

INTEL CORPORATION  
5200 N.E. Elam Young Parkway  
Hillsboro, Oregon 97123  
(503) 681-8080



Dear XENIX\* 86 Customer:

Congratulations on your purchase of Intel's XENIX 86 Operating System. With this product, you own more than a powerful multiuser operating system that offers timesharing and memory protection. You have a multitasking operating system designed to take full advantage of Intel's complete system solution.

This product is being sent to two types of XENIX 86 Operating System customers: those customers who are receiving the XENIX 86 Operating System for the first time and those customers who are currently using XENIX 86 Release 1.0 and are now being upgraded to XENIX 86 Release 2.0.

Those customers receiving XNX86H as an upgrade to XENIX 86 Release 2.0 please note that, normally, we ship software updates only to customers who are under warranty. However, on a one time only basis, we have selected to make this update available to all XENIX 86 customers. We hope that you will find its numerous enhancements useful. This package provides you with a new set of XENIX diskettes which, once installed, raise your XENIX Release 1 software to the full functionality of XENIX Release 2.

To help you begin your development work as quickly as possible, this product includes both the diskettes containing the software and a complete collection of supporting documentation.

- o XENIX 86 Operating System -- Nine (9) 8-Inch, Double-Sided, Double-Density Flexible Diskettes.
- o XSAT Diagnostic Diskette -- One (1) 8-Inch, Double-Sided, Double-Density Flexible Diskette.

\* XENIX is a trademark of Microsoft Corporation.

INSITE, iSBC, iSBX, and iSXM in combination with any numerical suffix are trademarks of Intel Corporation.

- o XENIX Fundamentals (Volume 1)
- o The XENIX Installation Guide (Volume 2)
- o The XENIX Operation Guide (Volume 3)
- o The XENIX Software Development Manual (Volume 4)
- o The XENIX Text Processing Manual (Volume 5)
- o The XENIX Reference Manual (Volume 6)
- o The C Programming Language by Kernighan and Ritchie

If any of these items is missing, please contact your local sales office.

### XENIX 86 Operating System

The XENIX 86 Operating System you've just received has been licensed for a specific CPU. You have the right to make one copy of this licensed XENIX software for backup or archival purposes only. You may use the XENIX software only on a system that supports up to 16 timesharing terminals. For specifics on licensing restrictions, refer to the Intel XENIX Amendment.

An enhanced derivative of the UNIX\*\* Version 7.0 Operating System, the XENIX 86 Operating System provides driver support for these Intel controllers:

- iSXM 534 Serial I/O Expansion Board
- iSXM 544 Intelligent Serial I/O Expansion Board
- iSBC 215 Winchester Controller
- iSBX 218 Flexible Disk Controller
- iSXM 101 XENIX Extension Module
- iSBC 309 Memory Protection MULTIMODULE
- iAPX 8087 Numeric Co-processor

All floating point instructions execute on the iAPX 8087, making floating point calculations 100 times faster than when done in software. XENIX 86 Release 2 supports the iAPX 8087 arithmetic functions to within 10 digits of accuracy. Instead of using the transcendental functions available on the iAPX 8087 (such as exp, ln, log, pow, square root, sin, cos, tan) the XENIX 86 Operating System emulates these functions. It uses the iAPX 8087 to execute the floating point instructions that the XENIX math libraries generate.

In evaluating XENIX 86 Release 2, we discovered that the iSBC 309 Memory Management Unit packaged with the iSXM 100 XENIX System Extension MULTIMODULE did not fully support the iAPX 8087 numeric co-processor. We have modified the configuration of the iSBC 309 to take advantage of the co-processing feature.

\*\* UNIX is a trademark of Bell Laboratories.

Intel will be happy to implement these configuration changes on your iSBC 309 through our Return Replacement Operation. To take advantage of this service, contact the Intel Product Service Center directly at one of the following telephone numbers.

Western Region	(602) 869 - 4951
Midwest Region	(602) 869 - 4392
Eastern Region	(602) 869 - 4045
International	(602) 869 - 4862

For more information, consult the Service Information section of The System 86/3XX Installation and Maintenance Manual

For customers upgrading to XENIX 86 Release 2.0 please note that the nine diskettes included in the XENIX 86 Release 2 Update contains a completely new version of the XENIX Operating System. Follow the installation instructions described in the XENIX Installation Guide. TO MAINTAIN YOUR CURRENT FILE SYSTEM, DO NOT REFORMAT THE WINCHESTER. Before installing you may wish to copy the following files:

```
/etc/passwd
/etc/ttys
/etc/group
/.profile
/usr/lib/uucp/USERFILE
( Plus all UUCP configuration files)
```

#### XSAT Diagnostic Diskette

The XENIX System Analysis Test (XSAT) contains a series of system tests designed to exercise a System 86/330AX or System 86/380X. You can find a complete description of XSAT in the Miscellany section of the XENIX Reference Manual.

To assist you in using XENIX 86, the XENIX Operating System Documentation comes in six volumes.

- o XENIX Fundamentals  
This manual provides a concise overview of the XENIX 86 Operating System and is designed to bring a XENIX user up to speed as quickly as possible.

- o The XENIX Installation Guide  
This guide tells you how to install and set up XENIX on your computer. Be sure to read this document before you attempt to install your XENIX 86 Operating System.
- o The XENIX Operations Guide  
This guide shows how to manage and maintain the whole XENIX System. To ensure the integrity of your XENIX system, your System Administrator should review this document.
- o The XENIX Software Development Manual  
This manual explains how to write programs that interface to the XENIX Operating System and how to use some of the powerful tools available in the XENIX programming environment. (All the tools described in this manual are included in the XENIX 86 Operating System)
- o The XENIX Text Processing Manual  
This manual explains how to use text processing and text formatting tools. (All the tools described in this manual are included in the XENIX 86 Operating System.)
- o The XENIX Reference Manual  
This manual contains a comprehensive description of each XENIX command and is designed to be used as an everyday reference tool.

To supplement this user documentation, Intel has also sent you an industry standard textbook.

- o The C Programming Language  
This book serves as a reference tool for the applications programmer developing C programs.

Customers who are receiving the XENIX 86 Operating System for the first time are protected by a 90-day warranty package. This package brings you:

- o Technical Reports  
A technical report will be published quarterly for active products and semi-annually for mature products. This will contain a Configuration and Compatibility Guide, a product performance exceptions list providing solutions to known problems, a review of important current Software Problem Reports (SPRs) submitted by customers, and articles of general interest such as programming hints. A listing of product manuals available from Intel is also provided. These technical reports may result in your being able to resolve anomalies in certain routines, or may provide just the right programming hint for your application.

- o Software Problem Reporting Service (SPR)  
This service is an avenue by which you can raise product-specific issues. Intel will respond to written questions (submitted on a standard SPR form) on product-specific software, system, or documentation issues. We will verify receipt of the SPR within 48 hours and will respond within three weeks. (However, Intel does not guarantee a resolution will always be available for specific problems.)
  
- o INSITE  
Intel's Software Index and Technology Library is a collection of programs that have been submitted by users of Intel microcomputers, single-board computers, and development systems. Membership enables you to order programs at a nominal charge, and to receive this program catalog and updates. Programming efforts can be minimized by using the existing programs available through INSITE.
  
- o Customer Notification Service  
Updates and new releases are available for your purchase on a per-product update basis. All registered customers will be notified of the availability of updates and new releases through the monthly newsletter (;COMMENTS) or Technical Reports.
  
- o Customer Newsletters/Technical Bulletin (;COMMENTS)  
A monthly bulletin, ;COMMENTS, features current information on software products, Software Support Services, and new products. All active Software Support Services customers receive complimentary copies.

During the warranty period, you'll receive all available updates and new product releases for the XENIX 86 Operating System. Once the warranty expires, you're invited to take advantage of Intel support services by purchasing additional service packages or by arranging for an on-site consultation with Intel's trained System Specialists. Your local Intel sales office can supply more information on these and other support services.

Again, congratulations on choosing Intel's XENIX 86 Operating System. And welcome to Intel's complete system solution.

Sincerely,



Judi Uttal  
XENIX 86 Operating System Product Manager

5630F

## Product Limitations

During the evaluation process of XENIX 86 Release 2, several product limitations were noted. These are provided below for your convenience:

C Compiler The XENIX 86 C Compiler will result in a symbol table overflow condition if more than 500 entries appear in the symbol table.

The new "middle model" C compiler supports up to 128K of text and 64K of combined initialized and uninitialized data. Please note that no single module may have greater than 64K of text. Users may combine several modules to access up to the 128K limit. In addition, although 64K of data space is available per process, there is some overhead involved in loading a program. The result is programs are limited to 60K of usable data space.

ld The `-r` option documented in the XENIX 86 Release 1 documentation is not supported by XENIX 86 Release 2. The `-r` option generates relocation bits in the output file so that it can be subject to another `ld`.

The documentation for the `-s` option appearing in The XENIX Reference Manual, Volume 6, Section `ld`, page 1, is incorrect. If the `-s` flag is specified then a `.sym` file will be created.

cu `cu` has no line protocol; therefore, it does not perform reliably at over 300 baud. There may also be problems in using `"put"` and `"take"` with large files, over 10K.

UUCP, on the other hand, will function reliably at 1200 baud. We suggest use of UUCP for large data files and data transfers requiring faster baud rates.

plot The `plot` function does not support the Tektronix 4014 Storage Scope.

XSAT When used with Hazeltine terminals, screen output from the XENIX System Analysis Test may be garbled. This does not affect the proper operation of the system tests.

## Product Limitations

mkuser  
rmuser

The mkuser and rmuser utilities are not included in this release. Users can be added to and removed from the system as follows:

### TO ADD USER "FRED"

1. Log in as "root".
2. Use an editor to add a line to /etc/passwd. For details, please see passwd(5).  
Example: fred: :100:100:fred jones:/usr/fred:/bin/sh
3. Create a login directory for the new user (see mkdir(1)).  
Example: mkdir /usr/fred
4. Change the directory's owner to the new user (see chown(1)).  
Example: chown fred /usr/fred
5. Copy root's .profile to the new user's directory.  
Example: cp /.profile /usr/fred/.profile
6. You may now log in as "fred".

### TO REMOVE USER "FRED"

1. Remove the user's directory.  
Example: rm -r /usr/fred
2. Delete the user's entry from /etc/passwd.
3. Remove /usr/spool/mail/fred.