

S O F T W A R E S U B S C R I P T I O N U P D A T E

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DOCUMENTS SHIPPED WITH THIS UPDATE:

1. 2555024-0001*D Explorer Release 6.1 Software Release Information and Installation Guide for microExplorer Development System Software
 2. 2243201-0001*C Explorer Lisp Reference (Change Package 1)
 3. 2549281-0001*D Explorer Input/Output Reference (Change Package 3)
 4. 2549831-0001*D Explorer Tools and Utilities (Change Package 4)
 5. 2553272-0001*A Explorer SLE X Window System Programmer's Reference
 6. 2552702-0001*C microExplorer Development System User's Guide
 7. 2243206-0001*C Explorer Networking Reference
 8. 2537223-0001*B Explorer Communications Interface to DECnet User's Guide (Change Package 1)
 9. 2537150-0001*B Explorer TCP/IP User's Guide (Change Package 1)
 10. 2243200-0001*C Explorer Window System Reference (Change Pks 1)
 11. 2243192-0001*C Explorer Zmacs Editor Reference (Change Package 1)
 12. 2546890-0001*B Explorer NFS User's Guide (Change Package 1)
 13. 2243190-0001*E Introduction to the Explorer System (Change Pks 3)
 14. 2563075-0001*A+ License Agreement
-

MEDIA SHIPPED WITH THIS UPDATE:

Disk Media (Update -1001):

Media Subassembly (2559079-0001), including these software disks:

Disk Box #1:	2555050-0004*B	Disk Box #2:	2555050-0015*B
2555011-0001*E	2555050-0005*B	2555050-0010*B	2555050-0016*B
2555011-0002*E	2555050-0006*B	2555050-0011*B	2555050-0017*B
2555050-0001*B	2555050-0007*B	2555050-0012*B	2555050-0018*B
2555050-0002*B	2555050-0008*B	2555050-0013*B	2555050-0019*B
2555050-0003*B	2555050-0009*B	2555050-0014*B	2555050-0020*B
Disk Box #3:	2555050-0026*B	Disk Box #4	2555050-0037*B
2555050-0021*B	2555050-0027*B	2555050-0032*B	2555050-0038*B
2555050-0022*B	2555050-0028*B	2555050-0033*B	2555050-0039*B
2555050-0023*B	2555050-0029*B	2555050-0034*B	2555050-0040*B
2555050-0024*B	2555050-0030*B	2555050-0035*B	2555050-0041*B
2555050-0025*B	2555050-0031*B	2555050-0036*B	2555050-0042*B
Disk Box #5	2555011-0007*E	Disk Box #6	
2555050-0043*B	2555011-0008*E	2555011-0013*E	2555011-0018*E
2555011-0003*E	2555011-0009*E	2555011-0014*E	2555011-0019*E
2555011-0004*E	2555011-0010*E	2555011-0015*E	2555011-0020*E
2555011-0005*E	2555011-0011*E	2555011-0016*E	2555011-0021*E
2555011-0006*E	2555011-0012*E	2555011-0017*E	2559093-0001*C

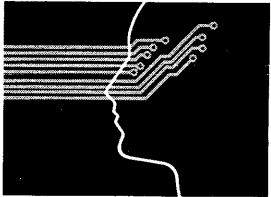
Tape Media (Update -1002):

- 2559081-0002*D Cartridge Tape, microExplorer Development System with Network Option Load Band
 - 2559081-0003*D Cartridge Tape, Host Driver and System Files
 - 2559093-0001*C Disk, microExplorer Update
 - 2223222-0001 Diskette Holder
-

THIS UPDATE (-1001,1002) ALSO INCLUDES THE FOLLOWING SOFTWARE UPDATE:

1. 2552710-1001*G+ microExplorer System Software Update, Disk
-

Explorer™ Release 6.1
Software Release Information and Installation Guide
for microExplorer™ DEVELOPMENT SYSTEM SOFTWARE



2555024-0001*D

Explorer™ Release 6.1

Software Release Information and Installation Guide for
microExplorer™ DEVELOPMENT SYSTEM SOFTWARE

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microExplorer Development System Software Contents

1.	CONTENTS OF THIS DOCUMENT.....	1
2.	RELEASE NOTES.....	1
3.	OVERVIEW OF RELEASE 6.1.....	2
3.1	IMPROVEMENTS	3
3.2	Changes To TbServer.....	6
3.2.1	System Requirements	6
3.2.2	Application Upgrade.....	6
4.	INSTALLING THE DEVELOPMENT SYSTEM SOFTWARE.....	7
4.1	Introduction.....	7
4.1.1	Become Familiar With Apple Utilities.....	8
4.1.1.1	Installing from Diskette	8
4.1.1.2	Installing from Tape.....	8
4.1.2	Have the Software Media Handy.....	8
4.1.2.1	Diskettes.....	8
4.1.2.2	Tape.....	9
4.1.3	Have the MultiFinder Utility Ready.....	9
4.1.4	Installation Options.....	9
4.2	Copy the Tapes to the microExp Folder.....	9
4.3	Copy the Host Driver Diskette to Hard Disk.....	9
4.3.1	microExp Folder Already Exists.....	10
4.3.2	microExp Folder Does Not Exist	10
4.4	Copy the System Files Diskettes to Hard Disk	10
4.5	Restore the Development System Software Diskettes.....	12
4.6	Move the Restored File to the microExp Folder	13
4.7	Install the Required Fonts	13
4.8	Run the MakePFiles Utility.....	14
4.8.1	Launch the MakePFiles Application.....	14
4.8.2	Create a Page Partition-File	14
4.9	Installing the Network Option Upgrade.....	16
4.9.1	Installing the Network Option Upgrade From Tape.....	16
4.9.2	Installing the Network Option Upgrade From Diskette.....	17
4.10	Install the EtherTalk Driver.....	18
4.11	Contents of Your Hard Disk.....	18
4.12	The microExp Folder After Installation.....	19
4.13	Adding a microExplorer Host to the Namespace	19

4.14	Starting Up Your New System	21
4.15	The UPDATE Diskette.....	21
4.15.1	Factory-Installed Software Considerations	21
4.15.2	Examples Using sys:install-update-from-diskette	21
4.15.3	Future UPDATE Diskettes.....	22
5.	NETWORK TROUBLESHOOTING	23
6.	KNOWN PROBLEMS	24
7.	ADDITIONS/CORRECTIONS TO MANUALS.....	33
8.	CUSTOMER INTERFACE TO TI	35
8.1	Problem Reporting.....	35
8.2	Hardware Service	36
8.3	Explorer Mailing Lists.....	36



Explorer™ Release 6.1 Software Release Information and Installation Guide for microExplorer™ DEVELOPMENT SYSTEM SOFTWARE

1. CONTENTS OF THIS DOCUMENT

This document describes the content of Explorer System Software Release 6.1 and the procedure for installing it. This software will execute only on the microExplorer and cannot be used on other members of the Explorer family. These notes summarize modifications since release 6.0 and any last minute changes in the software and documentation. This document applies to both the Development Software configuration and the Development Software with the Network Option installed. The text indicates which portions apply only to a Network Option feature.

NOTE: The *microExplorer User's Guide* (Revision A) (pages xvii and 3-1) states that installers of the software for a Development configuration should refer to a section in the *microExplorer Development Software User's Guide* on installation. That installation section was removed from the latest edition of the manual. Refer to Section 4 of this document for information on Development Software installation.

We recommend that you scan this entire document before you begin the installation process.

2. RELEASE NOTES

- When installing Macintosh Operating System software versions 6.0.x, the Macintosh MacroMaker™ utility must not be placed in the System Folder. In addition, there are certain applications that may interact badly with the microExplorer. See paragraph 6, Known Problems, below for further details.
- **microExplorer Release 6.1 Font Installation**

The microExplorer release 6.1 application fonts are supplied as the Font/DA Mover font file, microExplorerFonts. In previous releases the fonts were included as resources on the microExplorer application itself. The purpose of this change is to circumvent a problem in PrintMonitor, which can cause the microExplorer to quit unexpectedly while printing a screen or file. The problem can be avoided by installing microExplorer fonts in the system file instead of on the application itself.

This change means that you will need to use the Macintosh utility Font/DA Mover to copy the fonts from microExplorerFonts into your Macintosh system file. If you are unfamiliar with this utility, please refer to the Font/DA Mover chapter of the "Macintosh Utilities User's Guide" for assistance. If you do not have the utility installed, you can install it from your Macintosh Utilities diskette.

Previously, the microExplorer referenced font resources by font id instead of font name, so there was a potential problem in which third-party fonts could get mapped to microExplorer fonts. If this happened, then you would see an unfamiliar font in use when booting the microExplorer. In release 6.1, the font name instead of the font ID is being used, so this should no longer be a problem.

3. OVERVIEW OF RELEASE 6.1

Explorer System Release 6.1 contains a number of changes and improvements to the Explorer system software. Release 6.1 is a patch release that is being distributed in the form of a new load band only. All changes between 6.0 and 6.1 are in patches except for CLX and CLUE. The Release 6.1 version of CLX (7.4) is based on X Consortium CLX R4.2. The previous version of CLX in Release 6.0 was based on X Consortium CLX R3. The CLX system is loaded by entering the form (**make-system 'CLX :noconfirm**).

Several new additions have been made to the PUBLIC directory. The remainder of this section describes these systems.

Common Lisp Interactive Objects (CLIO version 1.0)

Common Lisp Interactive Objects (CLIO) is a set of CLOS classes that represent the standard components of an object-oriented user interface --- such as text, menus, buttons, scroller, and dialogs. CLIO is designed to be a portable system written in Common Lisp and is based on other standard Common Lisp interfaces:

CLX, the Common Lisp interface to the X Window System

CLUE, a portable Common Lisp user interface toolkit

CLOS, the ANSI-standard Common Lisp Object System.

CLIO not only provides the basic components commonly used in constructing graphical user interfaces, but also specifies an application program interface that is look-and-feel independent. That is, an application program can rely on the functional behavior of CLIO components without depending on the details of visual appearance and event handling. The concept of look-and-feel independence means that the look-and-feel of CLIO components is encapsulated within the implementation of the CLIO interface. An application program can be ported to a different style guide simply by using a different implementation of the CLIO "library." CLIO Version 1.0 implements the user interface style defined by the OPEN LOOK Graphical User Interface Functional Specification.

PICTURES

Pictures is a Common Lisp system for object-oriented graphics, using the X Window System. Pictures is a portable system written in Common Lisp and based on other standard interfaces such as CLX, CLUE, and CLOS. Pictures defines a set of classes that represent hierarchical structures of 2D graphical primitives. Graphical structures can be composed, transformed, modified, and saved to a file by the application program. Pictures also defines a class of CLUE contacts called "views," which allow graphical structures to be displayed, manipulated, and edited interactively.

MAKE-D-TAPE

MAKE-D-TAPE provides the utilities and instructions needed to create distribution tapes. A distribution tape is an ordinary Explorer magnetic tape that contains a restore file followed by the remaining files needed to define a product. All TI distributed toolkits were created by the distribution tape facility. Complete instructions are included in the PUBLIC directory named PUBLIC.MAKE-D-TAPE;.

GENERAL INSPECTOR

The current INSPECTOR and FLAVOR INSPECTOR are part of the DEBUG-TOOLS defsystem. The GENERAL INSPECTOR combines them, brings all capabilities under one interface, adds the ability to inspect CLOS objects, and adds different viewing perspectives. The GENERAL INSPECTOR interface is switchable enabling you to revert back to the regular INSPECTOR and a separate FLAVOR INSPECTOR.

COMMON LISP CONFORMANCE

The conformance tool can be set at different options, depending on what you want to conform to. The following options are provided:

Check conformance to "Common Lisp the Language"(CLtL), first edition (1984).

Check conformance to the proposed draft for ANSI standard Common Lisp.

Warn about features not included in either CLtL or ANSI Common Lisp. Since most Common Lisp implementations are, or soon will be a mixture of the two dialects, this may often be what you want.

See instructions file in PUBLIC.CONFORMANCE; directory for complete details.

3.1 IMPROVEMENTS

Expertelligence Action!TM 2.0 and microExplorer 6.1

Lisp patches in microExplorer release 6.1 supercede the Action! 2.0 file NEW-MODE. Likewise, certain resources of the release 6.1 TbServer supercede those of the "Action! 2.0" icon. Therefore, before running Action! 2.0 on microExplorer release 6.1, you need to perform the following steps:

1. Use ResEdit to replace the following resources of the Action! 2.0 icon with those of release 6.1 TbServer's icon.
 - . Open the resource fork of a COPY of "Action! 2.0" icon.
 - . CUT the CODE and EVTS resources from Action's resource fork.
 - . Open the resource fork of release 6.1 TbServer's icon.
 - . COPY these same resources from TbServer's resource fork.
 - . PASTE them into Action's resource fork.
 - . SAVE the changes made to Action's resource fork.

These changes made using ResEdit provide Action! with the latest (mac-side) TbServer functionality.

2. Do NOT load the Action! file NEW-MODE.XLD into the microExplorer 6.1 environment. This interim file was needed to run Action! 2.0 on microExplorer 6.0, but is unnecessary with microExplorer 6.1.

Common Lisp User Interface Environment (CLUE version 7.20)

The system CLUE is loaded by entering the form (**make-system 'CLUE :noconfirm**).

Here is a list of changes with references to the appropriate sections in the SLE X Window System Programmer's Reference manual.

- 18.2 A **:callbacks** initarg is defined to initialize a contact callback list.
- 18.2 The behavior and return value are clarified for **move** and **resize**.
- 18.2 A new macro, **apply-callback-else**, is added. **apply-callback-else** is equivalent to a combination of **callback-p** and **apply-callback** but is more efficient.
- 20.3 **manage-geometry/priority** can now return a function which is called by **change-geometry/priority** to perform any side-effects of granting the requested geometry/priority change. This allows such side-effects to be done efficiently or to be ignored, if **manage-geometry/priority** is called only to test approval.
- 20.3 A new macro, **while-changing-layout**, is added. This macro may be used when changing several factors influencing layout policy, in order to postpone updates to the layout until all changes are done.

change-layout: The treatment of the optional argument is clarified.
- 20.6 **wm-shell** methods to access individual components of standard properties are described. **wm-shell** resource specifications added to initialize individual components of standard properties.
- 20.6 **top-level-shell** slots for certain icon attributes are removed. Instead, **top-level-shell** methods to access these individual components of standard properties are described.

top-level-shell resource specifications added to initialize individual components of standard properties.
- 20.6 **top-level-session** resource specifications added to initialize individual components of standard properties.
- 20.7 New utility functions are added. **contact-translate** performs much the same function as **xlib:translate-coordinates**, using client-side contact data instead of a server request. **contact-top-level** returns the top-level ancestor of a contact.

CLUE Fixes

- 1. CLUE now uses the COMMON-LISP package, which is expected to export all symbols for Common Lisp, Common Lisp Object System (CLOS), and Common Lisp Condition System (CLCS). Depending on your Lisp implementation, you may need to create a package named COMMON-LISP, which exports symbols imported from other packages for Lisp, CLOS, and CLCS.
- 2. The following functions are now generic: **add-event**, **delete-event**, **event-actions**, **initial-state-transition**.
- 3. **change-priority** calls a new generic function (**self contact-priority**) to actually reset window priority.
- 4. Many fixes were made to the Explorer-dependent implementation of **interactive-stream**.
- 5. **default-resources** now correctly handles the case when the contact argument is a string.
- 6. **destroy:** Unmanage contact before destroying it, so that parent's **change-layout** will be called.
- 7. **resource:** Use (**intern** name 'keyword) to look up resource value.

8. The class precedence list cache used by event translation was changed to avoid crashing on an unfinalized class and to eliminate classes with no **defevent**'s.
9. **perform-callback**: The special binding of ***contact*** was removed.
10. Improved facilities for cacheing pixmaps, gcontexts, and cursors. See CACHES.L.
11. Several fixes made to root geometry management of (**top-level**) shells.
12. **defcontact**: Class initialization method defined only if necessary.
13. (**self contact-state**): Ensure **map-window** occurs if initially **:mapped**, even if some siblings are **:withdrawn**. Fix method for **wm-shell** so that resulting **:(un)map-notify**'s are ignored.
14. **get-contact-resource-table**: Print better error message when no **:parent** given to **make-contact**.
15. **move/resize**: Add **:around** method on contact class that skips all primary/auxiliary methods when geometry not really changed.
16. **top-level-session**: Add **initialize-instance** method to set default **client-host**. Add realize method to set initial property values.
17. **wm-shell**: Convert atom keywords to id's when changing **:wm_protocols** property.
18. **convert**: Use **ignore-errors** to avoid signalling error during value conversion.
19. **add-child**: Add new method to signal error if parent is a root and new child is not a shell.
20. Use a better method for computing an event mask from contact event translations. **delete-event** will no longer remove event mask bits set in a resource initform.
21. **accept-focus-p**: Fix primary method to refuse focus if not sensitive or if not viewable.
22. (**self contact-sensitive**): Fix primary method to refresh display and to give up focus when becoming insensitive.
23. Fix **change-layout** for shells to ensure content border remains hidden.
24. Shells inherit default background and colormap from owner, not parent.
25. Shell position is updated correctly after resize by window manager.
26. **with-wm-properties**: Defects fixed in property change batching.
27. **transient-shell**: Set **WM_TRANSIENT_FOR** to the root shell "ancestor," inheriting from owner instead of parent.
28. Fix shells to accept input focus from window manager correctly.
29. **convert**: correct various defects in converting colors and use of **ignore-errors**.

3.2 Changes To TbServer

Release 6.1 includes a redesigned toolbox-interface server, TbServer, that fixes several existing problems and provides some performance improvements. The new TbServer is provided in microExplorer release 6.1 to coordinate with Expertelligence's Action! release 2.0. There are several reasons why your mac applications will benefit from using the new TbServer:

An asynchronous problem known as the "hanging bug", which occurs when the TbServer is brought to the foreground has been fixed.

The "random" mouse events bug has been fixed. This problem manifests as a menu item being suddenly selected though you never let go of the mouse button.

Other random problems that you think are timing related are probably fixed.

The 32 bit Quickdraw problem that copies garbage onto the screen and sometimes hangs the system has been fixed.

An optimization has been added that keeps the application's grafport state on the lisp side thus reducing the number of calls across the nubus to read grafport data.

A version number has been added to simplify TbServer identification. The format of the version number is `MX_RELEASE.MPW_RELEASE.VERSION`, which readily tells you which microExplorer release the TbServer goes with, which version of MPW it was built with, and the TbServer version itself.

3.2.1 System Requirements

The changes to the mac-side TbServer required corresponding lisp-side changes. The new TbServer will only work with microExplorer release 6.1 and later.

3.2.2 Application Upgrade

There are two methods you can use to upgrade existing microExplorer mac applications to the new TbServer:

- 1 Use ResEdit to upgrade certain resources of an existing application. This method is useful for testing purposes.
- 2 Rebuild the application from scratch using MPW. This method is recommended for software management.

The following steps will assist you in upgrading an existing application using ResEdit:

- . Open the resource fork of a COPY of the application.
- . CUT the CODE, TIMX and EVTS resources from the resource fork.
- . COPY these same resources from the new TbServer's resource fork.
- . PASTE them into the mac application's resource fork.

You do not need to know what other resource changes have been made to the mac application, so the upgrade is relatively painless. Usually applications based on TbServer will have been modified to include various icon information, strings, fonts, etc.

The ResEdit noticeable differences between your old TbServer and the release 6.1 TbServer are characterized as follows:

Resource	Release 6 TbServer	New TbServer
TIMX	"microExplorer Toolbox Server"	"microExplorer Toolbox Server Version 6.3.04"
CODE	21 resources	21 resources
EVTS	ID = 0	ID = 2

TIMX is the bundle bit resource and has been extended to include the TbServer version number. Its format has been described above.

CODE resources remain equal in number, however, the new TbServer contains the changes described above.

EVTS is an events resource used to designate which mode of operation the application is using. In order to use the new TbServer the resource id must be 2. Any other value will be treated as 0 and will cause the new TbServer to operate in the old mode.

Once you have thoroughly tested your ResEdit'ed version, you will want to relink your application with the new TbServer. After completing the 6.1 software installation, just follow your usual build procedure. The build process will include in your application the new CODE, TIMX and EVTS resources from `tbserver` and `tbserver.r`.

4. INSTALLING THE DEVELOPMENT SYSTEM SOFTWARE

4.1 Introduction

This section tells you how to install the microExplorer Development System Software (with or without the Network Option), which is the software associated with the microExplorer Development configuration.

NOTE: The diskette labeled "microExplorer Update Disk" (TI Part Number 2559093-0001) contains last-minute changes to the software that are necessary for proper microExplorer system functioning. These changes must be applied to your system load band via the `sys:install-update-from-diskette` and `load-patches` Lisp functions after other installation is complete. See paragraph 4.15 on The UPDATE Diskette for further instructions.

If you are installing the microExplorer Network Option Upgrade (TI Part Number 2559088-0001), start the installation with paragraph 4.9 after completing this introduction.

If you purchased the full microExplorer system, all necessary software has already been installed on your hard disk. However, keep in mind that you will need to load the last-minute Lisp changes into your Lisp system via the `load-patches` procedure after booting the microExplorer. See paragraph 4.15, The UPDATE Diskette, for further instructions. Proceed to the Launching section of the *microExplorer Development Software User's Guide* after completing this introduction. (For more information on loading patches see section 10, Maintaining Your System Configuration of the *microExplorer Development Software User's Guide*. For information on how to build patches permanently into a load

band, see the discussion of **disk-save** in the section Maintaining a Disk of the *Explorer Input/Output Reference* manual.)

Before you attempt to install the Development System Software, be sure that you have already installed the microExplorer processor board and any optional memory expansion boards in the Macintosh II chassis. See Section 2, Installing the microExplorer Processor Board, of the *microExplorer User's Guide* for the hardware installation procedures. Also, be sure that you have completed the preparations described in the following paragraphs.

NOTE: The remainder of this section applies only if you purchased a microExplorer Upgrade Kit and if you are installing the software for a microExplorer Development configuration (TI Part Number 2552711-0003 or -0004). Be sure that you have a minimum of 70MB of unused disk space for installing the microExplorer Development System Software (with or without the Network Option).

4.1.1 Become Familiar With Apple Utilities

4.1.1.1 Installing from Diskette

If you will be installing from diskette media, know how to transfer material from a diskette to your Macintosh hard disk. Most of this material is discussed in the Macintosh II owner's guide. For information about Apple's HDBackup™ program, see the *Macintosh Utilities User's Guide*.

While the backup program is restoring diskettes, it will show a dialogue box with messages about progress and requests to load disks. Be aware that an icon may not appear in the upper right part of your screen while that dialog is displayed.

4.1.1.2 Installing from Tape

If you will be installing from tape media, learn how to transfer files from a tape to your Macintosh hard disk. Most of this material is discussed in the *Apple Tape Backup 40SC Owner's Guide*.

The Tape Backup utility will show a progress display that includes a bar graph indicating the percentage of completion on a file restoration. That graph is only updated after each file is transferred. It will not grow while the file is being transferred. The load band file on each tape is very large so the bar graph will freeze for a long time (typically more than half an hour) while it is being read, and then jump by a large percentage before the next file is restored.

4.1.2 Have the Software Media Handy

4.1.2.1 Diskettes

If you are installing the Development System from diskettes, have the set of diskettes labeled "microExplorer Development System Software" (TI Part Numbers 2552717-0001, -0002, -0003, and so on) accessible.

If you are installing the Development System with Network Option, have the set of diskettes labeled "microExplorer Development System with Network Option" (TI Part Numbers 2555050-0001, -0002, and so on) accessible.

In either case, also have ready the set of diskettes labeled "microExplorer Host Driver" (TI Part Number 2555011-0001) and "microExplorer Development System Software System Files Disk #1", "...Disk #2", and so on (TI Part Numbers 2555011-0002, -0003, and so forth).

4.1.2.2 Tape

If you are installing the Development System from tape, have the tape labeled "microExplorer Development System Load Band" (TI Part Number 2552719-0002) and the tape labeled microExplorer Host Driver and System Files (TI part number 2559081-0003) accessible.

If you are installing the Development System with Network Option, have the tape labeled "microExplorer Network Load band" (TI Part Number 2559081-0002) and the tape labeled microExplorer Host Driver and System Files (TI Part Number 2559081-0003) accessible.

4.1.3 Have the MultiFinder Utility Ready

Not only must you have Apple's MultiFinder utility installed on your Macintosh, but you must also have it selected as the Startup application for your hard disk. See the **Set Startup** command in the *Macintosh MultiFinder User's Guide* for details.

The following paragraphs describe the installation procedures. If you do not need the detailed explanation given in the following numbered steps, use only the text immediately following each paragraph title as a simplified guide to installation.

4.1.4 Installation Options.

If you are installing the Development System Software from a 40 megabyte Apple cartridge tape, proceed to paragraph 4.2, Copy the Tapes to the microExp Folder. If you are installing from diskettes, proceed to paragraph 4.3, Copy the Host Driver Diskette to Hard Disk.

4.2 Copy the Tapes to the microExp Folder

To install the Development System Software or the Network System Software from tape, perform the following steps:

1. If you do not have an existing microExp folder at the top level of your hard disk, use the standard Apple techniques to create the microExp folder. If you already have a microExp folder, ensure that it is completely empty and that any folders removed have been purged.
2. Using the instructions for the Restore Files command in the *Apple Tape Backup 40SC Owner's Guide*, insert the Development System Software or Network System Software tape and prepare to restore the folder on it. This tape will have part number 2552719-0002 for the Development System Load Band or 2559081-0002 for the Network System Software. Select the load band on the tape and restore it to the microExp folder on your hard disk (which you also select from the Backup/Restore utility).
3. Unload the System Software tape.
4. Insert the tape labeled microExplorer Host Driver and System Files (TI part number 2559081-0003). Select the microExp folder on the tape and restore it to the microExp folder on your hard disk.
5. Proceed to paragraph number 4.7, Install the Required Fonts.

4.3 Copy the Host Driver Diskette to Hard Disk

The microExplorer Host Driver diskette contains folders with code needed for the microExplorer installation and operation. Before you copy the contents of this diskette, verify whether you have an existing microExp

folder on your hard disk. To do so, double-click on the hard disk icon (if it is not already open), and view its contents.

If you have an existing microExp folder, perform the steps in paragraph 4.3.1, **microExp Folder Already Exists**, to copy the contents of the Host Driver diskette. If not, skip to paragraph 4.3.2, **microExp Folder Does Not Exist**.

4.3.1 microExp Folder Already Exists

If you have an existing microExp folder, be sure the desktop of your Macintosh is open. Perform the following steps:

1. Insert the Host Driver diskette (TI Part Number 2555011-0001) into the disk drive of your Macintosh. An icon representing the diskette appears on the Macintosh desktop.
2. Double-click on the Host Driver icon. A window appears, displaying the directory of icons found on the Host Driver diskette.
3. Using the techniques described in the Macintosh II owner's guide, drag the contents of the Host Driver diskette to the microExp folder.
4. A dialog box appears, asking whether you want to replace existing versions of the files in the microExp folder.
5. Click on the OK button to signify that it is okay to replace the existing files.
6. Unload and remove the Host Driver diskette by dragging its icon to the trash can.
7. Proceed to paragraph 4.4, **Copy the System Files Diskette to Hard Disk**.

4.3.2 microExp Folder Does Not Exist

If you do not have an existing microExp folder, be sure the desktop of your Macintosh is open. Perform the following steps:

1. Insert the Host Driver diskette (TI Part Number 2555011-0001) into the disk drive of your Macintosh. An icon representing the diskette appears on the Macintosh desktop.
2. Select the Host Driver icon by clicking the mouse once.
3. Drag the Host Driver diskette icon to the icon representing your Macintosh's hard disk. Click OK on the dialog box that appears because the disks are of different types.
4. Unload and remove the Host Driver diskette by dragging its icon to the trash can.
5. If the directory listing for the hard disk is not already open, double-click on the hard disk's icon to open it. You should see a new Host Driver icon.
6. Using the techniques in the Macintosh II owner's guide, rename the new Host Driver icon to microExp.

4.4 Copy the System Files Diskettes to Hard Disk

The microExplorer System Files diskettes contain many of the tools and Lisp system files required for developing applications. The diskettes are labeled "microExplorer Development System Software System Files Disk #1", "... Disk #2", and so on. The diskettes are numbered beginning with TI Part Number

2555011-0002 and continuing with -0003, -0004, and so on. To copy these diskettes, be sure the desktop of your Macintosh is open. Perform the following steps:

1. Insert the first System Files diskette (TI Part Number 2555011-0002) into the disk drive of your Macintosh. An icon named "System Files 1" representing the diskette appears on the Macintosh desktop.
2. Double-click on the System Files icon. A window appears and displays the directory of icons found on the System Files diskette.
3. Using the techniques described in the Macintosh II owner's guide, drag the contents of the System Files diskette to the microExp folder on your Macintosh's hard disk. This microExp folder was created when you copied the contents of the Host Driver diskette to your hard disk.
4. Unload and remove the first System Files diskette by closing its window and dragging its icon to the trash can.
5. Double-click on the microExp folder. A window appears and displays the directory of icons inside the microExp folder.
6. Repeat steps 1 through 4 for System Files diskettes #2 and #3 (TI Part Numbers 2555011-0003 and -0004). However, you should drag the contents of these diskettes to the MacSys folder contained inside the microExp folder, not to the microExp folder itself.
7. Repeat steps 1 through 4 for System Files diskettes #4, #5, and #6 (TI Part Numbers 2555011-0005 through -0007). However, you should drag the contents of these diskettes to the ExpSys folder contained inside the microExp folder, not to the microExp folder itself.
8. Insert the System Files diskette #7 (TI Part Number 2555011-0008) into the Macintosh disk drive. This diskette contains a GWIN 2 folder. Open this folder, select all its contents, and drag them into the GWIN folder of ExpSys. Unload and remove the diskette by closing its window and dragging its icon to the trash can.
9. Insert the System Files diskette #8 (TI Part Number 2555011-0009) into the Macintosh disk drive. This diskette contains a GWIN 3 folder. Open this folder, select all its contents, and drag them into the GWIN folder of ExpSys. Unload and remove the diskette by closing its window and dragging its icon to the trash can.
10. The contents of the System Files diskette #9 and the contents of System Files diskette #10 (TI Part Number 2555011-0010 and -0011) should be copied to the ExpSys folder. Unload and remove the diskette by closing its window and dragging its icon to the trash can.
11. Insert the System Files diskette #11 (TI Part Number 2555011-0012) into the Macintosh disk drive. This diskette contains a CLX 2 folder. Open this folder, select all its contents, and drag them into the CLX folder of ExpSys. Unload and remove the diskette by closing its window and dragging its icon to the trash can.
12. Insert the System Files diskette #12 (TI Part Number 2555011-0013) into the Macintosh disk drive. This diskette contains a CLUE 2 folder, a CLX 3 folder and a PUBLIC folder. Open the CLUE 2 folder, select all its contents, and drag them into the CLUE folder of ExpSys. Open the CLX 3 folder, select all its contents, and drag them into the CLX folder of ExpSys. Copy the PUBLIC folder to the ExpSys folder. Unload and remove the diskette by closing its window and dragging its icon to the trash can.

NOTE: All remaining diskettes contain PUBLIC files.

13. Insert the System Files diskette #13 (TI Part Number 2555011-0014) into the Macintosh disk drive. This diskette contains a PICTURES folder. Select this folder and drag it into the PUBLIC folder of ExpSys. Unload and remove the diskette by closing its window and dragging its icon to the trash can.
14. Insert the System Files diskette #14 (TI Part Number 2555011-0015) into the Macintosh disk drive. This diskette contains a PICTURES 2 folder and a ZMACS folder. Open the PICTURES 2 folder, then open the SOURCE 2 folder. Select all of the contents of the SOURCE 2 folder and drag them into the SOURCE folder under the PICTURES folder. Close the SOURCE 2 folder and select the remaining contents of the PICTURES 2 folder and drag them into the PICTURES folder under the PUBLIC folder of ExpSys. Select the ZMACS folder and drag it into the PUBLIC folder of ExpSys. Unload and remove the diskette by closing its window and dragging its icon to the trash can.
15. Insert the System Files diskette #15 (TI Part Number 2555011-0016) into the Macintosh disk drive. This diskette contains a CLIO folder. Drag this folder into the PUBLIC folder of ExpSys. Unload and remove the diskette by closing its window and dragging its icon to the trash can.
16. Insert the System Files diskette #16 (TI Part Number 2555011-0017) into the Macintosh disk drive. This diskette contains a CLIO 2 folder. Open the CLIO 2 folder, select all its contents and drag them into the CLIO folder under the PUBLIC folder of ExpSys. Unload and remove the diskette by closing its window and dragging its icon to the trash can.
17. Insert the System Files diskette #17 (TI Part Number 2555011-0018) into the Macintosh disk drive. This diskette contains a CLIO 3 folder and a CONFORMANCE folder. Open the CLIO 3 folder, select all its contents and drag them into the CLIO folder under the PUBLIC folder of ExpSys. Select the CONFORMANCE folder and drag it into the PUBLIC folder of ExpSys. Unload and remove the diskette by closing its window and dragging its icon to the trash can.
18. Insert the System Files diskette #18 (TI Part Number 2555011-0019) into the Macintosh disk drive. This diskette contains a CLIO 4 - DOC folder. Open the CLIO 4 - DOC folder, select all its contents and drag them into the DOC folder of the CLIO folder under the PUBLIC folder of ExpSys. Unload and remove the diskette by closing its window and dragging its icon to the trash can.
19. Insert the System Files diskette #19 (TI Part Number 2555011-0020) into the Macintosh disk drive. This diskette contains a GENERAL INSPECTOR folder. Drag this folder into the PUBLIC folder of ExpSys. Unload and remove the diskette by closing its window and dragging its icon to the trash can.
20. Insert the System Files diskette #20 (TI Part Number 2555011-0021) into the Macintosh disk drive. This diskette contains a GENERAL INSPECTOR 2 folder and a ZMACS 2 folder. Open the GENERAL INSPECTOR 2 folder, select all its contents and drag them into the GENERAL INSPECTOR folder under the PUBLIC folder of ExpSys. Open the ZMACS 2 folder, select its contents and drag them into the ZMACS folder in the PUBLIC folder of ExpSys. Unload and remove the diskette by closing its window and dragging its icon to the trash can.

4.5 Restore the Development System Software Diskettes

The Development System Software diskettes contain a large image file (also referred to as the *load band*) for the Development System Software. You will restore this file from these diskettes using Apple's HDBackup utility. For information about how to use this utility, see the paragraph on Restoring a Single File in the *Macintosh Utilities User's Guide*.

Notice the numbering of the Development System Software diskettes. Only their dash numbers differ. Using the HDBackup utility, sequentially restore these diskettes to your Macintosh's hard disk. For the Development System Software, begin with diskette number 2552717-0001 and continue with diskette numbers 2552717-0002, -0003, and so on, until all the Development System Software diskettes have been restored. For the Development System Software with Network Option, these will be diskette numbers 2555050-0001, -0002, and so on.

NOTE: If more than one file appears in the HDBackup Dialog box, select only that file to be restored which contains the `.load` suffix (note the leading period) in its name.

4.6 Move the Restored File to the microExp Folder

The HDBackup utility restores the Development System Software file directly to the top level of your Macintosh hard disk. This file has a name that uses an `xxxx.load` naming convention, where `xxxx` may vary according to which software release you have. After the file is restored, you must move it into the microExp folder. The microExp folder was created on your hard disk when you copied the contents of the Host Driver diskette. If you are unable to move the file without an error, close and reopen the folder containing the restored file, and then try to move it again.

The name of the file created by the HDBackup utility may have a numeric prefix (such as `1.N928.LOAD`). If so, close and reopen the folder containing the restored file. If the name retains its numeric prefix, remove the numeric prefix by renaming the icon. Using the preceding example, the new name would be `N928.LOAD`. For information about renaming icons, see the Macintosh II owner's guide.

NOTE: If your folder was displayed on the desktop under another folder, the icon representing the restored file may not be visible when the HDBackup utility has finished. Select the disk's top-level folder in order to see the restored file's icon. If it is not there, examine the contents of other folders on your system's hard disk.

4.7 Install the Required Fonts

The microExplorer maps most Explorer fonts to their Macintosh equivalents. Some of these fonts are supplied by Apple, but are not already installed in the System file. The table below lists which of the Apple fonts are referenced by the microExplorer, and which are not.

Any members of the Required Fonts list that are not installed in your System file are generated by the microExplorer by scaling an already installed font with the same typeface but different point size. The resulting characters are usually misshaped. For example, the Texas Instruments Incorporated banner in the boot logo will be misshaped if the Times 18 font is not installed.

If your display contains misshaped characters, and if you would rather have a one-to-one mapping that results in a cleaner display, use Apple's Font D/A Mover utility (described in the *Macintosh Utilities User's Guide*) to verify which Apple fonts are not presently installed in your System file.

After identifying the fonts you need, install them from the Fonts file supplied in the Font/DA Mover folder on your system's Utilities 2 diskette. For Macintosh System 6.0.2, you would need to install Helvetica™ 9, Symbol 12, Venice 14, Times™ 9, and Times 18.

See section 2 of this document for instructions on installing microExplorer fonts into the system folder.

REQUIRED FONTS**OPTIONAL FONTS**

Typeface	Point Size	Typeface	Point Size
Chicago	12	Athens	18
Courier	10, 12	Cairo	18
Helvetica	9, 10, 12	Courier	9, 14, 18, 24
Geneva	9, 10, 12, 14, 18, 20, 24	Helvetica	14, 18, 24
Monaco	9, 12	London	18
Symbol	12	Los Angeles	12, 24
Times	9, 10, 12, 18	Mobile	18
Venice	14	New York	9, 10, 12, 14, 18, 20, 24
		San Francisco	18
		Symbol	9, 10, 14, 18, 24
		Times	14, 24

4.8 Run the MakePFiles Utility

The microExplorer Lisp environment requires at least one page partition-file, which is used as swap space (or page area) for its virtual memory. You create the initial page partition-file with the MakePFiles utility. To run this utility, perform the steps in the following paragraphs.

4.8.1 Launch the MakePFiles Application

The MakePFiles application resides in the microExp folder. This folder was created on your hard disk when you copied the contents of the Host Driver diskette.

1. In the window displaying the directory icons for your hard disk, open the microExp folder by double clicking the mouse on the microExp folder icon. The microExp window appears with the icon that represents the MakePFiles application.
2. Double-click on the MakePFiles icon. The MakePFiles window appears. Also, the Make title appears in the menu bar.

4.8.2 Create a Page Partition-File

Now that the MakePFiles application is open, you must create the page partition-file for your microExplorer.

As a rule-of-thumb, you should create the largest page partition-file possible, leaving several megabytes of disk storage free for normal Macintosh operations and file creation. Most applications will run acceptably with the total paging area about twice the size of the load band. The more paging space allocated (up to 128 megabytes), the less garbage collection will need to be done.

1. From the menu bar, press the mouse and slide down from the Make title to the Make command. The Make/Change Partition-Files dialog box appears, as shown:

microExplorer Make/Change Partition-Files

Volume: HD

Partition-File Name: p25.page

Length [in 1024 byte blocks]: 25000

CANCEL OK

The **Volume** prompt requests the volume name of your hard disk. Enter the name of your hard disk and press RETURN. The default volume name is HD.

2. The **Partition-File Name** prompt requests the name of the page partition-file. Enter a name that adheres to the following format:

pn.page

You *must* end the name of the page partition-file with the **.page** suffix. For *n*, enter a numeric value that approximates the size (in megabytes) of the page partition-file for your system. The larger the page partition-file, the better performance you will get from the microExplorer. However, you are limited to the amount of free space on your hard disk drive. The default value, **p25.page**, is the name for a 25 megabyte partition file. It should be acceptable for most systems; if not, enter the correct value for your system.

CAUTION: It is not a good idea to specify more than four characters in the first part of any partition-file's name. For example, the three letter **p25.page** is correct, but the five letter **p0025.page** name will be interpreted as **p002** by the microExplorer.

Make certain that each partition-file has a unique name. Use only alphanumeric characters in the first part of the name. Also, take care not to add any blanks, tabs, or other invisible characters to the beginning or end of a partition-file name.

3. The **Length** prompt requests the length (in 1024-byte blocks) of your page partition-file. Using the previous example, your page partition-file is 25M bytes, or 25000 blocks long. Enter that information according to the value you have chosen for your page partition-file.
4. After confirming that all the requested information is correct, click on the **OK** button to activate the MakePFiles utility. Click on the **CANCEL** button if you have changed your mind.

5. After the MakePFiles utility completes, exit MakePFiles. To do so, press and hold the Apple key; then press Q. You are now ready to launch the microExplorer.

The MakePFiles utility is discussed in greater detail in section 9, Partition-Files, in the *microExplorer Development Software User's Guide*.

4.9 Installing the Network Option Upgrade

If you have just finished installing the microExplorer Development System Software or the Development Software with Network Option, proceed to paragraph 4.10, Install the EtherTalk Driver. This paragraph applies only to the microExplorer Network Option Upgrade installation.

The Network Upgrade contains a new load band with full network capability. This band will replace the load band that was placed on a standalone machine during the installation of the Development System Software. You may need to delete your old load band in order to make room for the new band. You can do this by dragging the old file's icon into the trash can and selecting the Empty Trash item on the Special menu.

After installing the new load band, your system software should be equivalent to the Development System with Network Option.

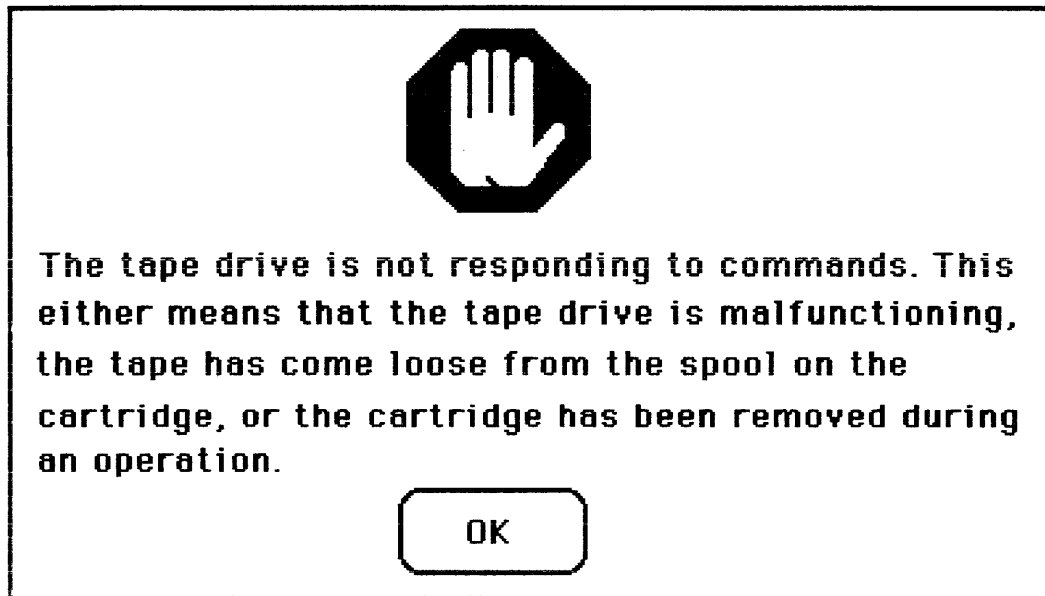
If you are installing the Network Option from tape media, proceed to paragraph 4.9.1, Installing the Network Option Upgrade From Tape. If you are installing from diskette media, proceed to paragraph 4.9.2, Installing the Network Option Upgrade From Diskette.

4.9.1 Installing the Network Option Upgrade From Tape

Using the instructions for the Restore Files command in the *Apple Tape Backup 40SC Owner's Guide*, insert the tape labeled "microExplorer Development System with Network Option Upgrade" (TI Part Number 2559081-0002) and prepare to restore the file on it. Select the load band on the tape and restore it to the microExp folder on your hard disk, which you select from the Backup/Restore utility. Proceed to paragraph 4.10, Install the EtherTalk Driver.

<p>NOTE: The tape utility offers you a file chooser window to select where to restore the contents of the tape. You must both select and <i>open</i> the microExp directory to restore into it. If there is no OPEN button in the tape utility window at that level, you must double click on the name microExp in order to open it before clicking on RESTORE.</p>
--

If a message similar to the one below appears when you attempt to invoke the tape utility's restore facility, just click on dialog box's OK button. The window displaying the tape contents should then be displayed normally.



4.9.2 Installing the Network Option Upgrade From Diskette

The Network Upgrade diskettes contain a large image file for the Development System Software with Network Option. This file will replace the load band in the Development System Software already installed on your disk. You will restore the new file from these diskettes using Apple's HDBackup utility. For information about how to use this utility, see the section on Restoring a Single File in the *Macintosh Utilities User's Guide*.

Notice the numbering of the diskettes. Only their dash numbers differ. Using the HDBackup utility, sequentially restore the diskettes to your Macintosh's hard disk. For the Development System Software, begin with diskette number 2555050-0001 and continue with diskette numbers 2555050-0002, -0003, and so on, until all the Development System Software with Network Option diskettes have been restored.

NOTE: If more than one file appears in the HDBackup Dialog box, select only that file to be restored which contains the **.load** suffix (note the leading period) in its name.

The HDBackup utility restores the Development System Software file directly to the top level of your Macintosh hard disk. This file has a name that uses an `xxxx.load` naming convention, where `xxxx` may vary according to which software release you have. After the file is restored, you must move it into the `microExp` folder that contained your original Development System Software load band. If you are unable to drag the file's icon into a different folder without an error, close and reopen the folder containing the restored file and try again.

The name of the file created by the HDBackup utility may have a numeric prefix (such as 1.N928.LOAD). If so, close and reopen the folder containing the restored file. If the name retains its numeric prefix, remove the numeric prefix by renaming the icon. Using the preceding example, the new name would be N928.LOAD. For information about renaming icons, see the Macintosh II owner's guide.

NOTE: If your folder has been displayed on the desktop under another folder, the icon representing the restored file may not be visible when the HDBackup utility has finished. Select the disk's top-level folder in order to see the restored file's icon. If it is not there, examine the contents of other folders on your system's hard disk.

4.10 Install the EtherTalk Driver

If you are using the Development Software with Network Option, the EtherTalk software driver must be installed in your Macintosh system. This software and the installation instructions for it are packaged with the Apple Macintosh II EtherTalk Interface card.

4.11 Contents of Your Hard Disk

After you have completed the steps described in the earlier portions of this section, the following items should be on your hard disk:

- Macintosh System folderContains code used by all applications running on the Macintosh
- Macintosh Utilities folderContains the utilities that enabled you to install the Development System Software
- microExp folderContains the items listed in paragraph 4.12, The microExp Folder After Installation

4.12 The microExp Folder After Installation

<u>Contents</u>	<u>Description</u>
microExplorer application.....	The microExplorer application itself
MakePFiles application.....	Used to create or modify partition-files
TbServer application.....	Used to make Macintosh Toolbox calls from the microExplorer environment
Color-Qix application.....	An example toolbox interface application
Startup file.....	Identifies parameters needed at launch-time. See Section 2, Launching, in the <i>microExplorer Development Software User's Guide</i> for details
Load partition-file.....	Contains the Lisp environment loaded at launch time
Microcode partition-file.....	Contains the Lisp microcode environment
Page partition-file.....	Used by the microExplorer for virtual memory swap space
ExpSys folder.....	Contains Lisp systems, tools, and code for inter-environment communication. Includes the UBIN folder which has the TBL and CRASH files. These files contain information needed for error reporting and crash analysis
MacSys folder.....	Contains code for inter-environment communication
HyperLisp folder.....	Contains materials that enable communication between HyperCard and the microExplorer
microExplorerFonts.....	Contains the fonts that are installed in the System folder

4.13 Adding a microExplorer Host to the Namespace

The following section is only relevant for those customers using the Development Software with Network Option.

You should have an existing network namespace and an object representing your microExplorer in the `:host` class of the namespace. For details about how to edit a network namespace, add or change an attribute, and so on, see the *Explorer Network Reference* manual.

The following paragraphs describe the required attributes for a microExplorer object in the `:host` class:

- :address** - Each microExplorer object must have a unique network address assigned by the system coordinator (or the network manager of your group) for each protocol utilized by that machine.
- :machine-type** - Change the value of the machine type attribute to `:microExplorer`. This change will automatically set the **:system-type** to the correct value (currently `:unix-ucb`).
- :pathname-flavor** - Add this attribute and give it the value of `fs::mac-pathname`.
- :primary-device** and **:default-device** - Add these two attributes and give them the name of your internal Macintosh disk as its value.
- :ftp-implementation-type** - Add this attribute and give it the value `:microExplorer`. This attribute is necessary for IP access to the microExplorer to work properly.

:services - The **:services** attribute for each microExplorer object must have all the values displayed in the following example:

```
(:SERVICES :GROUP)
  (:FILE :MICRONET :NFS)           - required
  (:STATUS :CHAOS :CHAOS-STATUS)   - Chaosnet
  (:LOGIN :CHAOS-STREAM :TELNET)   - Chaosnet
  (:FILE :CHAOS :QFILE)           - Chaosnet
  (:MAIL-TO-USER :CHAOS-STREAM :MAIL) - Chaosnet
  (:TIME :CHAOS-SIMPLE :TIME-SIMPLE) - Chaosnet
  (:UPTIME :CHAOS-SIMPLE :UPTIME-SIMPLE) - Chaosnet
  (:SHOW-USERS :CHAOS-STREAM :NAME) - Chaosnet
  (:LISPM-FINGER :CHAOS-SIMPLE :LISPM-FINGER) - Chaosnet
  (:STATUS :TCP :IP-STATUS)        - TCP/IP
  (:MAIL-TO-USER :TCP-STREAM :SMTP) - TCP/IP
  (:LOGIN :TCP-STREAM :TELNET)     - TCP/IP
  (:FILE :TCP :FTP)               - TCP/IP
  (:SHOW-USERS :TCP-STREAM :ASCII-NAME) - TCP/IP
  (:TIME :UDP :TIME-SIMPLE-MSB)    - TCP/IP
  (:FILE :UDP :NFS)               - NFS
  (:STATUS :DNA :DECNET-STATUS)    - DECnet
  (:FILE :DNA :DAP)               - DECnet
  (:MAIL-TO-USER :BYTE-STREAM :PMU) - DECnet
```

The comments to the right of each attribute indicate which protocol the attribute describes. If you are not utilizing a protocol, its attributes can be omitted.

:service-desirability - When multiple network protocols are used concurrently, there may be a need to set the relative priority for medium access or service access between the different protocols. This choice of priorities may be done by adding the **:service-desirability** attribute. The following values are candidates for this attribute:

```
(:nfs      1.00) - NFS
(:qfile    0.90) - Chaos
(:ftp      0.80) - TCP/IP
(:dap      0.70) - DECnet
```

Notice that the **:nfs** service entry *must* be 1.0 (the highest value). Relative desirabilities for other services can be adjusted as required.

:medium-desirability - The following values are candidates for this attribute:

```
(:micronet 1.00)
(:chaos    0.90) - Chaos
(:tcp      0.80) - TCP/IP
(:udp      0.70) - TCP/IP
(:dna      0.60) - DECnet
```

Notice that the **:micronet** medium *must* be 1.0 (the highest value). Relative desirabilities for other mediums can be adjusted as required.

If you are currently using the local-file service and local desirabilities, you can continue doing so. Although this service is intended for an Explorer host, it will work for a microExplorer host as well.

After you have made all necessary changes to the host attributes for each of your microExplorer host objects, be sure to update your network namespace by typing CTRL-X CTRL-W or by choosing the Update Namespace Globally option from the General Commands menu.

4.14 Starting Up Your New System

Proceed to Section 2, *Launching*, of the *microExplorer Development Software User's Guide*, for information about starting up your new system.

4.15 The UPDATE Diskette

The UPDATE diskette (TI Part Number 2559093-0001) contains last-minute Lisp patches that should be applied to your Lisp system after it is booted. These patches can be loaded directly from diskette by executing the following form:

```
(sys:load-patches-from-diskette :options '(:noselective))
```

More commonly, you will want to install the updated materials on your SYS host where **load-patches** will pick them up automatically. This can be done using the **sys:install-update-from-diskette** procedure. **sys:install-update-from-diskette** will copy the patches to the proper patch directories on the SYS host, as well as any updated source files provided on the UPDATE diskette.

NOTE: The **sys:install-update-from-diskette** procedure should be performed last, after all other installation steps are completed. In addition, you should be sure to load all patches on the UPDATE diskette into the Lisp environment (via the **sys:load-patches-from-diskette** procedure) before using **sys:install-update-from-diskette**.

After the **sys:install-update-from-diskette** has been performed, you can load patches each time you boot by using the **load-patches** procedure. Alternatively, you can load patches once and then **disk-save** the patched environment. A simple method of ensuring that patches are always loaded when you boot the microExplorer is to put the form `(load-patches :noselective)` in your login-init file. For more information on loading patches and updates on diskette, see section 10, *Maintaining Your System Configuration*, in the *microExplorer Development Software User's Guide*. For information on how to build patches permanently into a load band, see the discussions of **disk-save** in the *Explorer Input/Output Reference* manual and in the section on *Partition-Files* in the *microExplorer Development Software User's Guide*.

Note that because the patch directory overhead files for all microExplorer subsystems are not shipped with the system (in order to conserve disk space), warning messages such as the one below may appear when a **load-patches** is performed.

```
Skipping system EH, whose patch directory
SYS:PATCH.EH;PATCH-6.PATCH-DIRECTORY#> cannot be accessed.
```

4.15.1 Factory-Installed Software Considerations

If your microExplorer system came with software factory installed, the equivalent of **sys:install-update-from-diskette** has already been performed on your hard disk, so that the patches and other updated materials are already on your disk volume. After booting your microExplorer you will need to load the patches via the **load-patches** procedure.

4.15.2 Examples Using **sys:install-update-from-diskette**

Both **sys:load-patches-from-diskette** and **sys:install-update-from-diskette**, are documented in section 10, *Maintaining Your System Configuration*, in the *microExplorer Development Software User's Guide*. For ease of installation, however, some examples follow.

Example 1: You have just finished installing the Development Software with Network Option from tape onto disk volume HD, which is the `defaultdevice` in your Startup file. You want to install the update materials onto the same disk volume. After booting the microExplorer and performing `sys:load-patches-from-diskette` to load all patches, you would perform the UPDATE installation as follows:

```
(sys:install-update-from-diskette :to-host "lm")
```

Example 2: Same as Example 1 except that disk volume HD is not the `defaultdevice` in your Startup file. After booting the microExplorer and performing `sys:load-patches-from-diskette` to load all patches, you would first set the SYS host to your local host with directory translations pointing to HD. This can be done using the following:

```
(net:add-logical-pathname-host  
  "SYS" "lm" (name:make-microExplorer-sys-translations) "HD")
```

Then you perform the UPDATE installations as follows:

```
(sys:install-update-from-diskette :to-host "SYS")
```

Example 3: Similar to Example 1 except that you want to install the update materials on a remote Explorer host named EXP-HOST. You would perform the UPDATE installation using one of the forms below. (The second one is appropriate if EXP-HOST is already set up as your SYS host.)

```
(sys:install-update-from-diskette :to-host "EXP-HOST")
```

```
(sys:install-update-from-diskette :to-host "SYS")
```

Note that `sys:install-update-from-diskette` has a `:print-only` keyword which, when true, will inhibit any actual copying operation and only display where the files would be copied.

While the UPDATE files are being copied you may be prompted about whether various files named MAKEFILE (with no file type) are character files. Answer Y to any such questions.

4.15.3 Future UPDATE Diskettes

At the time of this writing, only one UPDATE diskette is included with microExplorer software packages. However, future software updates may require more than one UPDATE diskette. If so, they will be named "microExplorer Update Disk #1", "microExplorer Update Disk #2", and so forth, and have TI Part Numbers 2559093-0001, -0002, and so on. Both `sys:install-update-from-diskette` and `sys:load-patches-from-diskette` will handle multiple-diskette update sets by prompting the user for additional diskettes.

Future UPDATE diskettes may also contain the Macintosh microExplorer applications (microExplorer, TbServer, and so forth). If present, these applications would be located in the UPDATE diskette's `microExp` folder. These applications cannot be copied to other Macintosh disk volumes using `sys:install-update-from-diskette`. Instead, you must copy them using Macintosh copy facilities (by selecting the microExplorer application icons in the Finder and dragging them into your `microExp` folder).

5. NETWORK TROUBLESHOOTING

The following section is only relevant to those customers using the Network Option. It describes procedures that you can use to correct problems that you might encounter with the microExplorer Networking software:

SYMPTOM: Error occurs while booting Network partition: EtherTalk is not installed or is not activated

CAUSE: Incorrect installation of EtherTalk (or EtherTalk is not selected in the Control Panel if using Macintosh System 5.0).

ACTION: Open the Control Panel and select Network. The EtherTalk icon should be selected rather than the Built-in icon. If EtherTalk is selected, reinstall EtherTalk or consult the Macintosh documentation for EtherTalk troubleshooting information. If using Macintosh System 5.0, upgrade to Macintosh System 6.0. If using EtherTalk driver 1.0, upgrade to version 1.1 or later.

SYMPTOM: The microExplorer will not respond as a file server to Explorers running release 3.x.

CAUSE: The original Explorer release did not know about Macintosh pathname syntax.

ACTION: Explorers running release 3.2 or earlier will need additional patches to support Macintosh pathnames.

SYMPTOM: Running on a pre-6.0 Macintosh system, cannot operate LocalTalk™ while EtherTalk is enabled.

CAUSE: Earlier Macintosh systems cannot switch between protocols automatically.

ACTION: To operate LocalTalk without disabling EtherTalk, perform the following:

1. Select EtherTalk from Network under the Macintosh Control Panel.
2. Boot the microExplorer partition.
3. Return to the Control Panel and select the Built-in icon under Network. This action should disable EtherTalk, but experience has shown that both remain activated.

<p>NOTE: Macintosh System 6.0 will do the switching automatically. If using Macintosh System 5.0, upgrade to Macintosh System 6.0.</p>

6. KNOWN PROBLEMS

Macintosh Operating System Version 6.0.x Compatibility

- The MacroMaker Macintosh utility is not compatible with the microExplorer environment. Erratic behavior and system lockups may result if the microExplorer application is running and MacroMaker is present in the System folder. If the user performs an upgrade to OS version 6.0.x, the MacroMaker application must not be installed in the System folder. It may, however, be placed in any other folder.

Interaction with Other Macintosh Applications

- The presence of certain Macintosh applications can cause the microExplorer to exhibit erratic behavior, or even to experience a hard crash during boot. This is of particular danger with programs that are installed at system boot time (such as Startup documents and Control Panel documents). If you experience any unexplained behavior running the microExplorer, first remove all non-standard software from your Macintosh system (especially non-standard software in your System Folder), restart the Macintosh, and relaunch the microExplorer.

EtherTalk Hardware Contention

- Macintosh programs that utilize the EtherTalk board may interact badly with the microExplorer. Several symptoms are possible. If the other program is running when you attempt to launch the microExplorer, the microExplorer may crash during boot or get a Lisp error late in boot. If the microExplorer is running when you attempt to launch the other program, the other program may fail to launch properly or may later get an error when it tries to access the EtherTalk hardware. Note that this behavior may be observed anytime an EtherTalk board is present in the Macintosh chassis, even if the Network Option software is not present.

The Internet Intermail™ application is an example of such a Macintosh program. If it is present in your System Folder it will be installed when you boot the Macintosh. Subsequent attempts to launch the microExplorer will result in the Macintosh crashing.

Boot

- Do not use non-ASCII special characters in your hard disk names. Use only letters, numbers, and visible special characters in the ASCII character set. The system may freeze during boot otherwise.
- The "microExplorer" (Texas Instruments Logo) icon in the "MicroExp" directory will be chosen over a newer icon with a different name. This can result in an older icon (driver) used to boot the microExplorer when clicking on any of the HyperLisp buttons in a Hypercard stack that select a Explorer window. This can cause unpredictable problems and crashes since you will not get the newer driver as desired. **RULE OF THUMB** : Do NOT rename NEW drivers. If you want to keep old drivers around for some reason - rename the OLD drivers so that THEY WILL NOT BE selected.

CLCS

- The :INITARG slot option for the function **CLEH:DEFINE-CONDITION** must currently be a keyword with the same symbol-name as the slot name. Any other keyword or symbol will not be accepted.
- **(CLEH:ABORT)** cannot be entered top level into the Lisp Listener. An error will occur.

CLIO

- **edit-text** and **edit-text-field** objects allow the user to move the insertion point outside the window, rendering the text caret invisible.

CLOS

- The following forms work when compiled but not when interpreted: **generic-flet**, **generic-labels**, **generic-function**, and **with-added-methods**.
- Methods specialized on (**eql value**) types are currently dispatched using **eq** instead of **eql**. This means that **eql** specialization won't work for numbers other than fixnums or short floats.
- The function **function-keywords** returns **nil** as the first value whenever the second value is true.
- Redefining a generic function does not remove the methods from the previous **defgeneric**.
- The function **slot-definition-initargs** only works on direct slots, not effective slots.
- The function **class-direct-subclasses** always returns **nil** for structure classes.
- There is no error checking for **call-next-method** being called with arguments of the wrong class.
- (**typep x 'f**) incorrectly returns **nil** when *x* is an instance of a hybrid class and *f* is the name of a flavor that is included in the class. This can be worked around by using the following : (dont-optimize (typep x 'f)).
- Some problems have occasionally been noticed when a CLOS generic function is used by two or more processes at the same time. The exact nature of the problem has not been diagnosed yet, but it probably has to do with two processes trying to build the combined methods at the same time. If so, the use of TICLOS:PREPARE-GENERIC-FUNCTION before spawning additional processes may avoid the problem.
- *PRINT-LEVEL* is not correctly handled when one of the levels is printed by a user-written PRINT-OBJECT method; the level count is reset to 0 at that point.
- CLOS methods that need more than 64 local variable slots are not compiled correctly. The resulting symptom is a run time error for an invalid mapping table in a function whose name is of the form (:INTERNAL (METHOD ...) :BODY).
- Defining an :AROUND method on class T may not work if the generic function has methods specialized on flavor classes. The symptom is an invalid mapping table trap when the generic function is invoked on a flavor instance.

CLUE

- Modal input has not yet been defined.
- The implementation of **interactive-stream** is not portable.

CLX

- In general, XLD files compiled with version 6.n of CLX are not compatible with XLD files compiled with version 7.n of CLX. In order to use CLX 7.n, existing CLX programs should be

recompiled. Similarly, existing CLUE programs must be recompiled in order to use CLUE 7.n, which uses CLX 7.n.

- An erroneous output request may invalidate several other subsequent requests in the CLX output buffer. As a result, when the buffer is flushed, a large number of errors may be signalled. If the default display error handler function is used, then the user must abort from the Explorer Error Handler for each error signalled.]

DECnet

- When an Explorer is on an Ethernet™ with a large number of DECnet hosts, an excessive amount of time may be spent in the background NuBus Receiver Process. This is due to the large number of hello multicasts that are present as background traffic on these nets. You may use the Peek utility to disable listening for multicast hello messages by bringing up the Network menu (by pressing N or clicking on Networking) and selecting the DECnet On-Ethernet Cache item. Inside the On-Ethernet Cache Peek display, you can click on the Listening for Routers item or Listening for Endnodes item to stop processing those hello messages. However, if you disable multicast reception, you will not be able to transmit to or receive from hosts in other areas. You will only be able to connect to hosts in the same logical area.
- A loop node operation from NCP on VMS™ to an Explorer will timeout before completion.
- If a user kills the DECnet Hello Manager process (through the Peek processes display, for example) a (dna:reset t) form will not start a new Hello Manager. The user must evaluate the following form to restart a new Hello Manager:

```
(dna:reset-hello-xmitter t)
```

- When writing a file to a VMS host, if the user runs out of allocated space, the host will disconnect without warning.
- If you rename a directory on an ULTRIX™ host, the directory attribute will be lost in subsequent Direds or fs:directory-list operations.
- The fs:create-directory operation for VMS and ULTRIX hosts, and the rename-file operations for ULTRIX hosts use batch files to perform the appropriate operations. This method takes much longer to perform, therefore, we recommend that you perform these operations on the remote host using the CTERM. If the batch mechanism is used, ULTRIX hosts will create a log file and retain the batch file after the operation has been executed. VMS hosts will delete the batch file after the operation has been executed.
- Explorer DECnet does not support poor man's routing (multiple host names embedded in the pathname) for client or server functions.
- Dired displays the maximum number of blocks allocated to a file, not the actual number used.
- The Explorer DAP server does not recognize as character files those files that have a Record Format (RFM) of ASCII-Stream. Therefore, when copying files from a VAX™ to the Explorer, data will be lost from these types of files.
- There is a known problem using DECNET to compile LISP code on a VAX. It will work properly if you increase the size of dna:DAP-BUFFER-SIZE to 1024.

DECnet CTERM

- The cursor positioning in the VMS forms editor is incorrect.

- At least some versions of the EMACS editor on VMS systems will hang and not respond to control characters, forcing the user to abort the connection.
- The EDT editor on VMS systems will occasionally lose characters at the beginning of a newly typed line. You can use the editor command Control-R to redisplay the line.
- The CTERM window scrolling sometimes becomes confused and repeats the last line of the screen repeatedly. You can either logout and login again to clear the screen, or execute a function such as MONITOR system to clear the screen when this happens.
- Interrupting the TYPE *<filespec>* command on a VMS system does not take effect immediately and is sometimes ignored by the host system.
- Some VMS utilities display their initial prompt on the same line as the original command.
- CTERM windows that have timed out on the host side will sometimes get parsing errors for data messages. Press ABORT to clear the error and get a new window.

DECnet PMU

- The Personal Message Utility (DEC mail) is experimental client/server software provided for the convenience of the user. This is a prototype implementation based on an undocumented protocol, therefore, user judgment should be applied regarding its use.

Disk Save

- The Estimated Time Left figure is usually wrong. It is too low at the start of the save and too high near the end. Furthermore, the percent complete may go over 100% near the end of the save.
- **disk-save** does not reboot the resulting saved band. Instead, it indicates completion on its Cold Load Stream display. If the **disk-save** was done to a different partition, the user must edit the Startup file to change the load volume information and then relaunch the microExplorer.

Documenter

- If using the document-system function on the system CLUE, you will enter the error handler because the files CLX;MACROS and CLX;BUFMAC are not loaded. Use the resume option to load these files.

File System

- If the time set on the Macintosh is in the past, access to files with a creation date later than the set time will cause an NFS stale file-handle error. If you encounter this error, ensure the time set on the Macintosh is correct.
- NFS does not support wildcards in their directory's components.

Graphics Editor

- Applications using GWIN will be affected by the differences in the imaging models of the original Explorer and the Macintosh. Saved images in GED on an Explorer may be redrawn with slight differences on the microExplorer. The appearance of graphic output generated with GWIN may be different when an application is executed on a microExplorer versus an Explorer.
- The mouse cursor may be displaced slightly from the point that is being changed.

- In the Graphics Editor, the STATUS menu option, Thickness cannot be changed by using the calculator.

Kernel

- SUBTYPEP sometimes incorrectly returns NIL when the arguments are flavors that have not yet been instantiated.
- If *PRINT-CIRCLE* is globally set true, this can cause the debugger to repeatedly display ">>Error: ... Error while printing error message:" when trying to report certain kinds of errors. If this happens, try pressing CTRL-ABORT and then (SETQ *PRINT-CIRCLE* NIL).
- The function DISPLACED-ARRAY-P returns a second value of NIL instead of 0 if the array was created by a call to MAKE-ARRAY that did not specify a value for :DISPLACED-INDEX-OFFSET.

Loading Patches

- Because the patch directory overhead files for all microExplorer subsystems are not shipped with the system (in order to conserve disk space), warning messages such as the one below may appear when a `load-patches` is performed.

```
Skipping system EH, whose patch directory
SYS:PATCH.EH;PATCH-6.PATCH-DIRECTORY#> cannot be accessed.
```

NameSpace Editor

- Decnet addresses that have a zero in the right-most digit, such as 6.110, must be added to the namespace as 6110 or as a string "6.110". If you attempt to add it as 6.110 the 0 will be dropped and the address will be entered as 6.11. You will not be able to connect to this host.

NFS (Network)

- RPCINFO with the `-p` option will not work from a Sun or from an Apollo machine. Use the `-u` option instead.
- Apollo-specific environment variables should not be used in the symbolic link names. Explorer Dired will not work properly with directories containing such symbolic link names.
- A problem can be noted if copying a file from a Sun or an Apollo to an existing Explorer file using the Explorer NFS server and if the length of the existing file is longer than the file to be copied. You will see, after the copy operation, that the new file has the same length as the old file and that the remainder of the old file appears at the end of the copied file. To work around this problem, delete the existing Explorer file before the copy operation.

NFS MOUNT Server

- SUN users running on the SunOS version 4.1 will find it impossible to mount the file systems of a remote Explorer and microExplorer. This occurs because the Sun client is using version 2 for the MOUNT protocol program (#x100005) and both the Explorer and microExplorer support version 1 only. The Explorer NFS patch 3-12 and the microExplorer NFS-MX patch 6-8 provides support for version 2. After loading the patch the MOUNT server must be reset or the patch must be disk-save and the system rebooted. Execute the following to reset the MOUNT server:

```
(nfs:start-mount-server 17.)
```

Pathnames

- Pathnames with the forward-slash (#\/) character in either the name component or in a directory component of a filename are not supported. Filenames created with the forward-slash character on the Mac side will show up in Dired listing. If you attempt to expand or view the directory or file you will get a "file not found" error.

- The doc string for `fs:add-logical-pathname-host` says:

```
Format of the translations can be:
(logical-directory physical-device-and-directory)
(logical-directory physical-device physical-directory)
The suggested format is:
(logical-directory physical-device (subdir subdir ...))
```

Everything works as advertised for `fs:mac-pathnames` with one exception. Using the

```
(logical-directory physical-device physical-directory)
```

form requires that the `physical-directory` argument be specified as *dummy-device:dir1:dir2:*. Otherwise, the first directory node is mistaken as the device. (This is because of the ambiguity of Macintosh pathname's directory and device delimiter - they are both colons.)

- If the physical directory you are specifying in a logical pathname definition contains only one node and you omit the device, as in the following:

```
(fs:add-logical-pathname-host "LMacHost" "mx2" '
                              ("ld" nil "microexp:")) nil)
```

the result will be an error such as:

```
>>Error: No directory specified in (LD NIL ROOT), you probably
forgot some delimiter characters.
```

Unfortunately, this will produce a host object in a state such that additional corrected attempts to add the same logical host will continue to give the same error. Also, the form `net:delete-logical-pathname-host` encounters the same problem. To get out of this, return two values, `nil nil` from the form `net:parse-logical-translations`.

- Note that merging of types into pathnames is not always intuitive. In general, it is not safe to give just a file extension and merge it into a pathname. Always include at least the filename when specifying a type.

PICTURES

- Extents are not calculated correctly for polygons methods when the line-width is specified, the cap-style is `:miter` and one of the corners is an acute angle. Part of the corner is not included in the extent. If a cap-style of `:rounded` or `:beveled` is used, there is no problem.

Printing

- When the `microExplorer` software is used to print on Apple Laserwriters (or the equivalent), it is important that the installed printer driver on the `microExplorer` be version 6.0 or later. Use with version 5.0 or earlier may result in intermittent crashes of the Macintosh. After you reboot your Macintosh, use the Chooser to reselect your printer. Please note that there are problems in having different Macintoshes use different versions of the this Apple software when sharing the same Laserwriter, so all such Macs should be upgraded to the same version.

- When using TERM-Q or one of the bitmap printing routines to a microExplorer print server, any values supplied by the user for page orientation (landscape, portrait, best) or dots per inch are ignored. Orientation and scaling must be controlled through the Printer Setup operation on the microExplorer File menu. This means that when first doing a screen dump the printed image may be surrounded by white space if small, or truncated at the sides if large. You must use the magnification item of the Printer Setup dialog box to choose a scaling appropriate for the image to be printed.
- When a print request is made to a remote microExplorer, the printer parameters used are those set up on the remote host via the Printer Setup operation. As a result, orientation and scaling parameters must be set up manually on the remote host if these are important.
- The wholine is never printed on a microExplorer screen dump, even when the user specifies it in the TERM-Q options window.
- If you are using a Laser printer it is best to turn on the Background Printing feature using the Chooser. This will let you operate the microExplorer and the Macintosh in other ways while your document is being printed. Otherwise, while printing on the server is underway, other attempts to access the print server will cause a host not responding error.
- When CPTFONT and BIGFNT are printed by a microExplorer print-server using a PostScript™ printer, a bitmapped font is used rather than an outline font. There is no outline font corresponding to these Macintosh fonts. These fonts were created especially for the microExplorer and contain glyphs that are unique to the Explorer character set.
- The page range fields of the Printer Setup Job Dialog are ignored. Furthermore, the number of copies to print in this dialog box should not generally be changed from 1. The Lisp printing software controls the number of copies printed.
- Sometimes material will be printed on a PostScript printer with the font that the previous document used. Because the default font may change, always specify the font to be used if it is significant.
- If you print a file to a PostScript laser printer attached to a Macintosh and print the same file to the same type of PostScript printer on an Explorer, the printed image from the printer on the microExplorer has larger characters (although the font is the same). This is because the choice of outline font used depends on the mapping of Explorer fonts to Macintosh fonts. These choices were optimized for display legibility and typically result in a larger point size for the printed font than an Explorer print server would specify.
- When issuing a print request to a remote Explorer print server running release 4.x software, a Print Server Background Stream window will appear with a prompt requesting you to login. The window will disappear and the print request will proceed normally after you enter a login name.
- With many Macintosh applications, if you select a file created by an application in the Finder and use the Finder's Print operation, the application is launched to drive the printing. This is not supported for files created from the microExplorer environment because such files are marked as TeachText files.
- Text/Graphics smoothing is not supported.
- When printing to a PostScript printer, lines per inch is not supported. The PostScript printer is page oriented. Adjust your font to achieve the desired results.

Remote Paging

- If a microExplorer is using remote paging and the file server is rebooted the microExplorer will crash the next time it needs paging service. It also will not be warm bootable.

Toolbox Server

- At times your TbServer or other Macintosh application may evolve to such an unresponsive state that the only way to recover is to abort the application. This is normally done using TMON (or MACCSBUG) or by killing the associated lisp process. Once the application has been aborted, you should be able to cleanup your environment without having to reboot the microExplorer by executing the function MAC-APPLICATION-CLEANUP. This function will dispose of the lisp-side processes and application channels associated with TbServers and other Macintosh applications. Once it has completed, you should be able to relaunch the TbServer or other such application. Remember that all of your mac-side objects became garbaged when you aborted out of your Macintosh application. You must reinitialize these objects before trying to access them. Referencing garbaged objects will likely result in a system crash.

Windows

- Whenever the microExplorer window system is reorganizing its Macintosh-resident bitmap cache, the Macintosh watch cursor is displayed to indicate a long wait. The system cannot respond to any input until the reorganization is complete. The cursor changes to the watch only when it resides in a microExplorer window. Should the cursor reside outside all windows of the microExplorer, the Macintosh controls the image displayed. When you see the Macintosh's cursor change to a watch, wait for it to change back to its previous graphic before proceeding with your work.
- Some screen saver programs may interact badly with the microExplorer window system when Direct Drawing is enabled (the default). The symptom is that when the user performs an action that stops a screen saver, the microExplorer screen image visible before the screen saver started is not redisplayed properly. Instead, random bits of previous screen images may be displayed on the microExplorer's screen. If this kind of interaction occurs, the TERM-CLEAR-SCREEN keystroke should refresh any window that has a bit-save array (most microExplorer windows have bit-save arrays except for Lisp Listener windows). If TERM-CLEAR-SCREEN does not help, you should either turn Direct Drawing off (via the microExplorer's Options menu) or disable the screen saver.
- Many of the system's help screens are formatted for display on screens larger than the 640x480 standard display. If you attempt to display these on a small screen, you may be thrown into the error handler with an "attempt to display outside of superior" error. Usually, you can just abort out of the error and continue. Sometimes the contents of the window will "wrap" the end of each long logical line to the next physical line, making it difficult to read. If you cannot use a larger physical display, you can work around these problems by creating a new, larger virtual screen via the Set Screen Size item on the Special menu of the microExplorer application's menu-bar.
- On the menu bar, the Set Screen Size submenu of the Options menu has an entry for the number of mouse documentation lines. This option is not operational in the current release and should be ignored.
- A window in reverse-video may revert to normal video when resized or reexposed. Scrolling in a reverse-video window may bring up the new material in normal video.
- TERM C is not implemented on the microExplorer, but still appears in the TERM HELP display.
- Choose-Variable-Values windows (which are used, for example, in Profile) will sometimes have problems if a list of values is truncated or wrapped at the right margin. If the truncated or wrapped item is selected or edited, it may not be rewritten to the screen correctly. However, the value returned by the function will be correct.

- Do not attempt to shrink the size of a microExplorer screen by holding down the Command key and moving the screen's Macintosh window's grow box while Peek is on the screen. Shrinking a microExplorer screen in this way with Peek active can cause Peek to write outside the screen's Macintosh window, trashing parts of the Macintosh screen.

Peek is the only microExplorer application we have found that exhibits this problem, but any microExplorer application that writes to the screen asynchronously like Peek does have the possibility of causing this to happen. Peek's asynchronous output process does not find out about the new smaller size of the microExplorer screen until some time after the size changes, so it writes its updates out using the old, larger screen size. Clipping is not enforced properly on the Macintosh during a screen resizing, so the door is open for Peek to clobber the Macintosh screen.

The following item is addressed primarily to commercial software developers. Very few end users need to concern themselves with this issue.

- The microExplorer window system and the microExplorer Macintosh application that interfaces to the Macintosh Toolbox use a system of window IDs to tell each other in which window to draw, in which window the mouse was clicked, and so on. Each Explorer window that is either currently being written to or is currently activated and exposed has a window ID assigned to it. There is a pool of 256 window IDs, so only 256 windows may be active on the microExplorer at any one time.

In Release 4.1 a deactivated window could, under certain circumstances, own a window ID forever. Furthermore, when an application tried to allocate the 257th window ID, the system would crash with a Macintosh crash code of 50. Both of these anomalies have been fixed in Release 5.0 and subsequent releases, as follows:

- The circumstances under which a deactivated window can own a window ID have been reduced. Before a disk save occurs and in hourly intervals on a running system, a deactivated window flusher runs which finds any deactivated windows with window IDs, and deallocates their window IDs. This flusher also is run when we are out of window IDs. So, deactivated windows should no longer consume window IDs unnecessarily.
- When the microExplorer window system finds there are 10, 6, 3, or 1 free window ID(s) left, it goes to the Cold Load Stream and tells you so in a proceedable **error**. You may RESUME to ignore this warning if you absolutely must complete the creation of the windows that lead to the warning, or you may ABORT to terminate the current window creation. Either way, when this warning occurs, it is time to kill off some windows to free up some window IDs.
- If you ignore the **error** warnings, eventually you will go to the Cold Load Stream via a non-proceedable **error** which says you've completely exhausted the pool of window IDs. Your only choice here is to ABORT, and, depending on the state of the window system, you may or may not be able to proceed from this point. So, it is strongly recommended that you never let things go this far. Heed the warnings and kill off windows while you still can.
- The n -th entry in the array `mac:*all-windows-and-screens*` contains the window instance that owns window ID n . You can look at this array to see which windows need to be killed.

Visidoc

On-line manual pages produced by Visidoc exhibit certain defects when seen on a microExplorer screen. For example:

- Some special characters are printed incorrectly. In some cases, a small "delta" character may appear instead.
- Figures may be too big.

- Tables are not properly aligned.

All such problems result from the lack of special fonts needed by Visidoc. On the Explorer, Visidoc defines these special fonts to implement certain typographical effects. However, existing Macintosh fonts do not support these effects.

Zmacs

- Meta-X Edit Disk Partition is not supported by microExplorer. However, when you invoke this command, a message will appear indicating that it *is* supported. The system will attempt to load a file implementing this feature. Then the system will either not find the file or will drop into the error handler while loading it. Do not attempt to invoke this command.

Miscellaneous

- The Set Boot item of the Options menu bar item will not create a startup file if one doesn't previously exist. The information is kept as a resource and the presence of a startup file will always override the resource.

7. ADDITIONS/CORRECTIONS TO MANUALS

The following changes and additions should be made to the *Macintosh Toolbox Interface* (TI Part Number 2559092-0001). Refer to *Inside Macintosh* for documentation of the new traps and constants.

Chapter 3 QuickDraw

Page 3-17

In the last paragraph discussing the method `tb:Rect :=` replace the incorrect sentences as follows:

Incorrect:

"In each case the argument(s) define the new top, left, bottom, and right coordinates of the modified rectangle."

Correct:

"In each case the argument(s) define the new left, top, right, and bottom coordinates of the modified rectangle."

Incorrect:

"Four arguments are top, left, bottom, and right specifications similar to `tb:!SetRect`."

Correct:

"Four arguments are left, top, right, and bottom specifications similar to `tb:!SetRect`."

Chapter 4 Color Manager

Add the following constant:

`!minSeed`

Chapter 6 Color Picker

Add the following constant:

```
!MaxSmallFract
```

Chapter 11 Menu Manager

Add the following constant:

```
!hPopUpMsg
```

Chapter 12 TextEdit

Page 12-4

The example for `tb:!TEInsert` is incorrect. It should be replaced with the following example:

```
;;; Output "hello world." to a TERec
```

```
(make-instance 'tb:TERec)           ; create an instance of TERec
(setf hndl (tb:!NewString "hello world. ")) ; get a handle to string
(tb:!hLock hndl)                   ; lock the handle, then...
(setf text-ptr (tb:deref hndl))     ; dereference it into a ptr
(send text-ptr :+ 1)                ; skip over length byte
(tb:!TEInsert text-ptr 12 myTEHandle) ; output the string
(tb:!DisposHandle hndl)             ; dispose of our handle
```

Page 12-5

The argument list for `tb:!TEScroll` is incorrect. It should be replaced with the following:

```
tb:!TEScroll dh dv hTE
```

Chapter 21 File Manager

Add the following traps:

```
!AllocContig, !LockRng, !unLockRng
```

Page 21-14

In the example function `OPEN-FILE`, replace the local variable `"theNewHandle"` with `"theNameHandle"`.

Chapter 22 Printing Manager

Add the following constants:

```
!DraftBits,!GetRotn, !GetRslData, !lprEvtCtl, !HiPaintBits,!HiScreenBits, !PaintBits, !PrDocClose,  
!PrDocOpen,!PrEvtAll, !PrEvtTop, !PrLFStd, !PrLineFeed,!PrPageClose, !PrPageEnd, !PrPageOpen,  
!PrReset,!ScreenBits, !NoDraftBits, !SetRsl
```

Chapter 25 Serial Driver

Add the following constants:

```
!dtrNegated
```

Chapter 27 Operating System Utilities

Add the following traps:

```
!Environs
```

Shutdown Manager (No Chapter)

The following traps have been added for the Shutdown Manager:

```
!ShutDwnPower, !ShutDwnStart
```

8. CUSTOMER INTERFACE TO TI

8.1 Problem Reporting

If you experience problems with either hardware or software, please report those problems as soon as possible. A detailed description on how to submit bug reports is summarized here.

There are several ways to create online bug reports from a microExplorer.

- If the bug causes the machine to enter the error handler, you can press CTRL-M while in the error handler.
- You can use the function (**bug**) from any Lisp Listener.
- You can use the Zmacs command META-X Bug.

With any of these means, you are presented a Zmacs buffer in which to describe your problem. The system captures your hardware and software configuration information for you. When you finish filling in the form, you can use one of these means to get the report to Texas Instruments:

- Mail the bug report by filling in the address in the TO and SUBJECT fields at the top of the form and pressing the END key. If you have access to Arpanet mail (or CSNET mail), you can mail the form directly to Texas Instruments at EXPBUG@CSC.TI.COM. Otherwise, mail it to a local bug report mailbox. The EXPBUG mailing list is read by Texas Instruments only.
- Write the form to a file using the Zmacs command CTRL-X CTRL-W and specifying a file name. Transfer the file to the TI-CARE Bulletin Board via modem at phone number (512) 250-6112. The ID "exp bugs" can be used as both login ID and password for the

TI-CARE bulletin board. If you are unfamiliar with Bulletin Board use, TI-CARE Support Services can provide you with more information on these procedures.

- Write the form to a file using the Zmacs command CTRL-X CTRL-W and specifying a file name, print the report, and send it to Texas Instruments at the following address:

EXPLORER BUG REPORTS
Texas Instruments
P.O. Box 149149 - M/S 2201
Austin, Texas 78714-9149

If you encounter a critical problem that needs immediate attention, please contact TI-CARE Support Services for help in the United States. The phone number is (512) 250-7407. You will need to supply your Technical Support ID when making the call.

International customers with questions or problems should contact the Texas Instruments organization in their local country. The local TI organization is able to provide hardware and software support services. In addition, the local software support organization will be able to provide any patches available for customers.

8.2 Hardware Service

If your Explorer hardware needs service, you can reach Texas Instruments Field Service in the United States at (800) 572-3300. You will need to supply your system serial number when making this call. International customers with questions or problems should contact the Texas Instruments organization in their local country.

8.3 Explorer Mailing Lists

There is a public mailing list on the Arpanet to which anyone with Arpanet access can add themselves:

`Info-TI-Explorer@SUMEX-aim.stanford.edu`

To add yourself to this list, please send a message to `Info-TI-Explorer-Request@SUMEX-aim.stanford.edu`. This list is intended for discussion of general Explorer issues. This list is supported by Explorer users and not by Texas Instruments. However, by sharing the experiences with other users, Explorer users will be more productive. Texas Instruments personnel do read messages on these lists.