



*Third-Party Programs  
and Products*

# Third-Party Programs and Products for The NeXT™ Computer System

March 1989

This document describes the third-party programs and products available for the NeXT computer system. It is intended to help you find the software you need for your NeXT system.

We are pleased to announce the availability of third-party programs and products for the NeXT computer system. These programs and products are available for the NeXT computer system.

The NeXT computer system is a powerful and versatile system. It is designed to be used in a variety of environments. The NeXT computer system is a powerful and versatile system. It is designed to be used in a variety of environments. The NeXT computer system is a powerful and versatile system. It is designed to be used in a variety of environments.

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# Introduction

This is the first of a series of papers that describes the third-party software applications and hardware products being developed for the NeXT Computer System. NeXT will provide occasional updates on the status of these and other projects.

Since we introduced the NeXT Computer in October 1988, the response of academic and commercial developers has been enthusiastic. Over 1500 people have inquired about becoming NeXT Registered Developers. We have provided training to over 200 of these people through our NeXT developer training course, *Programming the NeXT Computer*. A number of these third parties have announced products for the NeXT Computer, even though they will not be generally available until after Release 1.0 of the NeXT system software.

This document describes our third-party developer programs, outlines our plans for software distribution, and presents brief summaries of ongoing third-party development projects.

# Third-Party Software Strategy

To ensure that NeXT Computer users have the software and hardware support necessary to use their machine effectively, we began long before our October, 1988 introduction to work with a number of key third-party developers to create versions of their products for NextStep<sup>®</sup>, the software environment created by NeXT.

We also rely on the following ongoing strategies:

- providing a high level of support to a few key developers rather than poor support to many
- offering developers high-quality training up front to minimize their difficulties later
- bundling a complete software development environment so that software developers will be immediately productive
- including foundation applications like the Digital Librarian<sup>™</sup> and Mathematica<sup>™</sup> that are both immediately useful tools to our end users and fundamental application building blocks for third-party developers
- licensing NextStep to IBM to guarantee prospective developers a broader market
- establishing channels through which developers reach our target markets

## Third-Party Software Priorities

Our customers have frequently told us that the first offerings for the NeXT Computer must be a suite of basic productivity and research tools. In addition, they assure us that if the quality of the offerings is high, only a handful of these applications is essential. We are therefore focusing our initial efforts to help proven developers deliver state-of-the-art versions of the most frequently requested applications and languages.

Although we are working with many vendors in various categories, our priorities for 1989 are:

- Word processing
- Spreadsheet
- Database
- Page layout
- FORTRAN
- Draw/paint
- Communications
- Statistics
- Mathematics

- Pascal
- 2D CAD
- LISP
- Digital Signal Processor development tools

In addition, through the NeXT Registered Developer Program, we are training and supporting a variety of innovative companies which will provide applications that add to our software development environment or take advantage of unique hardware or software features.

## Bundled Software

The dollar value of the software you get with the NeXT Computer is probably less important than the value of being able to turn on your machine and work productively right away. Software that comes bundled with the NeXT Computer falls into three basic categories: tools you use every day for general productivity, extensible application platforms for non-programmers, and application development environments.

### General productivity

- WriteNow™ — a full-featured word processor including a spelling checker and “mail merge” facility
- Mail — includes voice mail and is compatible with standard UNIX® mail for text
- Edit — for working with ASCII text

### Extensible application platforms

- Mathematica — a tool for doing mathematics which can be extended by adding live notebooks or new user interfaces
- Digital Librarian — software for capturing, indexing, and searching through large amounts of text in seconds

### Application development environments

- NeXT SQL Database Server — a relational database server created by Sybase® supporting up to five simultaneous users
- Interface Builder™ — for creating user interfaces in a graphical, interactive environment
- Objective-C® — linked to Interface Builder
- Common LISP — linked to Interface Builder
- Application Kit™ — linked to Interface Builder
- Sound Kit™ and Music Kit™ — linked to Interface Builder

## Academic Software Direction

Although this document concentrates on commercial development, we would also like to discuss our directions for the NeXT academic development program. We plan to focus our support on development in three areas:

- academic productivity and research applications
- discipline-specific instructional applications
- multi-purpose Interface Builder “objects”

An example of an ongoing research project is *Creation Station*. Recently discussed in *Academic Computing* magazine, this multimedia planning and prototyping tool for performing artists was created by David Gregory at the University of Michigan. In addition, universities are porting such popular UNIX applications, such as T<sub>e</sub>X and Macsyma.

Our second area of focus is discipline-specific, instructional applications that use the advanced sound, high-resolution graphics and mass storage capabilities of the NeXT Computer to offer realistic exploratory learning environments. Current projects in this category include voice recognition studies at Carnegie Mellon and development of a foreign-language workstation in a cooperative effort between Dartmouth College and Brown University.

Finally, Interface Builder allows a non-programmer to prototype and even complete an application in the NeXT development environment. We want to encourage the creation of a large library of reusable “objects,” Interface Builder’s fundamental building blocks. These objects will range from those useful across the curriculum, such as a plotting object that records data from an attached microphone, to those focusing on a single discipline, such as a simulation of an ideal gas molecule in a chamber of variable temperature. We will provide guidelines to help assure that objects work across projects and work with universities interested in acting as clearinghouses to help promote the development and exchange of these fundamental elements.

Our goal as we focus on all three of these areas is to build a program in conjunction with higher education to help academic developers in applying the power of NextStep and the NeXT development environment to the academic mission.

## Software Distribution

We cannot discuss third-party software distribution without considering the implications of NeXT’s new portable mass-storage media, the 256 megabyte optical disk. This media presents some challenges for software distribution, but also many new opportunities.

Software vendors can now offer 256 megabytes of information to users on a single read/write disk—over 200 times the capacity of a floppy disk and over 10 times the total storage on most hard disks. We expect this to fundamentally change the way we work with computers.

With 256 megabytes of storage, developers can offer their customers many added capabilities, simply and easily. Some of these are obvious: dictionaries, templates, sample documents, or comprehensive help files. The not-so-obvious capabilities are perhaps more interesting: demonstrations of other applications, enhanced space-hungry user interfaces, extensive graphics libraries, complete books on disk available for reference or literary analysis, or the liberal use of sound to fundamentally alter the way users interact with their computer. And all of us can only guess at the esoteric: interactive training with a private teacher who speaks with you, rich simulations offering so many options that users can finally get a feeling of reality in a simulation, or surrogate travel, letting users go to different places or times without ever leaving their desks.

All of this is possible because every user of a NeXT Computer can read, write, and rearrange the information on a 5 1/4" portable piece of plastic that can probably hold more text and graphics than they have produced during their lifetime.

It is also true that this new media does not cost \$2.00. It costs \$50, twenty-five times the cost of a floppy disk, even though it holds 250 times as much information. However, even when NeXT productivity software is priced in line with applications for personal computers, \$300-\$700, third-party developers will be able to incorporate an optical disk into their packaging, take advantage of the opportunities we have discussed for portable mass storage, and still distribute their products through a variety of conventional distribution channels.

While the cost of a \$50 optical disk is not an obstacle for moderately-priced commercial software, it is too high to use for free exchange of small documents or applications, or for low-cost academic or commercially-developed software (\$25-\$300).

In light of all of this, NeXT has three strategies to support the distribution of free or low-cost software. First and foremost, we are working actively with our suppliers to reduce the cost of our optical media and expect reductions as volume increases.

Second, networks will provide a rich source of public domain software. Numerous requests have come from computing centers throughout the country wanting to become a clearinghouse for academic programs, courseware, and NextStep objects. We will support several of these university-based clearinghouses to help accelerate the exchange of information among researchers and developers on different campuses.

Third, we will encourage third-party software developers to include a key server with their software. This will allow users to buy the right for any number of simultaneous users to run a particular application over a network. The priority for this new way to purchase software came to us from higher education and we will work with university users and third parties to encourage this option.

Our primary partners, of course, remain those of you in higher education. Underlying all of these plans is a goal of offering technology appropriate to the academic mission. Portable, changeable mass storage offers incredible opportunities to enhance education. Our goal is to make sure that all of these opportunities can happen easily and conveniently without putting new strains on university resources.

# Third Party Hardware Strategy

NeXT is rolling out its third-party hardware development program in two phases. Initially, we will focus on devices connecting to the external ports of the CPU board: the SCSI port, two serial ports and the Digital Signal Processor (DSP) port. Familiar products in this category include image scanners, tape backup devices, modems, and fax modems. In addition, new devices that use the integrated DSP on the NeXT Computer are also under development. These include peripherals offering true dual-channel CD-quality (16-bit, 44.1 kHz) sound capture, high-resolution laboratory data acquisition, and image processing.

As we enter the second quarter of 1989, we will distribute specifications for NextBus™, the bus architecture for the NeXT Computer, and will expand our focus to include internal plug-in boards. To aid in the development of these boards, NeXT plans to sell the single CMOS NextBus chip to developers at attractive prices.

Hardware developers, as well as software developers, can receive support directly from NeXT by becoming Registered Developers.

# NeXT Registered Developer Programs

The NeXT Registered Developer program offers hardware and software developers the support they need to make applications available to our customers in a timely manner. To qualify, developers fill out a detailed application outlining their background and proposed products. Upon acceptance, commercial developers are entitled to purchase NeXT products at the same preferred prices as higher education customers, attend our developer training course, *Programming the NeXT Computer*, and receive technical support from the NeXT developer support center.

## Milestones

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October 13, 1988	<i>The NeXT Day</i> , a technical overview of the NeXT Computer drew over 700 commercial and academic developers.
October 12-February, 1989	1500 developers requested information and registered developer applications.
January and February, 1989	Over 125 commercial and academic hardware and software developers, representing 50 companies and 20 universities, purchased NeXT equipment and attended the first three developer training courses.
February, 1989	Over 200 developers have been accepted as NeXT Registered Developers.

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Interested developers should contact:

NeXT TeleBusiness  
3475 Deer Creek Road  
Palo Alto, CA 94304  
415 424-8500



# Bundled Third-Party Applications

The following descriptions highlight the NeXT SQL Database Server from Sybase, Mathematica from Wolfram Research, and Allegro CL<sup>®</sup> Common LISP from Franz. All three of these third-party software packages are included at no cost with the NeXT Computer System.

# SYBASE, INC.

## NeXT SQL Database Server

The NeXT SQL Database Server will be included with each NeXT Computer System, starting with Release 1.0 of the NeXT system software. Based on Sybase, Inc.'s field-tested, industry-standard relational database management system, NeXT SQL Server is a powerful and flexible solution for single or multi-user database needs, from simple decision support to large transaction processing systems.

NeXT SQL Database Server provides:

- Client/Server architecture, separating database management functions into a “front-end” client component, where data is manipulated, and a “back-end” server component, where data is managed.
- DBMS-enforced integrity, allowing data integrity and transaction logic to be stored in the database itself, accessed by all database applications. SQL Server evaluates the client's request and rejects unauthorized changes. This intelligence simplifies application design and maintenance.
- Transact-SQL™ commands, combining industry-standard SQL with Sybase enhancements (for creating and storing pre-compiled commands using if-else logic, etc.)
- Distributed data management, permitting both distributed access (a central SQL Server supporting applications running on different machines) and distributed databases (an application accessing data from multiple SQL Servers in a single transaction).
- High availability, featuring on-line utilities to handle diagnostics, changes, and more, while applications continue to run.
- Performance, built in at the design stage.

Price: Included with the NeXT Computer

Availability: with Release 1.0 of the NeXT system software

For more information, contact:

NeXT TeleBusiness  
3475 Deer Creek Road  
Palo Alto CA 94304  
415 424-8500

# FRANZ INC.

## Allegro CL Common LISP

Allegro CL from Franz Inc. is included with each NeXT Computer System at no additional charge. After Release 1.0 of NeXT system software, NeXT Allegro Common LISP will be closely integrated with the NextStep Application Kit and Interface Builder. Application Kit objects will be fully available from the LISP environment, enabling users to subclass Application Kit objects from LISP.

Allegro CL is a complete implementation of Common LISP as defined in Guy Steele's *Common LISP: The Language*, and contains extensions for increasing programmer productivity. For example, powerful debugging tools including a tracer, a stepper, and extensible top-level with history are included for saving time and effort when debugging applications.

Common LISP is the de facto standard language used in artificial intelligence research and development. Allegro CL from Franz Inc. is the industry leader among Common LISPs, and is implemented on a wide variety of general-purpose computers. Applications developed under Allegro CL can be adapted with little or no effort to run on machines from personal computers to supercomputers.

Allegro CL includes comprehensive documentation. Support and product upgrades are available directly from NeXT, Inc.

Price: Included with the NeXT Computer

Availability: with Release 1.0 of the NeXT system software  
(with Release 0.9 of the NeXT system software without Application Kit interface)

For more information, contact:

NeXT Telebusiness  
3475 Deer Creek Road  
Palo Alto CA 94304  
415 424-8500

# WOLFRAM RESEARCH, INC.

## Mathematica

A copy of Mathematica will be bundled with every NeXT Computer. Mathematica is a comprehensive software system for mathematical computation. It is widely used by researchers, engineers, analysts, and students. The NeXT version of Mathematica will be based on a Math Object that will allow users to build their own custom front ends to the Mathematica engine.

Users also can create interactive textbooks for specific disciplines by mixing text, graphics, and live Mathematica input. In a typical case, students might use an interactive Mathematica textbook to learn about the wave motion theory in physics. The utility of the textbook is that it is not static: students can generate their own examples of waves, then leave it to Mathematica to compute the necessary formulae and display the resulting waves as animated graphics. Research colleagues already are using these dynamic notebooks to communicate with each other. Using Mathematica as a presentation system, users can put their theories into motion, providing not just the "answers" but the steps leading up to them.

There are three ways to use Mathematica:

- Numerical calculation to arbitrary precision, including matrix manipulation, and evaluation of over 400 mathematical functions.
- Symbolic computation, including algebraic solution of equations, polynomial factorization, symbolic integration, and power series expansion.
- Graphics, including 2D and 3D function plots, and 3D object modelling with animation

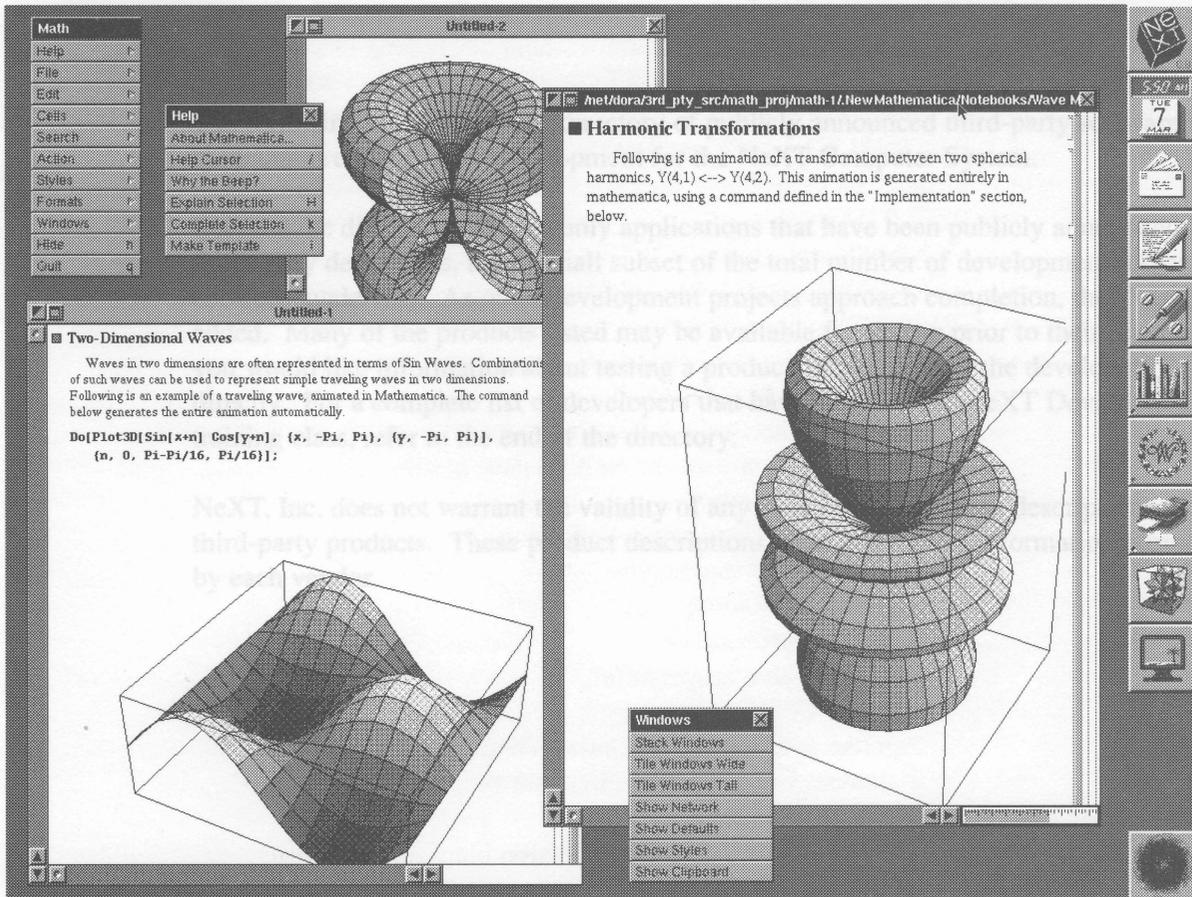
Perhaps the most important thing about Mathematica is its modular design, and the ease with which it can be connected to other programs in the NeXT software environment. Using the Math Object, developers can embed Mathematica within their own programs, turning it into a mathematical engine, ready to be called upon when needed.

Price: Included with the NeXT Computer

Availability: with Release 1.0 of the NeXT system software  
(beta version included with Release 0.9 of the NeXT system software)

For more information, contact:

NeXT Telebusiness  
3475 Deer Creek Road  
Palo Alto CA 94304  
415 424-8500





# Third-Party Application Directory

The following is a preliminary directory of publicly announced third-party software and hardware products under development for the NeXT Computer System.

Because the directory includes only applications that have been publicly announced by third-party developers, it is a small subset of the total number of development projects currently underway. As other development projects approach completion, they will be added. Many of the products listed may be available for testing prior to their release. If you would like information about testing a product, please contact the developer directly. For a complete list of developers that have attended the NeXT Developer's training class, refer to the end of the directory.

NeXT, Inc. does not warrant the validity of any claims made in these descriptions of third-party products. These product descriptions were taken from information provided by each vendor.

# ABSOF T CORPORATION

## FORTRAN 77 Compiler

Absoft FORTRAN is a globally optimizing FORTRAN compiler designed for scientific/engineering and educational users developing or porting mainframe applications to and from the NeXT computer.

- Full ANSI X3.9-1978 validatable
- Includes Department of Defense 1753 extensions
- IEEE P754 math
- VAX/VMS and several FORTRAN 8X extensions
- VAX/VMS Tab and Extended input format\*
- IBM/VS Fixed and Free input format\*
- Direct support for the Application, Sound and Music kits
- Object Oriented FORTRAN™
  - Provides object-oriented syntax extensions which allow complete communication with the NeXT software kits
- Optimizations include:\*
  - Common subexpression elimination
  - Loop invariant movement
  - Subprogram folding
  - Peephole optimization
  - Constant Value Propagation
  - Register Content Scoreboard
  - Pipeline and Coprocessor Scheduling
  - Statement Function Inline Expansion
  - Static Address Elimination
  - Mathematical Identity Substitution
  - Automatic Data Alignment
  - Strength Reduction
- Includes natural C interface for inter-language calling
- sdb debugger support
- Extended Data Types
- COMPLEX\*16
- NAMELIST
- Supports Hollerith constants for FORTRAN 66 compatibility
- Generates 68030 assembler source code
- Creates stand-alone applications with full windowing, menus, panels, etc.
- Limited technical support via hotline and BBS
- Update services available

\*These features available second quarter of 1989

Price: \$750 for universities

Availability: now

For more information, contact:

Wood Lotz  
Absoft Corporation  
2781 Bond Street  
Rochester Hills, MI 48309  
313 853-0050  
313 853-0108 fax  
235608 telex

# ADOBE SYSTEMS, INC.

## Adobe Illustrator

Adobe Illustrator® is a graphic design and illustration program for generating high-quality artwork. Because it harnesses the power of Display POSTSCRIPT™, the same high-quality text and graphics you create on your NeXT Computer's screen will faithfully reproduce on your NeXT printer.

Adobe Illustrator has a variety of sophisticated features for creating advanced illustrations. You can start from scratch with the freehand and pen tools, and draw with more precision than you ever imagined. Or begin with existing artwork by automatically tracing scanned images. From there, text and graphics can be easily transformed for artistic and perspective effects. Adobe Illustrator's multiple zoom levels allows you to examine your illustration from the big picture to the smallest detail.

## Adobe Type Library

The Adobe Type Library is a continually growing collection of high-quality typefaces for Display POSTSCRIPT systems and POSTSCRIPT® printers. The library currently consists of over 350 typefaces, including the typefaces that are built into the NeXT computer.

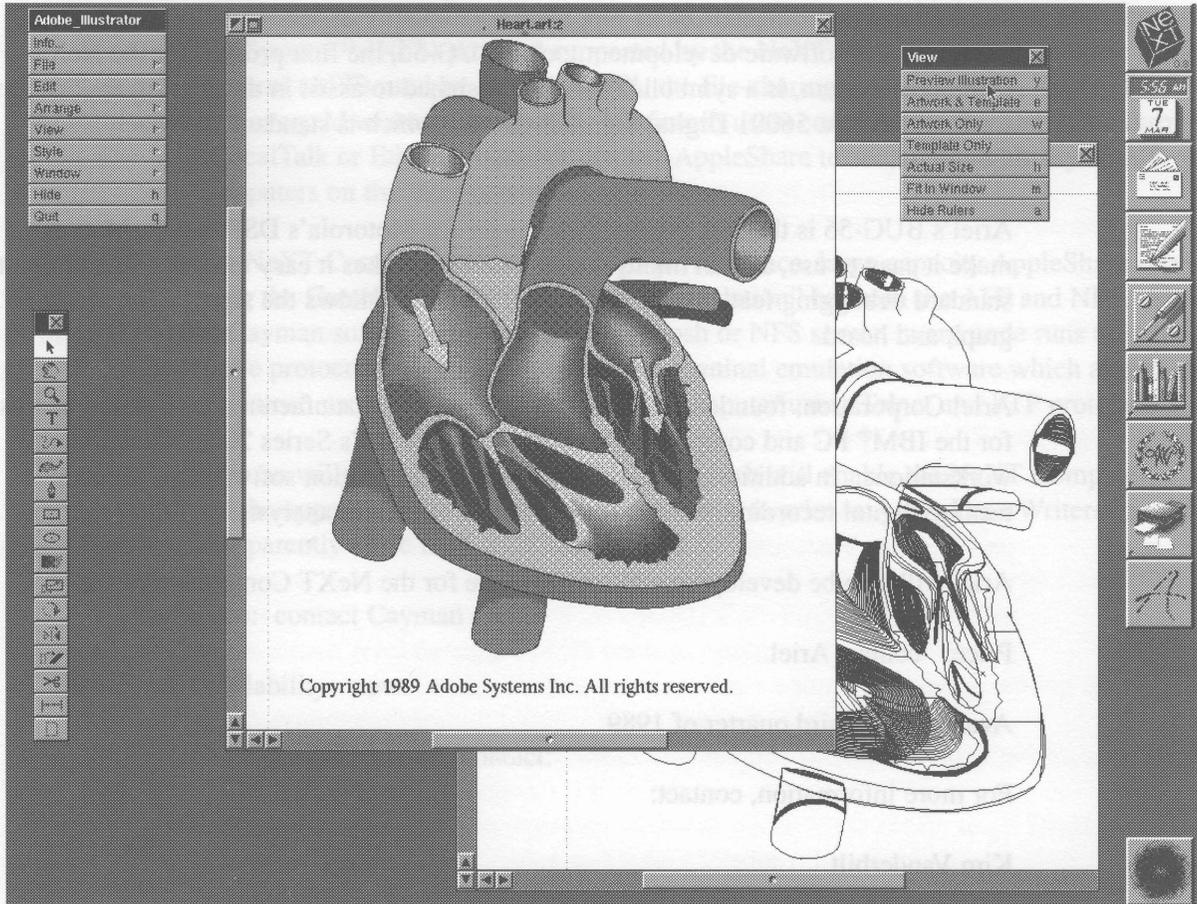
We are developing a version of the Adobe Type Library for use on the NeXT Computer System. Every Adobe typeface can be used both for interactive display and hardcopy output since the Display POSTSCRIPT system is used as the imaging model both for the MegaPixel Display and the NeXT 400 dpi Laser Printer.

Pricing: contact Adobe

Availability: contact Adobe

For more information, contact:

Adobe Systems, Inc.  
1585 Charleston Road  
Mountain View, CA 94039  
415 961-4400



433 River Road  
Highland Park, NJ 08904  
301 248-2900  
301 249-2123 fax  
301 249-2124 DSP BBS

95120 AM agbrinkd  
617 494-1999  
617 494-716  
617 494-9270 fax

# ARIEL CORPORATION

## **BUG-56™, DSP56001™ digital signal processor debugger**

Ariel Corporation specializes in supplying high-quality digital signal processing hardware and software development tools. BUG-56, the first product for the NeXT Computer System, is a symbolic debugger designed to assist in developing applications for the Motorola 56001 Digital Signal Processor which is standard with each NeXT Computer.

Ariel's BUG-56 is the first symbolic debugger for Motorola's DSP56001. Macros make it easy to use, and an intuitive user interface makes it easy to learn. In addition to standard debugging features, BUG-56's "DSPeek™" allows the signal to be seen as a graph and heard.

Ariel Corporation, founded in 1982, also designs and manufactures DSP-based boards for the IBM® PC and compatibles and Hewlett-Packard's Series 200/300 engineering workstations. In addition, the company supplies application software for acoustic testing; digital recording, editing and playback; spectrum analysis; and filter design.

Ariel will also be developing add-on hardware for the NeXT Computer System.

Price: contact Ariel

Availability: third quarter of 1989

For more information, contact:

Kim Vanderbilt  
Ariel Corporation  
433 River Road  
Highland Park, NJ 08904  
201 249-2900  
201 249-2123 fax  
201 249-2124 DSP BBS

# CAYMAN SYSTEMS, INC.

## GatorBox

The GatorBox™ is a LocalTalk™-to-Ethernet® gateway which translates the Network File System™ (NFS) protocol supported by the NeXT Computer into the Apple Filing Protocol (AFP) used by AppleShare™, the file-sharing software which Apple ships with every Macintosh® computer. Macintosh users connected to the GatorBox through a LocalTalk or Ethernet network can use AppleShare to share files with any NeXT Computers on the inter-network.

The NeXT Computer can act as a high-performance, large-capacity AppleShare server using the GatorBox's "application-level translation" between the AFP and NFS. Since no Cayman software runs on any Macintosh or NFS server, every node runs only their native protocols. Cayman also provides terminal emulation software which allows any Macintosh user to connect to the NeXT Computer using Telnet and FTP protocols.

Cayman will offer two software additions which will enable the NeXT Computer, which supports the BSD lpr printing protocols, to print to Apple LaserWriters® and to transparently share mail with Macintoshes.

Price: contact Cayman

Availability: now

For more information, contact:

Cayman Systems, Inc.  
University Park at MIT  
26 Landsdowne Street  
Cambridge, MA 02139  
617 494-1999  
617 494-9270 fax

# DAYNA COMMUNICATIONS, INC.

## DaynaFILE™

*Creators of DaynaFILE, DaynaTALK™, DaynaNET™ and DaynaMAIL™*

Dayna Communications, Inc. designs and manufactures innovative, high-quality connectivity and networking products. Dayna developed the first MS-DOS co-processor product available to Apple Macintosh users. The company's current offerings include DaynaFILE, an external disk drive that lets Macintosh computers read from and write to MS-DOS disks.

Dayna® is exploring development of an external, SCSI floppy disk drive for the NeXT computer. This drive would read from and write to standard UNIX formatted diskettes, as well as all of the MS-DOS formats. Subsequent product enhancements may provide direct access to Macintosh formatted diskettes.

The Dayna drive would facilitate the publishing, distribution and transfer of applications, data bases and other data on low-cost, floppy diskettes. It would also provide seamless access from NeXT computers to data generated on computers running non-Unix operating systems, such as MS-DOS.

Price: contact Dayna

Availability: contact Dayna

For more information, contact:

Deanne Waltz  
Director of Marketing  
Dayna Communications, Inc.  
50 South Main Street, Fifth Floor  
Salt Lake City, UT 84144  
801 531-0600

# EMERALD CITY SOFTWARE, INC.

## Displaytalk™

Displaytalk is a complete development environment for Display POSTSCRIPT programming on the NeXT Computer System. Displaytalk is available in both personal and professional versions.

The personal version of Displaytalk provides all of the tools necessary to learn the Display POSTSCRIPT language, including:

- direct interactive (line by line) access to the POSTSCRIPT interpreter in an Interactive Window
- the capability to edit and execute Display POSTSCRIPT programs
- real time display of POSTSCRIPT language stacks and variables in a Status Window
- on-screen, scalable preview of the POSTSCRIPT image in a Preview Window
- complete on-line documentation for the Display POSTSCRIPT language, accessible by topic or keyword search
- a complete POSTSCRIPT tutorial

The professional version includes the features of the personal version plus all of the tools required for professional POSTSCRIPT development, including:

- a source level debugger (with tracing, stepping and breakpointing)
- a full-featured, multi-window programmer's editor for writing, editing and debugging code
- a code converter which simplifies conversions between C calls, pswraps and pure POSTSCRIPT
- a powerful Dictionary Browser which provides rapid access to all Display POSTSCRIPT dictionaries and their contents

Price: Personal Version \$595  
Professional Version \$995

Availability: May, 1989

For more information, contact:

Emerald City Software  
800 Menlo Avenue, Suite 102  
Menlo Park, CA 94025  
800 223-0417  
415 324-8080 (Inside CA)  
415 324-0316 fax

# EXTRON ELECTRONICS

## RGB 111™ NeXT Computer Interface

### *Interface Application*

The EXTRON RGB 111 interface is designed to isolate and buffer the NeXT computer's analog signal output to provide simultaneous local monitor viewing and a separate RED, GREEN, BLUE and COMPOSITE SYNC output for displaying the computer video on a compatible data monitor or data projector. The result is a Black and White video display on the large screen data monitor or data projector. The Black and White video is created by mixing the RED, GREEN and BLUE channels within the RGB 111. A separate Monochrome Composite Video output is also provided for monochrome (Green) display of the computer video on a compatible monitor or projector.

### *Technical Information*

The NeXT computer has a horizontal scan frequency of 63 kHz which the RGB 111 maintains on the output. The RGB 111 also has a 200 MHz plus video bandwidth and long line run drivers.

Because of the 63 kHz horizontal frequency of the NeXT computer, the data display (monitor or projector) being used must at least match or exceed that frequency. A sample of those projectors or monitors is below:

#### *Projectors*

- Barco Graphics Series
- Electrohome® Graphics
- ESP ESPRIT™ 1000
- Hitachi Graphics Projector

#### *Monitors*

- Contrac 7550 (19")
- Mitsubishi 6605 (16")
- Mitsubishi 6905 (19")
- Monitronix MX-210 (19")

### *Other NeXT Products*

The RGB 200™ and RGB 202™ are Universal Analog, TTL and ECL interfaces that will also support the NeXT computer's 63 kHz horizontal scan rate with simultaneous local monitor viewing.

The RGB 106E™ and RGB 108™ are Universal Analog and ECL interfaces that will support the NeXT Computer's 63 kHz horizontal scan rate with simultaneous local monitor viewing.

### *Extron and Computer Interfacing*

Extron Electronics is at the leading edge of computer interface, switching and analog distribution technology. Since 1985, EXTRON has continued to set the standard for computer-video interfacing that others have followed and even imitated. Along with the introduction of every industry standard setting computer system, EXTRON has introduced the interface solution.

Price: \$370 for the RGB 111 with quantity pricing available

Availability: Now

For more information, contact:

Extron Electronics  
13554 Larwin Circle  
Santa Fe Springs, CA 90670  
213 802-8804  
800 633-9876 outside California  
213 802-2741 fax

# FARALLON COMPUTING, INC.

## Ethernet PhoneNET, Sound, and Interpersonal Communications

Farallon Computing, Inc. has emerged as the leader in twisted-pair networking just three years after its founding. Farallon's PhoneNET® System, which is used to build LANs over standard telephone cable, now includes over 700,000 nodes in corporations and universities worldwide. The PhoneNET System includes hardware for creating large, reliable networks, and software for managing and using the network.

Other Farallon products designed to enhance interpersonal communications include software for screen sharing, screen recording, group editing and voice annotation.

Universities have played a significant role in Farallon's success. Large PhoneNET networks are installed at the University of California at Berkeley, Stanford, Brown, University of Michigan, Boston College, and Carnegie-Mellon. These and other educational institutions have been particularly receptive to Farallon products incorporating sound. The MacRecorder® Sound System offers highly sophisticated features to content originators who require an easy, natural method for incorporating sound into teaching aids and presentations. Universities have employed the MacRecorder Sound System in foreign language training, ESL, speech pathology, and sound-cued educational modeling.

Farallon is committed to developing products for the NeXT Computer System and has several projects currently underway in the following areas:

- *Twisted-pair Ethernet Networks.* Farallon announced plans in January, 1989 for an Ethernet version of the PhoneNET System, allowing NeXT Computers to be networked with unused telephone wiring. The product line will include Ethernet versions of Farallon's LocalTalk networking hardware and network management software.
- *Sound.* Drawing on experience with MacRecorder, Farallon will design products for recording, displaying and editing sound for use in business presentations and educational materials.
- *Interpersonal Communications.* Farallon is investigating extending its Timbuktu™ screen sharing to the NeXT computer. In addition, group editing software applications are being considered which will allow textual, graphic, and voice annotation.

Price: contact Farallon Computing

Availability: contact Farallon Computing

For more information, contact:

Farallon Computing, Inc.  
2201 Dwight Way  
Berkeley, CA 94704  
415 849-2331  
415 841-5770 fax

# FRAME TECHNOLOGY CORPORATION

## FrameMaker 2.0

FrameMaker 2.0 is powerful, cost-effective publishing software that combines full-featured word processing, graphics, page layout and book-building tools for creating publication-quality documents. FrameMaker enables users to write, design, and produce a wide range of documents, from lengthy, complex technical manuals to reports, newsletters and presentations. Its easy-to-use, WYSIWYG interface makes FrameMaker extremely accessible to both novice and expert users alike. FrameMaker completely supports NextStep, so Encapsulated POSTSCRIPT, Microsoft Rich Text Format, and TIFF files can be transparently exchanged with other NeXT applications.

Key features of FrameMaker on the NeXT Computer System include:

- Word processing features: spell checker, automatic hyphenation and justification, automatic numbering, tab formatting, and powerful search and replace capabilities.
- Flexible graphics creation and editing: a full set of integrated tools for creating, manipulating, and importing graphics.
- Flexible document design and layout capabilities: multiple and mixed-width columns and text flows, multiple master pages, anchored text and graphics frames, advanced typographic control, and various page sizes and orientations.
- Automatic book-building: long document management tools such as automatic pagination and page breaks, generation of tables of contents, indexes, and lists, cross-referencing, running headers and footers, footnotes, and change bars.

*International FrameMaker* supports hyphenation, fonts, and spell-checking for UK English, French, German, Dutch, Portuguese, Spanish, Swedish, Italian, and Norwegian.

*Frame Viewer* is an optional product license that permits only viewing of FrameMaker documents.

Price: \$500-\$995, depending on quantity

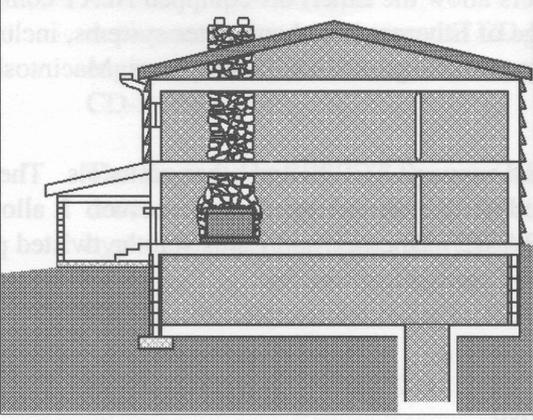
Availability: contact Frame Technology Corporation

For more information, contact:

Jean Kovacs or David Orfao  
Frame Technology Corporation  
2911 Zanker Road  
San Jose, CA 95134  
408-433-3311  
408-433-1928 fax

#docs/Radon.doc

# HOMEOWNER'S GUIDE TO



Paragraph Format

Paragraph Tag: MastHead, Properties, Basic, Apply To, Current, Tagged, MastHead, Catalog, All

Indents: First 0.0", Left 0.0", Right 0.0"

Space: Above 0.0 pt, Below 0.0 pt, Leading 2.0 pt

Alignment: Center, Start, Anywhere, Keep With, Next, Previous, Next Tag

Line Height: Default Font Size (24.0 pt)

Widow/Orphan Lines: 1, Hyphenate

FrameMaker

File, Edit, Format, Special, View, Page, Hide, Help, Quit

Graphics

Fill, Pen, Frame, Gravity, Snap, Release, Black, Pts: 10, Ends, Set

over the first four days, half of the remaining atoms will decay over the next four days, and so on.

The major concern is with those new elements, produced when the radon decays. Those decay products of radon—which include radioactive elements like polonium-214, polonium-218, lead-214 and bismuth-214—have been associated with lung cancer.

**Is this a new problem? Are we in immediate danger?**

Radon and its decay products have always been with us. They occur naturally, and are not there because of any human activity. But it's only recently that we have become aware of radon exposure, in the home, as a potential health problem.

You should be aware, however, that any health hazards associated with radon are the result of long-term exposure. Even if you do have radon in your home, it doesn't mean you are in immediate danger. You have time to deal with the problem, if there is a problem.

Most radon in buildings comes from radium in the soil and rocks, under and around the buildings. Amounts in soil can vary from area to area.

**How does radon get into your house?**

Radon can enter into buildings through openings, cracks or sewer and sump pump openings, cracks in concrete, joints between walls and floors, hollow concrete block walls, and so forth. A drop in air pressure inside a house can help pull the radon indoors.

The amount of radon that reaches a building, from the surrounding soil and rock, depends on several factors: the amount of radon in the soil or rock, and how porous the soil or rock is. In some cases, a windstorm may provide a path for radon, as it moves from deep underground into a building.

**How much radon is normal?**

A typical outdoor radon level, in the air, would be 0.1 to 0.4 pCi/l. Typical indoor radon levels measured in Minnesota homes

homes. This device, called an alpha track detector, consists of a container with a small piece of plastic track, and a small opening covered by a filter. The plastic piece is struck by alpha particles given off by the atoms of the various radon decay products as they in turn decay, and turn into other elements.

**Here's what to do:**

3 main factors: radon level, radon entry, radon decay

SECTION 9

1 of 3 120% Mast-Head

# KINETICS.

## ETHERPORT NL

The Kinetics EtherPort™ NL internal Ethernet controller board, developed in conjunction with SynOptics Communications, Inc., allows the NeXT computer to connect directly to standard and twisted pair Ethernet networks. Software from Kinetics and third-party developers allow the EtherPort-equipped NeXT computer to communicate with a diverse range of Ethernet-based computer systems, including Sun™ computers, other UNIX systems, Digital VAX™ computers, Macintoshes, IBM PC's, and terminals.

The EtherPort NL controller board supports TCP/IP and other protocols. The boards has 32K of on-board memory and has a built-in LattisNet transceiver. It allows connection to both standard (10BASE5) Ethernet, and LattisNet, the twisted pair Ethernet developed by SynOptics Communications, Inc.

Price: contact Kinetics

Availability: fourth quarter of 1989

For more information, contact:

KC Sue

Kinetics, A Division of Excelan, Inc.

2540 Camino Diablo

Walnut Creek, CA 94596

415 947-0998

# KNOWLEDGESET® CORPORATION.

## Knowledge Retrieval System® (KRS)

KnowledgeSet is developing a version of its Knowledge Retrieval System, a system for rapidly searching and retrieving information from large databases of text and graphics, for the NeXT Computer System.

A pioneer in the development of CD-ROM software, KnowledgeSet created the search engine for Grolier's Electronic Encyclopedia®, one of the first commercially available CD-ROM's.

The Knowledge Retrieval System (KRS) is targeted primarily at technical documentation applications. KRS provides full text search, hierarchical browsing, and hypertext links to graphics and cross references.

KRS is currently available for DOS, UNIX, and Macintosh environments.

Price: contact KnowledgeSet

Availability: second half of 1989

For more information, contact:

Chris Bowman  
KnowledgeSet, Inc.  
888 Villa Street  
Suite 500  
Mountain View, CA 94041  
415 968-9888

Robert Nathaniel  
Mark of the Unicorn, Inc.  
222 Third Street  
Cambridge, MA 02142  
617 576-2760  
617 576-3600 fax

# LOTUS DEVELOPMENT CORPORATION

Lotus™ is actively developing software products for the NeXT Computer System. Consistent with Lotus' policy of not discussing unannounced products, details and availability will be announced as the products are completed.

As stated by Lotus President and CEO Jim Manzi at NeXT's announcement last October, "We expect that the NeXT Computer System will gain immediate acceptance among end users and will be a natural fit for Lotus products."

Price: to be determined

Availability: to be determined

For more information contact:

Jeff Anderholm  
Lotus Development Corporation  
55 Cambridge Parkway  
Cambridge, MA 02142  
617 577-8500

# MARK OF THE UNICORN, INC.

## Performer

Mark of the Unicorn, Incorporated has development underway to create a version of their Performer MIDI Sequencer software for the NeXT Computer System.

Performer is a music software program that enables recording and editing of music compositions using electronic instruments that adhere to the MIDI specifications. The program is the preeminent music sequencer among professional recording artists and music educators.

Features of Performer include multi-track recording, precise editing of all musical events, and total control of your MIDI keyboards. A high resolution recording clock of 480 parts per quarter note assures accuracy. Performer supports SMPTE synchronization, frame-time display, and a markers feature that functions as a cue sheet for film and video production. Advanced features include "drum machine style" record while looping, support of 32 In and Out MIDI channels, multiple meters within a sequence, and programmable tempo changes.

Founded in 1980, Mark of the Unicorn, Inc. of Cambridge, MA, is the developer of Performer MIDI sequencer software and its companion score notation program Professional Composer. Performer has been the leading software sequencer software application since its introduction in November 1985.

Price: contact Mark of the Unicorn

Availability: contact Mark of the Unicorn

For more information, contact:

Robert Nathaniel  
Mark of the Unicorn, Inc.  
222 Third Street  
Cambridge, MA 02142  
617 576-2760  
617 576-3609 fax

# THE MATHWORKS, INC.

## MATLAB™

MATLAB is an interactive system for high-performance numeric computation in scientific and engineering applications. It combines numeric analysis, matrix computation, signal processing, and graphics with an easy-to-use interface.

MATLAB provides interactive access to state-of-the-art matrix algorithms from LINPACK and EISPACK, as well as signal processing algorithms from the IEEE Programs for Digital Signal Processing library. Computational capabilities include all the functions found on a good scientific calculator, such as Bessel functions, hyperbolic functions, and complex arithmetic. MATLAB offers numerous functions for matrix computation: eigenvalues, linear equation solving, least squares, matrix arithmetic, matrix exponential, singular value decomposition, and more.

Polynomial operations include root finding, evaluation, multiplication, division, and residue calculation. Statistics, such as mean, standard deviation, histograms, and curve fitting, are provided, as are differential equation solving, numerical integration, and nonlinear optimization tools. MATLAB incorporates powerful signal processing tools, such as 1D and 2D FFTs and inverses, spectral analysis, and digital filtering, including Butterworth, Chebyshev, elliptic, Parks-McClelland, and Kalman filters.

MATLAB's graphics feature 2D linear, log, semi-log, and polar plots, and 3D "mesh" and contour graphs. MATLAB provides publication-quality output on the NeXT 400 dpi laser printer, as well as other POSTSCRIPT printers.

Optional *Toolboxes* extend MATLAB by providing application-specific functionality, including the Control System Toolbox, for the analysis and synthesis of automatic control systems; the System Identification Toolbox, for parametric modelling; and the Chemometrics Toolbox, for calibration, prediction, and quantitative analysis of data in analytical chemistry.

MATLAB is currently used for research and classroom teaching at thousands of leading universities worldwide. It has become the standard instructional tool used in introductory courses in applied linear algebra, as well as advanced courses in other areas. It has applications in numerical analysis, matrix theory, statistics, applied mathematics, control theory, signal processing, geophysics, economics, operations research, and any other discipline that employs matrix computation and linear algebra as tools.

Price: contact The MathWorks

Availability: contact The MathWorks

For more information, contact:

The MathWorks, Inc.  
21 Eliot Street  
South Natick, MA 01760  
508 653-1415  
508 653-2997 fax

# MEDIA LOGIC INC.

## Artisan™

Artisan is an advanced, high-resolution grayscale paint, draw and image processing system for the NeXT Computer System.

Designed for use during document preparation, Artisan offers high-quality creation and manipulation of images and graphics. Artisan can be used for art and illustration or for use in the touchup and composition of scanned photographs or other images. Once created, the images can be transferred via standard file formats to other publishing systems or printed directly.

Artisan's features include:

- Complete 8-bit grayscale image manipulation in a multi-windowed, image editing environment (images may be dithered for display on the 2-bit NeXT display).
- Full 8-bit alpha channel support.
- Advanced painting capabilities, such as fully anti-aliased airbrush, a 64 by 64 pixel editable brush with variable opacity, mask and frisket support and much more.
- Complete drawing features with variable-width lines, editable Bezier splines, and an assortment of object shapes.
- Complete image manipulation facilities including arbitrary scaling and rotations, adjustable gamma correction, image sharpening, and area fill and gradient with variable opacity.
- Complete text support including variable font styles, sizes, and rotations.
- Multiple image compositing of partial or entire images using partial transparency and image masking.
- Complete fill pattern support, including editable patterns of up to 64 by 64 pixels that can be saved and used in later sessions.
- Conversion of halftoned monochrome images to grayscale.

Encapsulated POSTSCRIPT support makes image transfer to most popular document preparation systems seamless. Complete TIFF and Targa file support is provided for input and output. Artisan delivers the tools and flexibility you expect from a machine as powerful as the NeXT computer.

Price: contact Media Logic

Availability: contact Media Logic

For more information, contact:

Sales Department  
Media Logic Inc.  
2501 Colorado Avenue, Suite 350  
Santa Monica, CA 90404  
213 453-7744  
213 453-9565 fax

# METARESEARCH, INCORPORATED

## Digital Ears™

Digital Ears is a compact disk-quality audio input device for the NeXT Computer System. Digital Ears takes audio line level signals, converts them to true compact disk format digital information—16-bit, 44.1 kHz stereo, and sends this information to the digital signal processor port (DSP) on the NeXT computer.

In addition to its audio capabilities, Digital Ears (DE-1™) can serve as a laboratory-grade, high-resolution A/D converter. It can be used in AC or DC modes and operates either as a two-channel, 44.1 kHz A/D converter or as a one-channel, 88.2 kHz A/D converter.

The DE-1 has many applications: It can be used to create high-quality sound files for inclusion in applications interfaces, it can acquire laboratory data, and it can be used as a platform for the development of custom software. Due to the quality of its recordings, the DE-1 promises to be a useful research tool in the hands of audio specialists, musicians, scientists, physicians and researchers.

Metaresearch will supply DE-1 customers with software to view data as it comes into the NeXT computer and to create sound/data files in standard NeXT format. This software consists of:

- **DIGITAL EARS RECORDER™**  
A sound-utility which allows users to open, play, record, and save sound onto SCSI or optical disks using a tape player-like graphical interface.
- **MONSTER SCOPE**  
An oscilloscope/spectrum analyzer application which supports three input channels, DSP1, DSP2, and CODEC microphone, and which is used to view both waveforms and frequency spectra of data as it enters the NeXT computer.
- “delrecord” object  
A command that users call from the UNIX shell to record sound or data onto disk.

Price: \$825

Availability: March, 1989

For more information, contact:

Kim Orumchian  
Metaresearch, Incorporated  
516 SE Morrison, Suite M-1  
Portland, OR 97214  
503 238-5728  
503 294-1409 fax

# MOTOROLA, INC.

## **DSP56000 FAMILY SIMULATOR PROGRAM (SIM56000)**

The SIM56000™ software is useful in the development of programs and algorithms to run on the Motorola DSP56000 Digital Signal Processors (DSP). The SIM56000 program exactly emulates all of the functions of the DSP56000/1 on a clock cycle basis, including all on-chip peripheral operations, the entire internal and external memory space, all memory and register updates associated with program code execution, and all exception processing activity.

## **DSP56000 FAMILY MACRO CROSS ASSEMBLER (ASM56000™)**

The full-featured Macro Cross Assembler program translates one or more source fields containing DSP instruction mnemonics, operands, and assembler directives into relocatable object modules that are relocated and linked by the DSP56000 Linker. In the optional absolute mode, the Cross Assembler will generate absolute load files. The Cross Assembler recognizes the full instruction set and all addressing modes of the DSP56000. This includes support for separate X and Y data memory spaces and data transfer macros with support for macro libraries (via the MACLIB directive).

## **DSP96000 FAMILY SIMULATOR PROGRAM (SIM96000™)**

The SIM96000 software is useful in the development of programs and algorithms to run on the Motorola DSP96000 Digital Signal Processors (DSP). The SIM96000 program exactly emulates all of the functions of the DSP96002 on a clock cycle basis, including all on-chip peripheral operations, the entire internal and external memory space, all memory and register updates associated with program code execution, and all exception processing activity.

## **DSP96000 FAMILY MACRO CROSS ASSEMBLER (ASM96000™)**

The full-featured Macro Cross Assembler program translates one or more source fields containing DSP instruction mnemonics, operands, and assembler directives into relocatable object modules that are relocated and linked by the DSP96000 Linker. In the optional absolute mode, the Cross Assembler will generate absolute load files. The Cross Assembler recognizes the full instruction set and all addressing modes of the DSP96002. This includes support for separate X and Y data memory spaces and data transfer operations in parallel with the data ALU operations.

Price: contact Motorola

Availability: contact Motorola

For more information, contact:

Motorola Inc.  
Digital Signal Processors  
6501 William Cannon Drive West  
Austin, TX 78735-8598  
512 891-2030

# NEURON DATA

## NEXPERT OBJECT

NEXPERT *OBJECT* is the standard in expert systems technology. It provides a hybrid rule-and-object-based expert system building tool that offers a unique development and delivery environment.

NEXPERT is written in C, thereby ensuring a very high level of performance and integration. Its features include integrated forward and backward chaining using the same symmetric rule format, automatic goal generation, pattern-matching, dynamic creation of objects, classes, properties, methods, demons, multiple and user-defined inheritance, and non-monotonic reasoning.

NEXPERT's comprehensive graphic interface allows developers and domain experts to edit rules and objects as well as build control structures, with the macroscopic knowledge structure available at all times through a dynamic graphic browsing mechanism.

The NEXPERT AI Library provides the capability to fully embed AI applications within systems in operational environments written in any conventional programming language (C, FORTRAN, Pascal, Cobol, Ada, assembly...). This open, event-driven architecture permits the development of real-time, on-line applications that can directly access standard spreadsheets, relational databases, and any other conventional software. In addition, bridges to a number of third-party software packages are supported.

NEXPERT applications may be delivered to end users on bit-mapped graphics monitors as well as character-based terminals. Run-time versions of NEXPERT are available in stand-alone, distributed, and client-server models, including a protected-mode versions for Intel 80286 and -386 platforms. Knowledge bases are completely cross-compatible and portable between all supported platforms, operating systems, and windowing environments, allowing for completely machine-independent development and delivery of applications.

NEXPERT is being used for a range of applications, including diagnostics, finance, troubleshooting, simulation, decision support, planning, and process control.

Price: contact Neuron Data

Availability: contact Neuron Data

For more information, contact:

Nick Halsey  
Neuron Data  
444 High Street  
Palo Alto, CA 94301  
415 321-4488  
415 321-3728 fax

# PERSONAL COMPUTER PERIPHERALS CORPORATION

## JETSTREAM Tape Backup System

The JETSTREAM™ is a revolutionary, super-high performance tape backup system for the NeXT Computer System. Capable of archiving up to 2.3 gigabytes of data per tape at speeds up to 14.4 megabytes per minute, the JETSTREAM is the logical complement to the high capacity magneto-optical and very high capacity SCSI disk drives used with NeXT's workstation. The JETSTREAM uses low-cost, standard 8mm removable and re-writable video tape cartridges.

The PCPC JETSTREAM provides:

- Effective head-to-tape speed of 150 inches per second and 256 Kbyte speed matching buffer for data transfer rate up to 14.4 MBytes per minute.
- A high density helical scan recording technology that utilizes three heads (a read/write, servo, and error correction head) mounted to a spinning drum. The JETSTREAM can archive up to 2.3 gigabytes of data on one standard 8mm tape cartridge.
- Compatibility with standard UNIX tape utilities.
- Data integrity ensured through Error Correction Code (ECC), automatic Error Recovery Procedures Implemented by a dedicated read-after-write head, guaranteeing a non-recoverable error rate of less than one bit in  $10^{13}$  reads.
- A 50-pin SCSI male connector on the JETSTREAM to interface with the NeXT Computer System.

Price: \$5995

Availability: with Release 1.0 of the NeXT system software

For more information, contact:

Ted Cheney  
PCPC  
4710 Eisenhower Boulevard, Building A4  
Tampa, FL 33634  
813 884-3092

# RELATIONAL TECHNOLOGY, INC.

## INGRES™ Relational Database Management System

Relational Technology is making the INGRES Relational Database Management System available on the NeXT Computer System. INGRES is designed around three concepts: tools to develop applications, power to handle transaction processing, and access to utilize data across an entire organization.

- **Tools**  
INGRES offers an unmatched integrated application development environment providing 4GL, SQL, and visual programming methods. These facilitate complex applications prototyping and deployment while providing independent end-user query and reporting capabilities. Applications are instantly portable across multiple hardware platforms.
- **Power**  
The INGRES high-performance SQL database engine provides OLTP power to support production applications in single or multi-CPU and distributed environments. A unique AI-based query optimizer maximizes processing efficiency.
- **Access**  
INGRES integrates existing data into your applications through flexible access tools: gateways to access existing data, networks to tie systems together, and advanced distributed technology to integrate islands of information.

Price: contact Relational Technology

Availability: contact Relational Technology

For more information, contact:

Relational Technology Inc.  
1080 Marina Village Parkway  
Alameda CA 94501-1041  
1-800-4-INGRES

Relation Technology  
International Limited  
99 Kings Road  
London, 5W3 4PA, UK  
44(1) 351 77 33

# T/MAKER COMPANY

## POSTSCRIPT ClickArt®

T/Maker's latest ClickArt offering combines their top selling ClickArt EPS Illustrations into one portfolio of high-quality business art and art work. These professionally drawn images take advantage of the high resolution NeXT display and laser printer, making them ideal for papers, presentations, newsletters, and documentation.

With nearly 400 illustrations, the collection includes a wide assortment of computers, business equipment, industrial & occupational symbols, desk items, globes & maps, presentation helpers, travel & transportation, sports, people & lifestyles, and much more.

All images are available in both POSTSCRIPT and Encapsulated POSTSCRIPT (EPS) formats so that they can be used with WriteNow, FrameMaker, Adobe's Illustrator, Emerald City Software's DisplayTalk, and many other applications and development tools.

ClickArt EPS Business Art/EPS Illustrations are available together on a single optical disk directly from T/Maker Company.

Price: \$295 (Introductory Price)

Availability: first quarter of 1989

For more information, contact:

T/Maker Company  
1390 Villa Street  
Mountain View, CA 94041  
415 962-0195



# WHITE PINE SOFTWARE INC.

## DEC terminal emulation

White Pine Software is a leader in the development of software that provides communications between personal computers and Digital Equipment Corporation systems.

White Pine currently offers a complete line of terminal emulation products for the Apple Macintosh: Mac220™, Mac240™ and Mac241™ provide complete VT200 series terminal emulation. NeXT versions of these products are under development.

As NEXT developers we will continue to develop software for the DEC connectivity market.

Price: contact White Pine Software

Availability: contact White Pine Software

For more information, contact:

Scott Darling  
White Pine Software  
94 Route 101A  
P.O. Box 1108  
Amherst, N.H. 03031  
603 886-9050

# NeXT Registered Developers

Representatives from the following organizations attended our four-day seminar, *Programming the NeXT Computer*.

Abaton	Mathworks
Adamation	Media Logic
Addison-Wesley Publishing	Metaphor Computer
Adobe Systems, Inc.	Metaresearch
Aldus Corporation	Metier
Ariel, Inc.	Micron
Ashton-Tate, Inc.	Momentum
Authorware	Motorola
Autodesk	Neuron Data
Bacchus Software	New Vision Technology
Cayman Systems	Nth Graphics, Ltd.
Cricket Software	OCLC
Data Transforms, Inc.	Onset Computer
DayStar Digital, Inc.	ON Technology
Dayna	Oracle
Deutsch Research	Pacer Software
Dow Jones & Company	Panamax
Emerald City Software	Parcplace Systems
Encore Systems	PCPC
ESL	Peter Norton Computing
Extron	Pixar
Farallon Computing	Prism
Frame Technology Corporation	Quantex Corporation
Franz Inc.	Radius
Fusion Technologies	RasterOps Corporation
Hayes Microcomputer Products, Inc.	Relational Technology, Inc.
Highland Software	Segue Software
ICOM Simulations	Singular Solutions
ICSI	SuperMac Technology
IDD	Sybase
InfoProcessing	T/Maker
Informix	Thinking Machines
Intellipath	Visix Software
Kinetics	WebWare
KnowledgeSet	White Pine Software
Lotus Development Corporation	Wolfram Research
	Xanadu