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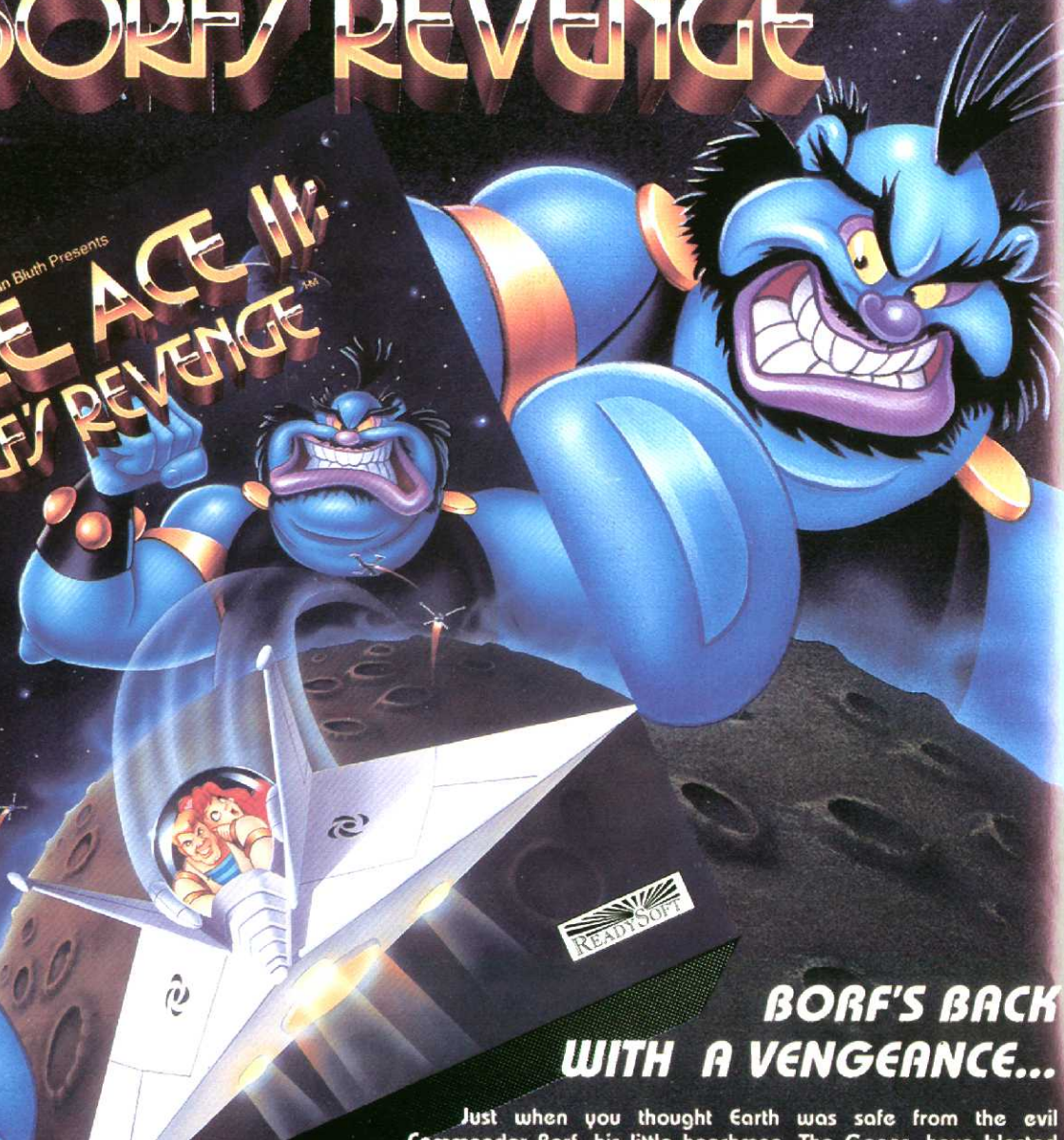
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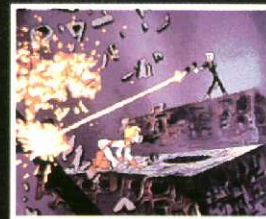
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ATARI[®]

EXPLORER

February 1992

Special Insert Section

Atari Artist

Featuring "The Complete MIDI Studio"

Atari Artist Profiles: Starr Parodi,
Peabo Bryson, more!

State of the Atari in Music,
by Craig Anderton

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EDITORIAL

By JOHN B. JAINSCHIGG

Bound into this issue of Atari Explorer is something that looks remarkably like a new magazine: *Atari Artist*. As its name implies, Atari Artist is a resource for people using Atari technology in the arts: music, video, graphic design, desktop publishing, and multimedia. Designed to complement Explorer's broad coverage, Atari Artist will work at greater depth, offering comprehensive guides to the hottest products and personalities in these important vertical markets.

This premiere issue is dedicated to music and MIDI, an area in which Atari computers — thanks to their built-in MIDI ports, super-clean architecture, and easy-to-use graphic interface — have always been star performers. To celebrate Artist's debut, we've pulled together the most complete Atari MIDI buyer's guide ever!

All the latest products are covered, for every musical application: sequencing, scoring, composition, patch and sample editing, synchronization, mapping and routing, direct-to-disk recording, music education, and more!

But that's not all. In a hard-hitting lead article, Craig Anderton, former Editor of *Electronic Musician* and one of the most influential and respected writers on today's electronic music scene, offers a cogent analysis of the present state of the Atari music market. And Associate Publisher James Grunke, Atari's Director of International Music Markets and a spearhead of Atari's Professional Systems Group, tells how Atari's commitment to music continues to expand. To round out the mix: profiles and interviews with the hottest Atari

musicians offer a penetrating inside look at the techno/creative process.

Though many of the products reviewed by Atari Artist are aimed at professional musicians and serious MIDImaniacs, there's also ample material here for beginning ST musicians: from music-education software, to sample carts, to "way out" products that don't fit into any regular category. Looking for a musical extension to the Forth programming language? Or a hyper-instrument that lets beginners play like pros? You'll find it all in Atari Artist!

Roll Credits

Many people helped give form and substance to our special MIDI section. The idea for an Atari MIDI publication was first articulated over a year ago by John Morales, Atari's East Coast sales rep, who saw a gap developing in the Atari coverage offered by mags like EM and Keyboard. Atari's James Grunke (a.k.a. "Mr. MIDI") extended John's original concept in several important ways. He brought the idea of Atari Artist to Explorer's attention, gave the nascent project its name, and extended its editorial brief to cover all of Atari's developing vertical markets. Guest Editor Craig Anderton wrote our lead article and several of the more challenging reviews, and lent his kindly and well-informed

judgement at every step. An Atari enthusiast, Craig's voice will continue to be heard in Explorer's and Artist's pages.

Explorer's staff also deserves a big hand: Managing Editor Pete Donoso pulled together every MIDI product in the known universe and coordinated their distribution to reviewers. It's largely Pete's fault that this is the most complete and comprehensive

Atari MIDI Buyer's Guide ever assembled.

Senior Editor Maura Fitzgerald wrote much of our coverage of Music Education software, as well as several of Explorer's regular departments. At the same time, she also managed to direct Don Giovanni and Falstaff for New York Opera Forum, perform the roles of Zerlina and Nanetta, and is now on tour in Europe starring in a production of *Phantom of the Opera*.

Additional contributors include composer/guitarist Mihai Manoliu; Fadi Hayek, of New York's Sam Ash Music; songwriter Henry Gaffney; and James Port, sysop of CompuServe's MIDI Forum. (James' wife had



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twin daughters, two days before deadline. Luckily, both wife and daughters, *and* reviews, are all doing fine! James is looking a little tired, however.) All Atari users and MIDI experts, their practical know-how lends enormous credibility to Atari Artist, and we're grateful for their support.

Don't Like Music?

Non-musical Atarians will also find plenty to like about this issue of Atari Explorer! Check out our recaps of the recent Chicago AtariFest, capping a year of great regional Atari shows.

In other show news, Atari blew the doors off complacent Macintosh and IBM at October's Seybold Computer Publishing Exposition in San Jose! ISD Marketing, Goldleaf, and other Atari software manufacturers were in attendance; and Atari fronted a booth featuring "amped to the max," 26 MB TT030's, running peripheral hardware loaned by Linotron, Mitsubishi, Epson, and other major players. One journalist was heard to exclaim "You guys are showing the first new stuff I've seen in four years!" Check out our full report in News and New Products, and start thinking about shorting Apple!

Fans of advanced ST software will appreciate Dave Plotkin's incisive review of JMG's impressive Hyperlink, which combines an authoring system with powerful database, graphics display, and promised sound and speech "engines" to form a true multimedia development environment. If you're looking for a simple, intuitive, yet powerful tool for creating ST applications, Hyperlink deserves a serious look! Dave has also reviewed Rimik Software's amazing MultiGEM, a system that lets you multitask GEM and TOS applications! While not totally foolproof, the software works well enough to merit serious consideration.

Portfolio owners will enjoy our reviews of two new software products: Portfolio Chess and Spell Check! And Lynx fans will love our reviews of six newly-minted Lynx titles, including Fidelity Chess and Qix!, both from Telegames.

Finally, for 8-bit aficionados, there's Archaic Arena, a wild combat game, lovingly crafted in BASIC by M1 Tank Warrior and best-selling author, CPT. Elwood J.C. Kureth. Archaic Arena isn't exactly a breeze to type in. But when you fire it up and see the opening screen graphics, you'll know it was worth it!

Morituri te Salutamus! ●

LETTERS TO THE EDITOR

ST Fax Modem?

Dear Editor,

Does a relatively inexpensive fax/modem exist for the ST like there is for the IBM PC's? (i.e., around \$200.00?) I've heard of only one, but apparently it is quite expensive, about \$800.00. This is, of course, backwards to the way things usually are — ST products are usually less expensive than products for IBM and Macs.

— Wilf Hamann
Vancouver, Canada

The JoppaFAX SF-02 is a combination 2400-baud Hayes-compatible modem and 9600-baud send-only fax. Proprietary software (included) maintains a fax phonebase, and can send faxes to multiple destinations. Drivers exist to convert documents from many popular ST word processors, DTP packages, etc., to fax format, prior to sending. (\$169 from Joppa Computer Products, (301) 676-1948).

8-bit 3.5" Drive?

Dear Editor,

I have a problem that, perhaps, your readers can help solve. My daughter is going off to college, and will be taking our 800XL, 1050 disk drive, and Star NP-10 printer. Does anyone in the audience remember which of the three Atari-specific magazines, and which issue, had an article concerning the modification of an external 3.5" Tandy disk drive to work with the Atari 8-bit machines? A 3.5" drive would cut down on the number of disks she would need to have to deal with. And since the 3.5 isn't nearly as prone to data-damage as its 5.25" cousin, her potential data loss would be minimized, also.

— Dale Olson
Duluth, MN

Readers who remember the article in question may forward the information to Mr. Olson, c/o Atari Explorer Magazine. Meanwhile, you might consider a hard disk for your daughter's 8-bit setup. ICD, Inc., of Rockford, IL, makes a general-purpose hard-disk interface for the 8-bit line. Called MIO, the unit will let you attach a wide variety of hard disk subsystems, which ICD also supplies. In combination with their Fastback! utility, which

speeds up the task of generating backups to 5.25" floppies, a hard disk offers acceptable data security, high speed, and lots of storage space. And ICD stands ready to service their products, should need arise. All in all, this may be a better (if slightly more expensive) idea than soldering up an interface of your own. (ICD, Inc., 1220 Rock Street, Rockford, IL 61101, (815) 968-2228).

That's Write

Dear Editor,

I appreciate Explorer's in-depth reviews of software and products for the Atari ST. However, as Atari's official magazine, I would also like to see you provide reviews of good software from other parts of the world, such as Germany. I have recently used a word processor called That's Write, from Compo Software, Ltd. — a German software house with offices in England and Holland, and find it to be the finest ST word processor I have ever come across.

— Hor Tek Lip
Kedah, Malaysia

We're also impressed with Compo Software's That's Write. The product garnered raves when shown at Atari's booth at San Jose's recent Seybold DTP Show, and will shortly be available for sale in the U.S.! Look for reviews of That's Write and other Compo products (such as the WP package Write On and Composcript, a powerful PostScript interpreter) in upcoming issues!

A Cry for Help

Dear Editor,

I work at a hospital for mentally ill offenders. Since I upgraded to a Mega 4 ST, I had little use for the four 800XLs I'd owned before, so I donated them to the hospital. The computers helped several of my patients learn to read, helped some learn word processing, and offered an easy way to write letters home. I know, a 1025 printer isn't great, but it beats handwriting.

Unfortunately, the systems have finally died, and the State won't let me buy anything but — you guessed it — IBM. I wanted to ask if there was anybody out there in Atari land who might be able to donate some used, but functional, 8-bit equipment, plus monitors. The IRS can't argue with a donation made to a state government, and we really will put the equipment to good use.

— James F. Hooper, M.D.
Taylor Hardin Secure Medical Facility
1301 River Road, N.E.
Tuscaloosa, AL 35404

Atari owners wishing to donate equipment should communicate directly with Dr. Hooper.

HOT NEWS!

What's New and Happening in Atariland!

Atari Stuns Seybold with Direct-to-Press Solutions!

Atari exhibited in force at the prestigious Seybold Computer Publishing Conference & Exposition, held October 1-4, 1991, at San Jose Convention Center. Fielding its new Direct-to-Press Solutions in a full-blown booth shared with numerous U.S. and European business partners, the Atari Professional Systems Group stunned its competitors, drawing accolades from attendees and press.

A brace of TT's, each sporting a minimum configuration of 26 MB RAM and 80 MB disk, drove hardware and software from many of the most respected names in high tech. ISD Marketing maintained three TT stations, demonstrating a broad spectrum of applications, from B/W proofing to full-color Multimedia Publishing. The simplest of these featured Calamus SL, hooked directly (via the ACSI DMA port) to a top-of-the-line Linotronic 530 imagesetter via their impressive SoftRIP Raster Image Processing interface. A second demonstrated the as-yet-unreleased TMS Cranach Studio — a sophisticated 24-bit color-retouching package capable of importing and converting both vector and raster images. Cranach Studio was accepting input from the amazing Epson ES300C 24-bit single-pass color/greyscale/black-and-white

scanner, and sending output to a Mitsubishi dye-sublimation color printer. ISD's third workstation was a step into the future. There, a video camera scanned realtime images and sound into Calamus SL, using the new multimedia module first demonstrated in August at the Dusseldorf AtariMesse. Output options included the Atari SLM605 laser and General Parametrics' Spectrastar color thermal printer.

Goldleaf/Computerbild showed Sherlook, their sophisticated optical-character-recognition and scanner-control software. A second workstation demonstrated Didot Professional, a powerful yet easy-to-use object-oriented desktop publishing package with powerful color art manipulation and line-art creation features. Goldleaf's third workstation was devoted to Retouche Professional CD — thought by many to define the state of the art in color and halftone retouching. Among numerous other features, Retouche provides hand-optimized halftone screens at resolutions up to 394 lines (PostScript only supports up to 133-line screens), offering extraordinary output quality from a wide variety of film output devices and printers.

Darren Kazmeier and Marc Wetzel of Soft-Logik demonstrated PageStream 2.1, generating output to Atari SLM605 and Linotron. Soft-Logik announced the imminent release of a series of CD ROMs compatible with Atari's CDAR 550 CD ROM reader (or any SCSI CD ROM reader interfaced to an ST using ICD's Host

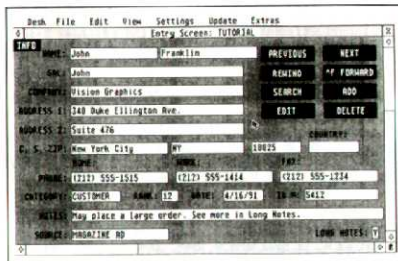
Adapter and MetaDOS). The first CD will contain all 21 volumes of Image Club EPS clip art, and is expected to retail at \$799; while the second will contain the entire library of Adobe Type 1 fonts. The latter CD can be purchased with all fonts immediately available (\$3,999), or for only \$200 with a basic set of 20 fonts enabled. Subsequently, owners can call Soft-Logik to purchase codes needed to decrypt additional fonts, as needed.

Codehead demonstrated their new Avant Vector vector-graphics and Repro Studio packages. Finally, Compo software, a new partner of Goldleaf/Computerbild, demonstrated their CompoScript package, a software-based PostScript interpreter that comes with 30 Adobe Type 1 fonts, will support Bitstream fonts, employs the TT's math coprocessor, and allows on-screen preview of printed output. Compo's powerful That's Write and Write On word processors were also demonstrated. As Atari's Developer Relations guru, Bill Rehbock, was heard to say, "Atari is 'building the bridge' between European software and hardware suppliers, and American marketers and distributors."

Press reactions ranged from delight to disbelief. Editors from Publish!, Computer Graphics World, Personal Publishing, and Seybold itself were present, and the cumulative exposure will be felt for several months. As one reporter said: "You people are doing the first really new stuff I've seen since four years ago!"

Tracker/ST 3.0 is Here!

Step Ahead Software, Inc. is pleased to announce version 3.0 of Tracker/ST, a leading mailing list/mail merge program for the Atari ST, STe, Mega Ste and TT series of computers. Version 3.0 features include: One-click telephone dialing (modem required), duplicate-name warning when adding names, the ability to copy a single name from one database to another with a simple keyboard or mouse command, completely unlimited filtering, and a powerful new report which prints out Tracker/ST's unique Long Notes for as many people as the user requires, with one single command. (\$79.95 (Upgrade \$25), Step Ahead Software, Inc., 496-A Hudson Street #F39, New York City, NY 10014, (212) 627-5830)



Re:Port

The Independent Newsletter for Portfolio Users Issue 1, 1991

Welcome to Re:Port!

Welcome to the first issue of Re:Port, the independent newsletter for Atari Portfolio users.

I would like to thank you for your support. I hope you are enjoying the magazine. I have been busy with the Portfolio magazine programming. After working hard and with the Portfolio magazine staff, I have been able to get the magazine out to you. I hope you are enjoying it. I will continue to work on the magazine and hope to see you at the next issue.

New PBASIC expands commands

By David E. Stewart

The PBASIC program has been expanded to include the following commands:

- GET** - Get a value from a file.
- PUT** - Put a value into a file.
- OPEN** - Open a file.
- CLOSE** - Close a file.
- DELETE** - Delete a file.
- RENAME** - Rename a file.
- SEARCH** - Search for a string in a file.
- PRINT** - Print a string to the screen.
- READ** - Read a string from a file.
- WRITE** - Write a string to a file.
- APPEND** - Append a string to a file.
- ERASE** - Erase a file.
- REN** - Rename a file.
- SEARCH** - Search for a string in a file.
- PRINT** - Print a string to the screen.
- READ** - Read a string from a file.
- WRITE** - Write a string to a file.
- APPEND** - Append a string to a file.
- ERASE** - Erase a file.

Continued on Page 8

What's New

128K Giveaway Contest

Enter the 128K Giveaway Contest by sending in a letter to the editor. The contest ends on October 31, 1991. The winner will receive a 128K RAM card. The contest is open to all Atari Portfolio users. For more information, see the contest announcement on page 10.

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Re:Port - Newsletter for Portfolio!

September, 1991 saw the premiere of Re:Port, an independent newsletter for Atari Portfolio users. Packaged with a PC disk, each issue of Re:Port will feature Portfolio files and programs!

As a subscriber incentive, Re:Port's editor, David Stewart, has initiated the Re:Port 128K Giveaway Contest. To enter (and perhaps win a 128K RAM Card), send your favorite Portfolio story (500 words or less) to Re:Port.

Subscriptions to Re:Port cost \$50 a year (6 issues) or \$90 for two years (12 issues). Be sure to specify your IBM PC disk format! (David E. Stewart, Editor, Re:Port Newsletter, 1618 S. Beech Ct., Broken Arrow, OK 74012)

Lynx Favored in Survey

A survey published in the magazine VideoGames & Computer Entertainment, last Spring, asked its readers about their purchasing intentions, game-playing tastes, and demographics. The results are hardly surprising to Lynx aficionados. Nearly three times as many video game players planned to purchase an Atari Lynx portable color video game system in 1991 over the black-and-white Nintendo Game Boy.

According to the survey, Lynx, with its low price and superior quality, has caught the attention of teen and adult game players, as well as kids. VideoGames and Computer Entertainment Contributing Editor Arnie Katz credits the sophisticated games and features of the Lynx for its universal appeal. (For more information, Tom Crosby, Edelman Public Relations, 211 East Ontario St., Chicago, IL 60611, (312) 280-2192)

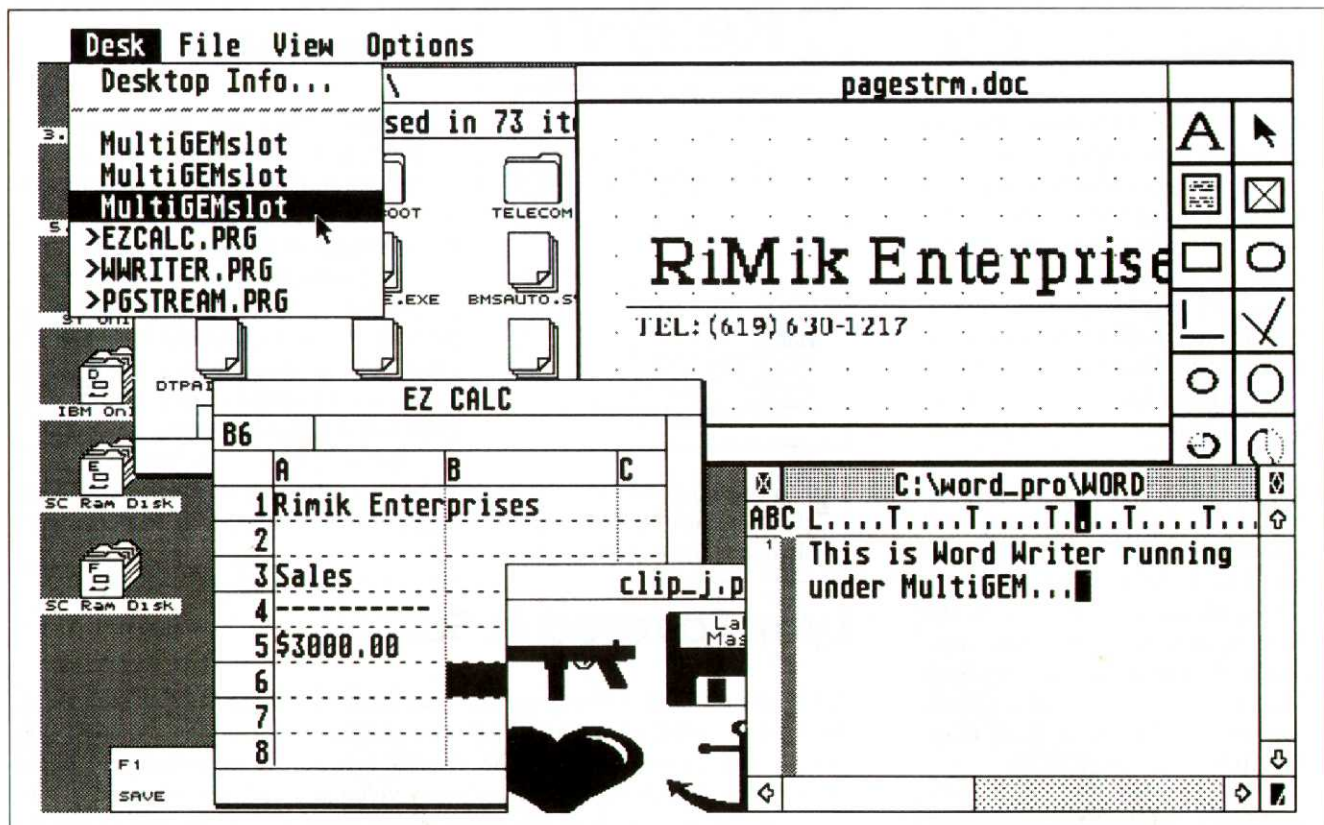
Vortex 386SX Emulation for ST!

Vortex Computer Systems, of Flein bei Heilbronn, Germany, has announced ATonce-386SX, a hardware PC emulator for the Mega STe, based around the popular 80386SX microprocessor. Capable of using the Mega STe's cache RAM, the emulator runs at 16 MHz, and is performance-rated at Norton 12.3. A rating of Norton 15.6 can be attained if an optional 512K FAST-RAM module is added. 80387SX math coprocessor support is also available on the board, which increases the speed even further.

ATonce increases DOS memory by 704K on a 1MB STe, and offers up to 3MB of Expanded memory on a Mega STe 4, in total compliance with the LIM 4.0 standard. SCSI- and AHDI-compatible hard disks are supported, and ATonce converts internal ST floppy drives to DOS drives. It also provides full sound support and emulates CGA, Hercules, Olivetti, and Toshiba graphic adapters, as well as a subset of EGA and VGA monochrome graphics. (For more information, Vortex Computersysteme, Falterstrasse 51-53, D7101 Flein bei Heilbronn, Germany, 0713159 720)

Turner Runs the Gamut in his 3rd Book of Atari ST Topics

Ralph Turner, author of *The Atari ST Book* and *Intermediate and Advanced Atari ST Subjects*, has released *Turner's Third Book of Atari ST Topics!* Covered in this volume, topics such as the TT030, laser printers, modems and telecommunications, shareware, and MIDI. (\$16.95 (plus \$2.00 S/H) Index Legalis Publishing, P.O. Box 1822-10, Fairfield, IA 52556, (515) 472-2293)



MultiGEM

Real multitasking: Here, a clock accessory, PageStream, and Word Writer work, side by side, in their own MultiGEM windows. Note MultiGEMslots in Desk menu, used to access installed applications.

TRUE MULTITASKING ON THE ST/TT!

By Dave Plotkin

The idea of multitasking — having multiple programs running on your computer at the same time — is intriguing. One advantage of multitasking is that it lets you jump quickly from one application to another. But most or all of this convenience can also be obtained by storing oft-used applications on a RAMdisk, substituting Desk Accessories for conventional programs, or installing a “context switcher,” like Revolver. More important is that true multitasking, by allowing programs to execute concurrently, opens the door to newly-increased productivity. Imagine working on your word processor while your database sorts a long file!

While the ST/TT are not fully-multitasking sys-

tems, facilities exist to let canny programmers create software that multitasks to some degree. One technique involves changing memory pointers so that portions of a program’s code are executed whenever a particular hardware interrupt occurs. Several popular telecommunications programs, for example, allow “background” uploads and downloads — these processes are typically “driven” by RS-232 hardware interrupts. Almost all of the ST/TT’s many interrupts can, in one context or another, be used to allow concurrent processing.

Another, higher-level method of multitasking is employed by Desk Accessories. Normally, Desk Accessories acquire input by calling GEM functions. By making one of these calls, the accessory relinquishes control of the CPU until GEM receives and returns the input requested. By juggling input requests in this

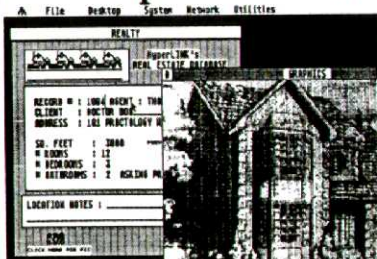
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Example # 3 : Real Estate DBase



As a simple example of a Relational Database not just limited to text, HyperLINK can be set up to "link" any given field in

a database with an associated graphic file. In the Realty HAP for instance, there is a link from the database to a picture of the house indicated. This is just a sample of how Multi-Media can be used.

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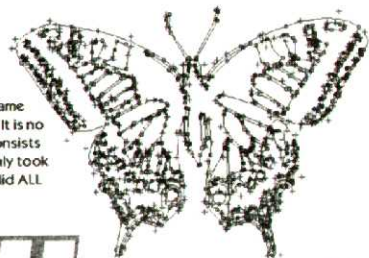
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This small butterfly is unremarkable. The others are a new species you can breed on your Atari computer. Automatic vectoring has arrived.



To the left is a pixel-based .IMG picture. In other words, the picture is made up of dots. It's a 58k file. The image can't be enlarged much more than this without the ragged edges showing.



To the right is a snapshot of the same image after it has been vectorized. It is no longer made up of dots. It now consists of lines and bézier curves. This only took a few minutes and Avant Vector did ALL the work for you.

Avant Vector is a cutting-edge graphics tool that's fast, easy to use and surprisingly versatile.

The large butterfly wing on the right is a vector image created by Avant Vector. Using "automatic tracing," a bit image graphic (the smaller butterfly) was converted to a vector graphic, resulting in the smooth output you see here.

Vector graphics have big advantages over bit image graphics - they make much smaller files, and they can be scaled to any size without losing resolution or looking blocky. And Avant Vector's tracing routines are highly sophisticated; in a recent review of 7 Mac, PC, and ST auto-tracing programs, Avant Vector was rated best of the bunch!

Avant Vector supports .PIB, .PC3, .IMG, .BLD, .PIC or .PAC formats. If you want to vector Mac, PC or Amiga graphics, you can do so with .TIF, .IMG or .JFF. Avant Vector

Plotter imports and exports .EPS files too, and can load and save HP plotter files.

No matter which DTP package you use, Avant Vector is a wonderful companion. It creates .CVG files for Outline, Calamus or Repro Studio. And .GEM files for Fleet St Publisher, Timeworks, Publishing Partner, PageStream, EasyDraw and Repro Studio. With .EPS on the Plotter version, you can print to a PostScript printer, as well as the usual drawing and cutting options.

Since Avant Vector is a full featured vector graphics package, you can touch up any picture you've auto-traced, or draw pictures from scratch - with an intuitive interface you'll learn in a matter of minutes!

Call or write CodeHead Software for more information about Avant Vector (and its amazing cousin, Repro Studio). Special introductory pricing is available until December 31, 1991. Act now and save!

AVANT

VECTOR

This is the .CVG vector version: it can now be enlarged or reduced at will, and the file size is down to 10k. The .GEM version is about 20k but otherwise identical. As vector graphics, the images are easily and quickly manipulated. You can stretch, skew, rotate, etc.



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fashion, GEM can “non-preemptively multitask” up to six accessories, plus a running application.

Enter MultiGEM

Now, MultiGEM extends the ST/TT’s desk-accessory multitasking facility to regular applications. MultiGEM arrives with one double-sided disk and a 20 page manual. It is easy to install — just insert the disk and click on the INSTALL program. The program will run with any ST, STe, or TT with TOS 1.2 (Mega TOS) or later. One MB of memory is the absolute minimum — if you want to run more than two small programs, you’ll need more, and four MB is optimal. Installation is quite painless, though you should back up your DESKTOP.INF file before clicking on INSTALL, since MultiGEM rewrites DESKTOP.INF in order to install its options: an alternative file-viewer and a “run accessory on startup” feature.

Once MultiGEM is running, checking the Desk menu reveals that any unused Desk Accessory slots have been renamed as “MultiGEMslots.” To load your first program under MultiGEM, simply double-click on its icon from the desktop. The program’s name will appear in one of the MultiGEMslots. Thereafter, clicking on one of the unused MultiGEMslots will return you to the desktop, allowing you to execute additional programs. Up to six programs can be installed in this fashion, up to the limits of available memory. Switching between running programs is equally simple: just click on a program’s window (if visible) or on its entry in the Desk menu, to make that program the “active” application, bringing its window to the front, and making its menu bar active.

Programs running under MultiGEM *really* multitask. That is, they process data simultaneously with other applications. The application currently accepting input tends (or *seems*) to run faster than the others, but this makes sense. MultiGEM may well be set up so as to prioritize scheduling of any program under the user’s direct control, since the alternative might mean “dropped” keystrokes or mouse-clicks.

MultiGEM does impose certain limitations on the

user. It is important, for example, that users remember not to attempt to modify the same file with multiple applications (or multiple instances of the same application), nor to save from two applications to disk, at the same time. More important, perhaps, is that MultiGEM — on its own — cannot multitask printing. However, a print buffer program should solve this problem for all practical purposes.

Does it Work?

Yes and no. MultiGEM works fine with applications that perform wholly-conventional window I/O and don’t mask the desktop background in special ways. It also works fine with well-behaved TOS applications, which appear contained in their own “TOS windows.” Unfortunately, certain programs prevent access to the Desk menu, frustrating MultiGEM’s method of switching between applications. Others prevent access to the

desktop, defeating MultiGEM’s method of loading and running programs. Certain TOS and .TTP programs have a tendency to spill over the boundaries of their windows; while others allow access to the desktop, but make the mouse pointer disappear. Some programs work, but don’t allow you to switch out to another task while they are running. And of course, some programs (such as Neodesk) don’t work at all.

Overall, though, a large number of programs — especially normal GEM programs — work just fine with MultiGEM. Such mainstream products such as Word Writer, LDW Power, Pagestream, Superbase Pro, TouchUp, and Calamus are currently compatible. HotWire will run with a bit of fiddling, and NeoDesk compatibility is said to be just around the corner. Rimik is actively working with a number of developers to improve the compatibility of other popular software with MultiGEM. At the same time, they are maintaining up-to-the-minute customer support, both on GENie and by phone.

Rimik has also released a disk containing four MultiGEM

utilities that add considerable functionality to the system. A “Menu Tree” style program-launching system, and multitasking text-file print, disk format, and file-copy utilities are included. Definitely worth a look!●

MultiGEM

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Atari ST, STe, or TT

SUMMARY:

Remarkably robust multitasking software. Lets you run multiple GEM or TOS applications in DA slots.

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Hyperlink v. 1.52

A STATE-OF-THE-ART HYPERMEDIA APPLICATION DEVELOPMENT SYSTEM DEBUTS ON THE ST/TT PLATFORM

The concept of *hypermedia* has been around since the mid-1970s. Emerging first as *hypertext* ("database-documents" containing trigger words or phrases that, when selected, reveal additional information), it wasn't long before the developing power of personal computers prompted visionaries to extend the concept to include graphics, sound, and other media. Easy-to-use hypermedia development systems, such as HyperCard, have become popular on several current platforms — enabling normal users to create highly-interactive custom programs for personal and commercial use.

Now JMG's Hyperlink brings hypermedia development to the Atari ST. When you first install and run Hyperlink, it brings you to its main work screen. A menu line stretches across the top of the screen, and a box to the left holds icons that represent loaded Hyperlink applications. Sample applications, such as a Baseball Card Tracker, Telephone Message Pad, and Address Book, are included with the package.

Using a Hyperlink application is quite simple. Load the application, using one of the menu selections. The application's icon will appear in the box on the left side of the screen. Thereafter, clicking on this icon will make the application active, putting its input form on the display. Multiple applications can be loaded at once, and their forms displayed simultaneously, much as with desk accessories.

Hyperlink applications work by calling ("linking") program modules supplied with the system: a text-editor, database, graphics-display, and other modules are presently supported, and additional modules are promised soon for handling sound and even speech!

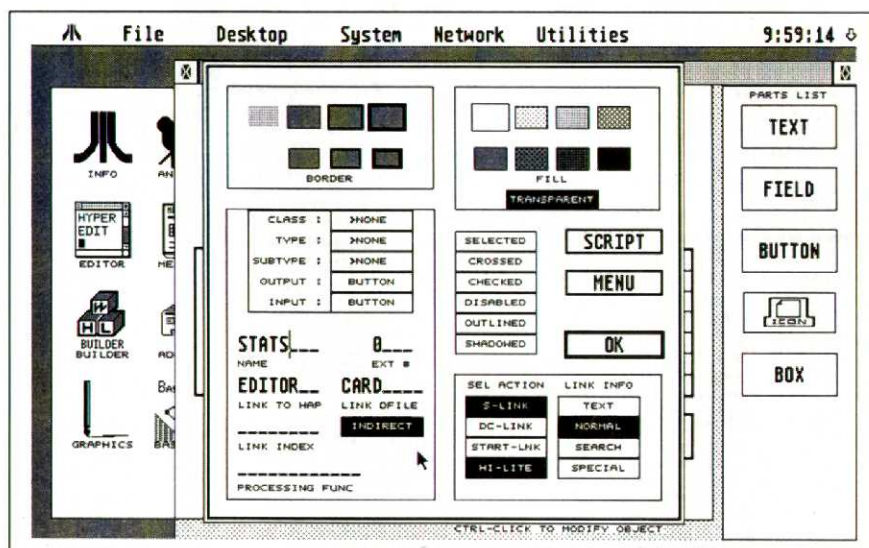


Figure 1. Hyperlink's Builder module lets you specify numerous parameters for each object in a form. Here, a button is defined.

The linking mechanism is extremely flexible: links can be established that tie together input forms, buttons, and other "objects" with one another, with underlying module "engines," and even between Hyperlink applications, coordinating their activities. For example, the sample Telephone Message Pad and Address Book applications are linked in such a way that clicking on the name of a caller on the Message Pad will activate the Address Book to find a matching record, revealing the caller's phone number and address. Hyperlink modules can access external graphics, text, and other files, meaning that standard graphics, DTP, and other software can be used to develop materials for presentation by Hyperlink apps. The Baseball Card Index, for example, offers a "Stats" button that loads the editor module to display an external text file containing statistical information about each player. A similar "Camera" button employs the graphics module to display scanned player images.

Hyperlink even permits words in external text files to be linked with modules and objects, so that these "hot spots" can elicit responses from the system, *a la* hypertext.

Rolling your Own

Hyperlink applications are composed using the Builder module, which works somewhat like a GEM Resource Construction Set. The Builder screen contains a blank "work area" and a set of icons representing the different objects that can be incorporated in an application's input form.

The palette of object types includes Text, Database Field, Button, Box, and Icon, and more complex meta-objects, such as sets of "radio buttons," can be built from these.

Like an RCS, Hyperlink's Builder lets you design a Hyperlink input form by dragging objects into its work area. Once objects have been placed, they can be moved around or sized with the mouse. Each object may then be named, and parameters set to control its appearance and reaction to mouse moves and clicks. Finally, its links to Hyperlink modules and external files are specified. Once all objects have been defined, further parameters are set to define characteristics of the application's display window, and to refine further object and file linkages.

Bumpy Ride Ahead

Hyperlink shows enormous promise, though version 1.52 still has a few rough spots. For example, though you can define a hypertext link in an external text from inside the Editor module, editing that link requires leaving the Editor, loading the Text Link module, and modifying an entry in its database.

When designing an application that employs a custom database, Hyperlink will not let you modify the format of that database after definition (though modification is possible using dBman IV, whose file-format is compatible with Hyperlink's). Nor does Hyperlink offer any kind of report builder (though again, you can use dBman's). There is a print command in the popup menu for applications, but it is apparently not yet functional.

Worst of all, though, is the complete inadequacy of the manual. Not only is it poorly-organized, but fails to adequately cover many of the most difficult aspects of Hyperlink, leaving you to experiment and study the sample applications. The manual lacks a reference sec-

Hyperlink v. 1.52

SYSTEM:
Atari ST/Ste/TT

MANUFACTURER:
JMG Software
International, Inc.
892 Upper James St.
Hamilton, Ontario
Canada L9C 3A5
(416) 575-3201

PRICE: \$199.00

tion, and even the walk-through of a sample application doesn't work — the examples don't match the screen shots. This is true of some of the explanations as well.

What must be kept in mind, however, is that the rough spots are typical of an application in transition, and the developers of Hyperlink are well aware of the fact that improvements are necessary. George Geczy is hard at work, and even as this was being written, version 1.6 was being rushed to completion.

Speech and Sound are to be added almost immediately, and some of the more difficult-to-use items in the Builder module are being cleaned up. A scripting language is due to be added as well, (version 2.0) allowing programmers to specify symbolically

how each object in a form should respond, instead of being "limited" to just creating links. Version 2.0 will also feature a completely-rewritten manual. ●

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EdHak

Edit Text or Memory with this "Do-it-All" Accessory!

by John Jainschigg

Like most long-time ST users, I have an "ACC" folder on the root directory of my hard disk that contains the "acc"-umulated fruits of many years of DA-collecting. Why do ST and TT users find Desk Accessories so fascinating? Because the best DA's are remarkable displays of programming, combining a high degree of GEM-compliance with all-around good engineering. And because DA's can be wonderful tools for increasing productivity.

EdHak, now in version 2.25 from Clear Thinking Software, is a winner on both counts: beautifully-designed and easy to use, this accessory text-editor will find a favored spot on the root directory of your boot disk in no time.

Installation

"No time" is just about what it takes to get up and running with EdHak. Just copy EDHAK225.ACC from the distribution disk to the root directory of your boot disk, and reboot to install the program in your Desk menu. (If

you prefer, you can run EdHak as a regular GEM application, by changing the extension to .PRG.) EdHak defaults to a 10K buffer (user-alterable), and because it occupies only about 77K of RAM when installed, should run transparently on all but minimal-configuration STs. If you're suffering a

real memory crunch, however, don't despair! Clear Thinking has thoughtfully included a stripped-down "freeware" version of EdHak (called DIARY20S.ACC) that occupies only 38K!

Clicking on the EdHak entry causes the half-screen window shown in Figure 1 to appear. The window can be increased to full-screen size by clicking on the "fuller" button at the upper right corner. In Text mode, EdHak functions as a swift, stripped-down text editor for ASCII files. Unlike many conventional text-editors, however, EdHak offers adjustable margins and tabbing; word wrap; fluid, mouse-based cut-and-paste; full search-and-replace (for text and decimal or hexadecimal byte patterns); automatic date insertion; macros; and other convenience features — all accessed from a nifty little menu built into

its window's move bar, or via Function and other key-combinations.

The EdHak text-editor is ideal for programming, but doesn't fall short as an all-around utility for correspondence and general writing. Full printing features make it ideal for quick jobs such as envelope-addressing. And its ability to output text on command to the serial port makes it an ideal "helper" for use in combination with GEM-based telecommunications programs.

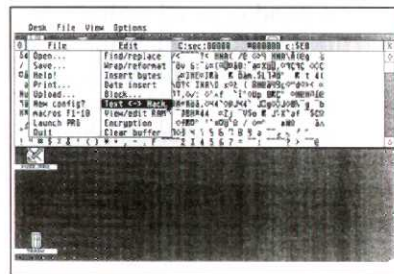
Hacking Features

But text-editing isn't the only trick EdHak knows how to do! In Hacking mode, EdHak can display the contents of RAM directly, either in response to a search command (for text string or byte-sequence) or to entry of a start address. The contents of RAM are displayed as characters in EdHak's window (one byte per character), and can be edited freely and written back to RAM in any location. As an additional aid, the hex equivalent for the character presently under the cursor is displayed in EdHak's menu bar.

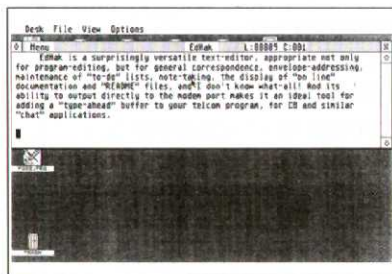
But that's not all. EdHak also lets you load, edit, and rewrite disk sectors directly — again, either in response to a search, or starting from a specific sector number.

Though the feature is potentially destructive if used carelessly (Full Hacking is disabled in the program's default configuration), I was able to put it to good use, immediately — eliminating a viral advertisement placed in my boot sector by FastCopy Pro ("I am your personal Boot Sector Guardian," indeed!)

EdHak's documentation isn't disappointing, either. Its little manual, though a bit "home-made"-looking, explains each of the program's many features clearly and completely; and even includes a bound-in keyboard command summary. All-in-all, and particularly at the low price of \$18.95, I think EdHak is a great buy!



... or advanced disk-sector editing!



Edhak can do regular text-editing ...

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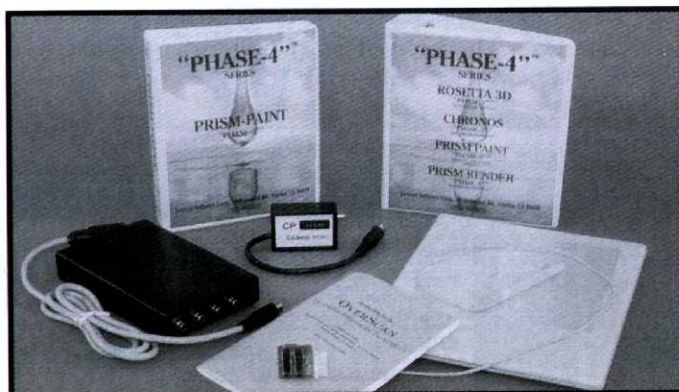
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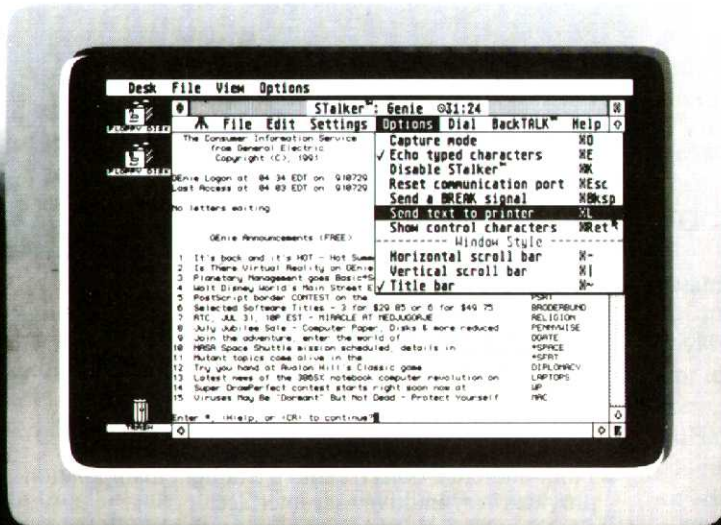
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LYNX GAMES

Bill & Ted's Excellent Adventure



Summary: A most whimsically non-heinous time-travelling puzzle.

Manufacturer:

Atari Corporation
1196 Borregas Avenue
Sunnyvale, CA 94089

Price: \$39.99

Whoa, dude! Excellent game. Bill and Ted's most-favored bodacious babes, Joanna and Elizabeth, have been kidnapped by the Grim Reaper and secreted in the fiery pits of Hell (all to keep you from completing your musical masterpiece). So it's up to you and your time-travelling telephone booth to tour foreign lands and distant eras in search of clues to rescue these most abused and long-suffering maids.

Fortunately, the wily women in question have marked the winding way to Hell with musical notes and phone book pages, bearing crucial information. Your

phone booth, caught in the whirling vortex of the winds of time, safely deposits you in the sands of Ancient Egypt. Then, it's on your laid-back way, past guards, quicksand, giant scarab beetles and other bogus impediments, collecting musical notes, gold nuggets, color-coded keys, and other objects; all of which can help you in your most heroic quest.

Bill & Ted is not a fast-paced adventure, but requires perseverance and puzzling. Fortunately, the game is designed so that progress can be cumulative. In fact, you can take a break at any point in the game, just by writing down a password. Later, you can re-enter the password, and the game will pick up exactly where you left off.

Play alone, or via ComLynx. When playing with a partner, Bill and Ted are both in action, and must cooperate. Either way, this is one most non-heinous game, with a funky Egyptian-style soundtrack and great visual effects. And that Grim Reaper: Man! What an ugly dude! — M.T.F. ●

Fidelity Ultimate Chess Challenge

Summary: This state-of-the-art chess-engine can challenge ranked masters or help train rank beginners.

Manufacturer:

Telegames,
P.O. Box 901
Lancaster, TX 75146

Price: \$39.95

Stumped, stymied, struggling yet determined, I battle the overwhelming odds of woman against machine. This isn't just a game, it's the Ultimate Chess Challenge, brought to you by Fidelity Electronics, via

LYNX GAMES



Telegames. Fidelity are computer-chess pioneers and developers of the only United States Chess Federation Master-rated (2,325) program. And as far as I can tell, the Fidelity Chess Engine has lost little or nothing in its translation to the Lynx format.

Battling the machine will certainly improve your game, if not salve your ego. Those who play chess only occasionally will wish to leave the machine at its lowest playing-strength for a good long while, until they get the hang of playing against a mechanized opponent. For

Fidelity Chess offers eight levels of time-limited analysis, eight levels of depth-limited analysis, and an “unlimited” mode

serious players, Fidelity Chess offers eight levels of time-limited analysis, eight levels of depth-limited analysis, and an “unlimited” mode (to be honest, we haven't dared try it, though we assume the machine will decide on a move some time before the heat-death of the universe).

Faithful to the aesthetics of this age-old game as it enters the computer era, Fidelity's chessmen are classic silver and gold. Viewed in orthogonal perspective against a red-and-white checkered board, this makes for a pleasing and easily-deciphered display. For more abstract strategizing, a bird's-eye view is also available. Additional play options permit moves to be withdrawn, hints granted, and game statistics to be viewed. The game (or rather, the virtual chessboard) can also be used by two human players, and will automatically rotate 180 degrees after each move, facilitating visualization from two player-perspectives. — M.T.F.●

Tournament Cyberball

Summary: Futuristic Football

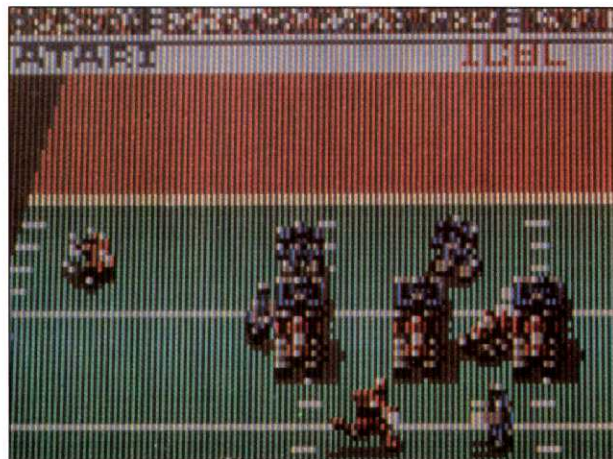
Manufacturer:
Atari Corp.
1196 Borregas Avenue
Sunnyvale, CA 94089

Price: \$39.99

Forget kinder and gentler. This is a leaner, meaner, more dangerous, robotic version of the game we all know and love. You know, the one with helmets and cheerleaders, touchdowns, tackling, and homecoming queens? It's 2072, and it might as well be the Roman Coliseum, because the crowd is hungry for blood. Fortunately, these are robots playing instead of people, because football has taken on a new and nasty twist. The ball has been replaced by an atomic Cyberball which gets closer to exploding with every play unless your team manages to defuse it!

Choose your coach from among four snarling specimens (one of them, female!). Then select your team: Crush or Thunder, Machine, or Lightning. You control the key player, in silver. He's the one that catches the ball and makes his way up the field against all odds. Comlynx up to four players and your team-mate will pick a second player to control. As you line up for each play, statistics will appear on the screen, informing you of yardage gained, and of how many yards you need to gain in order to defuse the Cyberball.

Whether you're on defense or offense, you call the play. On offense, Run, Option, and Pass strategies are available; on defense, Short, Medium and Long. And you can choose which player to control. Play is intense and exciting. There's not much margin for error



when the ball is approaching critical. Scoring is along old-fashioned 20th century lines, but points are rewarded with dollars. And the more money you earn, the better players you can afford. So buy yourself a more powerful cyberbot at the next timeout, or bide your time until you can afford an even stronger and faster one. Hike! — M.T.F. ●



Qix

Summary: Lay claim to territory while avoiding a randomly-roaming helix. A fun and exasperating blend of action and strategy.

Manufacturer:
Telegames
P.O. Box 901
Lancaster, TX 75146

Price: \$39.95

Imagine a nice harmless Etch-a-Sketch. You're turning the knobs to create enclosed areas, large and small. And every time you complete one, it magically fills up with a colorful pattern and becomes your territory. At the same time, there's a deceptively-pretty, spinning helix roaming randomly around the screen; trying to crash into you and fragment you into a gazillion splinters. Oh, and don't forget: you're also being chased by Sparx,

that travel along the edges of the playfield and up the lines you're drawing, mercilessly hunting you down. And should you stop for a moment, the lines of the box you're drawing ("stix" in Qix parlance) will ignite and become a deadly fuse, very difficult to outrun.

Qix is one of those incredibly fun, incredibly exasperating games that will have you hooked in no time — a classic blend of action and strategy. Long a favorite of ours on the Atari 8-bit, it's great to see the game released now for the Lynx. The graphics of the original game translate beautifully to the small screen, and have even been enhanced. It's very gratifying to see the playing area fill up with your very own colorfully patterned boxes. And the sound effects are as fun as they are telling.

As you progress through increasingly difficult levels, you must "capture" a larger and larger percentage of the playfield. Additional and more excitable Qix's will plague you. And for added challenge (and double points), you can voluntarily slow your own progress across the screen, by pressing the fire button. — M.T.F. ●





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Option 1 + Pause: **Restart.** Did that lame opening gambit blow your chances for a high score? Don't prolong the agony, just book!

Pause: In case of noisome interruptions from family and friends who don't understand how serious game-playing can be!

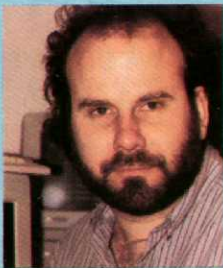
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2	4	4	12	GLADYS KNIGHT (MCA 10329) (9 98)	GOOD WOMAN	2
3	3	3	19	BOYZ II MEN (MOTOWN 6320) (9 98)	COOLEY HIGH HARMONY	1
4	2	1	12	SOUNDTRACK (WEST 2464) (WARNER BROS. 10 98)	BOYZ N THE HOOD	1
5	6	6	12	BEBE & CECE WINANS (CAPITOL 92078) (9 98)	DIFFERENT LIFESTYLES	5
6	5	5	19	SOUNDS OF BLACKNESS (PERSPECTIVE 1000) (A&M 10 98)	THE EVOLUTION OF GOSPEL	4
7	7	7	12	HEAVY D & THE BOYZ (JUPITON 1028) (MCA 10 98)	PEACEFUL JOURNEY	7
				GETO BOYS (RAP-A-LOT 5756) (PRIORITY 10 98)	WE CAN'T BE STOPPED	8
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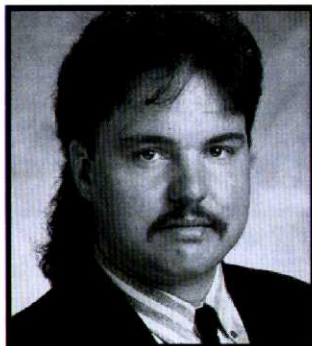
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Atari Artist: A Growing Commitment



by James K. Grunke

Corporate Director

International Music
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Atari Professional Systems
Group

Musicians deserve a large round of applause for their support of Atari Music. Sonic craftsmen paint and polish the media music you hear every day, and a huge base of home studios create yet-to-be-discovered masterpieces, all over the world, with Atari technology. For these musicians, and the many thousands of hobbyists and students that join them, the Atari is more than a computer. It's a fine musical instrument ... one that has deservedly become a *de facto* standard in the industry.

So exists *Atari Artist*, a magazine chartered to feature all the creative sciences. Explorer launches this issue with a less-than-subtle nod – perhaps a gentle headbang! – to the computer music industry. There's something for everyone here. Minimal to Maximal, a diverse and wonderful cast of musicians are the true heroes of Atari Music. This issue is for them, and for you.

Kudos also to our Strategic Partners. A family of ingenious software developers, combined with a specialized dealer base, create the catalyst for Atari music market share. Their inspired products and support are crucial if Atari is to continue serving musician's needs. Please respect their contributions by encouraging software license integrity and by supporting your local dealer.

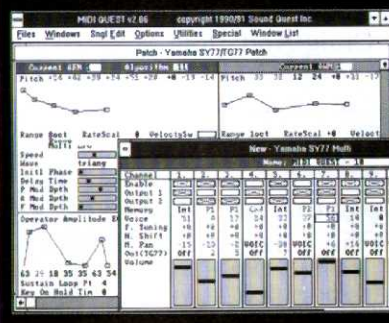
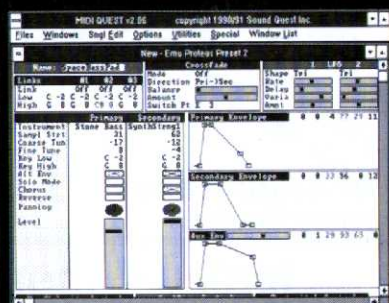
So what's new? My favorite question. Check it out: Atari computers will get faster, smaller, smarter, prettier, and easier to buy. We're getting more involved with the MMA (MIDI Manufacturing Association), and taking a higher profile on-line with GENIE, PAN, and other information services. Look for us in more educational institutions and on more concert stages. Our commitment to music is growing, day-by-day.

When I chose an Atari in 1986, I bought the computer for musical applications. I needed a complete MIDI studio: sequencer, librarian, and other tools; and Atari was then, and remains, the most flexible and well-supported platform for all these applications. This issue of *Atari Artist* will help you fill out and refine *your* Complete MIDI Studio. All the latest and greatest products have been pulled together and evaluated, for your careful and creative consideration.

Atari has always kept its ear to the rail in the music industry and we are stepping up our efforts to deliver you the most powerful music hardware available. The bottom line is: *you want more ... and we are here to deliver more.* So enjoy Atari Artist, and thanks again for your support!

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Guest Editor Craig Anderton is one of the most respected and widely-read observers of today's MIDI music scene. Formerly Editor of Electronic Musician Magazine (MIX Publications), Craig is the author of 11 books on MIDI, musical electronics, and computing, including the classic MIDI For Musicians (Music Sales, 1986). Pioneer in acoustical engineering and music synthesis, Craig presently consults to companies such as E-mu, Ensoniq, and Yamaha, on documentation and sound design; and is concurrently Editor-at-Large for Guitar Player Magazine, and West Coast Editor for EQ. An equally prolific musician, Craig's discography numbers over twenty albums, in genres ranging from rock, to classical, to New Age. Here, Craig shares his insights on ...



The Musical State of the Atari

by Craig Anderton

Atari has always emphasized their computers' place in music for two main reasons: built-in MIDI ports, and comparatively low cost. It was precisely these reasons that attracted some excellent software developers to the machine, and their contributions have made Atari the computer of choice for many musicians. Over the years, though, even as Atari grew to become the number-one music computer in Europe, its presence has been felt less in the American market. Nowadays, European music trade-shows look like an Atari commercial — row after row of Atari STs running incredible soft-

ware, along with a sprinkling of Macs and IBMs. On this side of the pond, however, the Mac currently dominates.

Why such a difference between the US and Europe? Europeans have traditionally placed a great deal of importance on price/performance, and compared to other American or European computers, the Atari is well ahead of the pack in this regard. Germany, in particular, took to the machine, and in the process, contributed some of the best music software for the Atari platform. This built up Atari's momentum — the more software support, the

more desirable the computer — to where it started making serious inroads into the rest of Europe, as well as internationally. (It probably won't be too long before Eastern Bloc countries, who are even more concerned about cost-effectiveness due to the low value of their currency, will flock to the Atari line as well.)

Sensing success in Europe, Atari directed most of their attention and production capacity to that market. And it paid off: not only does the company dominate the European music market, but Atari has also made inroads in desktop publishing and small business

against IBM-type machines. But Atari's decision to dedicate most of its resources to Europe left little for the United States, to the point where 85% of Atari's computer sales were overseas. American musicians would often ask me whether Atari was serious about music, not realizing that on the other side of the ocean, Atari was the *de facto* standard for music computing.

As a result of Atari's emphasis on European marketing, and intense competition from developers in other parts of the world, some American companies dropped their support for Atari music products. For a while, some even feared that Atari was going to concede the American music market to other computer manufacturers. But just like the scenes in the movies where help comes just in time to save the hero, Atari has grown big enough outside of the US to develop resources to cultivate the American market — and Atari is on the move again.

Music as a Niche Market

Atari's overall strategy in the US is to identify "niche markets" and pursue those markets aggressively. Music is one such niche market, and Atari brings a lot to the party: realistic pricing, very strong software support, several new machines (including the STe and TT), and a reputation as a company that takes music seriously. The main question is, what does Atari offer that IBM, Apple, and Commodore do not?

Software is an important part of the answer. I know some Macintosh musicians who have gone over to the Atari because they feel the software is more sophisticated than what's available for the Mac. In any event, there's no denying that Atari has some of the finest music software available on any platform.

Atari users take sequencers like Notator, Cubase, and Omega for granted, but some of their features simply aren't available anywhere else.

Cost is another issue. Although nowadays you can get inexpensive clones, and even Apple has a "low-cost" computer (the Mac Classic), Atari machines still provide the most power for a given investment. Nor are Ataris just for those on a budget. For some, the fact that Atari offers "more bang for the buck" translates to their

Atari machines still provide the most power for a given investment.

being able to afford more than one computer. I use both Atari and Macintosh in my studio, for example, and find the combination much more useful than having a single high-end machine like the Mac II fx.

Two computers multiplies the number of software options and insures compatibility with more people (as well as European clients in the case of the ST). Multiple computers can be used separately for "multitasking," or together — for example, one machine can be dedicated to hard disk audio recording and the other to sequencing. One combination I use a lot is Atari for the Hotz Translator (one of the most fascinating instruments to pass through my studio in some

time, by the way) with a Mac running a sequencer to capture the Translator output. As someone at Atari once said, "every Mac owner is a potential Atari owner." When you can spend \$400 for a computer and have it run your automated mixdown, it makes economic sense to have multiple computers optimized for particular tasks.

Some musicians have even discovered the advantages of owning two or more Ataris. Tangerine Dream's Paul Haslinger, for example, uses a minimum of two STs in the studio: one running Cubase, the other a variety of patch librarians and sample-editors. On the road, each of the Dream's three keyboard workstations is similarly equipped, and additional STs supervise synchronization and other stage-wide aspects of performance.

Speaking of performance, another important point is that Ataris are fast. I remember the first time I played with a Mega ST after using a Mac Plus — I couldn't believe the speed of the screen redraws and calculations. The new TT is an amazing value for the price, and gives blazing fast results with music programs due to the 32 MHz clock speed and 64 bit bus. Like most musicians, I can't stand to have a music-making machine that interferes with the creative process. I find Ataris feel a lot faster than the price point would imply.

A Question of Priorities

The people who do music programs for the Mac and IBM are very dedicated and do excellent work, but one glance through the glossy Mac or IBM magazines is sufficient to realize that music doesn't have a high priority within the industry in general, except perhaps as an adjunct to multimedia. As a result, only a relatively limited number of fairly high-end com-

panies are involved with music on these platforms. On the Atari side, because many musicians with more brains than bucks bought Ataris, there are many small as well as large companies offering a wide variety of musically-oriented software and Atari-compatible hardware.

The ratio of music programs to all available programs is very high in the Atari market, and Atari has made music a focus of their marketing efforts. They obviously think music is important enough to dedicate an issue of Atari Explorer to the subject, which says something; and the Atari is being sold through an increasing number of music stores, a channel of distribution that is almost insignificant amount of business for other computer makers. The music market may be too small for the big companies, but it's the right size for a smaller one.

The Computer in Recessionary Times

Okay, so Atari makes a great computer for music, and it has a loyal following. But no one wants to get stuck with an orphan, and what are the chances of Atari expanding its user base in the U.S.?

Although predicting the future is chancy, there are some encouraging signs. First is Atari's decision to really pursue the American music market. Considering that they've done quite well so far in the U.S. with minimal marketing efforts, putting a push on music should up their market share. The combination of recessionary times and the large library of European-developed software are other factors favoring the Atari family of computers. (Interestingly, sales of Atari computers through music channels are increasing despite a flat overall market for hardware.)

It's significant that some

musicians are now buying Ataris just to run specific pieces of software. People don't buy a computer because it's a cool box; they buy it for the software they can run — how many Apple IIs would have been sold if VisiCalc hadn't given people a reason to buy the machine? Since Atari wants to take over the music market, they're fortunate to have software support that can go head-to-head with the best programs on other platforms. Some of the things musicians can do with Atari software are enough justification to buy the computer.

The TT is another important step. A company needs more than music to survive, and the TT seems like the machine that will put Atari on the map for small business and workstation applications. Penetrating markets other than music is vital to the company's credibility, which in turn increases the willingness of companies to develop software, which causes more people to buy the computer, which increases the company's credibility — and the circle starts all over again. Fortunately, Atari's Lynx game system (which is amazing, by the way) will be putting the Atari name in front of millions of consumers; and other new machines, such as the upcoming ST Book, will broaden Atari's product line in order to attract a wider pool of consumers.

If you're into music, Atari is one company that places the same importance on music as you do. There are a lot of fine computers out there, and a lot of excellent software packages; making a decision on which computer to buy is never easy. But you may end up kicking yourself later if you don't take a long, hard look at the Atari. I've found it to be a cost-effective, easy-to-use machine that has become vital to my studio's operation. Atari's slogan has always been "power without the price." Unlike a lot of slogans, that one rings true for me. ●

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The Complete MIDI Studio



A Checklist for the Atari MIDI Buyer

by John B. Jainschigg

Atari musicians — especially those who are just starting out — are faced with a dizzying array of product choices. How do you separate the hip from the hype? How do you assemble a state-of-the-art MIDI system — one that will give you the advantages of Atari MIDI technology today, and offer room to expand tomorrow? Most important, how can you do it all on a budget?

In the following pages, you'll see a broad cross-section of everything the Atari MIDI market has to offer. To help you stay organized, we've arranged our buyer's guide in terms of basic studio applications: sequencing, patch editing, sampling, scoring, etc. — so you can pick and choose among

the product categories that interest you! But before you turn the page and walk into Atari Artist MIDI Heaven (and especially if you're a beginner!), we advise you to stop and ask yourself a few questions.

1

What kind of a musician are you? Composer? Songwriter? Instrumentalist? Producer? All of the above? Understanding your musical "niche" is the first step towards *limiting* the number and type of products you should consider. A composer or arranger will certainly want to consider the more advanced sequencing/scoring workstations or stand-alone scoring packages, since these are designed for handling full-scale orchestral music. But a songwriter may prefer a less complicated sequencer — one that facilitates improvisation and is easy to use. An instrumentalist, or anybody who plans to use sequencing as an adjunct to live performance, will want a sequencer that lets him assemble song and set lists, for fast, easy use on-stage.

Knowing your musical niche can also help you *expand* your options. A composer or songwriter might well be interested in algorithmic composition software, as a possible source of inspiration. A performer might also want to examine products in this category, for use as aids in on-stage improvising.

2

How much do you know about MIDI? Let's face it: some of this MIDI stuff is pretty high-tech, and it takes a while to learn how it works. So, before you pay through the nose for MIDI software and

gear, it's also good to get some education!

Many Atari MIDI dealers offer seminars on a regular basis, to educate customers about the ins and outs of MIDI and its applications. Numerous books are also available on every aspect of MIDI and music computing, ranging from the "dry as bones" *MIDI 1.0 Technical Spec Manual* to clearly-written, comprehensive guides such as Guest Editor Craig Anderson's *MIDI for Musicians*. For rank beginners, an overview such as is found in Ralph Turner's *Third Book of Atari ST Topics* (\$16.95 from Index Legalis Publishing, PO Box 1822, Fairfield, IA 52556) can be invaluable!

Second, start slow! Low-priced "student" versions of most key products are available, and can provide the firm grounding you need before tackling "pro-quality" MIDI tools.

3

How well do you know your computer? While most MIDI products run equally well with any model Atari ST or TT computer, the few incompatibilities that do exist can be annoying. Moreover, be aware that while much "professional" MIDI software can run on any ST, additional memory, a hard disk, or other enhancements may be necessary to get acceptable performance. So get in the habit of reading packages and documentation carefully, and ask questions before you buy.

Don't be surprised if you have to "beef up" your system to handle your music-computing needs. Music computing is one of the most processor-, RAM-, and storage-space-intensive applications around. So if you're planning to make powerful music, it makes sense to get a powerful machine! Also, remember that any enhance-

ments you make to your basic computing system will pay you back by increasing that system's ability to handle applications *other* than music — sometimes equally important. Any system that's sufficiently cranked to run Notator, for example, will make short work of desktop-publishing the liner notes for your latest album!

The best way to learn more about what your Atari computer can do is to read (you guessed it!) Atari Explorer Magazine. Each issue, in addition to MIDI, we cover numerous applications in every category of computing — in-depth, but always easy enough for a beginner to follow!

4

How well do you know your priorities? Most MIDI musicians discover that they spend most of their time dealing with one piece of software: usually their sequencer. Often, a sequencer will be the most comprehensive piece of software you own, and will place the greatest demands on your computer in terms of RAM memory, hard disk space, and other variables. This given, it actually makes sense to plan your MIDI system — even your choice of Atari model — around that key application. Later, you can purchase software in additional categories, in descending order of importance, maintaining compatibility all the way.

Maybe you can't always get what you want. MIDI tech is growing by leaps and bounds, and each season brings a new crop of glittering software and hardware whose awesome features seem destined to separate you from your hard-earned money. But if you build your Complete MIDI Studio in stages, and keep track of your own musical priorities along the way, you just might find you get what you need.●

Sequencers and Music Workstation Software



As the influence of MIDI has grown, so has sequencing — the recording, editing, and playback of MIDI performance data — become the basis of most modern studio activity. While early MIDI sequencers offered little more than basic “tape recorder” functions, today’s sequencing software places every aspect of music under the artist’s control. Nowadays, even low-cost sequencing packages offer huge numbers of “tracks,” local and global quantization and transposition, step-time and realtime recording, full “cut and paste” editing, and other powerful features.

Higher-end sequencers, meanwhile, have gone even further, incorporating score generation, graphic MIDI-event and -controller editing, and much more. In combination with proprietary hardware,

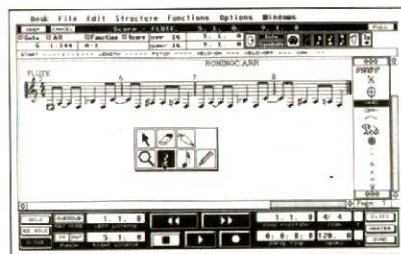
high-end sequencers now offer sophisticated time-code synchronization, and may even provide means for the remote control of audio and video recorders, mixing boards, and other gear. Under the control of one of these do-everything “Music Workstations,” your Atari can orchestrate the entire process of musical creation, from capturing your initial “noodling,” to developing more formal structure, arranging, scoring, and taking the final cut.

Cubase

Cubase is a professional 192 ppq sequencing and scoring program with *M/ROS*, a multi-tasking environment that lets you perform any editing function while recording or playing back! Emphatically

graphic-oriented, *Cubase* is arranged in a logical manner, so even beginners with little sequencer experience can start recording in no time, while the more experienced musician will find layers of sophisticated features to explore. Record each instrument on any of the 64 tracks, then merge each part. Group a trombone, trumpet, and sax track together and handle them as a single entity. Parts and measures can be cut, copied, and pasted together however you choose, and *M/ROS* lets you hear your changes as you edit!

Six editing subsystems are available. The Grid Editor lists all MIDI events on a pair of displays: one spreadsheet-styled, the other, graphic. Use the Drum Editor to create drum maps for any drum machine or sampler; the Key Editor to show each Track in a piano roll-like graph; the MIDI Editor to set up graphic displays of MIDI Controllers; and the Score Editor to lay the music out in standard notation. There’s also a Mixing Editor console with sliders, knobs, and on/off buttons for each of 16 MIDI channels, and any MIDI controller value can be assigned to any console function. All editor windows



Steinberg-Jones' *Cubase*

update simultaneously to reflect changes, and up to seven windows can be open at once.

Notation is also a strong aspect of this program. *Cubase* features full note transcription and DTP edit capabilities that let you create superb scores while you’re playing, as well as a text editor for entering lyrics to the final product.

Peabo Bryson: Topping the Charts with Talent, Technology, and Soul

If you listen to the radio, you've heard his voice: sweet, muscular, ringingly clear, gritty, achingly sincere. The inimitable quality of Peabo Bryson's voice has put a stamp on hits such as "I'm So Into You," "If Ever You're in my Arms Again," "Without You," and dozens of others — songs by which a generation of ardent fans have fallen in love, lost, wept, and tried to love again.

Peabo Bryson is indeed — as everyone from his publicist to the ladies languishing in the front row at one of his concerts will tell you — "the crown prince of crooners." But far from hiding behind his remarkable vocal instrument, Bryson has always brought a wide variety of talents to the musical table. Since 1977, when his Capitol debut album *Reaching for the Sky* began topping charts, Peabo has forged connections and amassed credits in every area of pop and R&B: as composer, lyricist, keyboard player, producer, and collaborator with superstars such as Roberta Flack, Regina Belle, Barry Mann, and others.

Now, Peabo is on the move again. Released in May, his first album for Columbia Records, *Can you Stop the Rain*, went number one on Billboard's R&B Chart in early October. And with that release, another facet of Bryson's talent has come to the fore: that of technological visionary. With the help of his associates, Dwight Watkins, Marc Freeman, and others, Bryson has made use of music computing technology for several years. But since adopting Atari as his preferred music computing platform, Bryson's creativity — and technical vision — have been unleashed.

"We used to use Macintoshes," Bryson said in a recent telephone interview. "But we found they were unreliable. When you're working in the studio, or com-



posing, you want the computer to *help* you in the creative process, not provide impediments to the flow of ideas. Atari computers do that: they let us do things we wouldn't even *try* to do on a Macintosh!"

A perfectionist, who sees with the eyes of a producer (as well as composer and performer), Bryson appreciates the control Atari and MIDI give him over every detail of the recording process. Yet, thinking like an artist, Peabo has employed this control to enhance the human, rather than the mechanical, in his music. Though Atari were used to sequence most of the

cuts on *Can you Stop the Rain*, the overall "feel" of the music is "live." From the exquisite rubato keyboards and lush string arrangements on "I Wish you Love," to the percussion on "You Don't Have to Beg," Bryson, Dwight Watkins, and their associates have used the power of Atari computers with restraint, to achieve precisely-defined musical and emotional effects.

At present, Bryson and his colleagues are using Mega ST's and Hybrid Arts' *SmpTeTrack* to achieve this precise integration of perfect timing and human feel. But now that Peabo has discovered Atari computers, his vision of the impact of technology on recording is expanding in new and ambitious ways.

"I won't really be satisfied," he says, "until everything is on the computer, from composing to recording. I want — I *need* direct-to-disk to do some of the things I have in mind. Thankfully, when you have a hit record, you gain a certain latitude as a musician, a freedom and credibility that I'm very grateful for. I plan to use this freedom to develop a studio system that will let people see what Peabo Bryson is all about. And Atari will be a big part of that."

Cubase is a powerful program — as easy to use as it is attractive to look at. Its sequencing capabilities equal those of any other program for the Atari or Mac, and the scoring features add an elegant professional touch any musician can appreciate. (\$579, Steinberg Jones, 17700 Raymer Street #1001, Northridge, CA 91325, (818) 993-4091)

—Fadi Hayek

Final Cut

The Final Cut from Legend Software Systems is a high-end entry-level sequencer offering many of the control, timing, and editing features found in high-priced professional packages. It's a 16-track sequencer that devotes one track to each MIDI channel. This means you can't have more than one channel on any one track, a fact that does not detract



Legend's *The Final Cut*

from the usefulness of the program.

Among the features supported by *The Final Cut* are copy, merge, transpose, split, append, repeat, filter, auto filter, quantization, cut, and paste. The sequencer also offers a Step Editor that successfully combines some of the best capabilities of event-list editors and graphic screen editors into one powerfully-comprehensive window. The most recent revision of the program (v. 2.41) features several additional options. The Stage Play option allows the user to dial in a three digit number to load up the desired sequence and then start it with any footpedal con-

nected to the ST's joystick port. Sound Page lets you configure patch numbers and correlate them to your synth's patch names. Version 2.41 also lets you view multiple tracks in the Step Edit window. *The Final Cut* supports both format 0 and format 1 Standard MIDI Files. (when loading MIDI files that contain information for more than one channel per track, *The Final Cut* will split this information into separate tracks.)

The Final Cut uses a "tape machine" user-interface, with the usual play, record, stop, pause, fast forward, and rewind controls. It even has animated reels which spin during the play, record, and fast wind modes. This animation is programmed so it will not interfere with the timing of any MIDI events, and can be turned off by the user if desired.

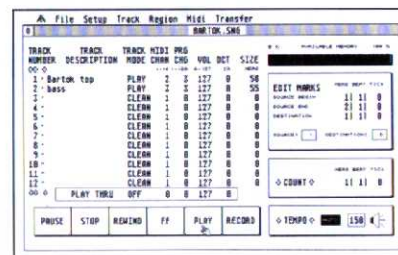
While *The Final Cut* is intended primarily as an entry-level sequencer, the features and accuracy offered by this program make it an excellent program for both beginning and experienced musicians. *The Final Cut* is not copy protected, and will run from hard disk as well as floppy. It does, however, require a hardware key to activate the disk save functions. (\$89.95, Legend Software Systems, 3508 34A Avenue, Edmonton, Alberta, Canada T6L 5E8, (403) 450-0736) —James Port

Midisoft Studio

Midisoft Studio (advanced edition) is the offspring of several generations of easy-to-use sequencers from Midisoft. A 64-track sequencer, *Studio* offers realtime, step-time, and direct event editing, cut, paste, insert, and delete functions. Quantization, transposition, and other features are also supported.

Designed for straightforward control via mouse or keyboard, *Studio* has two basic modes of

operation. In tape-transport mode, labeled tracks and track parameters are displayed in a full-screen window, with the usual tape-transport buttons below, and easy-to-



Midisoft's *Midisoft Studio*

understand tempo, measure count, and edit-mark reminders to the right. In event-edit/step-time mode, the left side of the screen is given over to a tabular display of interpreted note/event data for a single track, which can be scrolled through with simple slider bars.

Well-designed, basic, reliable, and easy to use, *Midisoft Studio* is a first-class choice for MIDI beginners and hobbyists, with sufficient flexibility and inherent power to drive a fairly substantial home studio. A clear and pleasantly-written manual adds to the program's already-considerable value. (\$99.95, Midisoft Corp., P.O. Box 1000, Bellevue, WA 98009, (206) 827-0750)

—John Jainschigg

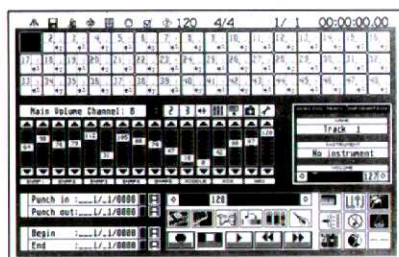
Multi

Multi is a 768 ppq-resolution sequencer with extensive editing, recording, and notation capabilities, all of which work in real time. Once you become familiar with its icon-based user interface, feature for feature, this one qualifies to go head-to-head with the big boys.

The top of the default screen has an icon menu bar adjoining a Tempo, Signature Time, Bar/Beat and SMPTE Time display. *Multi* supports MIDI Sync, MIDI Time

Code, and a Human Factor feature. A tiled track display spans the top of the window, and shows the MIDI channel, mute, and protected status for all 48 tracks. Next, there's a 16-channel MIDI mixer, with moving display during playback. Directly above the "tape transport" recording-control interface are icons that allow for either real, step, or pattern recording, as well as punch in, begin/end, and instrument windows. You can even format a disk or perform a number of other operating-system functions while recording or editing.

On the menu bar is a "Window" icon where the Track, Notation, Song, Grid, Drum, Event, and MIDI Controller editors are accessed, along with the Live Interpreter (a 49th track for holding stop/start points) and a Conductor Track (for varying tempos). All editors function in resizable GEM



Okta's Multi

windows, and up to seven can be open at one time. The number of ways to manipulate data in each window is quite extensive, and any editing changes done to one instantly update all the rest. The Notation tools are first rate. Featuring true WYSIWYG, you can either display all 48 tracks as one score or select up to 8 tracks for display in lead-sheet form, and unlike the linear approach used by most other scoring software, *Multi* shows scoring in the form of pages for faster display. 9- and 24-pin dot-matrix, HP DeskJet, and Atari laser printers are supported. Two MB of memory are needed to print scores, however. (\$495, Okta In-

ternational Software, 315 Rene-Levesque E., Suite 110, Montreal, Quebec, Canada H2X 3P3, (514) 844-3428)

— Peter Donoso

Creator/Notator v. 3.1

Of the many professional-quality sequencing packages available on the Atari platform, *Creator/Notator* is a serious contender for the label "state-of-the-art." Designed to do it all, *Creator/Notator* sports a very intuitive user interface that tries to be as transparent as possible.

Creator and *Notator* are two programs offered separately: the former a sequencer, the latter essentially the same package, enhanced to handle score editing and

printing. Both programs are mouse-driven, though keystroke equivalents are provided for most functions. The main page, with an upper bar of pull down menus, is neatly organized into three areas — Transport, Pattern, and Arrange — that control the sequencer. Full tape transport automation is available and easily implemented, leaving the user free to compose while *Creator/Notator* handles the engineering. Fully 99 16-track patterns can be maintained, and 32-track patterns can also be configured. Individual tracks can be transposed, quantized, compressed, looped, and delayed along with a variety of other alterations including keyboard mapping. All of these processes can be accomplished in

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Recording

Graphic Note Editing

Graphic Song Editing

Score Printing

Dr. T's
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realtime. *Creator/Notator's* quantization capabilities are particularly sophisticated. Available quantize algorithms run from wooden to fluid, depending on your needs. And if you're not satisfied with one of the built-in quantize modes, you can design your own. 33 "groove" algorithms are supported, and 16 of these may be user-designed.

All cut and paste, move, and copy applications are readily accessed through graphic or matrix displays; and *Notator* extends these functions into its note display. Regardless of which visual representation you choose, virtually all recorded MIDI data is also represented as alpha numerically, and can be edited from the keyboard. A revolutionary graphic editor, called Hyperedit, lets you literally "paint" patterns of MIDI events.

Notator fully supports score editing and printing, capturing and creating basic scores in realtime and updating sequences according to changes made in scores. All standard musical symbols are available, including guitar graphs, tablature marks, and percussion notation. Lyrics and text can be input with ease. Accents, dynamic marks, and staccato symbols can be configured to affect MIDI output within user-defined limits. Printer support is extensive: virtually all graphic dot-matrix printers can be configured, including lasers. .IMG files are supported, allowing the user to export notation to *Calamus*, *PageStream* or other DTP software for further enhancement.

Extras: As multi-application MIDI manager *Creator/Notator* is again top shelf. *Softlink*, which comes free with *Creator/Notator*, allows the user to create up to 9 co-resident memory partitions for different applications. Hardware support is also extensive. With *Unitor 2* and the MTC 1 synchronizer, Fostex R8 16- and 24-track tape recorders can be

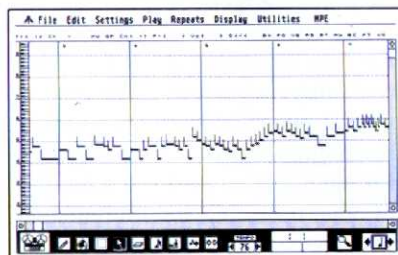
synchronized and controlled from inside the program. SMPTE is fully supported. Lock-up to time code is practically instantaneous. *Unitor* can generate all four types of SMPTE code, and features two additional MIDI in/out ports, addressable from within *Creator/Notator's* 32 MIDI channels. *Export*, another hardware add-on, adds three more MIDI in/out ports to the system. *Steady Eye* adds VITC/SMPTE/EBU synchronization, and makes high-speed video searching and frame-by-frame editing a reality. Finally, *Human Touch* analyzes incoming signals from a live performer and locks sequencer response to this guiding rhythm. (*Creator* \$445, *Notator* \$699, Thinkware, 1134 Kirkham, San Francisco, CA 94131, (800) 248-0403) — *Henry Gaffney*

KCS Omega

KCS Omega is a powerhouse grab-bag of music tools, centered around *KCS*, Dr. T's 48-track sequencer. *Omega's* unique approach combines *KCS* with *Tiger* (a piano roll-like graphic editor), *GSE* (their Graphic Song Editor), *QuickScore* (a notation utility), *PVG* (an algorithmic-based Programmable Variation Generator) and a host of PD music utilities, all functioning in realtime under *MPE*, Dr. T's multi-programming environment. *MPE* is a general-purpose multitasker, and as such, can handle non-musical GEM applications, as well.

At the heart of *Omega's* modular network is *KCS 4.0*, which sports a friendly tape-transport panel, six loopable cue points, a 384 ppq timing resolution, extensive SysEx abilities, and 32 MIDI channels (with the addition of Dr. T's *Phantom*). *Level2 KCS*, for those who have more than 1 MB RAM, contains all the features of *KCS*, along with added support for

polyphonic aftertouch and their PVG program. Although some may find it sufficient to edit their tracks using the cut and paste features and step time/real time event capabilities of *KCS*, the fun really



KCS, from Dr. T's

begins when your sequences are loaded into the other editing programs for further formulating, re-shaping and scoring. (\$450, Dr. T's Music Software, 100 Crescent Road, Needham, MA 02194, (617) 455-1454) — *Peter Donoso*

SmpteTrack Gold

SmpteTrack Gold is the latest of the *MidiTrack* family of sequencers from Hybrid Arts. It takes the rock-solid timing and straightforward user interface of *MidiTrack* a step farther, adding a 192 ppq resolution option in addition to the default 96 ppq, and offering multi-track editing, switchable time-base displays, and a completely redesigned graphic screen.

Multi-track editing really speeds up the editing process within *SmpteTrack* (60 tracks are supported). You can select any number of tracks to quantize, humanize, copy, etc. Time displays in *SmpteTrack* can be switched between bar:beat:pulse and hours:minutes:seconds:frames (i.e., SMPTE time code).

SmpteTrack Gold also has a new graphic screen editor. It still has all the features of previous versions, and can flip back to the event

Starr Parodi & Jeff Fair: Partners in Music & Life

By Mark Vail

Caught *The Arsenio Hall Show*, lately? Ever concentrate on the opening seconds of the show? Guess what plays the drum hits at the top. That's right, I said "what," not "who."

What you're hearing is an Akai S1000 sampler, triggered by an Atari computer. Not only does this duo play the downbeats that bring in Arsenio's superb house band, the *Posse*, but generates the jet sounds that accompany the animated comet as it streaks across the L.A. skyline, the splash when Arsenio dots the 'i' in his name, and even the host's cry: "Crank it up!"

The intro hasn't always been that way, only since January '91. The show's producers had decided the time had come to change it. To help with the change, they called in their sound-development consultant/programmer, Jeff Fair. Jeff, who has worked as a freelance producer, composer, and synth programmer since '79, was instrumental in integrating the sounds into the new intro.

"An Atari STacy triggers samples in the S1000 via MIDI," Jeff reveals. "On stage, they roll the videotaped opening. The tape is striped with time code, which acts as a timing reference for the computer. The first drum hits that you hear, plus all the whooshes and Arsenio yelling "Crank it up!" are produced "live," by the sampler, every night. Those sounds aren't on tape. The drums cue the band, which meshes with the computer tracks as the computer tracks fall out."

Jeff has another interest in the show besides sound programming. He's married to the *Posse*'s female co-keyboardist, Starr Parodi. "Arsenio's producers are really concerned with the integrity of the music they have on their show," Starr says. "They don't want taped music, even for 15 seconds. They want everything to be live, and they want something that can be synched to the opening graphics and catch the cuts of Arsenio before he comes into the studio for the live



part of the show. The Atari's really dependable."

As a member of a TV house band, Starr doesn't get much of a chance to show off all her talents. She does, though, on her debut album, *Change*, released in early October on the Gift Horse label (distributed by Curb Records). Jeff, Starr's "strongest critic," co-produced *Change* and lent a hand on some of the composing.

As in the production of *The Arsenio Hall Show* soundtrack, an Atari computer played an important role in realizing *Change*. "The album is half live band, half computer. On the computer

things, we used an Atari Mega 4 running Hybrid Arts' *SmpTeTrack* sequencing software."

MIDied to the Atari is a multitude of old and new instruments: Korg T1, T3, and Wavestation, Sequential Circuits Prophet-5, -VS, and -2000, Yamaha DX7IIFD, Roland Super Jupiter and D-50, Akai S1000 and S1100, PPG Wave 2.3, and Kurzweil 1000 PX. Besides sequencing, the Atari was pressed into service with *ADAP*, the direct-to-hard-disk recording system from Hybrid Arts.

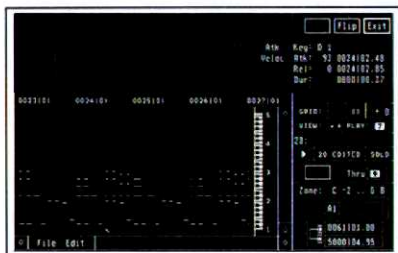
Both Starr and Jeff programmed sounds for *Change*. To archive and program synth patches, they used Hybrid Art's *GenEdit* editor/librarian software. All sequencer and patch data was stored on a 30Mb Supra hard drive.

Some composers prefer to write music with pencil and score paper; others take advantage of MIDI sequencers. Starr Parodi uses "a little of both. Whenever I sit down to play, I have a tape recorder rolling or I record into *SmpTeTrack*. I use the computer as a tape recorder. I'll play for a while and later listen to the ideas I've recorded. A lot of what I write comes from going back to an idea that seems like it would be fun to develop, and then developing it."

Or, as Arsenio would put it, "Crank it up!"

list without having to return to the main screen, but now many of the main screen editing functions are also available in the graphic editor for whole tracks, sections of the track, groups of notes, or individual notes. Convenient switchable time displays are also available in the graphic editor.

SmpteTrack can interface to tape in any number of ways, from TTL, "O" and "R" FSK, to SMPTE time code, MIDI Clock, click track, and other formats. This is accomplished through an included interface box, which also serves as a hardware key, and which connects to the ST's serial port. The unit itself has four standard 1/4" inputs. Two are assigned to tape in/out for



SmpteTrack Gold, from Hybrid Arts

reading and writing time code, and the other two are for gating the DIN Gated TTL Sync and the various actual TTL Syncs, respectively. *SmpteTrack* can read and write 24, 25, 30, and Drop Frame SMPTE, and is even able to select between true 30 frame for B&W work and 29.97 frame for Color.

Also included is *SMPTE Mate*, which is capable of running as either an accessory or a program, and enables you access to read and write all SMPTE formats while within any other Hybrid Arts program, a handy feature. A less expensive version of *SmpteTrack*, called *EdiTrack*, lacks only tape sync capabilities, and is not copy-protected (\$99). (\$495, Hybrid Arts, Inc., 8522 National Blvd., Culver City, CA 90232, (213) 841-0340)

—James Port

Tiger Cub

Whether you are considering a career in music, or just looking to get the most out of your ST's sound chip, *Tiger Cub* will exceed your expectations. Priced under \$100, this package is a perfect example of getting more than what you pay for. Foremost, you get a twelve-track sequencer which combines real-time graphic editing with a practical and highly-intuitive tape deck interface. Besides a plethora of muscular sequencing features, *Tiger Cub* sports a simple but very useful scoring program. Add to that the ability to operate within Dr. T's *MPE* (and therefore run *XOR*, *Copyist*, or any *Caged Artist* editor without leaving *Cub*), and you have a winning combination. Standard music notation can be printed on most 9- or 24-pin printers, Atari lasers, or the HP Deskjet, Laser Jet+, or LaserJet Series II.

Tiger Cub's graphic interface uses an efficient and graceful piano-roll design somewhat reminiscent of regular notation. Both real-time and step-entry recording are supported, along with full graphic editing of notes, all MIDI Controllers, tempo, and time signature. At 384 ppq resolution, *Tiger Cub* is more than adequate for most applications. Other features worth mentioning include full MIDI File support, and easily configurable instrument and drum kit lists (a real time saver). Finally, the program works with the ST's internal sounds, and comes complete with a series of 20 MIDI Files of Bach compositions. (\$99.00, Dr. T's Music Software, Inc., 100 Crescent Road, Needham, MA 02194, (617) 455-1454) — Mihai Manoliu

Tentrax

Tentrax is a Desktop music system designed to take full advantage of Roland's CM-64, CM-32P, and MT32 sound modules (though the program can

be used with almost any synth). Employing a unique graphic interface, Tentrax lets you sequence, notate, edit tracks and drum sounds, and handle MIDI mixdown on a fully-graphic, ten-channel mixing board, complete with VU meters and controls! In addition to these full-service functions, Tentrax offers a complete patch librarian for the abovementioned Roland modules.


Designed by Steinberg Software, Tentrax is a sure cure for musicians who suffer from acute MIDIphobia, but who require "grown up" sequencer features. (\$199.50, Roland Corporation, 7200 Dominion Circle, Los Angeles, CA 90040-3647, (213) 685-5141)



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Editors/Librarians

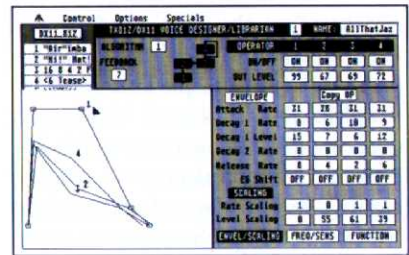


Editors and librarians simplify and speed up the sometimes-daunting task of configuring synthesizers, patchbays, and other MIDI hardware. They fall into two basic groups: *dedicated* programs, optimized to work with one brand or model of equipment, and *universal* programs, which can control many different types of machine. Most products combine editing and librarian features, letting you modify individual patches, create new sounds (using sophisticated patch-generation algorithms), upload and download patch and configuration data to and from your equipment, and save this information to disk — all this with the graphic “point and click” flexibility of the ST!

Hardware-Dedicated Editor/Librarians

Musicode's *Voice Development System* (reviewed for the Yamaha TX81Z/DX11) is one of a broad-based series of synth-dedicated editor librarians from this

ambitious and versatile company. Named banks of synth voices can be uploaded and downloaded to and from the synth, and compiled in libraries. A sophisticated graphic voice-design system allows convenient screen control of all the synth's (ridiculously numerous) parameters, algorithms, and envelope variables. “Performance groups” of voices, each with inter-related detuning, MIDI channel, and other parameters, can be designed, saved, and downloaded, meaning that *VDS* can easily serve as an on-stage song-to-song configuration editor. Additional editors permit the individual on-screen configuration, saving of data-sets, and downloading of utility, chord effect, panning, microtuning, and other synth feature sets. All data can be printed out, as an aid to organization. And to top it off, a mini-sequencer is included for auditioning patches and light-duty general recording! (\$95, Musicode, 5575 Baltimore Dr., Suite 105-127, La Mesa, CA 92042, (619) 469-7194)



Musicode's TX81Z/DX11 VDS

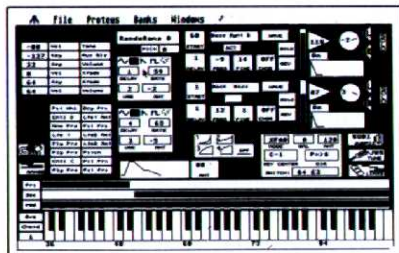
M1 Command is a GEM based editor/librarian for the Korg M1 that includes a revolutionary patch generator. The Librarian subsystem supports four buffers, each of which can contain 100 patches and 100 combinations. Single patches can be retrieved one at a time, or all at once, then rearranged in any order. Global and Sequence Data can also be retrieved and saved, eliminating the need for extra RAM Cards. *M1 Command* can also read patch lists saved from Dr.T's Caged Artist *M1 Editor* and Steinberg's *Synthworks*.

The Editor subsystem makes changes as easy as clicking on a sound, then editing either of the M1's two Pitch envelope generators or any VDF and VDA parameter. Even more impressive is the Offspring Patch Generating Processor, which uses up to 100 Parent patches to “breed” new sounds. A version of this program is also available for the Roland D50. (\$150, Command Development, 11846 Balboa Blvd., Suite 135, Granada Hills, CA 91344, (818) 362-3550)

Protezoa is a visually-dynamic editor librarian designed to help you harness the power of Emu's incredible Proteus modules. It works with all models of the Proteus including the Protologic upgrade. Up to six banks, each with 64 Presets, plus Multi, Patch Map, and Tune Tables, are accessible, and each bank remembers which model Proteus it is talking to. All of *Protezoa's* editing functions work in real time, letting you assign

presets "on the fly," and recall original presets as desired.

All Proteus parameters are graphically displayed in logical order on the main screen, which includes a keyboard graphic for assigning key ranges and auditioning sounds. A comprehensive envelope



Interval Music's Protezoa

window lets you click-and-drag envelope shapes and includes five default envelopes and a button for cross-fading from primary to

secondary envelopes. The Multi/Global window displays graphic faders and pan knobs for all 16 MIDI channels, with output and patch selection. The random patch generator, Rand-O-Rama, takes existing preset sounds and randomizes the parameters. Alternatively, there is the Interpolator, which takes two sounds and mixes them to create some very interesting hybrids. (\$139, Interval Music Systems, 12335 Santa Monica Blvd. #244, Los Angeles, CA 90025-2519, (213) 478-3956)

An Editor/Librarian designed for Korg's hot WS Wavestation synth, *Synthworks Wavestation* uses a multiple-screen setup: one page for the Library, and one each for its Performance, Patch, Voice, Wave Sequence, Multiset, and Setup editors.

The Library page displays the current contents of WS banks (RAM1 and RAM2) and provides a directory of data on file — an actual database that lets you assign up to 247 traits to each patch, and call up sounds according to this information. The Performance page displays current patch parameters. Up to eight patches can be assigned, each with its own analog-style VU meter that displays MIDI activity, and a Solo button and Effects section for each patch. The Patch Edit page is divided into four sections, one for each voice, with controls for Pitch, Filter, and Envelope parameters, Transposing, Panning, Fine Tuning, and the Effects Bus. The Voice Edit page lets you edit modulation and amplitude envelopes, pitch, and filtering.

The Wave Sequence page lets you take full advantage of the



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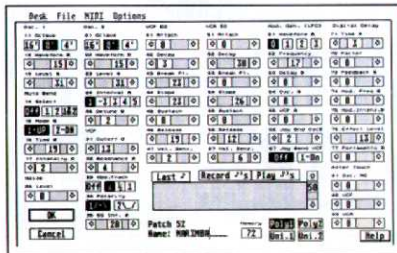
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Wavestation's Wave Sequencing capability by showing the actual wave sequence on a graphic display. Up to 122 steps can be assigned, and each step includes controls for Tuning, Duration, Crossfade value, volume level and Wave Sample. The Multiset page controls the Wavestation's Multi-timbral section and allows the user to assign patches to individual MIDI channels, as well as volume and multiple outputs. (\$259, Steinberg Jones, 17700 Raymer Street - Suite 1001, Northridge, CA 91325, (818) 993-4091)

Synthview is an integrated editor/librarian designed to help you get the most out of your Korg DW8000 or EX8000 synthesizer. With up to 64 patches displayed at one time, you can load and retrieve multiple sounds from disk. Each of the DW/EX8000 parameters is displayed in the form of a slider for easy editing with a mouse. Also included is a desk accessory program that lets you download patches



Synthview, from Communication Resources

from within any program, such as a sequencer or another editor.

Synthview is a simple and very effective editor/librarian that provides an intuitive user interface to a powerful, but hard-to-program synth: definitely a breath of fresh air. (\$39.95, Communication Resources, 754 North Bolton Avenue, Indianapolis, IN 46219, (317) 356-6946)

T-123, from Big Noise Soft-

ware, is an editor/librarian designed for the Korg T series keyboards that lets you edit and store your T1, T2 or T3 sounds in a way that wouldn't be possible using the keyboard alone. The program opens by uploading and displaying sounds presently installed in the keyboard in three banks on the main screen.

Common groups of parameters are divided in each edit window to help reduce jumping from one window to the next. The Oscillator Editor window lets you manipulate the Pitch Envelope, VDF (Variable Digital Filter,) and VDA (Variable Digital Amplifiers) features, and graphs of each envelope are displayed above corresponding numeric parameters. Double-clicking on the envelope display opens the Envelope Editor, where you can perform graphic reshaping of the envelope to achieve the desired effect quickly and easily. Effects can also be tweaked in the Effects Editor window, and there's a Global Editor window where the Korg T's four Drum Kits as well as Master Tuning, Key Transpose, Damper Polarity, and User Scales can be assigned. Patch generating features such as Program/Bank Combining, Randomizing, and Interpolation are also offered. (\$119.95, Big Noise Software Inc., P.O. Box 23740, Jacksonville, FL 32241, (904) 730-0754)

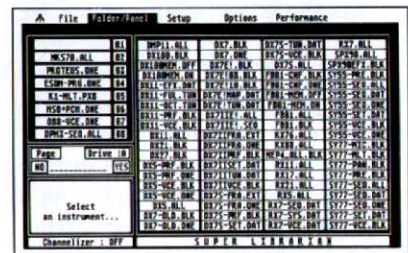
Universal Editor/Librarians

Super Librarian 3.22 is a multi-instrument patch and configuration-storage program that supports practically every popular keyboard, rack module, drum machine, sampler, and controller on the market.

The first of two main screens offers a Device Panel that can be loaded with up to eight different synth or instrument profiles and a

Files Panel that lists all the files and instrument configurations. The other main screen, accessed from the menu bar, is the Bulk Organizer, which transfers data to and from a synth from one of two clipboards, either of which can hold up to 8 banks, subject to each manufacturer's patch-numbering system. Patches can be copied, swapped, renamed and loaded into either clipboard.

Unique features include the ability to configure and send MIDI patch change messages ahead of patch uploads, configuring a MIDI patch bay on the fly; a Memo Writer used to annotate specific files; a Mini Sequencer to record up to 10 riffs for use in auditioning sounds; a Performance macro capability that lets you reconfigure up to 16 different devices with one command; a powerful set of tools



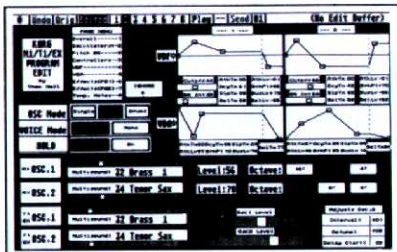
Super Librarian, from Pixel Publishing

for writing or editing Sysex commands and files; and a DA for transmitting patches while in another programs. (\$99, Pixel Publishing, 641 Caledonia Road, Toronto, ON, Canada M6E4V8, (416) 785-3036)

GenEdit is a generic editor/librarian that combines patch-editing, Sysex storage, and special setups into one comprehensive software tool, and handles every piece of MIDI gear in the system, as well. Its basic working environment revolves around Configurations which can load and save MIDI information, and Templates which provide the structure for all

edit functions. Templates are also used to control effects devices and MIDI mixers.

GenEdit comes with templates for more than 20 of the most popular MIDI products, and con-



Hybrid Arts' *GenEdit*

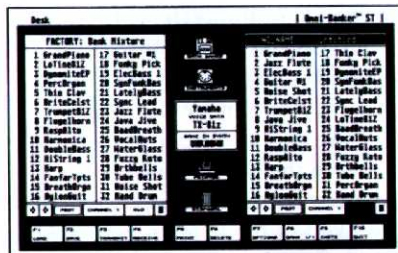
figurations for many more. It also includes a powerful configuration language, CNX, which can be used to modify any existing configuration, or design new ones from scratch for almost any MIDI application. New (graphic!) instrument templates can also be constructed.

GenEdit can string together a number of Sysex commands into macros to assist in testing the MIDI parameters of instruments during editing and archiving. An onboard sequencer is provided for testing patches; a MIDI Options screen to customize MIDI Thru and Receive Filters; and a MIDI monitor to give the user an inside look at the MIDI data stream.

Designed primarily for the professional market, *GenEdit* requires at least 1 MB of RAM for serious use. The program is copy-protected, and requires the master disk to be in the "A" drive for loading. Users who also have *SmpTeTrack* can use the interface box as a hardware key, and backup disks are available to registered owners for \$15. (\$249.00, Hybrid Arts, Inc., 8522 National Blvd., Culver City, CA 90232, (213) 841-0340)

Omni-Banker ST is a Universal MIDI Librarian that supports over 200 instruments from 26

manufacturers, and best of all, can be run as a desk accessory that retains all the features of the original program. Manipulating banks of sounds or single patches is simple and fast. There are three modes of manipulation: Move, Copy, and Swap. You can access multiple Banks inside external devices, such as User RAM, ROM Presets, and Cartridge Banks, and a Print option is offered to document instrument names and locations. Here is a partial list of instruments supported: Korg M1/1R/M3R, Casio CZ/CT series, E-mu Systems Proteus, Alesis Quadraverb, DigiTech DSP/GSP, ART Multi-Verb, Lexicon LXP-5, Sequential



Paradigm's *Omni Banker ST*

Prophet 5, and most Roland and Yamaha gear. (\$95.00, Paradigm Software Products, 1369 Concord Place, Suite 3-B, Kalamazoo, MI 49009, (616) 372-5972)

MIDI Quest is a universal Editor/Librarian that utilizes an ever-expanding list of configurable MIDI Drivers, keeping it current with all the new MIDI hardware on the market today. The Universal Editor contains both bank and individual graphic patch editors. A convenient Fast Tips feature helps with any instrument peculiarities. The Data Base window can be used to store an entire SysEx configuration that can be sent out to all your MIDI instruments, giving you full recall of all the parameters necessary to replay a sequence.

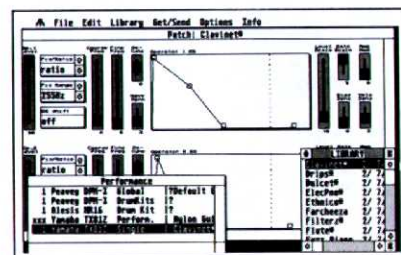
MIDI Quest also includes a feature called Sound Checker, which is a collection of windows

used to generate individual notes, chords, and arpeggios, as well as play any standard MIDI file. (\$250, Sound Quest Inc., 66 Broadway Ave., Suite 1207, Toronto, Ont., Canada M4P2T4)

X-oR is an editor/librarian that can transfer patches between a wide variety of synthesizers and your Atari. You can then organize the patches into libraries, create new banks, and open individual parameter editors for specific instruments.

The program supports devices from more than 20 manufacturers; new instrument profiles are available from Dr. T's BBS, and there's a companion development program that allows hackers to come up with their own profiles. Profiles can also be exchanged between the ST version of *X-oR* and versions for IBM, Mac, and Amiga.

X-oR has several outstanding features, but one of the most important lets you organize libraries like a database and attach keywords to



Dr.T's *X-oR*

patches for easy subsequent retrieval. In addition, like previous editor/librarians in the *Caged Artist* series, you can use the mouse as a fairly sophisticated MIDI trigger in order to audition sounds without having to move over to a keyboard. Other features include algorithmic patch generation, and the ability to run *X-oR* with Dr. T's sequencers under *MPE*. (\$325, Dr. T's Music Software, 100 Crescent Road #1B, Needham, MA 02194; (617) 655-1457)

Sampling Hardware and Software



Digital sampling — the capture and playback of “live” audio waveforms — is a mainstay of modern music. And, as in all areas of studio practice, the Atari ST is at the forefront of evolving digital audio technology. Numerous sophisticated programs exist to help ST musicians manage the increasing range of stand-alone sampling modules and keyboards. Programs like Steinberg’s *Avalon* can perform waveform analysis, digital signal-processing, loop-point editing, and other tricks, as well as archiving and transporting samples between different brands of hardware.

A low-cost alternative to stand-alone sampling gear, sample carts are low-cost analog-to-digital converters that plug into your ST’s cartridge port. Under the control of proprietary software, they can turn your computer into a near-professional sampler with powerful

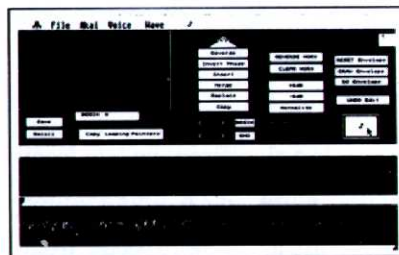
visual recording, playback, viewing, looping, editing, and sample-saving capabilities. Samples captured by products such as Michtron’s *ST Replay* can be incorporated in software, played by a wide variety of stand-alone utilities, and even driven in full arrangements, using sample-sequencer/players such as Michtron’s *Quartet* and PDC’s *TCB Tracker*. While underpowered for studio work, these low-cost products are great for hobbyists, programmers, or students.

Direct-to-Disk recording — a natural extension of sampling technology — is becoming an increasingly hot topic in the ST market. Hybrid Arts’ *ADAP II*, *ADAP IV*, and new *Digital Master* product lines, provide state-of-the-art turnkey hardware/software solutions for use in professional ST DTD applications. While expensive, this equipment can put your

home studio or small production house on a technical par with the most advanced studio installations in the world.

Sample Editors

Soundfiler, from Interval Music, is a sample-editing program for the popular Akai S700 and X7000 samplers. Graphic editing is supported, letting you completely reshape your samples on-screen. Automatic editing functions let you modify samples for one-shot use, looping, or alternation. Additional sampler parameters such as Pitch Wheel, Transmit & Receive Channels, Program On/Off, Omni or Multi channel assignment, key-



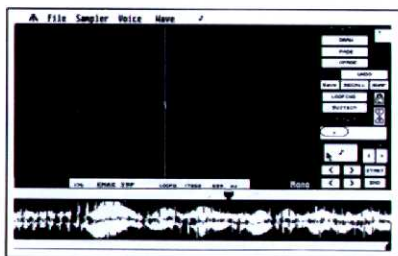
Soundfiler from Interval Music

board sample range assignment, and LFO, velocity filter, tune, and pitch are also accessible from inside *Soundfiler*. Samples may be uploaded and downloaded to and from your Akai, and saved to disk. (\$149)

Also from Interval Music, *Genwave 12/16, V1.3*, is a generic waveform editor, a sound-design program that bridges the gap between the power of digital sampling and the visually-dynamic environment of the ST. *Genwave* receives sample data via SysEx and displays it in a default Loop Window, where most editing functions take place.

In addition to sophisticated loop and crossfade-editing functions, *Genwave* also includes powerful DSP features, such as parametric EQ, phase inversion,

and normalization. Its envelope editor can perform such tricks as reversing and truncating sounds.



Genwave, by Interval Music

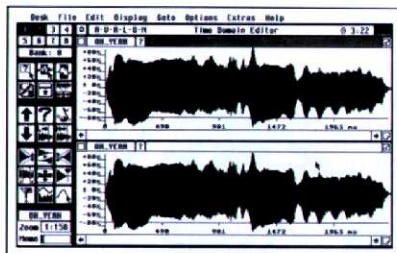
Edited samples can be immediately transmitted to the sampler, by *Genwave's* Autosend feature. A full UNDO feature is supported. (\$349, Interval Music Systems, 12335 Santa Monica Blvd. #244, Los Angeles, CA 90025-2519, (213) 478-3956)

Avalon 2.0, from Steinberg-Jones, is a significant update from what was already a very powerful sample editing program. It's as easy to use as can be expected from a program of this depth — there's a logical structure, and the user-interface is largely iconic. The program supports samplers from Akai, Casio, Dynacord, Emu, Ensoniq, Sequential, Roland, and Yamaha, as well as devices that support the MIDI Sample Dump standard.

Avalon's sample-editing functions include filtering, looping (with autofinding and crossfading), truncation, etc., as well as rarities like time-correction (where you can change a sample's length without changing pitch) and editable spectrum-analysis. DSP functions such as limiting, pitch-shifting, and the like, are also supported.

Version 2.0's most important enhancement is a synthesis page, integrating a Turbosynth-style "synthesizer construction set" with the sample editor. Just drag synth modules onto the screen, set their parameters, and patch them

together to create samples from scratch. Modules include several different types of sound-generation (including Karplus-Strong synthesis, excellent for creating pluck-



Steinberg-Jones' Avalon

ed sounds, and Fractal Synthesis). Modifiers include ring modulation, frequency modulation, parametric EQ, delay, and more. When you've tweaked the sound as desired, you can continue working with it as you would any sample.

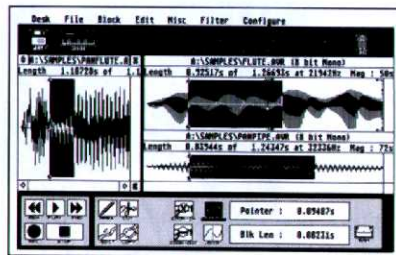
Transferring samples to and from instruments is straightforward, but must be done via MIDI (SCSI transfers are not possible). The transfer time works out to about one minute per second of sound. Steinberg's optional D/A board provides hi-fi sample-auditioning directly from the Atari, through an external amplifier (instead of the internal speaker).

As a sample-editor, *Avalon* always could hold its own in a competitive market. With the addition of extensive sound generation capabilities, the program is now in a class by itself. (\$450, Steinberg/Jones, 17700 Raymer St. - Suite 1001, Northridge, CA 91325, (818) 993-4091)

Sampling Cartridges and Software

MichTron's *Stereo Replay* is the new leader in a distinguished line of sampling carts from MichTron that includes *Stereo Playback*, *Replay Professional*, and *Replay VIII*. Sample and playback from 5 to 48 kHz, routing input and

output through *Stereo Replay's* dual RCA plugs (STE owners can use their built-in stereo ports for playback). The accompanying editor allows conversion of samples from 16- or 12-bit Mono or Stereo resolution to Stereo 8-bit. Cut, Paste, Insert, Delete, Fill, Overlay, Repeat, Loop, Cross Fade, Pan, Scope Left or Right, and Reverse functions are available; as well as DSP features such as Frequency Re-Sampling, Digital Filtering, Digital Hall, Room Echo, Flanging, and Fourier Analysis. On a Mega 4 ST or STe you can play up to 10 different samples from an external



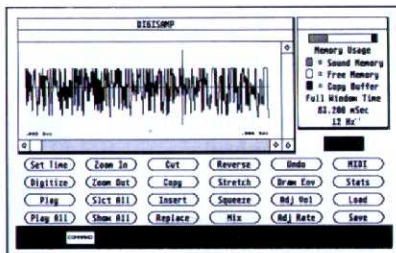
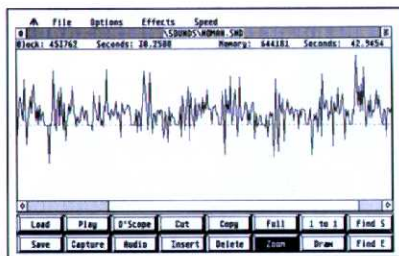
Stereo Replay, from MichTron

MIDI keyboard or sequencer!

Also included is *Stereo Beat*, a drum-machine program that lets you load kits of up to 15 different 1 MB-long Samples at once, and arrange or re-mix songs from a playlist of Patterns, Loops and Song Position Jumps at independent variable tempos. *Stereo Beat* will generate or respond to MIDI Start, Stop, and Sync commands and act as either MIDI Master or Slave. (\$179.95, MichTron, Inc., 3201 Drummond Plaza, Newark, DE 19711, (302) 454-7946)

Soundoff!, from Cove Systems, is a mono cartridge that samples from 5 to 38 kHz. Accompanying software can load and play soundfiles from MichTron's *ST Replay* or Alpha Systems' *Disisound* sampling systems. Sample-editing options include Copy, Cut, Paste, Insert/Replace, Delete, Zoom, Find Start/End, Load, and Save. You can record

samples manually into the cartridge or capture in Trigger Mode, recording an incoming signal only after it



range while reducing unwanted noise and distortion. A MIDI keyboard interface is also supported. (\$149.95, Alpha Systems, 1012 Skyland Dr., Macedonia, OH 44056, (216) 467-5665)

Soundoff! from Cove Systems

has reached a minimum volume level. Play back all or part of sample memory, either through the ST monitor speaker or *Soundoff!*'s RCA jack. (\$65.95, Cove Systems, 50 Cove Woods Rd., Oyster Bay, NY 11171, (516) 753-0093)

Navarone's *ST Sound Digitizer* is a mono sampling cartridge offering sampling rates from 10 to 64 kHz. The unit has RCA in and out jacks and built-in knobs to control recording and playback levels. The accompanying graphic sample-editing software offers Cut, Copy, Insert, Paste, Replace, Stretch, Squeeze, Mix, Undo, Adjust Volume and Rate, Set Time and Zoom In/Out functions. A realtime graphic oscilloscope with slider control is used to

Navarone's ST Sound Digitizer

control the sample's time rate. Echo and reverb parameters can be set for each sample. (\$60, Navarone Industries, 454 Kenneth Ave., Campbell, CA 95008, (408) 378-8177)

Digisound Professional is a mono record and playback cart with built-in gain control and two RCA input jacks, allowing two samples to be mixed in realtime. Control software features a graphic oscilloscope display, and offers Copy, Cut, Paste, Delete and various waveform-manipulation functions. Sampling rates range from 5 to 40 kHz and you can apply such effects as Fade In/Out, Reverse, Squeeze, Looping, Stretch, and various forms of pitch manipulation, echo, and reverb on any or all parts of any sound. When sounds are played back through the cart's output jack, they may be subjected to a special logarithmic sampling filter that increases dynamic

MichTron's *Quartet* answers the question of what to do with your *Replay* samples, once they're captured. The heart of *Quartet* is a full-feature sample-sequencer/playback program, with standard-notation score-editing features. Parts can be entered by mouse, or from an attached MIDI keyboard. Up to twenty samples can be loaded at one time, of which any four can play, simultaneously, under sequencer or external MIDI keyboard control. Also included is a powerful DSP program, *Digital*, that supports filtering, loop-editing, smoothing, anharmonic suppression, Fourier analysis, and other features. A final utility, *Voices*, allows the combination of *Replay* samples into AVR-format voice sets, for loading into *Quartet*. (\$59.95, MichTron, Inc., 3201 Drummond Plaza, Newark, DE 19711, (302) 454-1403)

PDC's *TCB Tracker* is a sample-sequencer designed for programmers. Modules created with *TCB Tracker* can be incorporated in software, for playback

NEW from MICRODEAL

STEREO REPLAY

STEREO SOUND SAMPLING & OUTPUT CARTRIDGE

Now from Microdeal, the first ever **STEREO** sound sampler for the **ATARI ST** range of computers. With the superb high quality reputation of **ST-REPLAY**, this completely new hardware cartridge contains **DUAL** Analogue to Digital and **DUAL** Digital to Analogue convertors to ensure the **ULTIMATE** in **8 BIT** sample quality. The system can record in high quality **STEREO** from its twin **PHONO** input sockets, taking sounds from any suitable **STEREO** equipment such as Portable Cassette or C.D. players or from any other 'Auxiliary' or 'Line level' source. The twin **PHONO** outputs provide the user of a standard **ST**, **STF**, **STFM** or **MEGA** computer, with high quality **STEREO** output. Users of the **STE**, **MEGA STE** and **TT** machines are not left out either! The software will allow samples to be played out from the connectors at the rear.

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As you have come to expect from **MICRODEAL** and Audio Visual Research, the **SOFTWARE** provided with the system is also packed with new features. **STEREO REPLAY** does not just set the standards by which other samplers are measured, it has **COMPLETELY** re-defined them!

Includes "Stereo Beat" program with Midi Support. Supplied are routines and examples of code to enable the user to include samples in his own programs.

REPLAY 8 \$149.95
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12 Bit and 16 Bit CD Quality Samplers Also Available

by public-domain play modules, included in assembly, GFA BASIC, HiSoft BASIC, and STOS formats. Note entry is by ST or MIDI keyboard, into a system of scrolling tables, representing sections of the four tracks of a composition.

Samples and special effects may be changed on a per-step basis, facilitating, for example, the creation of "rhythm tracks" incorporating several drum sounds. A wide variety of samples are included, and *TCB Tracker* can accept 10.

kHz samples in *ST Replay* format, as well as 8 kHz Amiga samples. *TCB Tracker* works with color monitor only. (\$69.95 (+ \$4 S&H)), PDC, Inc., 4320-196th SW - Suite b-140, Lynnwood, WA 98036, (800) 255-8220

ADAP and Digital Master

Hybrid Arts' *ADAP II* (\$10,000) and recently-released *ADAP IV* (\$20,000 — \$5,000 upgrade for *ADAP II* owners) are high-end two- and four-channel digital recording and editing systems, appropriate for the most demanding professional applications. Both units combine the works of an Atari Mega ST 4 and a 760 MB hard drive in a custom rack-mount housing with built-in A/D D/A conversion. Both systems utilize *ADAP* system software: a sophisticated suite of programs covering every phase of digital recording and editing. Additionally, the *ADAP IV* system runs under *CHAOS*, the Custom Hybrid Arts Operating System, allowing full multitasking and communication among system programs.

Now, *Digital Master* takes Hybrid Arts' *ADAP* technology and makes it an affordable reality for the average musician. *Digital Master* is a turnkey, two-track stereo hard disk recorder/editor with dual 16-bit, 64x oversampling A/D converters, and dual 18-bit, 8x oversampling D/A converters. The complete system includes an Atari 520 STe with SIMM memory upgrade to 4 MB of RAM, SM124 monochrome monitor, separate 106 MB SCSI hard drive, and the *Digital Master* unit itself, configured to hang over and rest on the back end of the ST's case.

The *Digital Master* unit contains a SCSI host adapter, DSP (digital signal processing) and digital I/O hardware, and a SMPTE/EBU reader/generator with chase lock. Input/outputs include balanced audio XLRs, stereo DAT RCA jacks, an unbalanced 1/4" phono jack for audio SMPTE time code, as well as the familiar DMA In/Through and a SCSI port. Up to seven hard drives can be daisy-chained off the SCSI port, allowing up to 14 hours of stereo recording. Connection with the ST is via ribbon cable to the cartridge port. An optional VITC module adds chase lock access, a VITC reader, and an RS-422 interface for machine control.

Digital Master's Digital Recorder-Editor (DRE) software allows non-destructive graphic waveform editing (cut-copy-paste; reverse; mix; retune; graphic envelope, wave, and volume adjust-

ments; etc.); marker placement and autolocation; marking and editing of sound-effect cue points for MIDI, audio, or timecode triggering; assembly of a SMPTE-driven edit playlist, and more. An included File Manager supports management of up to 5,320 MB of sound, supports removeable and erasable magnetic and optical drives, and allows realtime auditioning of sound, direct from disk.

The specs are impressive. Frequency response is 5Hz-20kHz +/- 0.2 dB, with a dynamic range of >96 dB and signal/noise ratio of >90 dB. Sampling rates range from 48 and 44.1 kHz down to 15.625 kHz. Supported DAT formats include S/P DIF and AES/EBU, and the software has a "back-up-to-DAT" feature that saves marker, timecode offset, annotation, and other data along with the soundtrack, letting you pick up after a restore, right where you left off. Over 250 MB of data can be saved on one DAT!

Unlike its Mac-based competitor, *Sound Tools*,



**Hybrid Arts
Digital Master.
Turnkey DTD
for every
professional
budget**

Digital Master addresses memory and HD functions directly, rather than routing data through the main computer's RAM. And *Digital Master* includes features available only as extra-cost options on competing systems. Simply put, to make *Sound Tools* do what *Digital Master* does, you'd have to spend somewhere in the neighborhood of three times the money! So even in this stratospheric domain, Atari still means Power Without the Price! (\$4,500 (complete system); \$3,995 (w/o ST and HD); Hybrid Arts, Inc., 8522 National Blvd., Culver City, CA 90232, (213) 841-0340, Fax: (213) 841-0348)

Scoring Programs

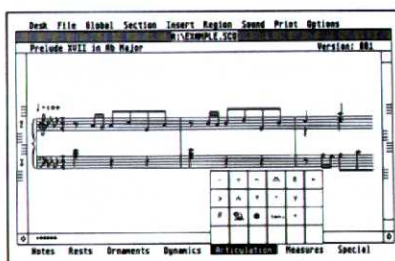


Though many high-end sequencers now offer sophisticated scoring features, stand-alone scoring programs also exist. These mechanize the tedious and expensive process of transcription and copying, converting standard MIDI and/or sequencer files to standard musical notation. After conversion, scores can be edited and printouts can be generated on laser or high-resolution printers.

Hybrid Arts' *Easy Score Plus* produces finished scores, complete with text and guitar chord symbols, in one of four formats: Solo, Piano; Piano/Vocal, or Trio. It prints in draft or final mode with excellent results on most 9- and 24-pin dot-matrix and laser printers. An "Auto-Scoring" function lets you convert any Hybrid Arts sequence into a notation file. Sequences originally created on other sequencers can be imported by translating them into Hybrid Arts format using *MIDI Mover*, the company's public-domain MIDI file converter. Alternatively, scores can be created from scratch in real or step time, and notes can be entered via the

mouse, computer keyboard, or any MIDI instrument. Cursor positioning and editing functions can also be mapped to and controlled by your MIDI Keyboard.

The program features variable stave spacing, all major and minor key signatures, time signatures from 1/1 to 99/64, an easy-to-use Lyric Editor that lets you place text anywhere on the screen,



Easy Score Plus, from Hybrid Arts

sophisticated beams and ties, Copy and Delete functions for all features, instant bar- or rehearsal-mark-location and variable chord and guitar symbols. Over 100 symbols are available, including bowing notations for strings. Screens can be captured in Degas format for export to desktop pub-

lishing programs, and *Easy Score Plus* is fully compatible with *Hybriswitch*, Hybrid Arts' multi-program loading utility that lets you access up to ten programs simultaneously (memory permitting). Monochrome only. (\$149, Hybrid Arts, 8522 National Blvd., Culver City, CA, 90232, (213) 841-0340)

Dr. T's *Copyist DTP* can import and auto-score files in *KCS Level II*, *Master Tracks*, *Steinberg Pro 24* or any Standard Midi File format. Even drum parts can be imported, and auto-scored in percussion notation. Under Dr. T's *MPE*, *Copyist* can automatically transcribe as a sequence is being recorded or played back. Scores can also be created within the program: note-entry is supported using mouse, computer keyboard or a combination of both. Full object-oriented editing of notes and text is supported.

Alto, Tenor, Soprano and Percussion clefs are available, along with the standard Treble and Bass, and any part can be automatically transposed to fit the appropriate clef. Guitar Chord grids are sizable for guitar or lute and can be configured to any fret position. Individual bars, measures, staves, pages, or groups can be copied or moved and pasted freely between any of up to 100 pages for each score, and up to 16 staves are supported, including orchestral percussion. Horizontal and slanted beams (either direction), arpeggios, ties, slurs, dynamics and trills are easily placed.

Copyist supports 9- and 24-pin dot matrix printers, the Atari Laser Printer, HP Laserjet Plus or HP Plotters, and can output PostScript. Scores can also be saved as TIFF files for importing to a Desktop Publishing Program. (\$399 (\$149, apprentice version), 2 MB RAM recommended, Dr. T's Music Software, 100 Crescent Road, Needham, MA 02194, (617) 455-1454) ●

Opera Atari

Die Ey, a new opera chronicling the life and times of painter Johanna Ey, opened in November 1991, at the Junges Theater in der Altstadt (the Young Theatre in the Old City) in Dusseldorf, Germany. During the 1920's, Ey was the doyenne and patroness of an artistic circle that included such luminaries as Otto Dix, Max Ernst, and Paul Klee—a group that came to be known as “Das Junge Rheinland.”

Classic in form, comprising some 22 arias and cavatinas interspersed with recitative, *Die Ey* was composed entirely with the Atari ST, using C-Lab's *Notator* software. Composer/pianist Ratko Delorko will conduct performances of *Die Ey* from the computer, which will sequence Korg M1 and Wavestation modules. A system



called “Audioforte” will also be used to trigger the synthesizers from a grand piano, which the composer will use to accompany recitative. This will, according to Delorko, “connect synthetic sound, with its unusual timbres, to the sound-feeling of a natural instrument.”

The libretto for *Die Ey* was written by Kai Metzger, who collaborated with Mr. Delorko on the lieder cycle “Morrfried-Lieder” and other compositions. The production, staged by Ernest Martin, designed by Pino

Alessio, and realized through the financial support of the city of Dusseldorf, ran through December. Presently, both a video documentary of the production, and a CD are nearing release.

Terry Riley: Minimal Notation

Born in 1935, composer Terry Riley is a major proponent of the so-called “minimalist movement.” His ground-breaking work, *In C*, composed in 1964, laid the foundations of a form built out of interlocking repetitive patterns that influenced a generation of composers such as Phillip Glass, Steve Reich, and John Adams. Riley's influence has stretched over into pop and commercial idioms as well, shaping the work of pop groups such as Curved Air and Tangerine Dream, and techno-musical innovators such as Robert Fripp.

Riley has recently produced a variety of new compositions for Kronos String Quartet, Rova Saxophone Quartet, the new music ensemble Zeitgeist, as well as a score for orchestra, performed last year at Carnegie Hall by the St. Louis Symphony Orchestra under the direction of Leonard Slatkin.

For the past several years, Terry Riley has been composing on an Atari computer system, using C-Lab's *Notator* sequencing and scoring software. Originally a Macintosh user, Riley switched to the Atari platform shortly after *Notator* was developed. “When I saw *Notator*, I was impressed at the immediacy of everything, how easy it was to sketch out ideas and then make changes while the program was running. I waited for a while to see if such a program would be developed

for the Mac, but it didn't appear. So I went out and bought an Atari so I could run the C-Lab software.”

Riley uses *Notator's* built-in sequencer to capture improvisations and musical sketches that are then developed into formal compositions. “Being able to improvise on a MIDI keyboard and watch the notation materialize on the screen instantly, is very gratifying.” Riley says. “Before *Notator* I used to transcribe tapes of improvs that I thought had compositional strength. *Notator*, of course, makes this much easier and more efficient.

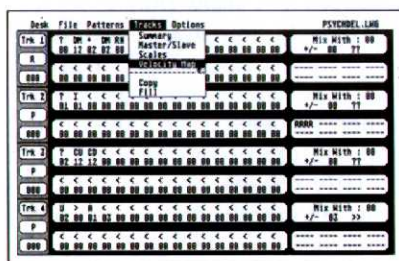
Technology can be enormously helpful when there is understanding of a tool's real function. Computers can be very useful in eliminating the tedium of repetitious tasks like preparing music scores, and yet ... sometimes the mind likes to float out, free, over a blank piece of paper, free from the limitations of any machinery.”

Currently, Riley is doing his composing on a Mega 2, upgraded to four megabytes, a Megafile 30 hard disk, a DX7IIFD with E!, and a Proteus 1 and 2. He anticipates using the Atari, and *Notator*, “until something better comes along. But it would have to be a *whole lot better*, because I am feeling very much at home with the Atari and *Notator*.”

Algorithmic Composers

Algorithmic composers are programs that automate certain aspects of composition, generating MIDI output from a combination of MIDI input, logical rules, random elements, and *heuristics* (or "rules of thumb"). Working musicians are finding numerous applications for this type of MIDI processing, using algorithmic composers both as sources of inspiration (to "mutate" inputs into new and interesting forms) and as tools for taking some of the grunt-work out of sequencing mechanical progressions. Another type of algorithmic composer, represented here by PG Music's *Band in a Box*, can actually function as a rhythm section, generating bass, piano, and drum output according to chord and style information input by the user.

Ludwig, by Hybrid Arts, is a cross between a sequencer and an algorithmic composer. It works by "listening" to what you play, extracting certain aspects, and trans-



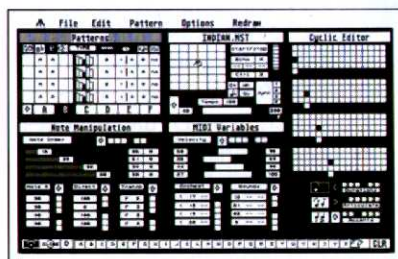
Ludwig, by Hybrid Arts

forming them by a set of programmed and random operations into something completely new -- all in realtime! *Ludwig* has eight tracks for recording and playback. Each track has a pitch and a rhythm

Series, each of which can hold up to 1024 "cells." Cells are somewhat like patterns on a drum machine: each cell holds an arrangement of up to 32 pitch or note-duration values, along with an operator and an operand. Thirty types of pitch and rhythm operators are available, providing services such as transposition, pattern-changing, etc.

Though *Ludwig* does not lend itself initially to an "instinctive" approach, after reading through the manual and gaining an overall understanding of its main functions, you will quickly become intrigued by its ability to point you in new musical directions. Monochrome only (\$149, Hybrid Arts, 8522 National Blvd., Culver City, CA 90232, (213) 841-0340).

Dr. T's *M* is an interactive composition and performance program that can also generate variations of a sequence in realtime. Ini-

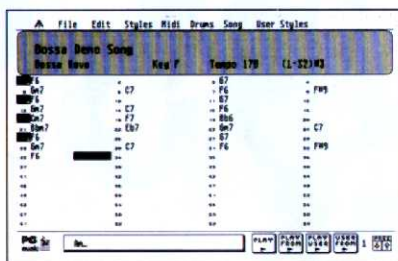


Dr. T's M

tial input is determined using *M*'s Patterns Editor, which lets you record in Drum Machine (looped measures), Step, or Realtime modes, or use a previously recorded MIDI file as input to the "composition" process. The Note Manipulation Editor lets you transpose a pattern by half-steps or

octaves, or assign a user-defined percentage of note redistribution in relation to the original order of sequence, note density, or direction. Other editing windows let you orchestrate MIDI controller information, program cyclic repetition of patterns and sections, establish global links between patterns, and establish start and stop points. (\$179.00, Dr. T's Music Software, 100 Crescent Road, Needham, MA 02194, (617) 455-1454)

Band in a Box (V 4.2) by PG Music, provides automatic music accompaniments for anyone using one or more multi-timbral MIDI



Band in a Box, by PG Music

sources. The program is based around a three-piece rhythm section: piano, bass, and drums, organized on different tracks.

It is a simple matter to type in the chords for a tune, choose a style, and start rocking. *Band in a Box* provides support for numerous chord types, and even features a StyleMaker algorithm that lets you input up to 150 patterns in a given style, classified so that they are played at the proper times.

Especially useful for beginning musicians, *Band in a Box* comes with over 70 songs that you can jam to without programming at all. Even advanced musicians will find the Band worth mastering; user styles can be challenging and fun to create, and the MIDI File format option allows transfer of favorite files to a sequencer for further refinement. (\$88, PG Music, 266 Elmwood Avenue, Suite 111, Buffalo, NY 14222, (416) 528-2366)

MIDI Managers, Mappers, and Patchbays



These days, with the help of hardware add-ons that provide additional MIDI Out ports, a single ST can command up to 96 different MIDI channels. At the same time, multi-timbral modules and other beasts are consuming channels at a frightening rate. The additional bandwidth required by SysEx and Realtime data-transfer is making it even more difficult to design and maintain effective, flexible setups.

MIDI Managers, Mappers, and Patchbays are the answer. Managers are programs that remember how things are hooked up in your MIDI network, and facilitate the quick reconfiguration of multiple-instrument and peripheral setups by uploading and downloading bulk information. Mappers share some of the same features, but are designed for real-time operation — typically in response to input from a MIDI controller. Performance-oriented mappers can, for example, send notes

played on different portions of your controller keyboard to different channels, automatically harmonize or transpose your input, or output cascades of arbitrarily-defined events in response to a single controller keypress.

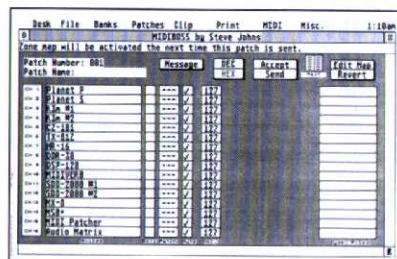
Patchbays are devices that act as MIDI switching stations: adding extra MIDI Outs and Ins to the system, connecting MIDI data sources with destinations, merging MIDI data streams, rechannelizing, and performing other sophisticated functions. Though generic, the patchbays discussed here come with optional ST-specific software that greatly facilitates their use with Atari computers.

Managers and Mappers

Johnsware's *MIDIBoss* is a bulk upload/download manager that lets you reconfigure your entire setup with a single mouse-click. Up to 128 different *MIDIBoss*

"patches" can be created and saved, each of which represents an upload containing instrument patch changes, volume, and mute/solo settings for 16 channels, plus up to 16 32K SysEx dumps! Patches can be labeled and annotated, saved individually or in banks; and individual patch parameters and patch lists can be sent to your printer for easier record-keeping.

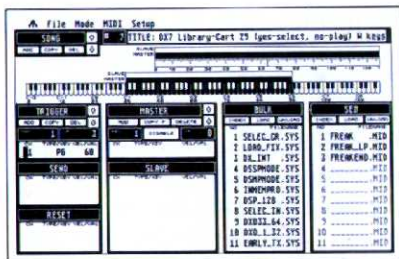
When run as a DA, a separate Menu button allows access to all *MIDIBoss*' normal menu functions. Most impressively, a map edit window with a thru or zone mapping option can be stored for each patch, so that even the most limited controller can do multi-splits, overlaps, and other tricks. (\$74.95, Johnsware, 5802 42nd Avenue, Hyattsville, MD 20781-1632, (301) 927-1947)



Johnsware's *MIDIBoss*

Slavedriver 2.0 (formerly *UltraMIDI*) is a live-performance-oriented program that uploads MIDI data and plays Standard MIDI files in response to "trigger" messages sent by your master controller, giving you the ability both to reconfigure your network and actually trigger sequences from your instrument keyboard. Numerous so-called Master/Slave connections, each representing one trigger and its attendant files and data, can be active at once. Up to 255 Maps, each containing data for several Master/Slave connections, can be combined in a Song, and up to 255 Songs can be combined in a Set. A correlated Reset list defines a set of messages intended to return all equipment to default status, at

the end of a session. Data entry is by keyboard, mouse and graphic interface, and MIDI controller. Bulk dumps and MIDI File sequences pertaining to a given Song are displayed clearly, in separate windows. (\$349.00, Mind Over Midi, 302-9131 Capella Drive, Burnaby, B.C., Canada V3J7K4, (604) 444-4424)



Slavedriver, from Mind Over Midi

Sybil, from Scorpion Systems, is a program that accepts input from a MIDI controller and remaps and multiplies it in ways defined by the user. You program *Sybil* through a graphic "keyboard" or "drum pad" interface, setting ranges, split points, and other values. Up to 16 contiguous controller keys (or two, eight-key ranges) can be used as triggers. Each trigger key can then be assigned up to four MIDI Note, patch change, or other values, that will be output by *Sybil* when the key is pressed.

Additional features allow the linking of multiple triggers, so that all associated events are sent when a single trigger value is received. Transpositions, automatic harmonization, velocity cross-fading, and other forms of processing are also possible. Settings can be conveniently edited, using a Spreadsheet display, and can be saved to disk. (\$99.00, Scorpion Systems Group, 18899 W. 12 Mile Road, Lathrup Village, MI 48076, (313) 356-7241)

CodeHead's *MIDIMax* combines the functions of a high-end MIDI-macro system (*MIDIMacro*) with a chord-oriented mapper (*MIDIChord*) in a fully MIDI-



MIDIMacro—part of CodeHead's **MIDIMax**

triggerable system that can assign keyboard splits, reconfigure your network at the touch of a controller, or extend your playing capability by triggering monster chords in response to a single keypress. A single *MIDIMacro* file contains up to 16 macros, each of which consists of a triggering event, coupled with up to eight "triggered" events. A super easy-to-understand

MIDI-message control panel assists in selecting events. Meta-events, such as the special MIDI messages needed to turn on (for example) functions of *MIDIChord*, can be included, meaning that the software can command itself to perform certain behaviors, recursively. *MIDIChord*, meanwhile, can fire off up to 18 notes in response to a single key, on the same or individual channels. (\$49.95, CodeHead Software, P.O. Box 74090, Los Angeles, CA 90004, (213) 386-5789)

MIDI Patchbays

Hybrid Arts' *MIDIplexer* is a unit that daisy-chains from the ST's DMA port, adding three independent MIDI Outs and one specialized MIDI In, that merges incoming MIDI data with that arriving at the

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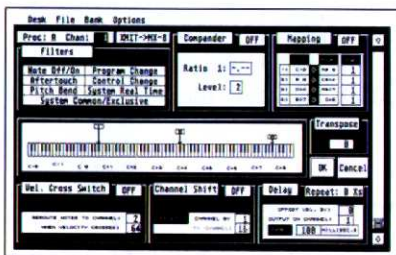
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ST's MIDI In. Hybrid Arts products such as SMPTETrack, EDITrack, Easy Score, and Ludwig can assign output to the ST's own MIDI Out, or to one of MIDIplexer's three ports. (\$299, Hybrid Arts, 8522 National Blvd., Culver City, CA. 90232, (213) 841-0340)

Digital Music's *MX-8* is a rack-mounted MIDI manager, built on a 6 In x 8 Out patchbay. The *MX-8* can merge any two inputs and send them to any output. Maps can be switched in by MIDI command, and sets of them can be uploaded and saved via SysEx dump. Transformations such as



Digital Music's *MX-8 Editor*

transposition, channelizing, zone reassignment, controller remapping — even MIDI delay and digital companding, can be performed on incoming data. (\$395)

Digital Music's *MX-8 Editor* for the ST, provides a seamless method for managing this powerful MIDI manager. The program boots to the Bank Screen, where 50 patches can be loaded and saved. Copy or swap patches, or drag an individual patch to one of the Load, Save, Send, Print or Trash icons. The editor lets you name patches; configure port routing; assign channel, output and program change numbers; and enable/disable program changes. Double-click on the Names dialogue box to list your synth names in the input and output sections (a really handy feature not available on the *MX-8*'s display panel itself), and drag any input or processor name to any output posi-

tion!

The Processor Function Editor lets you assign values, enable and disable Channel Shifts, Companding, Velocity Crossover, Transposing and MIDI Delay. The Mapping function employs a 128-note piano keyboard display to make your split zones easier to visualize. (\$49.95, Digital Music Corp., 5312-J Derry Ave., Agoura Hills, CA 91301, (818) 991-3881)

The *MSB Plus Rev2* is an 8 In x 8 Out MIDI patchbay with 64 memory locations, 2 independent processors, transposing, merging of any 2 inputs, 8 Patch Maps/Presets, a multitude of data processing and filtering features, a foot switch input which functions either to advance programs or as a remote panic button, and features optional *MSB Remote* software to access all

of the unit's features through your ST! (\$289.95, *MSB Remote* \$29.95).

Synapse is Cooper's top-of-the-line 16 In x 20 Out MIDI patchbay which, in addition to all of the *MSB Plus*' features, increases the number of both mergeable inputs and independent processors to 3, as well as the Patch Maps/Presets to 16, and adds 12 definable split zones, velocity scaling, a Scope diagnostic feature to view the MIDI data stream, a digital display which can also display incoming MIDI timecode and a digital expansion bus to chain a number of Synapses together. Optional *Synapse Remote* software for the ST is also available. (\$1,195, *Synapse Remote* \$69.95, J L Cooper, 1931 Pontius Ave., Marina Del Rey, CA. 90025, (213) 306-4131).

Recording Aids: FaderMaster and CS-1 Control

Part of the evolution of MIDI has involved replacing hardware with software: replacing audio tape by sequencers, front-panel programming by editor/librarians, etc. A more conservative and ergonomic trend is also applying pressure in the opposite direction: creating hardware that provides a familiar mechanical interface to what are essentially data-processing functions. J L Cooper's *Fadermaster* is a hardware fader-panel that takes a load off your ST by letting you manage MIDI mixdown and panning through a standard, 8-slider board. The unit also offers programmable features for managing MIDI delay, controller, and other MIDI effects processing. When your ST is free, you can manage *Fadermaster* from a desk accessory! (\$299, software \$29.95).

Cooper's *CS-1 Control Station* is a mechanical controller designed for accessing Hybrid's *ADAP II*, *ADAP IV*, and *Digital Master* digital recording stations. The *CS-1* plugs into the MIDI In port of the ST and features a large shuttle jog wheel, an array of familiar tape-transport function buttons, a four-way directional cursor pad, 4 memory recall buttons, a footswitch for hands-free use, and 4 internal memory banks. Optional software lets you store and recall *CS-1* configurations. (\$499.95, software \$49.95, J L Cooper, 1931 Pontius Ave., Marina Del Rey, CA 90025, (213) 306-4131)

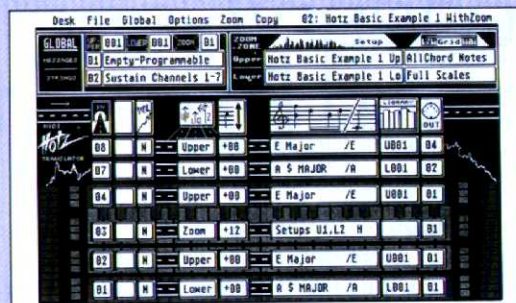
The Hotz MIDI Translator: A True HyperInstrument

All MIDI mapping software translates MIDI input to MIDI output, and can thereby, in principle, enhance a player's capacity and creative power. But it takes ingenuity and patience to program a typical MIDI mapper to do anything of real musical interest. Not so the *Hotz MIDI Translator*: a software version of the combined hardware/software system designed by Jimmy Hotz for professional studio applications. Essentially a high-throughput, high-capacity MIDI mapper, the *Translator* was specifically designed to enhance the capacity of a musician — beyond the bounds of his or her own technical facility, or even the upper limits of human capacity. By so doing, the *Translator* qualifies as the first legitimate "hyperinstrument."

In keeping with the Atari philosophy, the *Hotz Translator* is both affordable and extremely powerful. The software may be used with any MIDI controller, and will run on any ST with 1 MB RAM or more, in monochrome or color.

How does the *Translator* work? Simply stated, it applies a huge database of MIDI overlay grids to translate any incoming MIDI messages into desired outgoing MIDI data. It can also coordinate incoming controller data with chord, mode, scale, and other map-change data coming from another source, such as a sequencer. By "listening"

to a sequence programmed with appropriate changes, the *Translator* can transparently apply appropriate scalar and harmonic restrictions to controller input, letting you play along with the sequence in musically-compliant fashion,



"error" free. A huge database of maps, comprising modes, scales, and chords used in western, historical, and world music styles, is included.

Far more than a MIDI mapper, the *Translator* is thus an intelligent musical partner, capable of allowing even beginners to produce valid music. With potential applications as diverse as music education, recording and production, live performance, music research, therapy, or just plain fun, it's easy to find benefits in *Hotz Translator* technology. (\$199.00, Hotz Instruments Technology, Penthouse Suite, 429 Santa Monica Blvd., Santa Monica, CA 90401, (213) 394-3994)

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Time Code Reader/Generators and Expanders

Synchronization — the ability to “lock” two or more devices to a single clock, making them operate in tandem — is crucial to many MIDI applications. Digital devices (such as MIDI sequencers and drum machines) can be locked up using MIDI Clock and MIDI Time Code. Syncing with analog devices, however, requires that you give your computer the ability to write a timing signal, such as SMPTE time-code, onto tape, then read it back.

Most sequencing software manufacturers now offer sequencer-dedicated SMPTE reader/generators that plug directly into the ST's cartridge or other ports, and are capable of generating and reading timecode directly through built-in audio jacks. These devices also commonly offer additional MIDI ports and other expanders, which specific programs can access in various ways.

Phantom is Dr. T's interface, capable of handling SMPTE, FSK (Frequency Shift Key) or MIDI Clock synchronization. Designed to work in conjunction with Dr. T's *KCS Omega*, *KCS 1.6*, *Hitman*, and *Realtime* software, *Phantom* plugs into your ST's modem port. It offers RCA in and out jacks, and an extra MIDI port. *Phantom* can read and write 24, 25, 30 and '30 drop frame' SMPTE formats, can generate variable SMPTE offset with bit accuracy, and offers protection against crosstalk and dropouts. (\$250, Dr. T's Music Software, 100 Crescent Rd. #18, Needham, MA 02194, (617) 455-1454)

Unitor 2 is a multi-function peripheral for C-Lab's *Creator* and *Notator* programs, which plugs into the ST's cartridge port and functions as both a timecode generator and a port expander. It supports both SMPTE and EBU (European Broadcast Union) synchronization in all four standard frame formats. A SMPTE/MIDI learn mode can convert incoming MIDI Clock sync into a Sync Reference tempo map relative to SMPTE. There's also a Pickup Clock function which can read SMPTE off tape, “on the fly,” in response to a keystroke. This provides, for example, an easy way to accumulate a “hit list” for use in triggering sound effects.

Unitor 2 also provides two extra MIDI In and two MIDI Out ports, expanding the total number of available MIDI channels to 48. Combine *Unitor 2* (\$495) with *Export* (\$195), C-Lab's multi-port expander, and double the number of MIDI channels to a whopping 96! *Combiner* (\$399), C-Lab's aptly-named cartridge port expander, lets you connect up to four carts to your ST. (Thinkware, 130 9th St., Suite 303, San Francisco, CA 94103, (800) 248-0403)

MIDEX Plus, designed for use with Steinberg/Jones' *Cubase*, *Cubeat*, *Avalon* and *Synthworks* software, combines three hardware units in one compact powerful device. Quarter-inch In/Outs are provided for reading and writing SMPTE Time code in all standard SMPTE/EBU formats. The unit also features two independent MIDI Ins and 4 MIDI outs, thereby increasing the total number of

available MIDI channels to 80. Using a Sync option which allows you to take advantage of those additional ports, incoming SMPTE time code being read by *Cubase* can be converted to MTC and echoed back out through any of the four MIDI Outs. *MIDEX Plus* can also send MIDI Time Code or MIDI Clock information through one MIDI Out while additional MIDI data is routed to the other three MIDI Outs.

MIDEX Plus features an integrated Key Expander which can



Steinberg-Jones' *Midex Plus*

accommodate up to 4 Steinberg copy protection “dongles”. There is also a standard version, called *MIDEX*, which has all the previously mentioned features except SMPTE synchronization. (\$699, Steinberg-Jones, 17700 Raymer St. #1001, Northridge, CA 91325, (818) 993-4091)

JL Cooper's *PPS-2* (\$169.95) offers the advantages of several synchronizers in one versatile package. It reads and generates SMPTE timecode, converts SMPTE to MTC, reads and generates JL Cooper's Smart FSK Sync and converts it into MIDI Clock with Song Position Pointer. Jam Sync/Regeneration lets the *PPS-2* read SMPTE from tape and generates fresh timecode for duplication or repair of damaged time code. *PPS-2 REMOTE* software gives you access to all the unit's features and lets you configure it directly from your ST. (\$14.95)

The *PPS-100* (\$399.95) is a

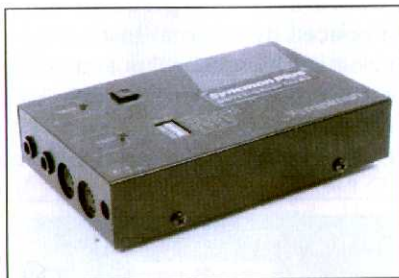
rack unit offering a superset of PPS-2 features. The unit has an LED display, and can function as J



L Cooper's PPS-2

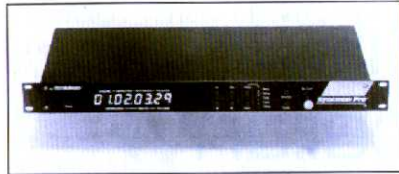
an event generator for controlling MIDI equipment. Optional PPS-100Q (\$49.95) software can run either as a program or a desk accessory, and lets you upload and download tempo maps and events to and from the PPS-100. (J L Cooper Electronics, 1931 Pontius Ave., Marina Del Rey, CA 90025, (213) 306-4131)

Midiman's *Syncman Plus* (an upgrade of its popular *Syncman*) reads and writes to all SMPTE formats, converts SMPTE to MIDI Timecode, supports Song Pointer



Midiman's Syncman Plus

Sync, has a built-in Merge mode and even allows you to duplicate SMPTE and Song Pointer stripes. (\$249.95). *Syncman Pro* (\$699.95) is a more comprehensive version, combining the features of *Syncman Plus* with those of *SMPTE Time Window*, a powerful stand-alone SMPTE monitor with its own LED display. Additional features include the ability to handle Midiman's Spot-Lock Video Sync format.



Midiman's Syncman Pro

Syncman Pro features the same LED display as *SMPTE Time Window*, can record and play back up

to 768 MIDI Foley hits, and has auto-punch capability. The unit's back panel features MIDI In, Out and Thru, 1/4" Tap In and Punch In and Out and SMPTE In/Out jacks, the latter with a dedicated volume control knob for adjusting input, as well as RCA In and Thru inputs for video. Dedicated ST software is available to control both modules. (Midiman, 30 N. Raymond, Suite 505, Pasadena, CA 91103, (818) 449-8838)

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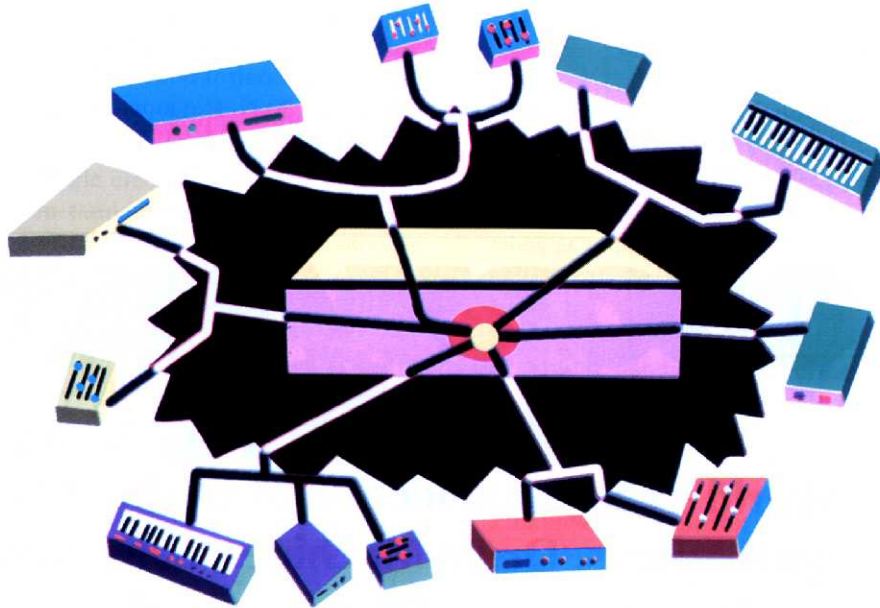
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MIDI Utilities (and Miscellany)



In computer lingo, a "utility" is a piece of software that functions as an adjunct to a major application. Typically, a utility will perform a single, well-defined service that major apps do not: file format translation, data-capture and analysis, etc. Typically, your collection of utilities will evolve as you get a better grasp of what your major applications can do, and where they're lacking.

Designed to facilitate transfers between different types of MIDI software, *MidiMagnet* is a DA that intercepts MIDI data output by a running program, and saves it as a Type 0 or 1 MIDI File Format (MFF) or Standard MIDI File (SMF). All the user need do is activate *MidiMagnet*, turn on the sequencer or other program, and name a file to hold captured data.

MidiMagnet can be very useful when upgrading to software that can handle MIDI files, since it permits the capture and re-use of sequences developed on older

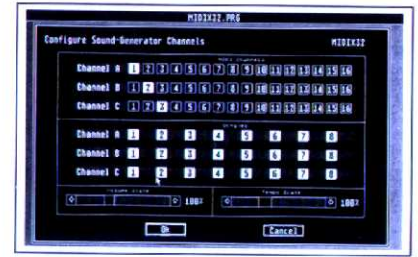
software platforms. Potential users should, however, be aware that certain programs do not cooperate with *MidiMagnet*, so check before buying! (\$20 (plus \$3 S&H))

The *MIDIX32* Standard MIDI



MidiMagnet, from Phil Comeau

File Player/Converter is a utility that converts MIDI File Format sequence files into GFA BASIC or C source code, for play using C's Dosound or GFA's Xbios(32) interface. *MIDIX32* can also play back Standard MIDI Files through the ST's audio system (within limits). An analysis function lets the user determine how the sequence in a Standard MIDI File is organized. A



MIDIX32

Configure Sound-Generator Channels window can then be used to reorganize the information presented in the analysis report, assisting the user in reconstructing the sequence for play through the ST's three sound channels. (\$20 (plus \$3 S&H), Phil Comeau Software, 43 Rueter St., Nepean, Ontario, Canada K2J 3Z9, (613) 825-6271)

MIDI Spy, from CodeHead software, is an extraordinarily powerful MIDI capture and playback utility that can function as a DA or as a stand-alone program. *Spy* can be told to watch the ST's MIDI In port or intercept BIOS-level MIDI output calls, recording every piece of data produced by external instruments or output by sequencers and other software. It can then save this data in any of the three Standard MIDI file formats, affording complete



CodeHead's *MIDI Spy*

compatibility with high-end sequencers. *MIDI Spy* can read and play Standard MIDI files, as well, either in "jukebox" series, or individually, and can record while playing, merging new input with

output in perfect sync. A great tool, with a wide variety of uses, from file-transfer to capture of improvisations. (\$79.95, CodeHead Software, P.O. Box 74090, Los Angeles, CA 90004, (213) 386-5735)

All the attention in today's MIDI market is focused on making your *own* music. But an Atari ST and MIDI instrument are also great, simply for *playing* tunes that somebody else has arranged. In a sense, your ST is the ultimate player-piano — in fact, with the right MIDI gear, it can be a player-orchestra.

For easy-listening, try slotting a disk or two from Sequential Sounds' *QRS Music Catalog*. Song collection disks are available in an

enormous variety of categories, from classical favorites, to Christmas carols, show tunes, top-40 hits, and more! Each disk comes with a user-configurable, graphic MIDI sequence-player, so you don't even have to own a sequencer! (\$19.95 per disk, Sequential Sounds, 614 Trenton Ave., Pt. Pleasant Beach, NJ 08742, (800) 767-6108)

FORMULA V.3.4 (FORth MUSIC LAnguage), by David Anderson of U.C. Berkeley and Ron Kuivila of Wesleyan University, is an extension to the Forthmacs implementation of the Forth programming language. Intended as an environment for developing algorithmic composition,

score interpretation, and other musical applications, *FORMULA* offers a large and powerful vocabulary of MIDI, timing, and other primitives, and can be configured to communicate with any MIDI instrument. Designed for multitasking, a typical *FORMULA* "program" will consist of several, simultaneously-executing processes, each of which works to generate or control one aspect of musical input or output. A terse manual is included, though users will wish to procure additional documentation on Forth (in general) and Forthmacs (in particular), before attempting production work with this package. (Computer Science Division, University of California, Berkeley, CA 94720) ●

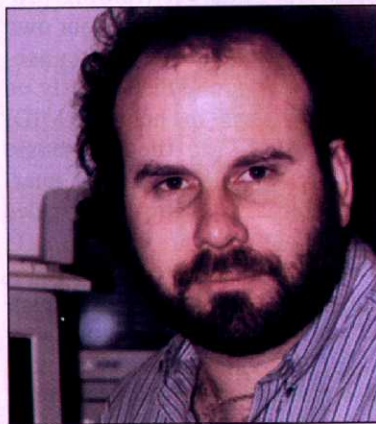
PROFILE

Sound Effects by Scott Gershin

by Mihai Manoliu

Scott Gershin is an audio illusionist. Whenever a fire burns, a battle rages, or a monster uncurls on film, you can bet someone like Scott is coordinating the sonic results with unnerving precision. If you've seen *Born on the 4th of July*, you've heard Scott at work. He's also been involved in such major productions as *The Doors*, Madonna's *Truth or Dare*, *Narrow Margin*, the TV series *Beauty and the Beast*, and numerous commercials (e.g. for McDonalds and LA Gear/Super Bowl).

After graduating from the Berklee College of Music in Boston, Scott moved to L.A. where he first worked as a recording engineer and synth programmer before moving into sound effects. Scott's work is done primarily on Atari computers, of which he has five. Out of house (hunting for sound samples), two STacys are used as stations for a portable ADAP sampler and SMPTE Track sequencer, both by Hybrid Arts. At Soundelux studios, where he does most of his work, Scott uses a Mega 4 for the full ADAP II system, as well as a 1040 ST for running the Hotz Translator



software/hardware controller.

At home, Scott uses a Mega 4 as his family computer and sequencer station. He raves about the speed of his Atari Laser printer, and the quality he can attain by using Calamus for desktop publishing. Sound editing is accomplished via Hybrid Art's GenEdit and GenPatch.

When asked about some of his more unusual experiences as an audio illusionist, he recounts the time he set up his equipment at a shooting range. How would you like to record the

sound of bullets flying by above your head? Another recent session placed him in the path of a speeding bulldozer — the result, slowed down, became the sound of a rainforest being destroyed.

Scott recently finished working on Oliver Stone's *JFK*, and has several other motion picture projects at various stages of completion. Future plans include projects that will integrate sound effects into commercial music compositions, possibly in conjunction with computer animation. Stay tuned for more of Scott's sonic illusions.

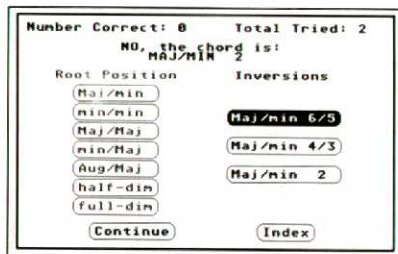
Music Education/ Training

Music education is one of the fastest-growing areas of the Atari MIDI market. Sophisticated, interactive courseware is now available in subject areas such as theory, ear-training, note-reading, harmony, and counterpoint. For more advanced students, packages such as New Sound Music's *Jazz Through MIDI* can help lay a firm foundation for ensemble-playing and improvisation.

Alfred's *Basic Piano Theory* (Levels 1A-6), from Electronic Courseware Systems, correlates directly to the Alfred Basic Piano Library, covering the same material as the company's Basic Theory Books. Piano teachers who already enjoy working with the Alfred series will find *Basic Piano Theory* a welcome enhancement to the curriculum. Solfeggio, note-recognition, intervals, measure-counting, musical terminology, and other topics are covered by a series of amusing video-game-style training-aids. (\$49.95/level)

ECS also offers a complete series of programs designed to work within a classroom setting. A partial list of the ECS curriculum includes *Basic Chords*, *Seventh Chords* (both part of the *Aural Skills Trainer* series written by Vincent Oddo, Ph.D., Professor of Music and Chairman of the Theory Department at Northeastern Illinois University), and *Keyboard Kapers*, which includes a note reading drill, a musical listening game, and a speed sight-reading game (all \$39.95). For more advanced students, *Keyboard Chords*, *Keyboard Jazz Harmonies*, *Keyboard Extended Jazz Harmonies*, and *Intervals* (another title from the Aural

Skills series), are also available (all \$79.95). The programs provide both drill and quiz sections. Student scores are maintained, and can be



Inversions Quiz from ECS' *Seventh Chords*.

displayed or printed, and students may be assigned passwords. (Electronic Courseware Systems, 1210 Lancaster Dr., Champaign, IL 61821, (217) 359-7099)

Take Note, from Take Note Software, is an ear-training program that lets you design your own drills. The program will subsequently test you, either directly on your ST, or with the help of a MIDI keyboard. Study the five basic musical forms: single pitches, intervals, chords, arpeggios, and scales — making full use of all commonly-encountered accidentals. Learn to plot notes on a musical staff, piano keyboard, or guitar grid. The program will correct your answers on-screen and keep track of your score. (\$79.95, Take Note Software, 285 Divisadero, Suite #3, San Francisco, CA 94117, (415) 431-9495)

Note Wizard, the first in a three-part music-education series for the Atari ST, lays the groundwork for its sequels, *Scale Master* and *Chord Master*. Geared to beginners, *Note Wizard* teaches

how to read music using timed note-reading drills at five levels of difficulty. Notes are presented for identification on the screen and played on the MIDI instrument, simultaneously. Two-, four-, and six-note problems are presented. Left hand drills and note-pattern memory exercises are also offered, and custom drills are easy to design. (\$69.95, MIDI Mouse Music, Box 877, Welches, OR 97067, (503) 622-4034)

Guitaristics (\$79) and *Pianistics* (\$69), though geared towards different instruments, share the ambitious goal of "taking the mystery out of improvisation," by teaching the fundamentals of scale improvisation and chord substitution. An in-depth manual introduces each program and discusses the basics and history of music theory and notation. Though beginners can use *Guitaristics* and *Pianistics* to advantage, the primary market for this software will be for more advanced musicians, trying to learn improvisatory theory and technique. (chro-MAGIC Software Innovations, 516 N. Jackson, Joplin, MO 64801, (417) 623-7393)

Jazz Through MIDI v. 3.0, from New Sound Music, combines a superbly-written text, charts, and sheet-music, with a collection of ensemble (piano, bass, drums) sequences for study and accompaniment. Cleanly divided into Beginning, Intermediate, and Advanced levels, the lesson series covers every variation (really!) of jazz and pop style in both theory and practice, from the mechanics of modes to the subtleties of voicing and voice-leading. Sequences are provided in Standard MIDI file format, and can be configured to work with a wide variety of popular MIDI instruments. First class! (\$49.95, New Sound Music, P.O. Box 37363 Dept. J1, Oak Park, MI 48237, (313) 355-3643) ●

Where Are They Now?

By Peter A. Donoso

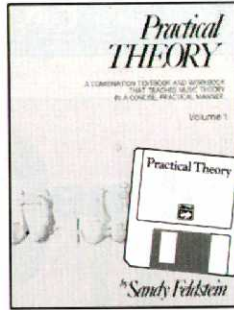
Like any evolving universe, the world of Atari music software is fairly volatile. While most of the major players continue to develop and refine their products, offering regular updates and strong support, a number of companies — even some big names — have dropped from the scene. But when a company fades out, what happens to its products?

Many, as it turns out, are still available — some even still supported, either formally or informally, by user-groups, PD houses, etc. While the possibility of future updates is, in most cases, slim, existing support for these products may comprise anything from replacements for damaged disks to full technical assistance. We've hunted down some of our favorite programs of yesteryear, and determined their current whereabouts. Maybe the program you've been searching for is shown below!

Product Name	Now Supported by:
D50 COMMAND Key Clique	Command Development (818) 362-3550
EDIT 8000 Ver.1.3 EDIT DSS1 Ver.1.5 TWEAK IT Ver.1.4	Savant Audio (516) 826-6336
GENWAVE SOUNDFILER	Interval Music Systems (213) 478-3956
M	Dr. T's (617) 455-1454
MASTER TRAKS PRO TRAX ENCORE	Passport Designs (TS & RD) (415) 726-0280
MIDI MAGIC QRS MUSIC DISKS	Micro-W Distr. (TS & RD) (201) 838-9027
MIDIPLAY	Electronic Music Pubs. (213) 455-2025
MOUSTERPIECE SOUND DISKS (synth patches)	Digital Horizons (TS & RD) (503) 622-4034
MUSIC STUDIO	Audio Light/Music Studio 88 (408) 353-3771
PROTEUS EDITOR	Opcode Software (TS & RD) (415) 321-8977
SOUND TOOLS SOFT SYNTH SOUND DESIGNER TURBOSYNTH	Digidesign (TS & RD) (415) 688-0600
SUPER SCORE SUPER SST SEQ. D50 DESIGN, ESQ, MT32 EDITORS	Soft Pacific (TS & RD) (714) 242-0454

Key:

TS = Tech support available to registered owners
RD = Replacement disk available to registered owners.



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Music On-Line: the PAN Network

With the increasing importance of MIDI and music computing, musicians are quickly discovering the computer's potential as a communications tool. The same computer that drives your studio setup can — with the addition of a modem and communications software — help you meet, greet, collaborate, and network with colleagues, across the country, or around the world! General information services such as GENie and CompuServe now offer large and active MIDI forums, where musicians can gather to leave each other messages, ask questions, access online product support, or share their latest sequence or sound files. But did you know there was even a national network *dedicated* to music?

Based in Skippack, PA, the PAN network is a dynamic computer system serving well over 3,000 professionals throughout the music industry, worldwide. PAN offers an amazing range of services: Email, fax, travel services, employment and booking databases, resume and credential checking, newswires, realtime conferencing, online product support, and more! And it's all dedicated to bringing musicians — and music-industry people — together.

PAN maintains direct hotlines to over thirty of the top music manufacturers (including Atari!). So if that Kurzweil is acting up, or you need a ROM revision on that Korg, just leave a message! A high level of communication between "regular" and "industrial" users means that your voice will be heard, so you can really have an impact on the evolution of electronic music technology!

PAN's dedication to music, coupled with the multiplicity of communications services it supports, makes PAN the perfect "stay in touch" tool for musicians, both on the road and at home. PAN knows that for musicians, time is money — so several of their innovative services are designed to reduce the amount of time you spend online searching for information.



PAN's FaxScan service can be set to automatically perform a personalized scan of all PAN's message systems for new information, then send the result to your fax machine! And their PanScan service can be engaged to summarize new network information on a 30-day basis, and send it to you, on disk! Additional specialized services include fax receipt (use PAN as your fax number), and pager support.

Special Offer for Atari Artist and Explorer Readers!

Designed for professionals, PAN normally charges a steep \$225 fee for signup. But as a special offer to readers of Atari Explorer and Atari Artist, PAN has generously agreed to waive this initial fee! Other charges still apply, however: PAN's daytime rates are \$.40/minute (evenings and weekends, \$.20/minute), plus \$.25 for your first minute of connect time and a \$10 monthly mailbox charge. Charges are billed monthly to your VISA, MasterCard, or American Express.

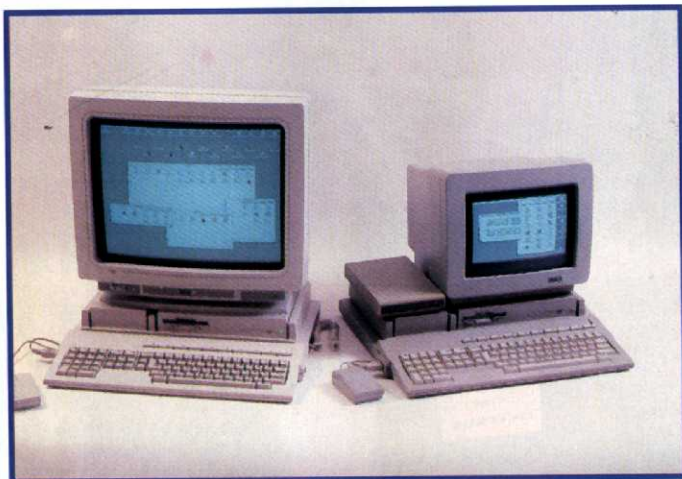
PAN is accessible through Tymnet ((800) 336-0149 for information), Telenet ((800) 336-0437), direct ((617) 576-0862 (1200 baud) or (617) 576-2981 (2400 baud)), or from overseas. European connectees should obtain an NUI from your local PTT. PAN's international Host IDs are 311061703093 or (back-up) 310661703088. When signing on, Tymnet users should type the letter 'A', then enter PAN at the login prompt. Telenet users should hit Return three times, and then enter C PAN at the '@' prompt (2400 or 9600 baud users should enter '@' immediately upon connect).

Thereafter, PAN will present you with a "Username:" prompt. Type PANJOIN (Return). At the "Password:" prompt, just type EXPLORER (Return). You'll be welcomed to PAN's online signup area, and will thereafter be prompted for all information necessary to set up your new account!

Music Power!

Atari Mega STe and TT030 Music Workstations

Here are the systems to drive your sound! Atari computers give you music power, at a price you can afford, with features the competition can't touch! The workhorse Mega STe and powerhouse TT030 workstations, shown here, are Atari's top-of-the-line systems. But there's an Atari computer for every price range and every music application. From home studio to soundstage, composer's loft to concert hall, Atari computers make the music happen! And your Atari music dealer is specially trained to help you choose the Atari hardware, music software, and accessories that are right for *you*.



The Mega STe is Atari's most powerful STe computer, offering supreme expandability and flexibility in a monolithic desktop design with detachable keyboard. Available with 1, 2, or 4 MB of RAM (expandable with standard low-profile SIMMs), 50 or 80 MB hard disk drive, and built-in floppy disk, the Mega STe offers power to spare for the most demand-

ing musical applications, as well as sufficient muscle for any office computing task, from database management to desktop publishing (and *that's* no lie: we used a Mega STe to produce this issue of Atari Artist, from initial word-processing and page layout to final output of finished film!)

Sporting a cached, 16 MHz 68000 processor, the Mega is up to twice as fast as a standard ST or STe on processor-intensive tasks such as sample-editing and waveform analysis, while retaining full compatibility with all ST software. Standard features include all STe graphics modes, 4,096-color palette, stereo DMA sound, cartridge, DMA, parallel, two AT-style 9-pin serial ports, external floppy, monitor, TV, audio, mouse/joystick, and MIDI ports. Plus, the Mega STe sports a built-in, Localtalk-compatible LAN port, and a VME card slot that can provide support for additional serial ports, Ethernet interfaces, and other VME-based peripherals. Running GEM and featuring Atari's enhanced ST Desktop, the Mega STe is easy and fun to use. It's a perfect studio, or office system.

The TT030 is Atari's most powerful computer, featuring a 32 MHz 68030 microprocessor and advanced, high-speed cached processor architecture. Expandable up to 26 MB of RAM, and compatible with both ACSI/DMA and SCSI hard disks and peripherals, the TT brings the power of an engineering workstation to the desktop, for the most demanding musical, scientific, and business applications. The popular GEM operating system is standard, and Unix is available as an option.

In addition to STe standard graphics, the TT sports additional high-resolution color and monochrome graphics modes, and is capable of driving the Atari TTM194 monochrome monitor (see photo) at super-high 1,280 x 960 resolution — ideal for scoring and music DTP! The TT also offers STe-standard DMA sound, LAN, VME, and SCSI ports. Other standard ports include parallel, two serial, monitor, printer, stereo audio, cartridge, mouse/joystick, and MIDI. ●

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1987: CREATOR 1.1. PRIORITY-BASED MULTITASKING, PLAY ALGORITHM and novel Quantizing strategies set new standards as far as ease of operation, speed and convenient functions are concerned. Version 1.3 includes 64 MIDI Channels and improved MIDI Timing via our low cost **EXPORT** MIDI Port Expander.

1988: NOTATOR 1.1. - 2.0. A pioneer and milestone in the history of computer-based notation. Realtime Notation provides the direct link between MIDI events and their display as notes, all the way up to the Layout and Printout of complete systems in professional 300 dpi quality. The intuitive view of the notation picture, numerous symbols and ease of use set the standard for the ATARI ST. In parallel the powerful development of the sequencer: **GROOVE DESIGN** - a new Philosophy for the handling of rhythm structures. **REALTIME MIDI GENERATOR** - direct integration of a MIDI mixing desk into the program. **UNITOR** - integrated SMPTE-Synchronization with precise frame accuracy down to 1 bit.

1989: From Version **2.2.** on, **SOFT-LINK-MIDI** Multitasking for use of different programs on one computer. **HUMAN TOUCH** enables the sequencer to follow the user's varying tempos and offers many other "special" synchronization features.

1990: NOTATOR 3.0. With our expansion into various professional applications the number of functions is growing. **Hyper Edit** - a new way of graphically viewing/editing music. **ADAPTIVE GROOVE DESIGN** - the most intelligent Quantize strategy in the history of MIDI sequencers. **STEADY EYE** - VITC Synchronization makes Notator become the ideal tool for today's video/audio production chores. Major development in the Notation section: **PAGE PREVIEW** - Complete view and Layout on the screen of all pages to be printed. **VARIOUS FONTS** provide free choice of Text styles. Multiple Tuplets support the notation of complex polyrhythmic music.

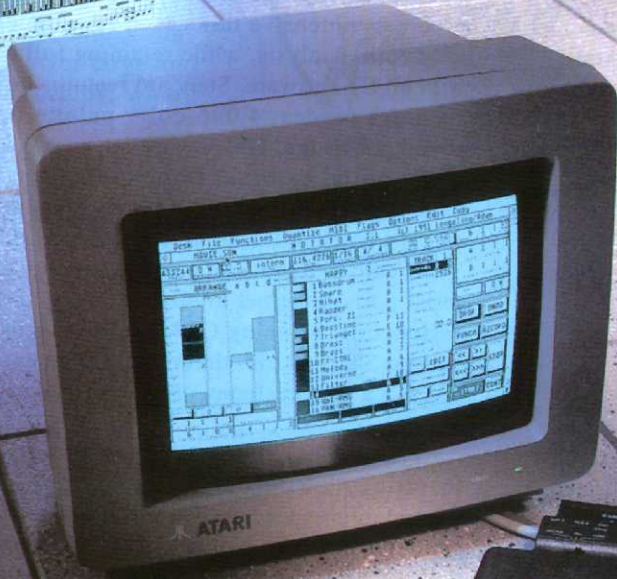
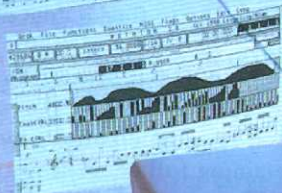
1991: NOTATOR 3.1. Our dedication continues in 1991 to make the UNIVERSAL SYSTEM the "State of the Atari" today. The optional Graphic Arrange mode makes the arranging of musical events extremely simple by combining visual access with audio control. 32 Tracks view mode makes working on complex compositions easier. Comprehensive MIDI Control of the Foxtex R-8. In the Notation section: traditional barriers have been taken away: **IMG-FILE EXPORT** adds the missing link between NOTATOR and the powerful world of DTP graphics programs. **PROCESS NOTE ATTRIBUTES** - offers powerful transform abilities to single or multiple notes, dynamic markings and more either globally or in selectable ranges.

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Option 2: Use varies from game to game. Often used to turn off sound -- great for playing around nervous adults!

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Chicago ComputerFest by Atari, '91

Atari blows away the Windy City with a two-day jam!

by Peter Donoso

The afternoon before it opened at the Ramada O'Hare in Chicago, the *Chicago ComputerFest by Atari* consisted of 9 huge pallets, crowding the entrance to the hotel's Grand Ballroom, and obscuring the barren exhibit halls, behind. Piled high were TT030s, PTC144s, TTM194s, SLM604s, hard drive installation kits, TT and ST RAM upgrades — a wealth of equipment ... still in boxes. Mostly unlabeled.

Luckily, the LCACE show organizers, numerous volunteers, and Atari's own Bob Brodie had the situation well in hand. While roustabouts readied the booths, a relay-team of LCACE electronics-gurus, egged on by Atari Explorer Editor John ("You always have a tool in your hand") Jainschigg, explored the true path of Zen and the art of TT RAM board and Hard Drive installation. Twenty hours and 34 TTs later, it was ... show-time!

New Products

Atari's eye-catching display, shipped in from ComDex, issued a hands-on invitation to try out any of the various TT, STe, Portfolio, or Lynx equipment on hand. One of the installations that seemed to be generating a good deal of excitement featured two networked TTs running X/Windows for UNIX, an icon-based graphic user interface, controlling the powerful multi-tasking operating system. Atari representative Diane Guerrero was on hand to demonstrate how any one of a number of these workstations linked together via Ethernet (using the VME internal card slot and external VME ports) could exchange data and update any of the other stations' windows and files.

Atari Unix V.4 is scheduled to be bundled with a TT system containing 16 megs of TT ram and either a 213 MB hard drive formatted for Unix, or a 340 MB hard drive entirely for UNIX or partitioned for both UNIX and TOS. Slated for official release at CEBIT show in March, Atari System 5 is presently configured to run in TT hi-res monochrome mode. An X/Server software module, coupled with the German-manufactured Matrix C110 graphics card (boosting resolution in color mode to 1024 x 768 and capable of displaying 256 simultaneous colors) will let the system

run UNIX in glorious hi-res color, as more sophisticated users have begun to demand.

The new PTC1426 14" color monitors were in evidence throughout the show floor and in medium TT res looked even sharper than the crisp SM124 monochrome display. SkWare One had the latest version of Suerat running on one, and I was pretty impressed with the number of added features since its debut a while back in the pages of the now sadly defunct STart magazine. Also being shown was a program that gives a Migraph or Golden Image hand scanner the capability of scanning a color picture, then assigning a color palette based on the distribution of grey tones. Load it into Suerat and save it as a .PI2 file. Migraph was showing Merge-It, a package featuring their Scanning Tray which holds up to a legal-size sheet and enables a full page scan from two passes, using Migraph's hand scanner. Merge-It is bundled with software that can move and reposition the two scans until they match up seamlessly! Also demonstrated were Migraph OCR (Optical Character Reader) software (\$299), and Touch-up 1.65.

The Codeheads were demonstrating Avant Vector (\$545) and MegaPaint (\$175) — two powerful vector art packages — and Genus (\$175), a vector font-editing program for Calamus-type fonts.

Gribnif was showing Arabesque (\$199.95), another vector drawing tool, and Convector (\$99.95), an auto-tracing program that converts bit-mapped images to vector objects. Arabesque is shipping now and Convector should be available soon. XBoot (\$29.95), Gribnif's latest domestic release, allows you to designate which auto-folder programs and desk accessories will be enabled on boot-up, as well as autoloading files to a RAMdisk and execute batch files.

WizWorks had The Tray (\$69.95) their hand scanner guide bundled with Coalesce image-merger software, which supports scanners from MiGraph, Geniscan/ST, Golden Image and DAATAscan, as well as ScanLite, which allows a scan to be saved in normal or compressed .IMG format instantly.

Maxwell CPU was showing Silhouette Ver 1.25

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7800 System	\$39.95
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Food Fight	\$16.95
Galaga	\$ 9.95
Joust	\$16.95
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Ballblazer	\$ 9.95
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QIX	\$12.95

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Kaboom	\$ 9.95
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Zone Ranger	\$ 9.95
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Pitfall	\$14.95
Quintana Roo	\$14.95

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(\$94.95), its long-awaited bit-image and vector-graphics drawing program with auto-tracing capabilities, and Expose (\$39.95) a desk accessory pixel bit image editor and memo pad, which can store and send text directly into a word processor.

In the music area, a real show-stopper was Hybrid Arts' Digital Master, the amazing 2-track digital recording and editing unit that blows Sound Tools back to the drawing board. See our review of Digital Master in this issue's Atari Artist insert!

The Event Queue

All told, there were over 50 ST developers and dealers, as well as 15 booths devoted to the 8-bit line of Atari computers. Separate rooms were devoted to Desktop Publishing, MIDI, and emulation software. And the two Swap rooms did a good deal of business selling used and unused ST and 8-bit items. Over 50 different seminars were offered throughout the weekend, and competed with one another for attention from the capacity crowds.

Atari's own Director of Communications Bob Brodie officiated at the grand prize giveaway drawing, and participated in a Q & A session on What's New From Atari along with Director of Technical Services Bill Rehbock.

In his keynote address at Saturday evening's banquet, Greg Pratt, President of Atari U.S., spoke of



The Atarifest Team, left to right: Don Thomas, Bob Brodie, James Grunke, Bill Rehbock, John Morales, Greg Pratt, Mike Fulton, Diane Guerrero, Mike Groh, and Art Pruzynski.

Atari's accomplishments over the past year, and gave a forecast for 1992. Earlier that evening, Lake County Atari President Mike Brown presented Codehead Software, Double Click Software, and Soft-Logik with MARC (Midwest Atari Regional Council) awards of excellence, in recognition of their contributions and service to User Groups.

The outcome? After a weekend of fun, excitement, learning, and shopping, several thousand attendees left with the realization that Atari offers a full line of powerful computers and personal electronics that can do just about anything better, faster, and more cost-effectively than competing products.

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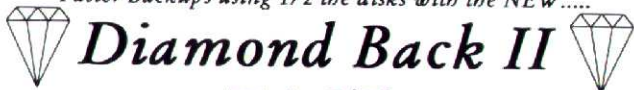
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- #768/938/1165 - *NeoDesk Icons*
- #801 - *Label Printing Programs*
- #829 - Vanterm V3.8 - Shareware terminal program
- #888 - *Atan ST Subjects* (Book) Programs
- #951 - DC Show It V1.1, Head Start V1.1, Little Green Item Selector V1.6C
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- #988 - Fast Copy III, NX-1000 Set Up
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- #1214 - GFA Basic Programs/Files
- #1253 - Diamond Back II V2.25 Demo
- #1300/1301 - *Atan ST Topics* (Book) Programs
- #1310 - Virus Killer Programs
- #1322 - *KAOS DESK* - GEM Desktop Replacement Icon Editor Included

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Desktop Publishing

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- #758/759/994 - Calamus Fonts
- #895 - PageStream V1.8 Demo (DBL)
- #935 - *Desktop Publishing Utilities*
- Convert to .IMG V1.20
- Fontverter Demo - Convert fonts between PageStream and Calamus
- PageStream File to 300 DPI .IMG conversion
- #1028 - *PageStream Font Editor V0.8*
- Silhouette V1.0 Demo (1 Meg/DBL/G-DOS)
- #1266 - AVANT VECTOR V1.2 DEMO - A bit image vector tracer and vector graphics editor. From CodeHead Software (Mono Only)

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- #599 - Binner, Futura Black, Hal, Lubalin, Futura Extra Bold Condensed
- #870 - Atari, Baby Teeth, Lucida, Old English
- #1044 - Adverse, Barnum, Burlington, Oblique, Calligraphy 2, Celtic, Chancery, Chicago, Dingbat, Flash, Harlow, Olympia, Souvenir Medium, Souvenir Medium Italic
- #1094 - Architect, Avant Guard, Bookman, Broadway, Chancery, Dingbat, Kibo, Oakville, Palatino, Western
- #1336 - PageStream V2.1: Roosth, Saintf, Sansser, Shark, Style, Toulouse, Windsor, Zalesk

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- #1342 - Caligula, Crillee, Greenscap, Inkwell, Mira, Isadoracaps, Middleton, Rudelsberg, Wedgie
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Calamus Fonts

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- #1153 - Lucifer, Bodoni, Bodoni Italic, Drurylane, Drurylane Italic, Hallbats
- #1179 - Complete Glib font from FontAbility
- #1190 - Micron, Tiempo, Swiss Medium, Leocaps, Medici, Windzor, Zalescap
- #1223 - Chicago, Cornet, Corsica, Gaudy Cond, Gallia, Gillies, Goudy, Legend, Old English
- #1329 - Chili Pepper, Diane, Diego1, Fitties, Miri 6, Galleidis, Moscow Regular, Premier Light
- #1330 - Recycle Book, Shalom, Tiempo 2.0

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- #972 - 1, 5, and 10 dollar bills
- #973 - 20, 50, and 100 dollar bills
- #1213 - Office Equipment/Scenes (DBL)
- #1272 - Religious oriented
- #1273/1274 - Military vehicles
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- #1290 - Cartoon Ladies
- #1312 - Religious oriented
- #1346/1347 - Christmas Clip Art (DBL)
- #1351 - Restaurant Clip Art (EPS Format)

Applications

- #810/811 - SHEET V2.5P - Shareware Spreadsheet.
- #965 - Checkbook V1.09, Almanac (Color)
- #989 - Paperless Accountant
- #1250 - Write On V1.1e Demo (1 Meg/DBL/Mono)
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- All Children's Programs Require a Color Monitor
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- #393/394/533/773/774 - Additional Graphics for use with PrintMaster Plus (5 Disks in all)
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- #45 - 130XE Utilities
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- #256 - Monopoly
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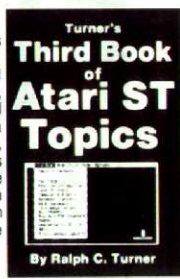
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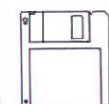
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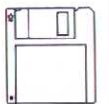
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Working (and Playing) Better with Atari's Palmtop PC

PORTFOLIO MANAGEMENT

This issue, we introduce two amazing new programs for Portfolio: Atari's Portfolio Chess and Instant Speller. But before we do, we want to turn you on to some valuable offerings from the Portfolio shareware pool. Portfolio screen-shots for this issue were produced with our brand-new suite of Portfolio/ST graphics utilities, recently created by BJ Gleason (of PBASIC fame) and Artisan Software, and currently available as shareware on CompuServe's Portfolio and Atari ST Forums.

Responding to our special request, BJ was kind enough to write a TSR program, called PGCAP.COM, that captures any Portfolio graphics-mode screen (e.g., Portfolio Chess) as a .PGF (Portfolio Graphics Format) file, and any text-mode screen (e.g., Portfolio Instant Speller) as a .PGT (Portfolio Graphics Text) file. A second utility, PGT2PGF.EXE, was engineered to translate .PGT files to the universal .PGF format.

Using XTERM2 and our Portfolio Serial Interface, we can transmit the .PGF files to our Mega STE workstation, using the Xmodem error-free binary transmission protocol. On the ST side, Artisan Software's shareware program, PGF_MAKR.PRG, can be used to load the .PGF files into rectangular areas of a Degas-compatible .PI3 monochrome image. This image can then be printed on laser printer, or imported into a DTP system for further processing.

Gleason's PGCAP.COM and PGT2PGF.EXE (now renamed to PGCONV.EXE) should be available as shareware on CompuServe's Portfolio Forum (GO APORTFOLIO) by the time you read this. The latest version of Artisan's PGF_MAKR.PRG, for the ST, (as well as XTERM2 and Don Messerli's PGSHOW, which displays .PGF images on the Portfolio) are also available on CompuServe and other information services. We urge all Portfolio and ST owners with an interest in graphics to obtain these useful programs, and ask that you respect the rights of shareware authors and make contributions as requested. (For a copy of PGF_MAKR on disk, send \$6 (plus \$1.50 S&H) to Artisan Software, P.O. Box 849, Manteca, CA 95336).

Portfolio Chess

Summary: Powerful (yet beatable, at lower levels!) chess program, will give even experts a run for their money!

Manufacturer:
Atari Corporation
1196 Borregas Avenue
Sunnyvale, CA 94088

Price: \$49.95

All work and no play would be enough to make any Portfolio user a bit dull. And let's face it, you didn't buy this powerful little machine just for productivity's sake. At least a part of the Portfolio's appeal can be chalked up to the fun factor! Well, go ahead and multiply that last variable, because Atari has just introduced Portfolio Chess, a powerful version of the classic game that's hard to beat (literally *and* figuratively)!

But one of the nicest things about Portfolio Chess is that you *can* beat it; at least at the lower two or three of its ten play-levels. In this respect, Portfolio Chess differs from some of the other chess-engines out there, and is considerably more fun for mere mortals to play.

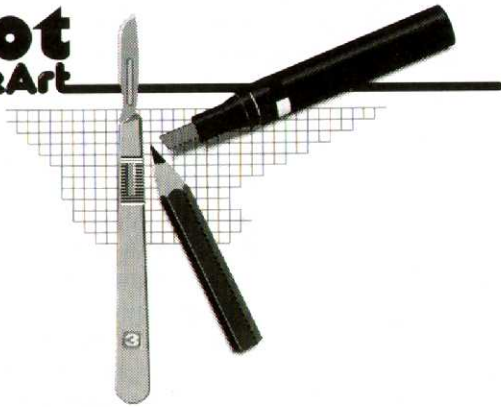
An easily-deciphered graphic makes the shift from physical chessboard to computer screen quite palatable. Pieces are easy to recognize, and show up clearly on the Portfolio's high resolution, monochrome LCD display. Move-timers and player names are displayed on the right side of the screen, and moves (in



A simple, easy-to-read screen, backed up by a powerful chess engine, make Portfolio Chess a winner!

Announcing Didot and Retouche !

Didot
lineArt



Didot is a graphic artist's dream come true. With it you can produce illustrations, headlines, and logos and the like—quickly and easily. Designed with the graphic artist in mind (rather than the computer user), all graphic elements are assembled and freely manipulated on a worktable, without the use of cumbersome frames.

Create or modify vector graphics with a wide variety of tools. Simple graphic elements may be enlarged, reduced, rotated, sheered or freely manipulated as well as combined into complex illustrations. Didot also supports an incredible array of snap-to options for precise, repeatable work.

Bitmap graphics may be manipulated or auto-traced, turning them into vector graphics. The Didot auto-tracer is exceptionally fast and produces truly usable vector graphics.

Didot also lets you design with text using Calamus and PostScript Type 1 fonts. Any font's outlines can be manipulated as line art, and the built-in font editor even lets you design your own typefaces.

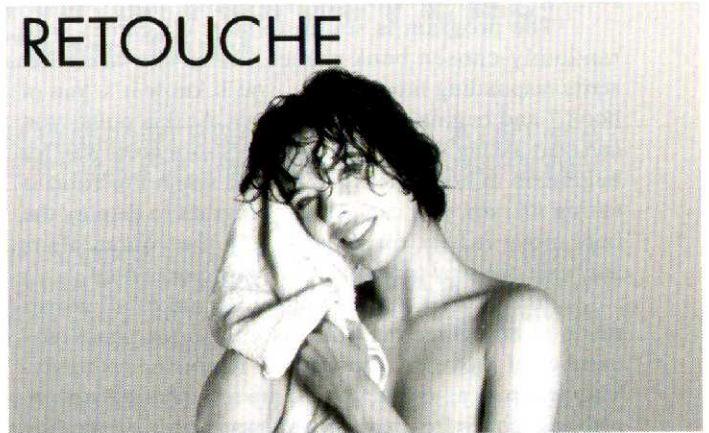
Didot offers a number of useful output options including tiling, layer control, and mirroring. Didot also lets you export PostScript files, the industry standard.

Didot and Retouche retail for \$199.95 each. The optional bezier auto-tracer for Didot has a retail price of \$199.95. Professional versions of Didot and Retouche are available.

Didot and Retouche require a monochrome monitor and one megabyte of memory.

All trademarks are property of their respective owners.

RETOUCHE



Retouche is a photo realistic image processing program that lets you work with 256 grey levels. Import color, monochrome, and halftone formats, or scan in an image directly—then use any of Retouche's many powerful features to process your image.

A complete set of tools is available for drawing, painting, smudging, softening and much more. Fine control over the functionality of each tool lets you obtain professional quality results.

Especially useful are Retouche's block and mask functions. With them, you can limit the processing area of your work or seamlessly integrate portions of different images into spectacular montages. All tools can be used to erase or combine multiple images for unlimited creative effects.

When you're ready for output, you can use Retouche's sophisticated dithering functions and either print directly from within Retouche or export the image in .IMG or TIFF formats (among many others) for use in DTP programs to produce sophisticated documents.

 **Goldleaf Publishing, Inc.**
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415/257-3515

standard chess notation) may be entered from a prompt, in this position. A simpler alternative is to use the cursor keys. An additional convenience option lets you turn the screen around, depending on what color you're playing — great for two-player games, too!

The program is set up to start all games with randomly-chosen book moves. When the computer starts responding more slowly, you'll know it's "out of book," and beginning analytic play. At this point, you can start asking the program for hints — a great way for beginners to hone their game! And when Portfolio is taking its turn, you can ask the program to display the best move it has found, so far, in the course of its analysis: one way to "psych out" the competition!

Portfolio Chess maintains a record of all moves made in any game, and allows you to take back any number of moves if you want to reconsider strategy. The program also lets you set up any chess position, entering moves from a book or newspaper, then turn the chess engine loose to solve the position, or help you play the game out from either side. Another option lets you switch sides in mid-game, and play on from the position developed by your opponent. Finally, Portfolio Chess can play itself, at any level (and, perhaps amazingly, it doesn't cheat!). — Maura T. Fitzgerald

Portfolio Instant Speller

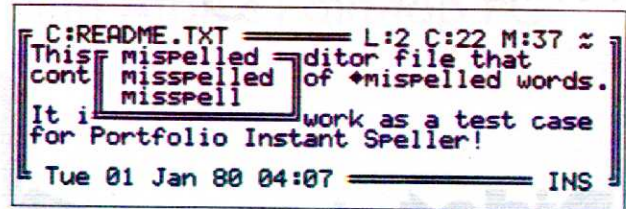
Summary: Comprehensive dictionary with a user-friendly interface. Works stand-alone or in combination with Portfolio's built-in text editor.

Manufacturer:
Atari Corporation
1196 Borregas Ave.
Sunnyvale, CA 94089

Price: \$39.95

While many Portfolio users have learned to touch-type fairly rapidly on the palmtop keyboard, some we've talked to have admitted that they don't type *quite* as accurately. If you're the only person interpreting your electronic chicken-scratch, that's fine and dandy. But wouldn't it be nice if your secretary could make it out too?

Enter Portfolio Instant Speller. This timely addition to the Portfolio software library contains a built-in dictionary of 100,000 words, and you can add up to an estimated 5,000 words (averaging 5 letters each) of your choice to a supplemental dictionary file. Additions to the supplemental dictionary can be made from within Instant Speller or with the Portfolio's text editor.



When Instant Speller finds a misspelled word, it offers alternatives that can be inserted, instantly, in text.

Instant Speller functions in two modes. It can be used independently of other programs to check the spelling of individual words, or run from inside the Portfolio's text editor to check a document. To operate Instant Speller as a stand-alone program, simply run it from the DOS prompt and enter the word you want to check. If the program fails to recognize the word, it flags it as an error and offers alternatives. If you wish, you may enter the word in the supplemental dictionary, at this point, as a newly-recognized, legitimate spelling.

Searching is fast, and the default dictionary is amazingly rich. I was quite surprised when I typed in "aple" (meant to be "apple," I thought), only to be presented with a list of 18 alternatives, including *apple*, *appeal*, *apse*, *apex*, *Apollo*, *apeak*, *aplomb*, *appear*, *apace*, *apiece*, *append*, *apogee*, and the counter-intuitive, yet perfectly logical, *pale*. Alternatives closest to the original spelling are listed first. Since only 7 words can be listed at once, additional "hits" are displayed by pressing Enter.

Stand-alone mode also offers a "missing character" function that locates "fits" for incomplete words. If you can't quite remember a word you want to use, but know it begins with "str-," or if you're doing a crossword puzzle and have three letters of an 8-letter word, missing-character really can help. Incomplete words are entered in a variant of DOS-wildcard command language, substituting '?' for a single missing character, and '*' for an unknown number of missing characters. The query "mi???is" produces two responses: *mimesis* and *mitosis*, while the query "acti*" generates a list of 31 possibilities!

From within the Portfolio's text editor, Instant Speller is activated by pressing F6, 'C' (which selects the file CHECK.HOO for execution from drive A). The program immediately starts scanning your document, starting at the current cursor position. When it finds an error, Instant Speller marks the spot with a diamond character. Hitting Enter at this point causes a menu of choices to be displayed, letting you tell the program to ignore the word, add it to the supplemental dictionary, show alternatives (for automatic substitution in text, as desired), or cancel the search and continue editing the document, directly. Scanning is rapid — almost instantaneous for a typical 300-word business letter, or other short document of the kind Portfolio's editor is usually used to create.—Maura T. Fitzgerald ●

Attention, Portfolio Owners!

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On February 21, 1992, starting at 3:00 PM (Eastern Standard Time), Atari and CompuServe Information Service will host a 24-hour Port-a-Thon on CompuServe's Portfolio Forum!

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To get to the Atari Portfolio Forum, type GO APORTFOLIO at any CompuServe '! prompt. If you're not a member of CompuServe, you can get a **FREE** introductory membership with a \$15.00 initial credit by dialing (800) 848-8199 (ask for Operator 198), Monday through Friday, 8:00 AM to midnight, EST, and Saturday and Sunday from noon to 10:00 PM EST.



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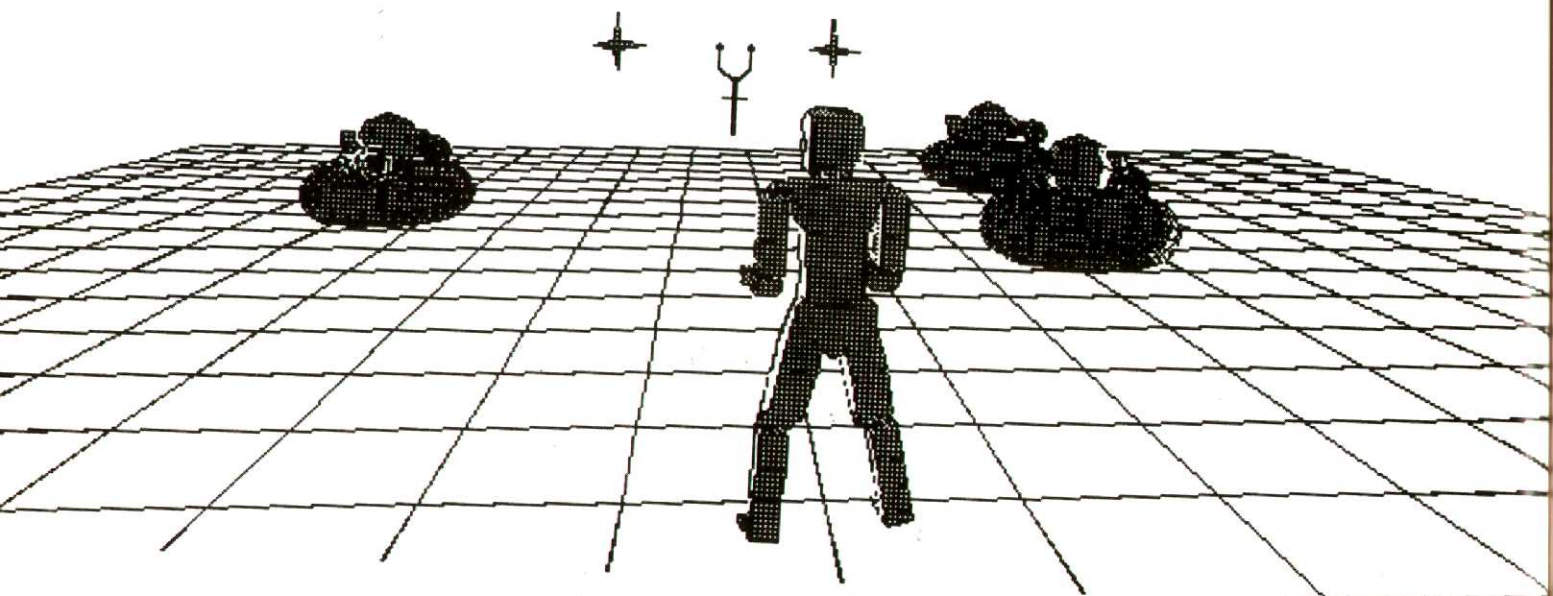
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Bonus 8-bit Program!

See if you have what it takes to survive in the ...

Archaic Arena

by CPT. Elwood J.C. Kureth



Lurking above and below the ancient arena grid are the mindless mechanical scavengers once known as Ionskrils. Their purpose, in the days of the Great Brulken Grid Games, was to purge the grid of warriors vanquished in combat. Now the Ionskrils search the grid endlessly, time forever locking their logic mechanisms. Your body quivers as you hear and feel the pulsing of the ancient engines, propelling the Ionskrils ever forward.

How well you remember watching them efficiently dispose of the lifeless hulks of your challengers. Only now there are no more challengers ... except you. Your race lies as dust in the planet. In a cavity of the universe that time forgot, there is only you.

And them.

And they stand between you and the ArcRod.

Illustration by John Jainschigg. Objects created on an Atari Mega STe, using CAD-3D 2.0 (Antic Software), Chronos-3D and Prism-Paint (Lexicor Software).

Typing Tips

The listing of Archaic Arena, below, is formatted 38 characters wide, just like the Atari 8-bit's BASIC work-screen. This should make it easy to type in. Remember, however, that a "line" of BASIC code may occupy more than one line on paper, or on your screen. If this occurs, you don't have to press RETURN when your cursor reaches the right margin — just keep typing and your cursor will "wrap around," automatically. Only when you reach the very end of a BASIC code "line" (just before the next line number) should you press RETURN, to enter the line in your computer's memory.

Every space, punctuation mark, letter, and digit in a BASIC program is significant, so type carefully! Be especially careful with long lists of DATA statements containing nothing but numbers, separated by commas. And remember to SAVE your work, frequently, so that if you make a mistake, nothing is lost! Finally, please note that underlined characters in the listing should be entered in **inverse**. Have fun!

• Contributing Editor Elwood J.C. Kureth is a veteran of Desert Storm, and has served tours in Germany, Korea, and the U.S. A published author, his biography of Special Forces SGM. Frank Miller (*Reflections of a Warrior*, Presidio Press, 1991, \$19.95) has been climbing best-seller lists since April, 1991.

Now stationed at TACOM (Tank-Automotive Command, Bradley Fighting Vehicle Division) in Warren, MI, CPT. Kureth is commencing work on a second book, while continuing to pursue his long-time hobby: Atari 8-bit programming. An Atari owner since 1981 (he purchased his "still going strong" Atari 800 while stationed in Germany), Kureth's programs have been published in *Creative Computing*, *Compute!*, *Computist*, and other magazines.



Do What you Must

The ArcRod — now the key to your survival — was once the target of every gridwarrior's desire. In years long past, it was bestowed upon the survivor of a grid match to restore his vitality and heal his injuries, preparing him for further combat. When all that would do battle that day had been defeated, save one, the ArcRod would become the victor's for one evening, its power engaged to satisfy his every whim, only to leave him in the clutches of Reality, come the dawn.

You're all too familiar with these facts, and also realize they are irrelevant. What matters now is that you must stand on the ArcRod before the Ionskrils can locate you, or perish. Obtaining the ArcRod will not be a simple task, for your new "opponents" can't be destroyed. Instead, you must avoid the Ionskrils to reach your goal. You must also remember not to touch the Repulstars that stand on either side of the ArcRod. Touching them will not kill you, but they will double your body size and throw you clear, making you easy prey for the Ionskrils.

As a true-born warrior you find this challenge vastly different and strangely compelling. As your blood begins to race, you quickly decide to take this test of your abilities one step further.

The Play's the Thing

Okay, enough pseudo-historical data. How is the game played? The rules are very simple and straightforward. You start on the right side of the grid, and attempt to traverse all the way to the left, where you must touch — with your feet — *ONLY THE TIPS* of the two prongs of the ArcRod. Touching any other portion of the ArcRod, or the two Repulstars located to either side of it, will double your size and throw you a random distance across the arena. Once doubled in size, touching the Repulstars or lower portions of the ArcRod will reduce you to normal size once more, but you will again be thrown across the arena, perhaps into the path of an Ionskril. You may successfully straddle the ArcRod while at double-size, though it is much more difficult.

How do you score points, you ask? Well, the longer you refrain from touching the ArcRod, the higher your score will be. After the program initializes and you select a skill level, you will face the playing screen. Be ready! You are given five chances (lives) to reach the ArcRod. To achieve a high score you must spend time on the screen dodging the Ionskrils, because in this game, daring is the quality that earns points. Of course, you could try and straddle the ArcRod straightaway, but your score would suffer.

As soon as you complete a level, you will advance to the next level, and will continue to advance as long as you retain a life. At the end of the game, your score and rating will be displayed. At this point, you may press the joystick trigger to return to the skill-level menu.

At higher levels (6-8) you will occasionally pass through an Ionskriil unharmed. This gives you a small break at higher speeds!

THE PROGRAM:

```

1 REM ARCHAIC ARENA BY ELWOOD J.C. KUR
  ETH, JR.
5 REM **** MACHINE LANGUAGE ROUTINE CO
  URTESY OF ERNEST K. HALEY ****
10 GOSUB 10000:GOSUB 9000:GOSUB 6000:G
  OSUB 7000:GOSUB 8000:GOSUB 8200:GOTO 4
  00
20 CLOCK=(PEEK(18)*65536+PEEK(19)*256+
  PEEK(20))/60:SCORE=SCORE+CLOCK*LIVES:R
  ETURN
30 POKE 87,1:FOR Z=0 TO 19:COLOR 138:S
  ETCOLOR 3,8,0:PLOT Z,7:NEXT Z:RETURN
40 POKE 87,1:FOR Z=0 TO 19:COLOR 128:S
  ETCOLOR 3,8,0:PLOT Z,7:NEXT Z:RETURN
50 RESTORE 55:POKE 87,1:GOSUB 250:TONE
  =1
52 FOR Z=0 TO 5:READ A:COLOR A:SETCOLO
  R 3,8,0:POKE 20,220:POKE 19,0:PLOT Z,7
  53 IF NOT PEEK(19) THEN 53
54 TONE=TONE+1:POKE 53768,TONE:NEXT Z:
  RETURN
58 DATA 243,227,239,242,229,154
60 FOR I=0 TO 4:POKE 53248+I,0:NEXT I:
  RETURN
100 FOR I=0 TO 3:X(I)=PEEK(PMXPOS+I):Y
  (I)=PEEK(PMYPOS+I):NEXT I:RETURN
200 TRANSP=INT((RND(0)*134)+62):POKE
  53248,TRANSP:POKE PMXPOS,TRANSP
205 IF WIDTHPLO=0 THEN POKE 53256,1:WI
  DTHPLO=1:RETURN
210 IF WIDTHPLO=1 THEN POKE 53256,0:WI
  DTHPLO=0:RETURN
220 POKE 53256,0:WIDTHPLO=0:RETURN
250 SOUND 0,0,0,0:POKE 53768,1:POKE 53
  761,37:POKE 53765,75:POKE 53760,1:POKE
  53764,1:RETURN
300 IF SCORE<=100 THEN POKE 87,0:POSIT
  ION 1,1:? #6;"---- ARENA SWEEPER ----"
305 IF SCORE>100 AND SCORE<=140 THEN P
  OKE 87,0:POSITION 1,1:? #6;"=== ARENA
  APPRENTICE ==="
310 IF SCORE>140 AND SCORE<=180 THEN P
  OKE 87,0:POSITION 1,1:? #6;"+++++ AREN
  A MASTER +++++"
320 IF SCORE>180 AND SCORE<=260 THEN P
  OKE 87,0:POSITION 1,1:? #6;"# ARENA SU
  PER WARRIOR ##"
325 IF SCORE>260 AND SCORE<=340 THEN P
  OKE 87,0:POSITION 1,1:? #6;"!SUPERIOR
  ARENA BEING !!"
330 IF SCORE>340 THEN POKE 87,0:POSIT
  ION 1,1:? #6;"ULTIMATE ARENA SPECIMEN*"
335 SCORE=0:RETURN
400 US=USR(ADR(POK$),18,0,19,0,20,0)
401 REM
402 REM
403 REM
405 POKE 53278,0:POKE 77,0:US=USR(2500
  0):IF PEEK(53260)=0 AND PEEK(53256)<>1
  AND PEEK(53257)<>1 THEN 405
410 IF PEEK(53260)=2 THEN 4500:REM COL
  LISION PLO TO PL1
420 IF PEEK(53260)=4 THEN 5000:REM COL
  LISION PLO TO PL2
430 IF PEEK(53260)=8 THEN 5100:REM COL
  LISION PLO TO PL3
440 IF PEEK(53256)=1 AND PEEK(53258)=1
  THEN GOSUB 20:GOTO 4000:REM M0PL AND
  M2PL COLLISION
445 IF PEEK(53257)=1 THEN GOSUB 200:RE
  M M1PL COLLISION
450 GOTO 405
451 REM
452 REM
453 REM
3000 POKE 87,0:POSITION 27,1:? #6;"_GA
  ME_OVER":GOSUB 220
3002 GOSUB 40:GOSUB 50:POKE 87,1:POSIT
  ION 7,7:? #6:SCORE:GOSUB 3540:GOSUB 30
  0
3005 IF PEEK(644)=1 THEN GOTO 3005
3010 IF SCORE=0 THEN GOSUB 9300:GOSUB
  6000
3020 GOSUB 7000:LIVES=6:GOSUB 6070:GOS
  UB 6090:GOSUB 30:GOTO 400
3500 POKE 87,0:POSITION 27,1:? #6;"SAL
  UTATIONS!":GOSUB 220
3520 GOSUB 40:GOSUB 50:POKE 87,1:POSIT
  ION 7,7:? #6:SCORE:GOSUB 3540
3525 IF LEVEL=8 THEN GOSUB 300:GOTO 30
  05
3530 POKE 87,0:POSITION 1,1:? #6;"HIT
  TRIGGER-->NEXT LEVEL":A=LEVEL:GOSUB 94
  30:GOTO 3005
3531 REM
3532 REM
3533 REM
3540 POKE 53764,45:POKE 20,200:POKE 19
  ,0
3550 IF NOT PEEK(19) THEN 3550
3560 SOUND 0,0,0,0:SOUND 1,0,0,0:SOUND
  2,0,0,0:SOUND 3,0,0,0:RETURN
3561 REM
3562 REM
4000 GOSUB 7165:POKE 53768,70:POKE 20,
  150:POKE 19,0
4005 IF NOT PEEK(19) THEN 4005
4007 POKE 53768,197:POKE 53761,143:POK
  E 53765,144:POKE 53760,17:POKE 53764,9
  4010 FOR TWICE=1 TO 2:FOR COLOR=0 TO 2
  40:POKE 704,COLOR:NEXT COLOR:NEXT TWIC
  E:SOUND 0,0,0,0:GOTO 3500
4011 REM
4012 REM
4500 GOSUB 100:IF WIDTHPLO=1 THEN POKE
  53257,1
4510 POKE 53278,0:X(1)=X(0):POKE 53249
  ,X(1)
4520 IF Y(1)>Y(0) THEN FOR MUP=Y(1) TO
  Y(0)+1 STEP -1:G=USR(UP,PMBAS+639+MUP
  ):NEXT MUP
4530 IF Y(1)<Y(0) THEN FOR MDWN=Y(1) T
  O Y(0)-1:H=USR(DOWN,PMBAS+639+MDWN):NE
  XT MDWN
4540 GOTO 5500
5000 GOSUB 100:IF WIDTHPLO=1 THEN POKE
  53258,1

```



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5010 POKE 53278,0:X(2)=X(0):POKE 53250
,X(2)
5020 IF Y(0)<72 THEN FOR MUP=Y(2) TO Y
(0)+1 STEP -1:G=USR(UP,PMBAS+767+MUP):
NEXT MUP
5030 IF Y(0)>72 THEN FOR MDWN=Y(2) TO
Y(0)-1:G=USR(DOWN,PMBAS+767+MDWN):NEXT
MDWN
5040 GOTO 5500
5100 GOSUB 100:IF WIDTHPL0=1 THEN POKE
53259,1
5110 POKE 53278,0:X(3)=X(0):POKE 53251
,X(3)
5120 IF Y(3)>Y(0) THEN FOR MUP=Y(3) TO
Y(0)+1 STEP -1:G=USR(UP,PMBAS+895+MUP
):NEXT MUP
5130 IF Y(3)<Y(0) THEN FOR MDWN=Y(3) T
O Y(0)-1:G=USR(DOWN,PMBAS+895+MDWN):NE
XT MDWN
5500 FOR I=0 TO 15:SOUND 0,114-I,10,8:
SOUND 1,255-I,8,10:SOUND 2,114-I,10,8:
SOUND 3,255-I,8,10
5505 POKE 704,176+I:FOR LD=1 TO 30:NEX
T LD:NEXT I:POKE 704,0
5510 SOUND 0,0,0,0:SOUND 1,0,0,0:SOUND
2,0,0,0:SOUND 3,0,0,0:FOR LD=1 TO 50:
NEXT LD
5511 GOSUB 220:FOR X=53257 TO 53259:PO
KE X,0:NEXT X
5512 GOSUB 6070:IF LIVES=0 THEN GOTO 3
000

```

```

5515 RESTORE 7030:GOSUB 7005:GOSUB 609
5:GOTO 400
6000 GRAPHICS 7:POKE 752,1:POKE 559,0:
DLIST=PEEK(560)+PEEK(561)*256+4:POKE D
LIST-1,66
6005 US=USR(ADR(POK$),DLIST+2,2,DLIST+
3,2,DLIST+4,6,DLIST+5,6,DLIST+6,2,DLIS
T+7,2)
6010 US=USR(ADR(POK$),DLIST+72,65,DLIS
T+73,PEEK(560),DLIST+74,PEEK(561))
6015 GOSUB 6090
6020 RESTORE 6025:POKE 87,1:FOR Z=5 TO
10:READ A:COLOR A:SETCOLOR 2,0,0:PLOT
Z,6:NEXT Z
6025 DATA 108,105,118,101,115,26
6035 GOSUB 30
6050 POKE 87,7:COLOR 1:POKE 710,192:PL
OT 0,11:DRAWTO 157,11:DRAWTO 157,69:DR
AWTO 0,69:DRAWTO 0,11
6052 POKE 87,7:PLOT 1,12:DRAWTO 156,12
:DRAWTO 156,68:DRAWTO 1,68:DRAWTO 1,12
6053 POKE 87,7:PLOT 2,13:DRAWTO 155,13
:DRAWTO 155,67:DRAWTO 2,67:DRAWTO 2,13
6055 FOR I=1 TO 24:READ B:PLOT B,11:DR
AWTO B,69:NEXT I
6057 DATA 12,23,33,42,50,57,63,68,72,7
5
6058 DATA 77,79,81,83,85,87,91,96,102
6060 DATA 109,117,126,136,142
6062 FOR I=1 TO 14:READ B:PLOT 12,B:DR
AWTO 142,B:NEXT I

```



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```

6063 DATA 18,24,29,33,36,38,40
6064 DATA 42,44,47,51,56,62,69
6065 POKE 708,64:POKE 712,16+4:POKE 55
9,34
6067 TIME=0:PN=16:LIVES=6
6070 POKE 87,1:POSITION 12,6:LIVES=LIV
ES-1:? #6:LIVES:RETURN
6090 POKE 87,0:POSITION 2,1:? #6:"****
ARCHAIC ARENA ****"
6095 POKE 87,0:POSITION 27,1:? #6;"LEV
EL: ";LEVEL::FOR I=1 TO 4:? #6;" ":NE
XT I:? #6:RETURN
7000 A=PEEK(106)-24:POKE 54279,A:PMBAS
=A*256:POKE 53277,3:POKE 559,46
7001 PMBASELO=1770:PMBASEHI=1774:PMXPO
S=1784:PMYPOS=1780:SPEED=1760
7002 HOWMUCH=1764:DIR=1750:XMAX=1791:S
DIR=1754:XMOUNT=1779:HITINDEX=1769
7003 FOR I=0 TO 3:POKE HOWMUCH+I,9:NEX
T I
7005 MX=57:MY=59:X=194:Y=73:X1=58:Y1=9
4:X2=66:Y2=73:X3=57:Y3=57:MX1=55:MX2=5
3:MX3=51:WIDTHPLO=0
7011 POKE PMBAS+384,0:US=USR(ADR(MOV$)
,PMBAS+384,PMBAS+385,640):POKE 623,18:
REM CLEAR PMBASE
7012 POKE 53252,MX:US=USR(ADR(MOV$),AD
R(MPL$),PMBAS+384+MY,41)
7013 POKE 53253,MX1:POKE 53254,MX2:POK
E 53255,MX3
7015 POKE 53248,X:US=USR(ADR(MOV$),ADR
(PLO$),PMBAS+512+Y,9):POKE 704,176+8
7017 POKE 53249,X1:US=USR(ADR(MOV$),AD
R(PL$),PMBAS+640+Y1,9):POKE 705,208+8
7020 POKE 53250,X2:US=USR(ADR(MOV$),AD
R(PL$),PMBAS+768+Y2,9):POKE 706,11+4
7022 POKE 53251,X3:US=USR(ADR(MOV$),AD
R(PL$),PMBAS+896+Y3,9):POKE 707,166+2
7100 US=USR(ADR(POK$),PMBASELO+0,Y,PMB
ASELO+1,Y1+128,PMBASELO+2,Y2,PMBASELO+
3,Y3+128)
7110 A=PMBAS+256+2:US=USR(ADR(POK$),PM
BASEHI+0,A,PMBASEHI+1,A,PMBASEHI+2,A+1
,PMBASEHI+3,A+1)
7120 US=USR(ADR(POK$),PMYPOS+0,Y,PMYPO
S+1,Y1,PMYPOS+2,Y2,PMYPOS+3,Y3)
7130 US=USR(ADR(POK$),PMXPOS+0,X,PMXPO
S+1,X1,PMXPOS+2,X2,PMXPOS+3,X3)
7150 US=USR(ADR(POK$),DIR+1,14,DIR+2,7
,DIR+3,7)
7160 US=USR(ADR(POK$),SDIR+1,14,SDIR+2
,11,SDIR+3,14,XMOUNT,0)
7165 SOUND 0,0,0,0:POKE 53768,134:POKE
53761,69:POKE 53765,1:POKE 53760,20:P
OKE 53764,215
7899 RETURN
8000 DIM MOVUP$(21):UP=ADR(MOVUP$)
8010 FOR I=UP TO UP+20:READ C:POKE I,C
:NEXT I:RETURN
8020 DATA 104,104,133,204,104,133,203,
160,1
8030 DATA 177,203,136,145,203,200,200,
192
8040 DATA 11,208,245,96
8200 DIM MOVEDOWN$(21):DOWN=ADR(MOVEDO
WN$)

```

```

8210 FOR I=DOWN TO DOWN+20:READ C:POKE
I,C:NEXT I:RETURN
8220 DATA 104,104,133,204,104,133,203,
160,10
8230 DATA 177,203,200,145,203,136,136,
192,255
8240 DATA 208,245,96
9000 GRAPHICS 2+16:COLOR 1:POSITION 2,
3:? #6:"initializing":FOR I=1 TO 3:?
#6:CHR$(142)::NEXT I
9001 IF PEEK(25000)=104 THEN 9005
9002 POSITION 1,5:? #6:"SCREEN WILL BL
ANK":POSITION 2,6:? #6;"for 015 second
s"
9005 DIM MOV$(39):RESTORE 9010:FOR I=1
TO 39:READ C:MOV$(I,I)=CHR$(C):NEXT I
:REM
9010 DATA 104,104,133,215,104,133,214,
104,133,217,104,133,216,104,133,218,10
4,170,160
9020 DATA 0,177,214,145,216,200,208,4,
230,215,230,217,202,208,242,198,218,16
,238,96
9030 DIM POK$(25):RESTORE 9040:FOR I=1
TO 25:READ C:POK$(I,I)=CHR$(C):NEXT I
:REM
9040 DATA 104,74,170,160,0,104,133,255
,104,133,254,104,240,4,200,145,254,136
,104,145,254,202,208,237,96
9050 DIM X(3),Y(3):FOR I=0 TO 3:X(I)=0
:Y(I)=0:NEXT I
9060 DIM PLO$(9),PL$(9),MPL$(41):RESTO
RE 9080:FOR I=1 TO 9:READ C:PLO$(I,I)=
CHR$(C):NEXT I
9070 FOR I=1 TO 9:READ C:PL$(I,I)=CHR$(
C):NEXT I
9080 DATA 60,66,60,126,153,36,66,165,2
31,255,195,189,165,165,165,189,195,255
9085 FOR I=1 TO 41:READ C:MPL$(I,I)=CH
R$(C):NEXT I
9086 DATA 8,8,28,8,8,0,0,0,0,0,0,0,0,
0,34,42,73,93,107,8,62,8,8,8,8,0
9087 DATA 0,0,0,0,0,0,0,0,8,8,28,8,8
9090 DIM OPTION$(5*8):FOR I=1 TO 5*8:R
EAD C:OPTION$(I,I)=CHR$(C):NEXT I
9100 DATA 1,2,2,1,18
9110 DATA 2,2,3,2,16
9120 DATA 3,3,4,3,14
9130 DATA 5,4,4,4,12
9140 DATA 4,5,4,4,10
9150 DATA 5,5,5,6,8
9160 DATA 6,6,5,7,6
9170 DATA 6,8,6,8,4
9200 RESTORE 9220:POKE 559,0:I=0:IF PE
EK(25000)=104 THEN 9270
9210 READ C:IF C<256 THEN POKE 25000+I
,C:I=I+1:GOTO 9210
9220 DATA 104,162,0,142,252,6,174,252,
6,238,252,6,224,4,240,17
9221 DATA 189,234,6,133,208,189,238,6,
133,209,224,0,240,4,76,42
9222 DATA 98,96,173,224,6,141,253,6,17
3,120,2,141,214,6,173,253
9223 DATA 6,201,0,240,209,206,253,6,17
3,214,6,201,14,208,13,173
9224 DATA 244,6,201,53,240,232,32,73,9

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9,76,214,97,201,13,208,13
9225 DATA 173,244,6,201,95,240,215,32,
106,99,76,214,97,201,11,208
9226 DATA 13,173,248,6,201,52,240,198,
32,67,99,76,214,97,201,7
9227 DATA 208,188,173,248,6,201,194,24
0,181,32,57,99,76,214,97,76
9228 DATA 174,97,189,224,6,141,253,6,1
73,253,6,201,0,240,240,206
9229 DATA 253,6,189,214,6,224,1,240,15
,224,2,240,117,76,230,98
9230 DATA 169,14,157,214,6,157,218,6,2
01,14,208,23,189,244,6,201
9231 DATA 53,240,6,32,73,99,76,48,98,1
69,0,141,243,6,169,7
9232 DATA 157,214,6,201,7,208,53,173,2
43,6,205,255,6,240,16,238
9233 DATA 243,6,189,248,6,201,194,240,
16,32,57,99,76,48,98,189
9234 DATA 218,6,201,13,240,186,76,156,
98,169,52,157,248,6,32,57
9235 DATA 99,76,97,98,169,13,157,214,6
,157,218,6,201,13,208,54
9236 DATA 189,244,6,201,96,240,178,32,
106,99,76,48,98,169,7,157
9237 DATA 214,6,201,7,208,18,189,248,6
,201,180,240,6,32,57,99
9238 DATA 76,48,98,169,11,157,214,6,20
1,11,208,10,189,248,6,201
9239 DATA 66,240,218,32,67,99,76,48,98
,169,7,157,214,6,201,7
9240 DATA 208,18,189,248,6,201,192,240
,6,32,57,99,76,48,98,169
9241 DATA 13,157,214,6,201,13,208,18,1
89,244,6,201,90,240,6,32
9242 DATA 106,99,76,48,98,169,11,157,2
14,6,201,11,208,18,189,248
9243 DATA 6,201,54,240,6,32,67,99,76,4
8,98,169,14,157,214,6
9244 DATA 201,14,208,178,189,244,6,201
,57,240,174,32,73,99,76,48
9245 DATA 98,254,248,6,189,248,6,157,0
,208,96,222,248,6,76,60
9246 DATA 99,189,228,6,141,254,6,198,2
08,160,1,177,208,136,145,208
9247 DATA 204,254,6,200,200,144,244,16
9,0,145,208,222,244,6,222,234
9248 DATA 6,96,188,228,6,177,208,200,1
45,208,136,136,16,247,160,0
9249 DATA 169,0,145,208,254,244,6,230,
208,254,234,6,96,256
9270 SOUND 0,0,0,0:SOUND 2,0,0,0:SOUND
3,0,0,0
9300 POKE 559,34:GOSUB 60:GRAPHICS 1+1
6:COLOR ASC("*"):PLOT 0,0:DRAWTO 19,0:
DRAWTO 19,23:DRAWTO 0,23:DRAWTO 0,0
9310 PLOT 0,4:DRAWTO 19,4:PLOT 0,19:DR
AWTO 19,19
9320 POSITION 4,2:? #6:"skill levels"
9330 A=3:POSITION A,8:? #6:"1 - WIMPY"
9340 POSITION A,9:? #6:"2 - WOBBLY"
9350 POSITION A,10:? #6:"3 - SCRAMBLIN
"
9360 POSITION A,11:? #6:"4 - TRUCKIN'"
9370 POSITION A,12:? #6:"5 - FRANTIC"
9380 POSITION A,13:? #6:"6 - SCREAMIN'

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9390 POSITION A,14:? #6:"7 - BERSERK"
9400 POSITION A,15:? #6:"8 - IMPOSSIBL
E"
9410 POSITION 4,21:? #6:"select level"
:SPEED=1760:XMAX=1791
9420 CLOSE #1:OPEN #1,4,0,"K":POKE 76
4,255:GET #1,A:A=A-49:IF A<0 OR A>7 TH
EN CLOSE #1:GOTO 9420
9430 FOR I=1 TO 4:POKE SPEED-1+I,ASC(O
PTION$(5*A+I,5*A+I)):NEXT I
9440 POKE XMAX,ASC(OPTION$(5*A+I,5*A+I
)):LEVEL=A+1
9900 RESTORE :RETURN
9999 REM ***** COVER PAGE *****
10000 ? CHR$(125):SCREEN=PEEK(88)+256*
PEEK(89):OPEN #1,4,0,"K":RESTORE 10000
:POKE 752,1:? " "
10005 POKE 710,64:POKE 712,64
10007 SOUND 0,0,0,0:POKE 53768,7:POKE
53761,175:POKE 53765,79:POKE 53760,1:P
OKE 53764,30
10010 READ SP:POKE SCREEN+SP,204:GOSUB
12000:IF SP=594 THEN POKE 53760,200:G
OTO 10030
10020 GOTO 10010
10030 POSITION 7,17:? "By Elwood J.C.
Kureth, Jr."
10040 POSITION 9,19:? "PRESS TRIGGER T
O START":FOR BK=0 TO 2 STEP 2:POKE 755
,BK:FOR DLY=32 TO 80
10050 IF PEEK(644)=0 THEN POKE 53760,1
55:POP :RETURN
10060 POKE 712,DLY:NEXT DLY:NEXT BK:GO
TO 10040
10070 DATA 86,90,91,92,95,96,97,99,101
,105,109,110,111,113,114,115
10080 DATA 125,126,127,130,132,133,135
,137,139,141,144,145,146,150,153,155
10090 DATA 165,167,170,172,173,175,179
,180,181,184,186,190,193
10100 DATA 204,205,207,208,210,211,212
,215,219,220,221,223,224,226,227,230,2
33
10110 DATA 244,245,246,247,248,250,252
,255,257,259,261,263,264,265,266,267,2
70,273,275
10120 DATA 284,288,290,293,295,296,297
,299,301,303,307,309,310,311,313,314,3
15
10130 DATA 372,376,377,378,381,382,383
,385,388,392
10140 DATA 411,412,413,416,418,419,421
,425,426,428,431,432,433
10150 DATA 451,453,456,458,459,461,462
,463,465,466,468,471,473
10160 DATA 490,491,493,494,496,497,498
,501,502,503,505,507,508,510,511,513,5
14
10170 DATA 530,531,532,533,534,536,538
,541,545,547,548,550,551,552,553,554
10180 DATA 570,574,576,579,581,582,583
,585,588,590,594
12000 LOWTONE=LOWTONE+1:POKE 53760,LOW
TONE:RETURN

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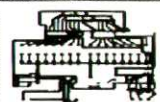
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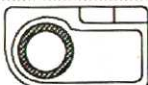


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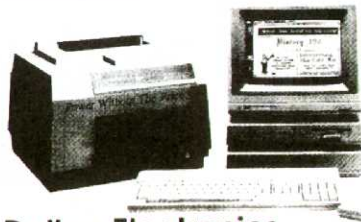
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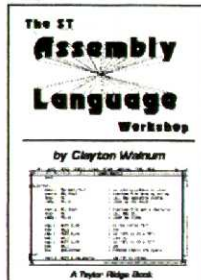
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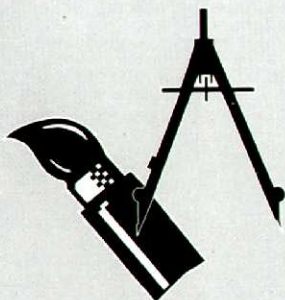
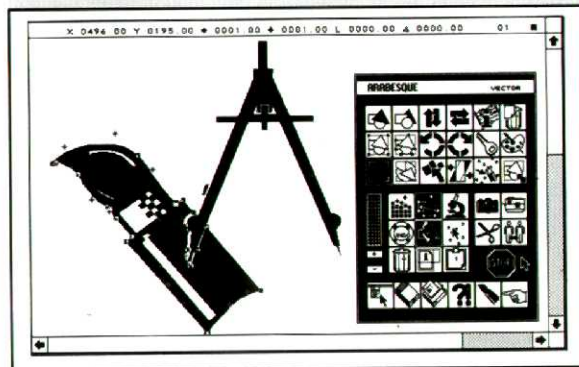
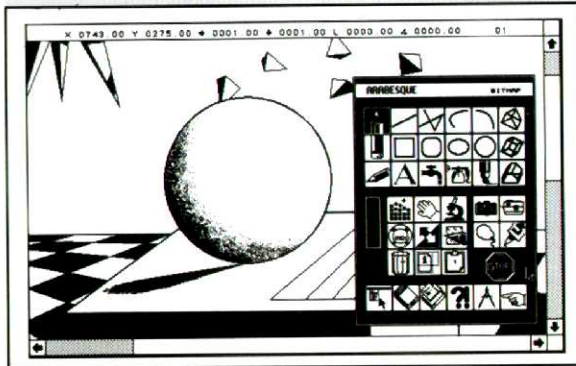
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