 - CFG-17
 DOS utilities and drivers
 DOS-2
 keyboard mapping files
 VMS-21 - VMS-22
 SETTERM DOS-54 - DOS-56
 XPORT DOS-81 - DOS-82
 SUN3KEYS.DAT INS-45
 SUN4KEYS.DAT INS-45
 support, phone numbers viii
 symbol definitions INS-23 -
 INS-24
 SYS\$386WARE INS-43 - INS-46,
 SMG-5
 SYS\$HELP INS-47

A - E - Appendices
 CFG - Session Configuration
 DOS - Utilities & Drivers for DOS
 INS - Installation

RN - Release Notes
 SMG - System Manager's Guide
 UG - User's Guide
 VMS - Utilities for VMS

SYSS\$LOGICRAFT_COMMON

- INS-46 – INS-47, SMG-5
- SYSS\$STARTUP INS-47
- SYSS\$UPDATE INS-47
- SYSMAN INS-22
- System Configuration utility
 - SMG-27 – SMG-30
 - current configuration, displaying SMG-28
 - floppy drive configuration, changing SMG-30
 - Internet address SMG-28, SMG-29
 - network interface configuration, changing SMG-29
 - slave card diagnostics SMG-30
 - system console configuration, changing SMG-29
 - system date and time, setting SMG-30
- system console INS-25
- system console configuring SMG-29
- system-level server
 - installation INS-3 – INS-5

T

- Tektronix 4205, 4207 DOS-58, A-5
- TEKXP101.DAT INS-45
- TEKXP220.DAT INS-45
- TEKXP330.DAT INS-45
- temporary directory SMG-20 – SMG-21
 - for each user SMG-21
 - system-wide SMG-20 – SMG-21
- terminal emulation UG-2 – UG-3, DOS-54 – DOS-66

terminal set-up

- GraphOn 240, 250 A-4
- Microterm 4560 A-4
- Tektronix 4205, 4207 A-5
- VT100 A-6
- VT220 A-3
- VT240 A-3
- VT241 A-3
- VT320 A-3
- VT330 A-2
- VT340 A-2
- VT420 A-1
- Wyse 99GT A-5
- Term-Ware CFG-39, CFG-42, DOS-58
- /TEXT CFG-49
- text printer output CFG-49, CFG-60
- TGV
 - PING command SMG-37
 - start-up file INS-19
 - updating host database INS-19
- time, setting server SMG-30
- /TIMER_1 CFG-50 – CFG-51
- TIMER_1 SMG-5
- /TIMER_2 CFG-50 – CFG-51
- TIMER_2 SMG-5
- /TIMER_3 CFG-50 – CFG-51
- TIMER_3 SMG-5
- TMP.DIR INS-47
- Toggle key DOS-63, VMS-20
- /[NOJ]TRAILER CFG-52
- trailer page, printing CFG-52, CFG-62
- troubleshooting INS-38, SMG-32 – SMG-40
- TSRs SMG-9
 - loading into upper memory blocks DOS-46, DOS-76
- /TYPEAHEAD CFG-53

A – E – Appendices
CFG – Session Configuration
DOS – Utilities & Drivers for DOS
INS – Installation

RN – Release Notes
SMG – System Manager's Guide
UG – User's Guide
VMS – Utilities for VMS

U

- UCX LOOP SMG-36
- UMBLOAD SMG-9, SMG-10,
DOS-76 - DOS-77
 - displaying available memory ranges DOS-71
 - See also* LHDRV.RSYS
- upgrade information
 - See* software installation, VMS: upgrading
- upper memory blocks SMG-9, SMG-10
 - configuring for UMBLOAD DOS-46
 - loading TSRs DOS-76
 - See also* UMBLOAD
- Use CFG-70
- user accounts INS-41 - INS-42
- users
 - displaying current DOS-72
 - maximizing number of sessions SMG-12
 - stopping a user session DOS-75
- UTIL.COM INS-45

V

- V86MOUSE UG-5, DOS-78 - DOS-79
 - loading into upper memory SMG-9
- VGA SMG-26
 - emulation DOS-67
 - remapping colors CFG-66, SMG-26
- VGA Remap Palette CFG-66, SMG-26
- VGA/EGA emulation
 - See also* SETVGA

- VISUAL101.DAT INS-45
- VISUALXDS.DAT INS-45
- VMS files
 - copying
 - from DOS DOS-90 - DOS-91, VMS-4 - VMS-15
 - to DOS DOS-93 - DOS-94, VMS-4 - VMS-15
 - deleting from DOS session DOS-86 - DOS-87
 - directory, from DOS session DOS-87 - DOS-88
 - typing contents from DOS DOS-96
- VMSINSTAL
 - See* software installation, VMS
- voltage selector switch INS-5
- VT100-series DOS-63
 - keyboard mapping B-11
 - set-up A-6
- VT200KEY.DAT INS-45
- VT200-series DOS-33, DOS-63
 - downloadable character set DOS-62
 - keyboard mapping B-5 - B-7
 - VT220 set-up A-3
 - VT240 set-up A-3
 - VT241 DOS-59
 - VT241 set-up A-3
- VT300-series DOS-33, DOS-59
 - downloadable character set DOS-62
 - keyboard mapping B-5 - B-7
 - VT320 set-up A-3
 - VT330 set-up A-2
 - VT340 set-up A-2
- VT420 DOS-33
 - downloadable character set DOS-62
 - keyboard mapping B-5 - B-7

A - E - Appendices
CFG - *Session Configuration*
DOS - *Utilities & Drivers for DOS*
INS - *Installation*

RN - *Release Notes*
SMG - *System Manager's Guide*
UG - *User's Guide*
VMS - *Utilities for VMS*

VT420 (*cont'd*)
set-up A-1
split-screen DOS-33, DOS-58,
DOS-62, A-1 - A-2

W

window
blinking text SMG-2
bold font SMG-2
changing height SMG-4
changing start-up location
SMG-4 - SMG-5
changing title text SMG-4
changing width SMG-4
starting session as icon
SMG-4
window system CFG-2, SMG-4
0 CFG-2
2 CFG-2
pull-down menus
CFG-54 - CFG-71
3 CFG-2
changing window size SMG-4
defining CFG-2
workstation floppy drive
SMG-24 - SMG-25
dismounting DOS-30 -
DOS-31
displaying mounted DOS-69
mounting DOS-47 - DOS-49
WRITE_LOG.EXE INS-46,
SMG-23
See also 386HISTORY.COM
WSFLOPPY.SYS SMG-24 -
SMG-25
Wyse 99GT DOS-33, DOS-59
downloadable character set
DOS-62
set-up A-5

X

X terminal B-2
keyboard mapping B-2 - B-4
XCP commands SMG-38 -
SMG-40
SHOW SMG-39
START SMG-38
STATUS SMG-40
STOP SMG-39
XCPEXE INS-47
XON/XOFF handshaking DOS-8
XPORT DOS-80 - DOS-97
batch files DOS-97
batch mode DOS-80
CD DOS-84
CHAINCHR DOS-84
CHDIR DOS-84
CHMOD DOS-85 - DOS-86
command summary
DOS-81 - DOS-82
DELETE DOS-86 - DOS-87
DIRECTORY DOS-87 -
DOS-88
DOS DOS-89
ERASE DOS-86 - DOS-87
EXIT DOS-89
EXPORT DOS-90 - DOS-91
FREE DOS-92
HELP DOS-92
IMPORT DOS-93 - DOS-94
interactive mode DOS-80
PROMPT DOS-95
QUIT DOS-89
SWITCHAR DOS-95
TYPE DOS-96
UIC DOS-96
VERSION DOS-96

A - E - Appendices
CFG - Session Configuration
DOS - Utilities & Drivers for DOS
INS - Installation

RN - Release Notes
SMG - System Manager's Guide
UG - User's Guide
VMS - Utilities for VMS

XSET SMG-2, DOS-98 -
DOS-101
CPU DOS-98
ENV DOS-98
INT13 DOS-98
INT16_COUNT DOS-99
LSTx_FLUSH DOS-99
MACHINE DOS-99
RETRACE_COUNT DOS-99
SHIFT_TIMEOUT DOS-99
STEP DOS-100
TIMER2 DOS-100

A - E - Appendices
CFG - Session Configuration
DOS - Utilities & Drivers for DOS
INS - Installation

RN - Release Notes
SMG - System Manager's Guide
UG - User's Guide
VMS - Utilities for VMS

A - E - Appendices
CFG - Session Configuration
DOS - Utilities & Drivers for DOS
INS - Installation

RN - Release Notes
SMG - System Manager's Guide
UG - User's Guide
VMS - Utilities for VMS