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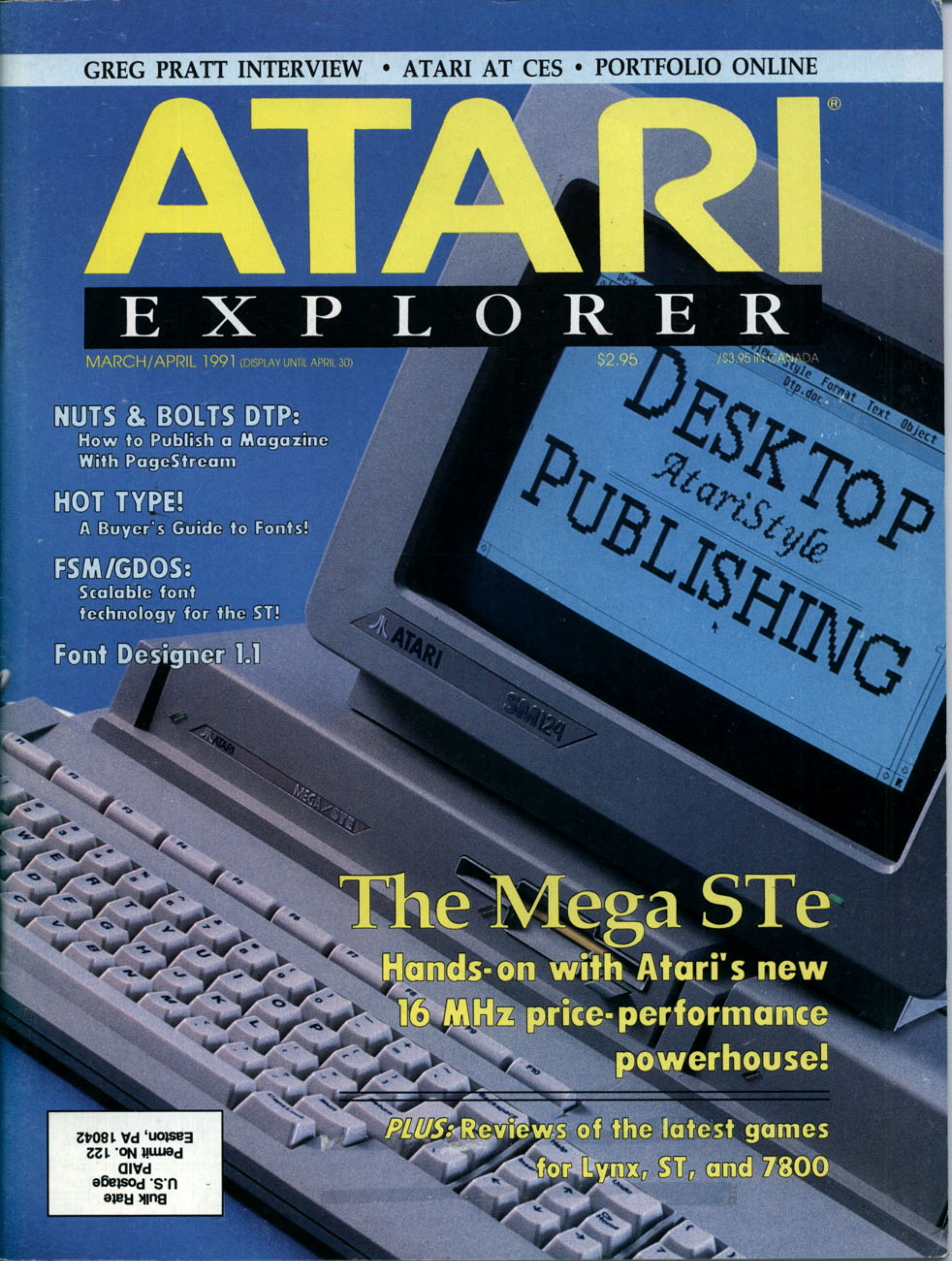

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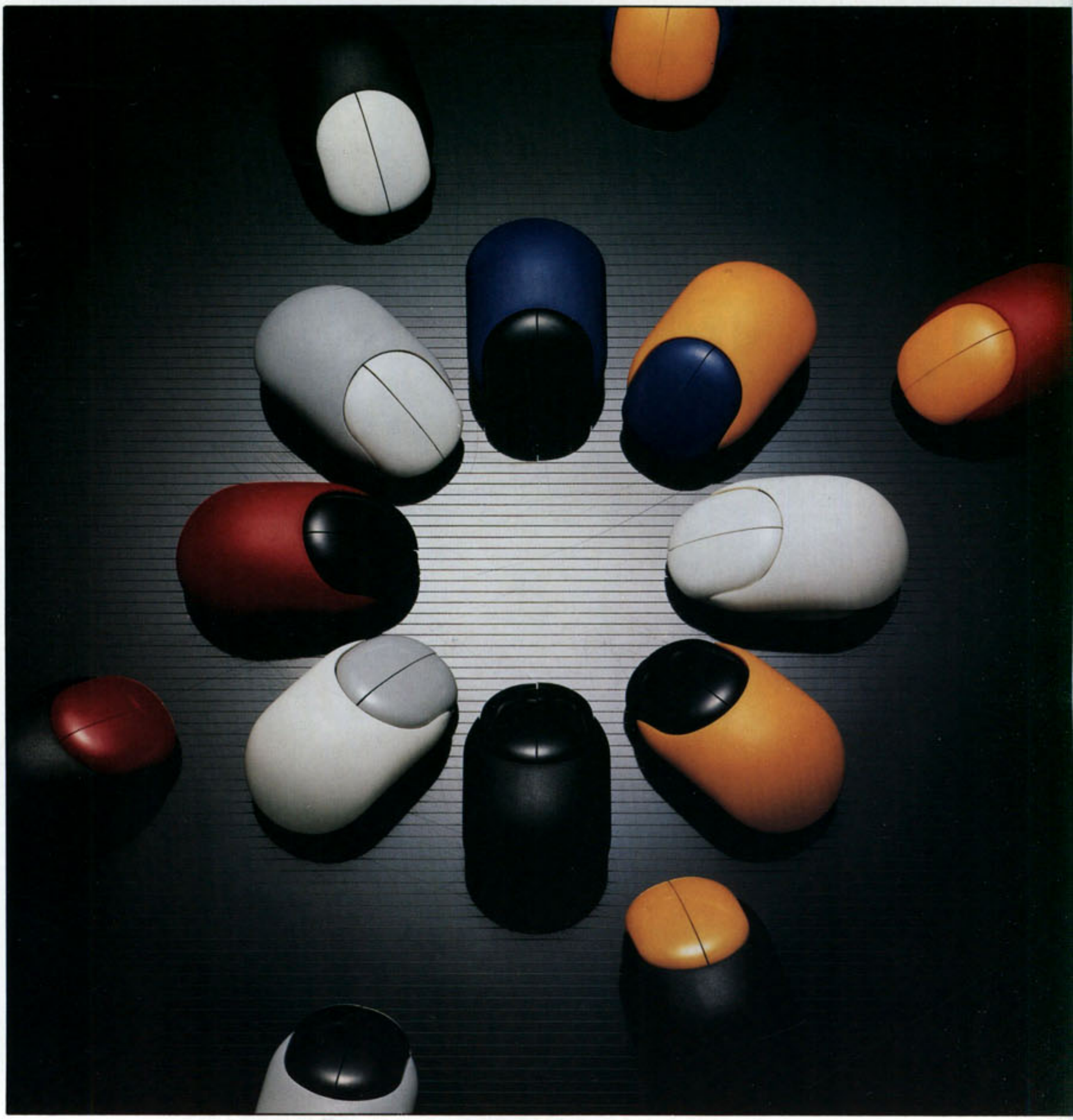

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Letters
To the Editor

Atari Explorer ... Hooray!

Dear Editor,

I like the look and feel of the new Atari Explorer Magazine. If I may, I would like to say that I found it to be refreshing and well done. If the first issue is any indication of what we can expect from Explorer in the future, then keep up the good work and make it a monthly soon! **— Theodore J. Evans**
West Chester, PA

Dear Editor,

I was walking through the local bookstore recently, and to my amazement, I saw a magazine exclusively for the Atari systems! Atari Explorer. What a fine magazine it has changed into. I like it much more than the old Explorer and will be eagerly waiting for the next issue.

Idea: In keeping with your new magazine tradition of "greater depth," could you devote a section each issue to a particular system and list all products for it and hardware, both past and present?

— Andrew K. Heller
Stroudsburg, PA

Thanks for the Kudos! As The Official Atari Journal, Atari Explorer is well-situated to offer its readers behind-the-scenes views of new Atari products and technology. As for making the magazine a monthly, we'll certainly be looking into it as the Atari market continues to heat up!

There are several reasons why we believe Atari Explorer isn't an appropriate vehicle through which to spread comprehensive reviews of products — particularly products past. First, our primary mission is to keep our readers informed about what's new in the Atari world, and each issue's space is quickly consumed in passing on this information in a timely fashion. Second, the labor involved in tracking down each and every product that has ever been offered for Atari systems would be enormous, and the resulting product lists of only marginal interest to the average reader. What most Explorer readers want is information about products they can buy now (and keeping track of these new products keeps us very busy).

You may, however, have overlooked a source of comprehensive information very near to hand: your local Atari User Group. Many user groups maintain libraries of commercial and public-domain software, game cartridges, hardware, and peripherals dating back many years, and will be happy to lend, or even sell you items in which you have a particular interest. To locate the user group nearest you, call Atari Customer Relations at (408) 745-2367.

Atari Explorer ... Hmmm.

Dear Editor,

I have received the latest issue of Atari Explorer. I am glad to see it back but to tell you the truth, it is not better than the old Atari Explorer. It looked like an Atari Computer newsletter rather than a publication. A publication can't be afraid to criticize anyone and anything because that is why people buy the magazine. They buy it for the objective viewpoint, something that I can't seem to find in this latest issue. It is no doubt because Atari owns it and this I can't blame you for.

However, I am requesting the right to reprint several articles from the January/February issue, namely the "Atari Direct Price List" and "Technical Support" sections of the article "Outreach: Atari," and the Atari Dealer Directory, on page 78. In addition to this material, I would like to reprint the fantastic articles on the TTs and the informative article "Inside Lynx." They were not necessarily objective but we do not need objective articles to be posted. We need informative articles. We need as much information as possible on the Lynx and the TT to convince non-Atari users to go out and buy them, and we cannot do this without good articles and the authors of these articles did a fine job. **— Leonard J. Stys**
Cleveland Free-Net

Thanks for your challenging letter! Atari Explorer is indeed a product of the Atari Corporation, and enthusiastically promotes the purchase and use of Atari products. It does so, however, primarily by supplying useful, accurate, and timely information, and surveys tell us that it is Explorer's factual content that readers appreciate most. If you have judged Explorer sufficiently informative to wish to distribute portions of it on the Cleveland Free-Net, then we have achieved our most important goal, enthusiasm notwithstanding!

Fact: The Cleveland Free-Net is a sophisticated, multi-line telecommunications system that enthusiastically supports Atari! (though their objectivity is open to question). Access is free of charge. Connect with Free-Net by dialing (216) 368-3888. The system supports 1200 or 2400 baud, and the conventional settings of no parity, eight data bits, one stop bit. ■

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Desktop-Publishing: A New Collaboration

Conventional wisdom holds that by reducing the labor of creating printed matter, desktop publishing gives you something for nothing. As we at Explorer have discovered, this is not quite what happens when you throw computers into the complex mix of work, planning, and sensibility that produces magazines. As Art Director Peter Kelley's article on Explorer's DTP systems, beginning on page 44, amply demonstrates, computers don't just give you the power to be your best ... they demand nothing less. Getting good results from DTP demands having the flexibility to participate in a new kind of man/ machine collaboration, in which the computer's infusion of pure horsepower is sweetened with liberal additions of human talent, flexibility, and intelligence.

If you've got the flex, Atari's state-of- the-art desktop publishing systems can supply the horses. Powerful hardware platforms like the TT and the new 16 Mhz Mega STe make workstation-like performance more affordable to desktop publishers than ever before. Check out our review of the Mega STe, beginning on page 24. As for software, Atari computers run the most powerful DTP solutions available. From Font-Scaling Module (FSM) GDOS (reviewed beginning on page 52), which brings a new, state-of-the-art vector font standard to the ST line, to programs like Font Designer (reviewed on page 56), widely acknowledged to be the world's best tool for font creation, Atari can provide the tools your creativity deserves.

The mere abundance of Atari desktop publishing alternatives can be staggering. Nowhere is this more true than when shopping for fonts: the basic building-blocks of printed matter. To help you find the best values in this all-important product category, we commissioned Contributing Editor Pamela Hahn to go on font safari. Her buyer's guide, beginning on page 31, reviews a plethora of font collections compatible with a wide variety of Atari DTP systems and platforms, including GDOS, PageStream, Calamus, and UltraScript.

We hope you enjoy, and profit from, this issue's focus on Atari DTP. But even if your interests lie elsewhere, we think you'll find plenty to read and think about in Explorer's pages. In one of his first public statements since accepting the post last November, Atari's U.S. General Manager, Greg Pratt, discusses his aims for Atari's American operations in 1991. Our Comdex and CES show reports detail Atari's committment to the American market for business and home computing. MIDI mavens will appreciate David Snow's review of Quartet: a powerful sample-editor and sequencer for the ST. And Portfolio fans will get a kick out of our guide to CompuServe's Portfoio forum, including a complete primer on how to get your Portfolio palmtop PC on-line!

Rounding out the mix, you'll also find reviews of seven hot new games for the Lynx, including Paperboy, Rygar, and Shanghai! ST entertainment is also featured, including reviews of Risk and Clue, old board-game favorites gone high-tech through the programming inspiration of Virgin Mastertronic. And 7800 game system fans will appreciate our reviews of Ikari Warriors, Planet Smashers, and Mean 18 Golf!

Welcome Back!

Many readers have written to welcome Explorer back into production, and to comment on our new look. In this issue's Letters column, we've printed a cross-section of the correspondence we've received, both pro and con, and our replies.

As always, our hope is to make Atari Explorer magazine the best place to turn for Atari news and product information, and feedback from our readers will always be the most important gauge of our success. ■

By JOHN B. JAINSCHIGG

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#596 - Quick Draw V1.0 - Pictionary type drawing game
ST Reverse V1.0 - Very Good Othello type game (Color)
#769 - Super Breakout (Mono Only)
#835 - **Adventure Game Toolkit** Shareware package that allows you to create your own top quality adventure games for Color or Monochrome monitors. See our complete catalog for 24 different games created with AGT. (DBL)
#944 - Space Ace Demo (Color)
#957 - Mystic Mirror: Adv. Game Similar to Dungeon Master. 2 Players (Color)
#960 - Wheel of Fortune V3.0 (Color)
Stellar Starfighter - Shoot'em Up
#962 - Space War V1.0 - The Classic Space Shoot'em Up for 2 Players (Color Only)
#963 - Go Up V1.0: Lode Runner Clone w/Editor (Monochrome)
#980 - **Tetriside** - Tetris type game for 1 or 2 players (Color)
Valgus Squared - Sequel to a Tetris clone. Now those seven familiar pieces come at you from all four sides of the 27 x 27 area. (Color)
#985 - Demo of the HERO II Gaming System. Fully Functional w/included files (Color/1 Meg RAM/DBL)
#1012 - **Pile Up V2.1** - Tetris Clone, now works with TOS 1.4 (Color)
#1024 - Swiftar Demo - Great shoot'em up 3 out of 10 levels are active. (Color)

For Dungeon Master

#511 - Maps for Levels 1-7
#512 - Explicit Hints and Character Set on the leve above Chaos with the best equipment selection.
#590 - Game Disk Organizer
Saved game file of characters with a Firestaff weapon.
#720 - Maps for Levels 8-14

For Chaos Strikes Back

#898 - Maps for Levels 1-10
#899 - Walk thru of opening level. Dragon Lair portraits. 5 Fantasy and 3 Sci Fi character portraits. Prison List. Spells and Potions List and more!
#1015 - *Cartographer Demo* Maps out or Edit your Dungeon Master or Chaos Strikes Back Saved Games. Demo fully functional on levels 1 & 2. (1 Meg RAM)

Utilities

#399 - Degas/Degas Elite Printer Drivers
#400/800 - 3 1/2" Disk Labeling Programs
#438 - Vanterm V3.0 - Shareware Terminal
#443 - Intersect RAM Baby, Amortization
#514 - Monochrome Emulator V3.0 - Run Mono programs on Color monitors
#688/866 - H.P. Deskjet/Laserjet Utilities
#768/938 - NeoDesk Icons
#801 - *Label Printing Programs* Cassette Label Maker, Label and Envelope Printer and more.
#888 - *Atari ST Subjects* (Book) Programs
#929 - **ST VIRUS KILLER V3.11**: Detect and eliminate 15 different Viruses. Guards against future spreading Viruses.
#938 - NeoDesk Icons, Recoverable Trashcan V1.2, Quick NeoDesk INF Loader, NeoDesk Canvas 0.55 Beta
#940/941 - **LaserBrain V1.31** - Epson Emulator for Atari SLM804 Laser Printer. (Mono Only/DBL) Additional Fonts on #1001-1003
#950 - **24 Pin Printer Emulator** - Written for printers without a letter quality mode.
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Menu Master - Set up menus to automatically load programs on your own disks.
#951 - DC Show It V1.1, Head Start V1.1, Little Green Item Selector V1.6C
#952 - Address Labeler V2.0 - Create, Print and Store address labels
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#953 - SGS Net Demo V1.21 - Inexpensive networking system for the ST
#988 - Fast Copy III, NX-1000 Set Up H.P. Deskjet Print Utility V1.4
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#500/600 - Publishing Partner Fonts
#599 - *PageStream Fonts* Binner, Futura Black, Hal, Lubalin, Futura Extra Bold Condensed
#737 - Calamus V1.09 Demo - Fully functional except for Save (Mono/1 Meg RAM/DBL)
#758/759/994 - Calamus Fonts
#870 - *PageStream Fonts* Atari, Baby Teeth, Lucida Old English, Revued
#895 - PageStream V1.8 Demo (DBL)
#935 - *Desktop Publishing Utilities*
Convert to .IMG V1.20 - Converts Degas, Neochrome, Spectrum, Art Director, Mac Paint and TNY pics to .IMG format
Demos from Wiz Works
Fontverter Demo - Convert fonts between PageStream and Calamus
PageStream File to 300 DPI .IMG file conversion
#1028 - **PageStream Font Editor V0.8** Now you can edit and touch up those PageStream Fonts. 20 page manual included on disk. Also included: Improved Postscript Screen Fonts: Book, Chancery, New Century Schoolbook, Palatino and Times

Applications

#810 - SHEET V2.5P - Very well polished Shareware Spreadsheet.
#811 - Documentation and sample files for Sheet V2.5
#907 - Wordflair V1.01 Demo (DBL)
#965 - Checkbook V1.09, Almanac (Color)
#989 - Paperless Accountant
#999 - **ST Writer V3.8** - Simple easy to use word processor with extensive documentation on disk.
Spell V2.8 - Stand Alone Spelling Checker. H.P. Deskjet Driver
#1026 - B/STAT V2.36 - Powerful graphics and statistics program. (DBL)

Children's Programs

All Children's Programs Require a Color Monitor

#551 - *Kid Shapes* Graphics design program patterned after a magnetic set. For ages 2-8
#552 - *Kid Shapes Plus* As above, but for older children. Larger number of choices for more complex pictures. For ages 8 & up.
#667 - *Benjamin's ABC's* Teaches young children the letters of the alphabet with digitized speech. (DBL)
#699 - *Kid Adder* - Uses pictures to teach addition.
Kid Color - Learning game for 3-7 year olds. Uses the mouse to point to boxes with a certain color.
Kid Story V1.4 - A silly version of the Little Red Riding Hood. Allows children to create a story.
#726 - *Wolf & The 7 Kids* - Adventure for children ages 5-9, based on the Grimm's fairy tale with several possible endings to the story.
Numerical Go Round - Quizzes children on Addition, Subtraction, Multiplication and Division in a game setting.
#920 - Simply Math, Picture Puzzler
#982 - Body Shop: Human Anatomy Tutor

MIDI

#966 - MIDI Music Maker: Plays numerous music formats (EZ Track, Music Studio, etc.) Also converts to MIDI File Format 0 Files
#967 - ***Cosh Sequencer*** - 16 Voice MIDI Recorder V2.1. From Europe. This is the one everyone is talking about

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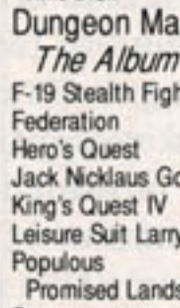

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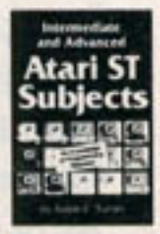

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Dialog Box

When the post of General Manager of Atari's U.S. subsidiary suddenly became vacant late last year, Greg Pratt, long Atari's CFO, stepped into the breech. A Wharton MBA with years of experience in accounting and corporate finance, Pratt brought impeccable credentials as a "numbers guy" to the job. Over the past few months Pratt has also demonstrated exceptional managerial ability, informed by a clear, aggressive, and articulate vision of Atari's future. This issue, in an exclusive interview, Greg Pratt to shares his vision with Explorer's readers, and comments on what we can expect from Atari in 1991 and beyond.

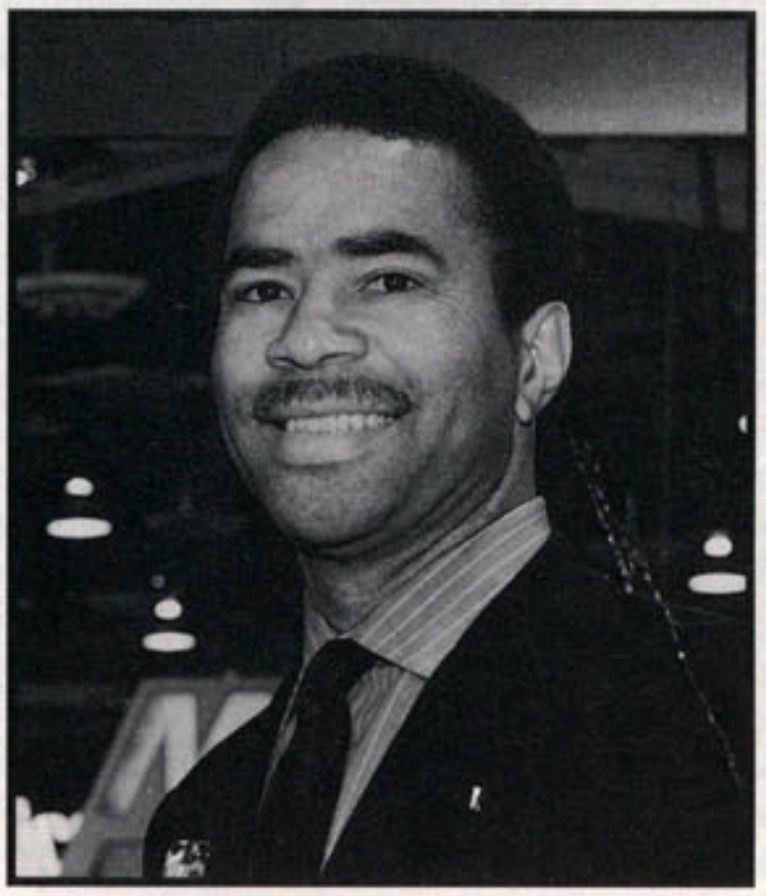
Atari Explorer: *Tell us a little about your background. Is it exclusively financial, or have you worked in other aspects of management?*

Greg Pratt: After taking my MBA at Wharton, I worked for several years in public accountancy for Arthur Anderson & Co. in Philadelphia. I then went to work for Commodore, at first as VP/Finance, then later as VP/Operations for Commodore's U.S. company. Thus, though my education and background are certainly oriented towards finance, I've had a good deal of experience in operations and management, as well.

When the Tramiels left Commodore and formed Tramiel Technologies, I went with them, becoming Atari's first U.S. President, then managing the leveraged buyout of Atari from Warner. Later, I became Chief Financial Officer, and still later took the company public. So I guess you could say that now, having taken over as Atari's U.S. General Manager, I've come full circle back into operations. It's a job whose challenges I welcome, and with which I am familiar.

AE: *What's the state of Atari's American operations at present?*

GP: American operations are in a state of aggressive revival. The American market is very important to us, demonstrated by the fact that we chose to introduce the Mega STe here (at November Comdex), before taking it to Europe.



AE: *How was the Mega STe received?*

GP: Very well. In fact, it caught many people by surprise, particularly insofar as the product was introduced in finished form, has received full FCC Class B certification, and is now being shipped. One of my most important short-term goals is to shorten the length of time between product announcement and product delivery.

AE: *In your view, where does the Mega STe fit in the overall range of products Atari offers to the U.S. market?*

GP: The Mega is our entry-level "high performance" machine: faster and more powerful than our standard STe's, and appropriately configured for use in small business, workgroups, and divisions. Our new pricing guidelines will put a Mega STe 2, with 16MHz 68000 CPU, two MB of RAM, and a 50 MB hard disk on the market for only $1,699.95, with a healthy profit margin built in for dealers. Like all Atari equipment, therefore, the Mega STe represents an enormous performance advantage over competing systems at the same price-points.

AE: *What is Atari's general approach towards computer marketing going to be?*

GP: Given the wide range of Atari systems currently available, from 1 MB STe's to, shortly, TT's, we plan to make headway in a wide variety of market niches. Certainly with the Mega STe and TT, we'll make inroads in Desktop Publishing and Multimedia. The TT, particularly, has enormous potential

as a low-end graphics workstation. We're in touch with schools, engineering departments, and other potential users of this kind of capability, and we've received very positive feedback on the machine.

The music industry, of course, loves us for our realtime capability, and we will continue to play to that strength in this important vertical market. Our Mega STe-based bundles give us tremendous opportunities with first-time computer buyers and in the area of entertainment computing; they're topical, timely, and a real good value.

In general, our approach is going to involve zeroing in on specific niches and then going after them with the most effective combination of equipment, software, and pricing that we can muster. The unifying theme is to deliver as much power for a reasonable price as possible.

AE: *Both the Mega STe and TT — Atari's "high end" systems — feature built-in LAN hardware. How does Atari plan to exploit this capability in its marketing?*

GP: The Mega/TT LAN hardware is Apple LocalTalk-compatible. In designing the hardware, we decided that we wanted our equipment to talk across a common channel that will embrace as many platforms as possible. In terms of a general approach to LANs, interconnection will certainly be one of the ways that I can use the muscle of my pricing against the common cry of incompatibility. Initially, since we see our machines going into small business, we'll be taking an approach to networking that emphasizes loosely-integrated departmental and workgroup computing; connecting from two to thirty-two systems with electronic mail, file-sharing, and other "communications-oriented" capabilities, as well as the ability to share printers, high-capacity tape-backup systems, and other resources. In addition, by the time this article reaches print, one of our third-party developers is expected to announce an Ethernet card that will fit in the VME slot on the machines.

"Our Unix implementation is of very high quality, and is capable of competing with Sun, Hewlett-Packard, and IBM Unix platforms on a realtime basis."
— Greg Pratt
General Manager,
Atari (U.S.) Corp.

AE: *What about Unix? How does it fit into Atari's plans?*

GP: I'm happy we decided to go with Unix on the TT, and glad that we've decided to release the most up-to-date product available (Unix V.4). Though it would have been possible to go with an earlier version of Unix at less cost to us, I think it's important that we weren't co-opted in that direction. Unix is important for several reasons, among them that people like to know there's a migration path for their machine. They don't like to think that their machine isn't capable of higher-level calculations and abstractions. The other reason is, of course, that multitasking is important. In fact, I was sure that Atari would have multitasking before this, at least to Amiga levels, and am disappointed that this hasn't happened. Now, in addition to the Unix route to multitasking, we're working on general- purpose multitasking within TOS, so shortly there will be not one, but two upgrade paths allowing this important capability.

The Unix solution that we've settled on is a business version of Unix, which we think is more efficient and better-engineered for our primary markets than the various academic and research-oriented Unix implementations. Our Unix implementation is of very high quality, and is capable of competing with Sun, Hewlett-Packard, and IBM Unix platforms on a realtime basis. Moreover, we're taking care to stay abreast of standards designed to make Unix more accessible to the non-technical user. Our Unix will be fully compatible with the X/Open portability guidelines, meaning that it can work with a variety of modern graphical user interfaces.

Besides Unix, we're also developing significant enhancements of our existing technologies to keep abreast of current developments in competing markets. For example, we've received good reports on the design of chips that will control our new high-density 1.44 MB floppy drives, and expect shortly to announce a range of upgrade products and options based on this technology. We're also moving swiftly towards being able to supply state-of-the-art 14" and 19" monitors for use with DTP, CAD, and other graphics-based applications.

AE: *It sounds like things are moving in the computer division. What about games and entertainment? Portfolio?*

GP: We've appointed Larry Siegel to be in charge of game sales and marketing in Chicago. Our $99 price-point on Lynx has had great impact — at January CES we had the pleasure of seeing a lot of

Continued on Page 80

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Atari at Comdex

Atari wows Vegas with Mega STe, FSM/GDOS, and More!

By RON LUKS

Once again, the glittering neon lights of Las Vegas played host to Fall Comdex, the computer industry's largest trade show. As in prior years, Atari Corp. went to the show in force — this year showing not only an exciting range of brand-new products, but promising new and aggressive marketing of existing product lines. Snazzy color brochures, produced by Marken Communications, (recently signed as Atari's Public Relations firm) proclaimed the message that Atari is now, more than ever, committed to the American market.

Mega STe Debuts!

Among the new products to debut at this show, the biggest item was the new Mega STe (see Explorer's hands-on review of the Mega STe, beginning on page 24 — Ed.). Packaged in a grey-colored version of the new TT case, the Mega STe was designed to fill the price and power niche between the new high end TT030 units and the older Mega and STe lines.

Utilizing the Motorola 68000 microprocessor, but running at 16Mhz speed, the Mega STe comes equipped with between 2 and 4 MB of RAM and a 16K processor cache. The expanded 256K ROM-based TOS operating system features the newly designed and greatly enhanced desktop. This greatly improved version of the GEM desktop is now standard on the Mega STe and the TT030 series. New features include the ability to place file and folder icons directly on the desktop, keyboard shortcuts for mouse operations, defineable file masks, multiple file search operations, and uniquely definable icons for individual files, folders, trashcans and drives. The color-setting options are dazzling and the new Control Panel provides users with the ability to customize their systems in ways never before possible. A new Help function has been added for easy reference. (For a hands-on review of the new STe/TT desktop, see Atari Explorer J/F 1991, pg. 36).

The Mega STe's suggested base retail price of under $1,700 includes a high resolution 640 x 400 monochrome monitor, a double-sided 720K floppy drive, industry standard parallel and serial ports, MIDI, mouse, and joystick ports and the latest version (C.1) VME bus slot. Optionally, another floppy drive and hard disk may be added to the system.

Special attention was given to the graphics and sound capabilities of the Mega STe. An expanded color palette of 4,096 colors is supported by a special BLiTTER chip for improved graphics speed, especially useful with CAD and desktop publishing applications. The Mega STe supports three programmable sound channels, sophisticated sound control functions and digital stereo sound. The VME slot is provided for expansion cards such as Ethernet, and the Mega's three high speed ports make it compatible with LAN environments. Overall, this impressive computer retains software compatibility with over 4,000 existing software titles, incorporates the best features of older Atari models, and adds the most-requested new features in a price range that will be hard to beat.

Atari Corporation also showed the SLM605 laser printer. This 300 dpi replacement for the older, larger SLM804, prints 6 pages per minute, has a significantly smaller footprint on your desk, and retails for under $1,300.

Atari also showed their new FSM (Font System Module) GDOS (Explorer's review of FSM/GDOS begins on page 50.) This new

GDOS uses outline font technology with scalable and rotatable fonts. The new document processor, Wordflair II from Goldleaf Publishing, was shown using the new GDOS and was quite impressive.

Atari's top-of-the-line TT030 computer, which features a 33Mhz 68030 microprocessor and the ability to run either TOS or Unix, was also prominently displayed at the Atari booth. The TT030 will form the high end of Atari's vertically-integrated ST line, providing workstation power for desktop publishing, CAD, and research applications for the sophisticated user in both business and academic environments. (For a hands-on review of the TT030, see Atari Explorer, Jan/Feb 1991, page 28.)

Author Ron Luks with Greg Pratt, General Manager of Atari (U.S.) Corp., and one of the architects of Atari's new committment to the American market.

New Bundled Packages!

Realizing that available software is what drives computer sales, Atari Corporation announced a number of bundled software/hardware packages based around the 520STFM, 1040 STe, Mega 2, and Portfolio systems. Not all of the bundles had been set in stone by showtime, but among the packages mentioned were systems for home entertainment, telecommunications, home "print shop," two Desktop Publishing packages (one featuring Calamus and another based around Atari's own DeskSet II), and a "Portfolio PC Traveler" package. Suggested retail prices for these packages will include increased margins for Atari dealers.

Portfolio Power!

Reinforcing the fact that Atari provides systems to serve consumer needs for both entertainment and productivity, at home and in the office, the Atari booth was divided into two distinct areas: Atari Business and Atari Home Computers. The Business area covered the majority of the floor space and a significant part of this area was devoted to the Portfolio palmtop MS/DOS computer. Let there be no doubt in anyone's mind that the Portfolio is now and will continue to be an integral part of the Atari computer line. There were over two dozen Portfolio stations on display in the booth, showing software and peripherals for a wide variety of applications.

Atari perceives the Portfolio market as forming two distinct groups. The first group uses the Portfolio as a stand-alone "SuperOrganizer," exploiting its built-in applications to keep track of appointments, phone numbers, and other personal and business-related data. The other group has integrated the Portfolio into their desktop computing systems as an intelligent peripheral, exploiting the machine's portability and MS/DOS compatibility to extend the power of their PC-based desktop systems into the superportable domain.

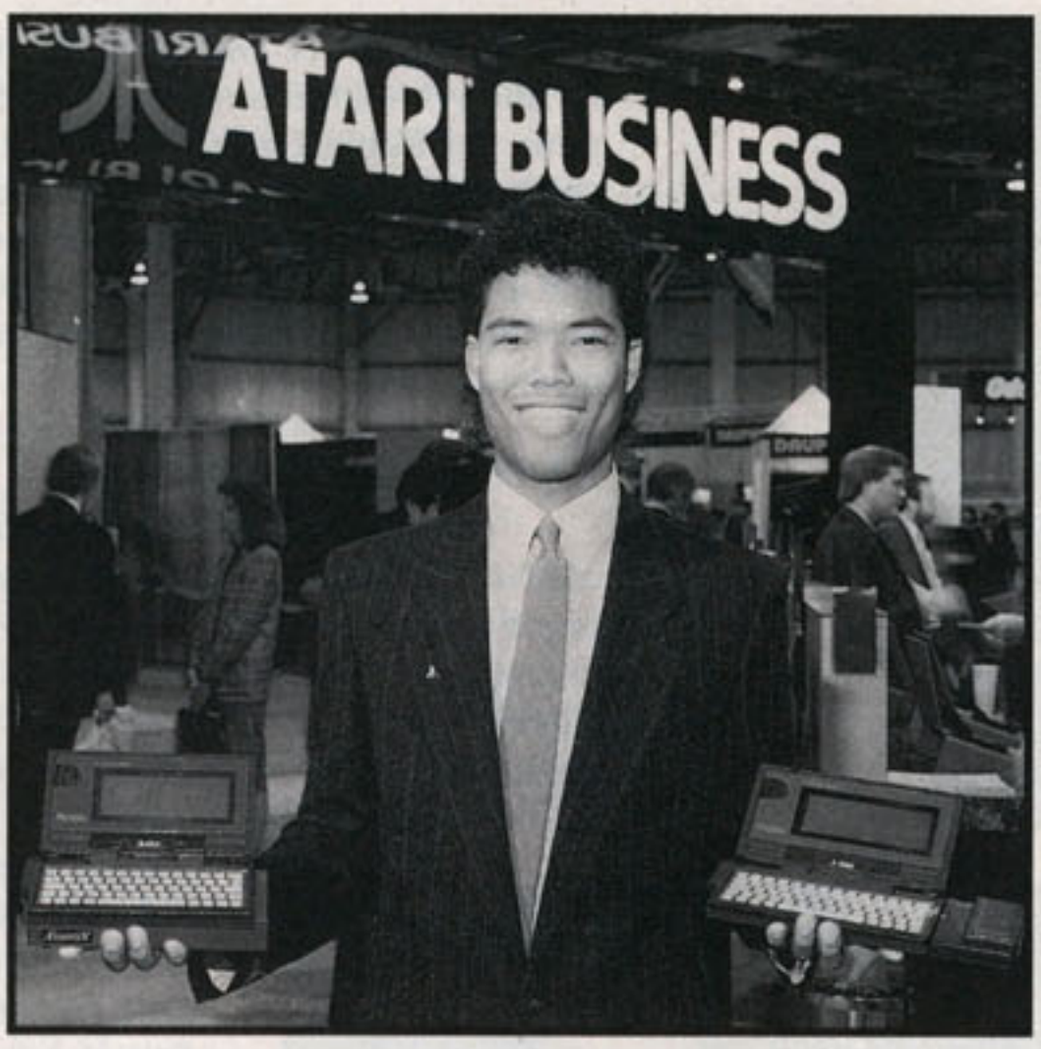
Atari has adapted its marketing strategy to best support these two philosophies. For the first group, Atari Corporation has cut the price of the Portfolio (with File Manager ROM card software) down to under $300. The machine alone will soon be available through discount outlets and solidly outclasses its competition from Casio and Sharp. Atari is currently developing additional ROM card programs of special appeal to the traveling user, such as its new City Guide program series.

For the business user, adding a Portfolio to his desktop system allows him to take his office "on the road" by simply copying the desktop files to the Portfolio RAM card. The easiest way to do this is with the PC Card Reader which attaches to the desktop system like an external floppy disk drive. Atari has created a package including the Portfolio, a 128K RAM card, and the PC Card Reader priced at under $500. In conjunction with a new print advertising campaign directed at the business user, Atari Corporation may have a big hit on its hands with both these bundles.

Two eagerly-awaited pieces of ROM card software were

on display at this show. PowerBASIC (formerly TurboBASIC) from Spectra Software allows the Portfolio owner to create and compile his own programs into .COM or .RUN format to execute on the computer at speeds 4 to 100 times faster than interpreted BASIC. This program will be shipping in the first quarter of 1991 and will be priced at under $100.

HyperList is a software "idea processor" designed in-house at Atari Corp. that goes beyond the traditional "outliner" programs. Developed specifically for the Portfolio with its 40 x 8 line screen, it allows the creation of hierarchical lists and sublists useful for organizing related pieces of information into a useful, easy-to-access format. HyperListhas been available since January, 1991, with a suggested list price of under $50.



Atari's J. Patton looks pleased with Xoterix' new 20 Mb hard drive (left) and 512K RAM expander (right) for the versatile Portfolio.

Third Party Vendors

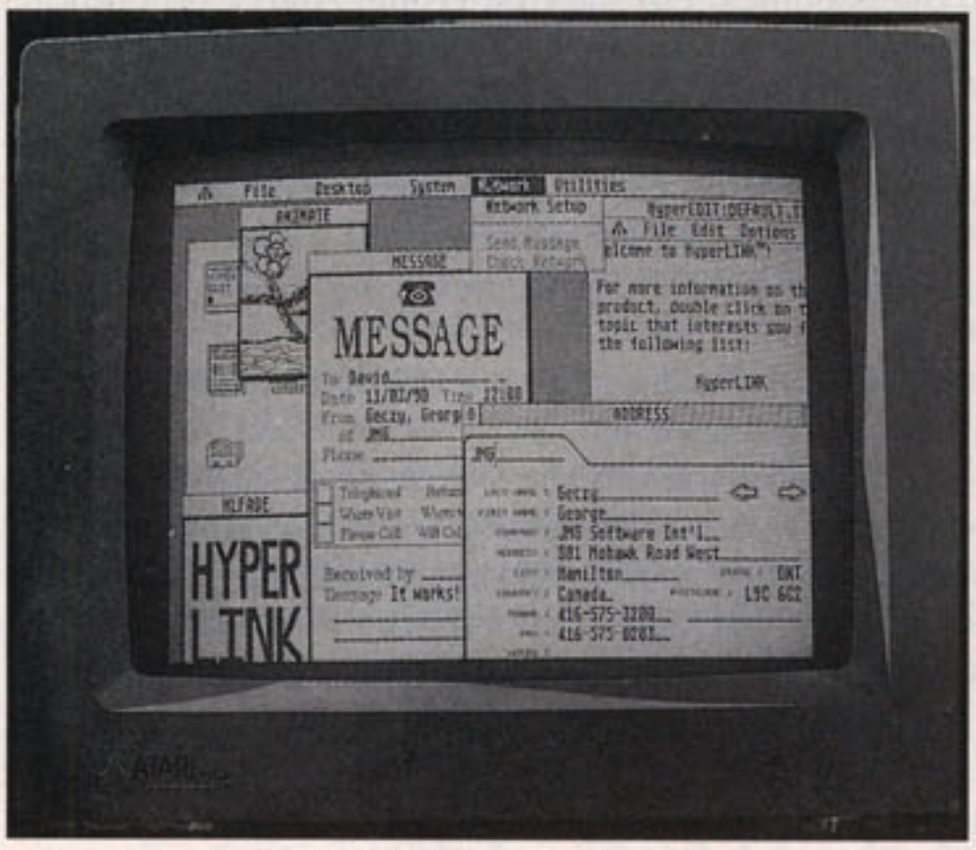
Once again, Atari Corporation made booth space available at no charge to third party developers who support their computer platforms. In the Portfolio area, Xoterix displayed mockups of their 512K RAM expander and 20 MB hard disk unit. Both units are extremely small in keeping with the overall philosophy of a palmtop computer, yet will greatly add to the power of the system (see photo). Pricing and availability will be announced early in 1991. Another interesting product was the digital multimeter and measuring device called the Portalog from IBP of Hannover, Germany. This interface turns the Portfolio into an intelligent, portable measuring device for scientists and engineers in the field.

Most of the third party support centered around the ST/STe/TT computer lines and predominantly showed new versions of previously introduced software.

Gadgets By Small was on hand running the latest version, 3.0, of its Spectre Macintosh- emulation software. This major upgrade, available to registered owners for a $20 fee, fixed the few remaining snags in running current Mac software, added 68030 support for both the Gadgets 68030 SST board and the new Atari TT, and offers easily-changeable menus and keyboard configurations for overseas users. Additional information was presented for the upcoming MegaTalk board and the 68030 SST accelerator board.

In the DTP arena, Nathan Potechin had his superb Calamus and DynaCADD running on the new TT030 machines doing amazing things with a plotter. The folks from Soft-Logik Publishing were demoing PageStream 2.0 on a TT in conjunction with a QMS Color PostScript printer.

Charles Johnson and John Eidsvoog were displaying the entire line of Codehead Software products. Their latest entry,



JMG Software's Hyperlink, a powerful new database manager and application generator for the ST.

Mario Perdue, of CADRE, Inc., demonstrating DynaCADD (ISD Marketing); a powerful tool for ST-based Computer-Aided Design and Drafting. The TT030 is driving a Houston Instruments plotter.

CodeKeys, is a program that allows the recording of keystrokes and mouse clicks into a macro program that makes it a must for other developers who are demoing their software. A real bargain at $39.95.

Gribnif Software was showing NeoDesk 3, a powerful replacement for the standard GEM desktop. This package is now being bundled with all Atari ST systems by Atari Canada.

Step-Ahead Software's powerful mailing list program, Tracker/ST, with its excellent manual, generated many favorable comments, as did Wordflair II, one of the first programs to use the new FSM (font scaling module) GDOS. Registered owners of Wordflair may upgrade to this new, more powerful document processor for a nominal fee of $25 and get the added features of a spell checker and thesaurus missing in the smaller version.

Talon Technology has expanded their MS/DOS emulation offerings with the addition of AT SPEED and PC SPEED to the already popular SuperCharger. JMG Software, of Ontario, Canada, presented HyperLink (see photo). This multi-media data base manager compares favorably to HyperCard for the MacIntosh and the publishers have promised a future conversion utility program to convert MAC HyperCard stacks to HyperLink for the Atari line.

Zephyr announced optical character recognition (OCR) software in two versions for the Atari ST in prices ranging from $189-$789 as well as their STeFax machine, priced at $745.

Summary

Improved hardware and software continues to become available for the ST/STe/TT line of computers while development of critical software and peripherals for the Portfolio kicks into high gear following its successful introduction last year. Just as important is the increased emphasis on marketing and support: absolutely critical in the ever-competitive computer industry.

An increasing emphasis on integration — on complete solutions — is also in evidence. Atari's bundled packages for home, entertainment, and productivity will help take the guesswork out of computer shopping for the novice, keep costs low, and maintain sensible margins for dealers in the lower price ranges. The introduction of the Mega STe line will cover the hotly-contested intermediate price range with powerful, up-to-date, low-cost hardware. And the TT030 stands ready to compete in the high-end workstation market, offering Megaflops but promising to save Megabucks for savvy power users. Now, more than ever, it's possible to say that Atari offers a complete, vertically-integrated set of compatible solutions for every computer application, from home to office and beyond. ■

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Atari unveils new Lynx package and Portfolio software galore!

Atari at Winter CES

The Consumer Electronics Show, held twice a year in Chicago (Summer) and Las Vegas (Winter), is the world's largest one-stop arena for the marketing of electronics and related products, from small computers, to information appliances to video game systems, and beyond. Atari has always been an important presence at CES, setting the pace for competition in all these product categories; and this year's Winter CES, held in Las Vegas from January 12th to 16th, was no exception. A sizeable booth, staffed by heavy-hitters from Atari's top brass, offered a warm welcome to retailers seeking to pump up sales with high-tech wizardry.

As always, Atari's emphasis was on creating a combination of product power and pricing that will maximize returns both to retailers and to the consumer. This year, the focus was on Lynx, Atari's revolutionary hand-held color game and entertainment system, now re-packaged and offered to consumers at a suggested retail price of only $99! This sharp price reduction give Lynx a $100 edge against its only real competition, the NEC hand-held game system, and places the Lynx' color and stereo sound technology squarely in the ballpark of Nintendo's vastly-less-sophisticated, black-and-white Game Boy.

The $99 Lynx has been issued in a slightly-redesigned case designed for greater ease of handling. Otherwise, the electronics are the same that Atari was selling in $179 Lynx packages, only a few months ago. According to Atari Corp. president, Sam Tramiel, the new, lower price was made possible by improved manufacturing technologies, and the company has decided to pass along the savings to consumers. For even greater savings, Lynx may also be purchased in a $149 package that includes the game system, ComLynx cables for connecting multiple Lynx units, AC adapter, and the California Games cartridge. Purchased separately, these components are worth over $200!

The Lynx game library is growing, too: Atari expects to have an additional 16 game titles available in stores by mid-year. Among them, bestsellers such as Ninja Gaiden, NFL Football, Turbo Sub, Blockout, Xybots, Vindicators, A.P.B., World Class Soccer, Checkered Flag, Tournament Cyberball 2072, Warbirds, Grid Runner, and Scrapyard Dog. Tramiel also revealed that an additional 20 arcade, sports, fantasy, and action games are presently in various stages of development, for release later in 1991. A full line of Lynx accessories was also shown, including a traveling case, a nylon carrying pouch, a sun visor/screen guard and a cigarette lighter adapter that can power two Lynx units at the same time.

Just as important as new software titles, Larry Siegel, newly-named president of Atari Entertainment, announced that the company will significantly increase its promotional activities and dealer-support program in the first half of 1991. While the specifics of the new media campaign were still being finalized, Siegel said that the advertising for the first 6 months would focus on the use of cable and syndicated

By RON LUKS

television and targeted spot radio in key markets as well as game and entertainment publications. Atari will be offering dealers their new Lynx display pedestals and kiosks which were prominently on display in the show booth.

In addition to the major Lynx support, Atari announced 6 new games for the 7800 series game machine. Also on display in the booth were a half-dozen 1040 STe home computers. The Atari press kit included a release focusing on the numerous MIDI music applications available for the 1040 STe.

Portfolio Software Galore!

Atari also announced price reductions on Portfolio, as well as 14 new software titles! Atari has decided to market the Portfolio in two configurations. The base unit, now priced at only $299, is being billed as a "SuperOrganizer" — essentially a universal executive appliance that replaces the desktop calendar, agenda, phone book, diary, and other tools used to keep track of the details of a busy manager's schedule.

Since a significant segment of Portfolio owners are using the palmtop in conjunction with a desktop computer system, Atari has created a second, more comprehensive package that includes the Portfolio, a 128K RAM card, and the PC Card Reader, at a price of only $499. The Card Reader is a stand-alone device that plugs into a PC and reads and writes Portfolio-compatible memory cards, much like an external disk drive; simplifying the task of transferring data between Portfolio and a standard desktop system.

Filling the Portfolio software gap, Atari also announced a total of 14 new programs, specially designed for the diminutive machine, in a wide variety of software categories. For those who wish to program their Portfolios, there's PowerBASIC, a full-fledged BASIC compiler, and HyperList, a "HyperCard-like" high-level application-oriented language and database-design tool. Financial managers will appreciate Portfolio Stock Tracker, a tool for tracking investments and assets, and Personal Finance, a financial-tracking program aimed at professionals who bill by the hour. Engineers will appreciate Scientific Calculator, an advanced programmable calculator offering power beyond that of the Portfolio's built-in calculator software. Business travelers will love Turbo Translator, capable of translating 1,000 phrases and 2,000 words into any of six languages (English, Swedish, German, Italian, Spanish, and French); and the U.S. Traveler's Guide, a comprehensive electronic directory to American cities that includes listings of 24-hour emergency phone numbers, hotels, transportation, and other important data. A European Traveler's Guide is also available, providing similar data to common destinations abroad. Finally, those who use their Portfolio's for preparing reports and correspondence will eagerly desire the new Portfolio Spell-Checker and Thesaurus, a combination writing tool that can work interactively, in concert with Portfolio's built-in text editor, or in batch-processing mode with individual text files.

In the area of "personal and leisure productivity," a wide variety of new products are now available. Portfolio Bridge Baron and Portfolio Chess are both high-powered tools for play and practice, capable of challenging even advanced players of these well-loved games. The Portfolio Wine Companion is a connoisseur's dream, able to keep track of vintages in a capacious cellar. Portfolio Astrologer uses three main calculation bases to provide natal charts, maps, daily data, and horoscope interpretations. Diet/Cholesterol Counter lets you monitor caloric intake and fat consumption according to U.S. government RDA guidelines, and may be worth many times its price in increased good health and reduced risk of coronary disease. Additional software projects currently under development for the Portfolio will include more entertainment programs such as puzzles, casino-type games, action games and text adventures.

Although specific prices and release dates for the new software were not given, it is expected that we will see the PowerBASIC compiler, HyperList, Spell Checker and Diet program in the first quarter of 91. Atari is carefully evaluating the pricing of all these releases and it is expected that all will be priced below $100, with many under $50.

CES A Big Success!

Overall, CES was a great success for Atari. Greg Pratt, Atari's General Manager, was very pleased at the dealer response to the new Lynx pricing and software titles. He proudly commented that Atari was signing up near-record numbers of dealers for the Lynx, effectively doubling the number of American retailers carrying the product. Reception of the 14 new software titles for the Portfolio was also very enthusiastic. In general, the attitude of people at the show was very positive and there seemed to be no doubt that in the gaming and palmtop computer markets, as in computers, Atari is solidly positioned to prosper in 1991 and beyond. ■

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Lynx Games

PAPERBOY

PROGRAMMING:
Al Baker and Associates

SOUND:
Dave Tumminaro

ART: **Nathan Baker**

MANUFACTURER:
Atari Corp.
1196 Borregas Ave.
Sunnyvale, CA
94087
(800) 443-8020

PRICE: **$34.99**

Paperboy was one of the most successful arcade games of all time, and it would surprise me if this faithful rendition of Paperboy for the Lynx weren't equally popular.

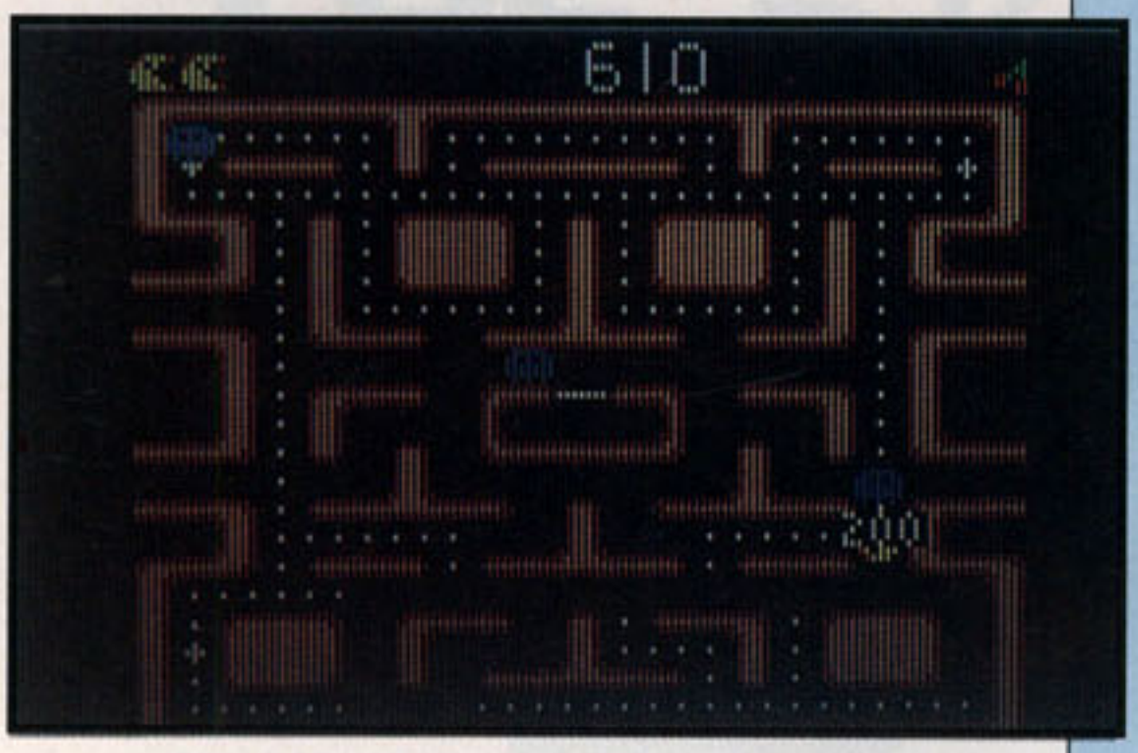
In Paperboy, your job is to deliver the Daily Sun to subscribers on your route, avoiding a menacing series of obstacles ranging from leaf-fires to radio-controlled model cars, while knocking over pedestrians and other menaces to navigation for bonus points.

Your bicycle is steered left and right, sped up and slowed down by pressing the Lynx joypad. The street is rendered in 3/4 perspective, requiring a point-of-view shift before you can steer effectively — but this trick is quickly mastered. Papers are thrown by pressing button A, and once you've practiced a little, it's possible to throw them quite accurately. This is important, since not only is your score determined by how many papers you toss precisely into newspaper boxes or onto front porches, but bonus points are awarded by throwing papers through the windows of non-subscribing households.

Since you can't see very far down the street ahead of you, it becomes challenging to maintain a decent rate of speed, avoid all the obstacles, and still set yourself up to make your throws. Moreover, you can't afford to have too many misses, since you can carry only ten papers at a time. Extra papers are distributed in bundles along your course, but not enough of them are provided to keep you supplied if you make a habit of throwing carelessly.

The object of the game is to complete seven levels (a week's worth of plying your route) without getting nailed three times. At the conclusion of each level, you get to play a bonus round in the "paperboy training course" — a combination target-range and mountain-bike park, complete with bulls-eyes and ramps, where you earn extra points by throwing papers and avoiding obstacles.

Action is fast and furious, presenting an immense challenge to concentration and coordination. Yet beyond the mechanics of the game, the real strength of Paperboy is in the variety of scenery and obstacles it presents. Everything from swarms of bees to idling station-wagons are drawn in exceptional detail and realistically animated. Digitized sounds include the squeaking of your bike as you pedal, and add considerably to the pleasure of the game. Finally, the "cartoon" quality of the game, and the fact that it doesn't involve (much) violence (in any case, not violence of a militaristic sort) should appeal to younger kids and concerned parents alike. ■



PROGRAMMING:
Eric Ginner and Jerome Strach

SOUND:**Paul Bonsey**

MUSIC: **LX Rudis**

ART: **Eric Ginner, Susan G. McBride**

MANUFACTURER:
Atari Corp.
1196 Borregas Ave.
Sunnyvale, CA
94087
(800) 443-8020

PRICE: **$34.99**

Ms. PAC-MAN

Pac-Man and his successors were the darlings of the coin-op arcades throughout the early '80's. People of all ages found the imagery of Pac-Man, and its relatively peaceful, maze-running and evasion-oriented scenario, to be enchanting. Now Atari has released Ms. Pac-Man, the most successful of the several "sequels" to the original Pac-Man game, for the Lynx Entertainment System.

As in all the Pac-Man games, Ms. Pac involves driving a little, yellow smily-face (this one with lipstick, eyelashes, and a hair-bow — very feminine) around a maze, gobbling "dots," while evading a trio of prowling "ghosts." Normally, contact with the ghosts is fatal, so initial strategy is strictly evasive: you try to clear as much of the maze as you can without getting cornered. As play progresses, however, it becomes necessary to go on the offensive, luring the ghosts into proximity to special "power dots" that temporarily give Ms. Pac the ability to pursue and gobble up her ghostly opponents (non-destructively:

PROGRAMMING AND SFX:
Lou Haehn

MUSIC: **Doug Hubbard**

MANUFACTURER:
Atari Corp.
1196 Borregas Ave.
Sunnyvale, CA
94087
(800) 443-8020

PRICE: **$39.99**

RYGAR

We all know the Atari Lynx is an amazing game machine. But you have no real grasp of the power of Lynx technology until you play a third-generation arcade hit like Rygar in its Lynx translation. Originally designed to run on a powerful, semi-dedicated arcade system, Rygar is a game of constant motion and unceasing combat that drives the Lynx, and your reflexes, to their limit.

As Rygar, hereditary champion of "the Good," your job is to win back the 23 territories stolen by "the Dark Forces" some 10,000 years ago. Each scrolling territory, or "land," has a unique terrain. Some lands are wooded, others shot through with waterfalls, canyons, or caves. And all are occupied by a wide variety of beasts drawn from a range of mythological sources: dragons, golems, Minotaurs, rhinoceroses, fire-slimes, hideous "rushers," and more. All are lethal if Rygar bumps into them. Luckily, our hero is very agile; capable of jumping over most obstacles and of vaulting over the heads of enemies, temporarily stunning them in the process.

For offensive weaponry, Rygar sports a kind of "energy boomerang," a globe of force that shoots out over a short distance, devastates almost anything in its path, then returns to his hand. The advanced player will develop a knack for pacing shots, and for

when gobbled, they simply turn into a pair of roving eyes that zoom back to the center of the maze before coalescing into a ghost once again).

At the easier levels, Ms. Pac-Man is simple enough for even small children to play. Four standard arcade-type mazes are provided, over five increasing levels of difficulty, so the basic game will keep even advanced players amused for hours. If you want even more of a challenge, pressing Option 1 gives access to a second tier of larger and more complex mazes. In these mazes, eating a "power dot" causes the ghosts to reverse direction, but not to be become vulnerable; making strategy even more important. To assist Ms. Pac, these screens also feature a special "lightning bolt" power-up, which can be picked up and carried until needed. When used, the lightning bolt maxes Ms. Pac's speed for 15 seconds, allowing her to evade enemies with greater ease.

A simple game with simple rules, Ms. Pac-Man is elaborated with cute cartoon graphics, which appear in-between various levels of play. The music of the original arcade version, and its sound effects, have been effectively adapted to the Lynx, making this arcade translation as satisfying as the original. ■

ROADBLASTERS

According to the Roadblasters manual, you've been abducted by aliens and are being forced to participate in a competition used by "advanced" civilizations to determine pecking order.

PROGRAMMING
D. Scott Williamson

ARTWORK:
Bob Nagel

TITLE MUSIC:
Dave Tumminaro

MANUFACTURER:
Atari Corp.
1196 Borregas Ave.
Sunnyvale, CA
94087
(800) 443-8020

PRICE: **$39.99**

Having absorbed this complex rationale, it's a bit disturbing to discover that the competition in question is none other than the unofficial sport of the state of California, namely driving around at high speed and shooting at people.

I mean, who needs a rationale for that? Just strap yourself into your heavily-armed and computerized race car, and put the pedal to the metal! Roadblasters combines the challenge of racing games like Pole Position with a fast and furious combat element in over fifty levels of play over a variety of courses.

Car and track are displayed on the upper portion of the Lynx screen, while a view of the dash-

controlling the (rather elastic) course of the projectile by altering Rygar's position while the weapon is in flight — in effect, learning to "shoot around corners." The interaction between Rygar's running, jumping, and shooting movements makes for an interesting physics of action and reaction; a physics that must be mastered to play with any degree of elegance.

In addition to these basic survival aids, Rygar is capable of picking up extra points, extra time, extra lives, and temporarily enhanced powers (e.g., a more powerful boomerang, the ability to kill enemies by jumping on them, etc.) by pilfering the contents of magic chests scattered throughout the landscape. Good players will learn to alter their short-term strategy, depending on what extra powers they pick up in the course of a level.

Rygar's graphics are great. The hero-figure is animated with flair, and both creatures and landscapes are beautifully detailed. Especially lovely are the "temples" that Rygar enters to determine his score at the conclusion of each level. Each temple is decorated with a unique collection of tapestries, statuary, and other artifacts. Sound is less sophisticated, but satisfying: a pair of bouncy musical scores play throughout, and game-play is bolstered by a variety of digitized effects. As with most Lynx games, there is a "pause" feature and music may be turned on and off. All in all, Rygar is a beautifully-designed, challenging, and addictive game. ■

board, complete with sensors and animated gauges, occupies the lower portion. To simplify the controls, the car holds straight automatically, angling a set number of degrees to left or right when the joypad is pressed in that direction before straightening out again. Steering around curves is thus an approximate business, and somewhat difficult to master. Practice is essential, since precise steering is needed to avoid other cars, oil slicks, mines, and other hazards.

Your basic weapon, a laser, can demolish almost anything in your path. In addition, special weapons are air-dropped to you at various spots on the course. Learning to shoot accurately is important, since the number of shots you fire affects the multiplier used to award points at the end of a level. Among your targets are gold cars, motorcycle bandits, and limousines — some of which are easy to destroy, others very difficult. Further hazards include cannon emplacements and machine-gun nests, placed at the sides of the road.

Play is fast and furious — carried out at such high speed that quick reflexes are required simply to stay on the track. As noted above, various track layouts are supported, each with unique scenery, as well as a unique combination of turns, straightaways, and hazards. Extreme care has been lavished on the cosmetic aspects of the game. Scenery and objects are rendered with detail and precision, and instrumentation is well-animated and informative. Digitized sound effects are used throughout, adding to realism. Digitized voices warn of hazards and conditions (letting you keep your eyes on the road), and give hints between rounds. In short, if the idea of driving around and shooting at things appeals to you, Roadblasters delivers! ■

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RAMPAGE!

Remember those Japanese horror movies we watched when we were kids? The ones where giant rubber lizards reduced intricately-detailed models of downtown Tokyo to piles of steaming rubble? Didn't you ever wonder what it was like to be a giant rubber lizard, stepping on tanks or grabbing helicopters out of the air?

No? Well then neither you, nor your therapist, will be interested in Rampage!, new from Atari for the Lynx Portable Entertainment System. While most vidgames pit you *against* huge, destructive monsters, Rampage! actually lets you *be* a huge, destructive monster. Transmuted by a chemical plant accident, your ostensible goal is to find a Lab Technician capable of turning you back into a human being. In the process, of course, you get to terrorize and destroy a city, eat people, and generally be as nasty as you wanna be!

So pick a monster and go to town! There's George, a giant ape; Lizzy, a giant Lizard; Ralph, a werewolf; and Larry, a giant rat — all equally capable of mayhem and slaughter. Each monster has three lives, and is amazingly durable in the face of bombardment, machine-gun fire, and terrifying falls from the top of skyscrapers. Thus even novices can progress through several of the more than 50 levels in the game before their monster is neutralized.

Each level is a miniature cityscape that must be leveled before progressing. Climb buildings and smash in their walls, being careful to eat the residents, snipers, and foodstuffs that you find, while avoiding toasters, light bulbs, and other booby-traps. Also learn to recognize and consume the type of potion that renders your monster invincible, while avoiding the other types, which are poisonous.

While you're busy destroying things and chowing down, dodge bullets, dynamite, and grenades, and destroy as much Army ordnance (i.e., tanks and helicopters) as you can. In-between levels, check out the sensational headlines you're making, and search for clues to the Lab Tech's whereabouts.

Driving your monster is easy: the Lynx joypad is used to control the monster's movement and to direct its punches, button A is used to punch, and button B to jump. Movement is somewhat context-sensitive, permitting a minimum of controls to serve in a wide variety of situations. For example, if you attempt to "punch" a tiny human being, your monster will instead reach out, grab, and eat him. The overall effect is to make the monster easy to control, and the action realistic — a great combination for playability and player-enjoyment.

Graphics are terrific, with loads of detail and color. Entertaining intro, high score, and endgame screens round out the mix. Sound is bouncy, employing both synthesized music and terrific digitized effects. Collapsing buildings, roars, cannon fire, and the shrieks of doomed civilians combine to make Rampage! fun to *hear* as well as play! And the fun continues when you link up two or more Lynxes and play Rampage! in multi-player mode. Up to four Lynxes can be ComLynxed together, allowing monsters to team up and really go to town! ■

PROGRAMMING:
Pete Wierzbicki

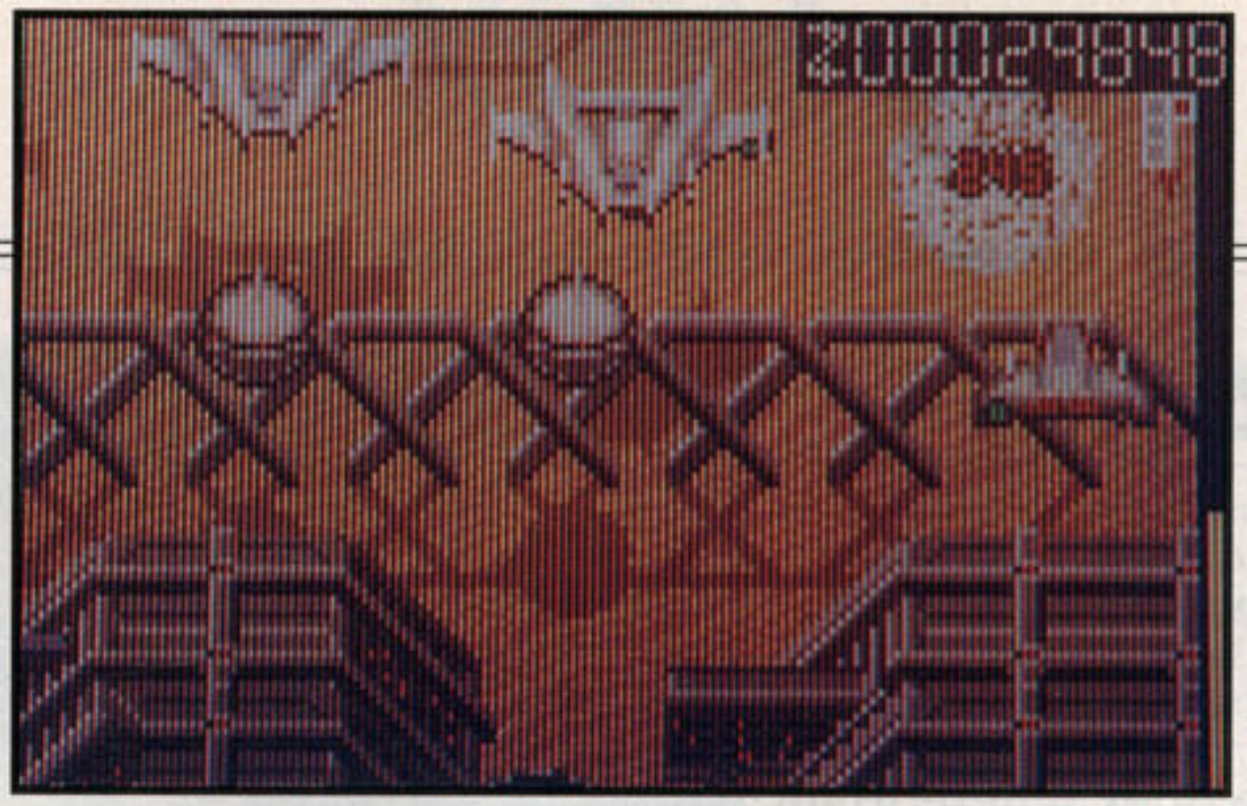
ART AND ANIMATION:
Susan G. McBride, Melody Rondeau, Pete Wierzbicki

MUSIC: **LX Rudis, Bob Vieira**

SOUND: **LX Rudis**

MANUFACTURER:
Atari Corp.
1196 Borregas Ave.
Sunnyvale, CA
94087
(800) 443-8020

PRICE: **$39.99**



ZARLOR MERCENARY

Far from having any redeeming social value, Zarlor Merc is a "wave"-oriented shoot-'em-up par excellence; a game that seriously endangers the tendons of the trigger-finger and causes measurable spiky occipital-lobe activity within the first hour of play.

Fast action, intense violence, and certain interesting strategic elements combine to make Zarlor Mercenary a real drooler. The basic scenario is simple, but piquant — drawn about equally from the seedier side of Star Wars and the novels of Robert Heinlein. You're a mercenary, sent into battle against a variety of enemies in a variety of scenarios, and encouraged to do as much damage as possible before getting yourself killed. As an incentive, each enemy facility, vehicle, or other artifact you destroy nets you big bucks, which you can use to purchase munitions and ordnance for your ship at the conclusion of each run.

PROGRAMMING:
Chuck Sommerville

GRAPHICS:
Matt Crysdale

LEVELS, MUSIC, SFX:
Chris Grigg

ADDITIONAL PROGRAMMING:
Stephen Landrum

MANUFACTURER:
Atari Corp.
1196 Borregas Ave.
Sunnyvale, CA
94087
(800) 443-8020

PRICE: **$34.99**

You begin the game by selecting a character from among seven offered, each of whom bring with them one key facility that adds to the destructive power of the basic attack ship. The characters themselves are interesting and varied: a nice mix of cyborgs, fire-eyed diaboloid aliens, snake-headed Medusa-men, a robot (for those who flinch at the idea of sending flesh — even alien flesh — into battle), a Conan-the-Barbarian type, and the obligatory woman, Brenda. The powers they bring with them are equally interesting and varied. The basic attack ship carries front-mounted cannons that fire a single pair of shots each time button A is depressed. To this can be added wing cannon, side-shooters, back-shooters, a self-targeting laser, "power shots" (which approximately double the destructive power of your armament), "auto fire" (which keeps your cannon firing as long as you hold down button A), and "speed up" (which lets you maneuver your ship far more rapidly than normal). Extra armaments can be purchased using the money you earn by blowing things up in each wave, or occasionally found on the battlefield itself.

The waves are many, each with its characteristic enemy ships, life-forms, and structures. Certain waves are more passive than others, giving you a chance to build up your bank account by strafing more or less unprotected manufacturing facilities, docks, and crowds of civilians. Other waves are literally infested with malevolent aliens bent on your destruction, forcing you to play a more evasive, coordinated game. Most enemies fight in a geometrically-orderly fashion; for example, shooting on the diagonal as they move from one side of the battlefield to the other, and can be picked off efficiently at little risk if you have time to place your shots with care. Unfortunately, you're often faced with groups of aliens of different species, and must coordinate multiple strategies of attack and defense, simultaneously. Assuming you do so successfully, at the conclusion of each wave you get to meet "the Boss" — actually, from one to several economy-size motherships, battle stations, etc., that test your fatigued reflexes in a final, mind-numbing exchange of fire.

Zarlor Mercenary does end up a bit Sisyphean, but it's never boring. Graphics are terrific: in certain scenarios, upwards of a hundred on-screen opponents and projectiles are being animated simultaneously, and at no point does the game slow down in the slightest. Sound effects and music, incorporating both synthesized and digitized elements, are also virtually seamless, though occasionally, complex sounds obscure one another. My only criticism of Zarlor Mercenary — if it can be called a criticism — is with the intensity of play. Even with the Lynx' comfortable controls, you really can develop "trigger thumb" if you play this game too long. Then again, what's a little tendonitis when there are enemies to blow away, and riches to be won in slaughter? ■

SHANGHAI

PROGRAMMING: **Eric Ginner, Jerome Strach**

ART: **Susan G. McBride, Melody Rondeau**

MUSIC: **LX Rudis, Bruce Coleman**

PRODUCER: **Juli Wade**

MANUFACTURER:
Atari Corp.
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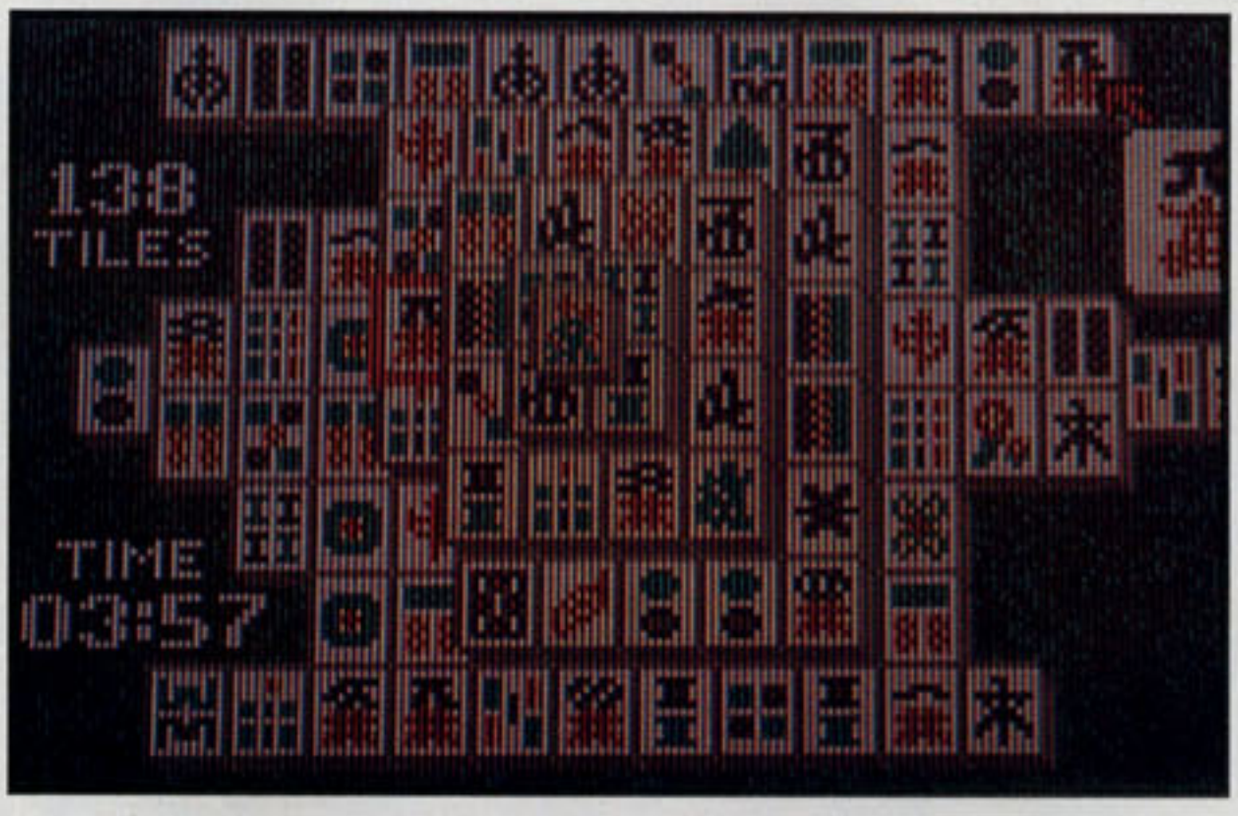


Shanghai is an adaptation of the ancient Chinese game of Mah Jongg in which a constant set of 144 tiles is presented randomly in one of seven configurations. The goal is to remove all the tiles from the board in as short a time as possible, by finding and matching pairs.

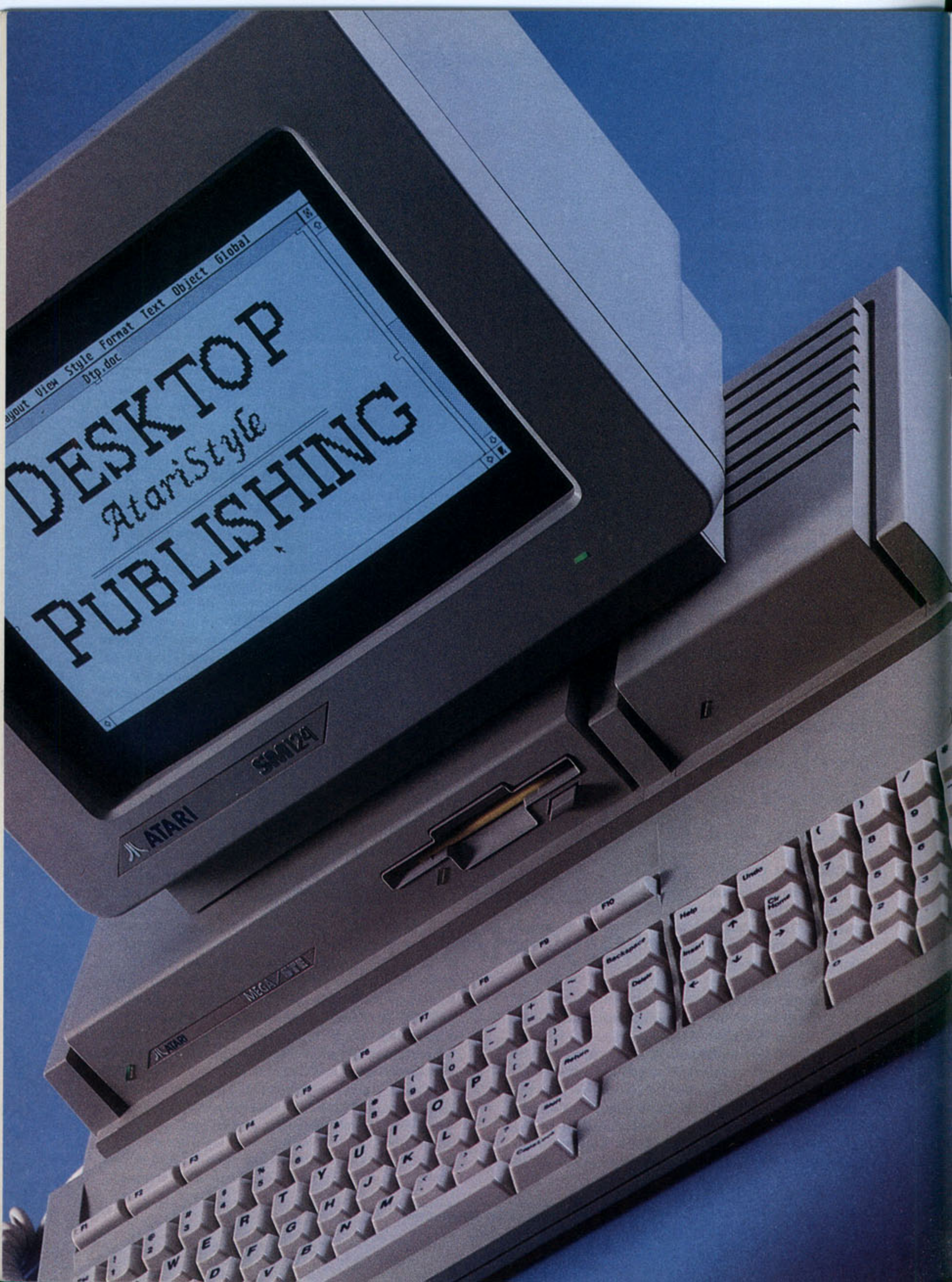
The trick is, that not only do you have to locate a match, but each of the paired tiles must be "free" — that is to say, they must not be covered, nor boxed in, i.e., a tile must be able to slide out, unencumbered, either to the left or right of the screen.

The puzzles are laid out in the shape of various animals: Dragon, Spider, Butterfly, Turtle, Bear, Fish and Hawk. These animal shapes, as well as the design of the tiles, help lend the game its Chinese flavor. In fact, part of the initial challenge of the game is accustoming oneself to the foreign symbols. It also takes quite some time to be able to visualize with any facility which tiles are free, and more time yet to begin to figure out which tiles are stragically the most important to move out of your way. The spider puzzle, for instance, is made up of a central body created by layering tiles (staggered such that one tile is blocking two inner tiles, and hiding as many as four layers beneath), and six sprawling legs only one tile thick. Hence, your eyes are constantly dancing all over the screen trying to take in, interpret and record useful information. Meanwhile, the tension mounts as you weigh the importance of strategy versus beating the clock. If you go too fast, you may reach a stalemate before you know it, and the screen will flash "No More Moves" while there are still 40 or more tiles on the board (and you know that if you just could have gotten that darn East Wind out of the way, it would have opened up several more moves)!

The designers included several options which you can use to help you improve your game. The first is asking for a hint (Note: Use this option at your own risk. Once you start, it's hard to stop.), whereby one of a pair of free tiles is highlighted, prompting you to narrow your search to its mate. You may also choose between starting a new game in the same pattern or replaying the same game, in which case all the tiles will recur in their former positions and you can tackle the exact same problem from a different angle, avoiding those nasty trouble spots that plagued you last time.

In addition to the single-player modes, Shanghai supports a two-player mode via ComLynx connection. One two-player game is cooperative. Simultaneous and alternating competitive games are also offered.

All in all, as a game of luck and strategy, Shanghai has a sly Chinese subtlety to it that enmeshes you against your will, but to your delight. ■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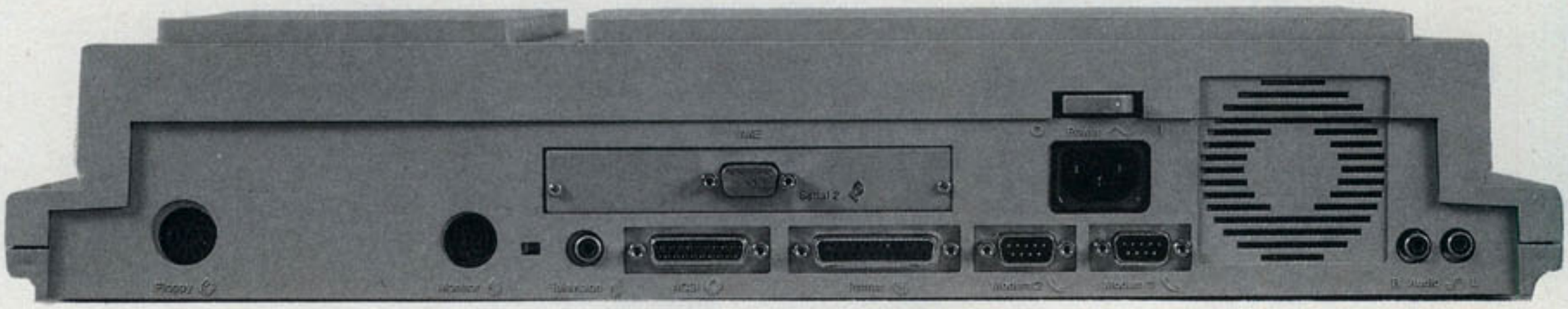
The Mega STe: Hands-on!

Prior to last year's November Comdex, industry observers were speculating that the TT030 computer — Atari's long-awaited TOS/Unix-compatible — would be the focus of Atari's presence at the show. Yet while the TT was certainly a must-see, proving Atari's ability to bring workstation performance to the desktop at low cost, it was by no means the only focus of attention at November Comdex, either circumstantially or by design.

Atari's new 16 MHz Mega STe offers affordable power for business, networking, and more!

Sharing the spotlight with the TT030 was another new Atari computer that may, over the course of its product life, prove to be as significant an innovation. This is the Mega STe, an enhanced version of the STe computer introduced early last year. Sporting 16MHz microprocessor speed, 4,096 colors, DMA sound, multiple serial ports, a built-in LAN port, a VME slot, an in-

By AE TECHNICAL STAFF



Back view of the Mega STe, showing ports and connectors. From left to right, these are: floppy disk, monitor, TV, DMA, Serial 2, Printer, Modem 2, Modem 1, and stereo jacks.

ternal hard drive, and new systems software, the Mega STe is designed to form the basis of the product line for which the TT is culmination. Indeed, many aspects of the Mega STe's architecture — both internal and cosmetic — come out of the same lines of research that produced the TT030, and represent a back-application of advanced technology and ergonomics to a field-proven and stable product; a combination that delivers improvement without compromise.

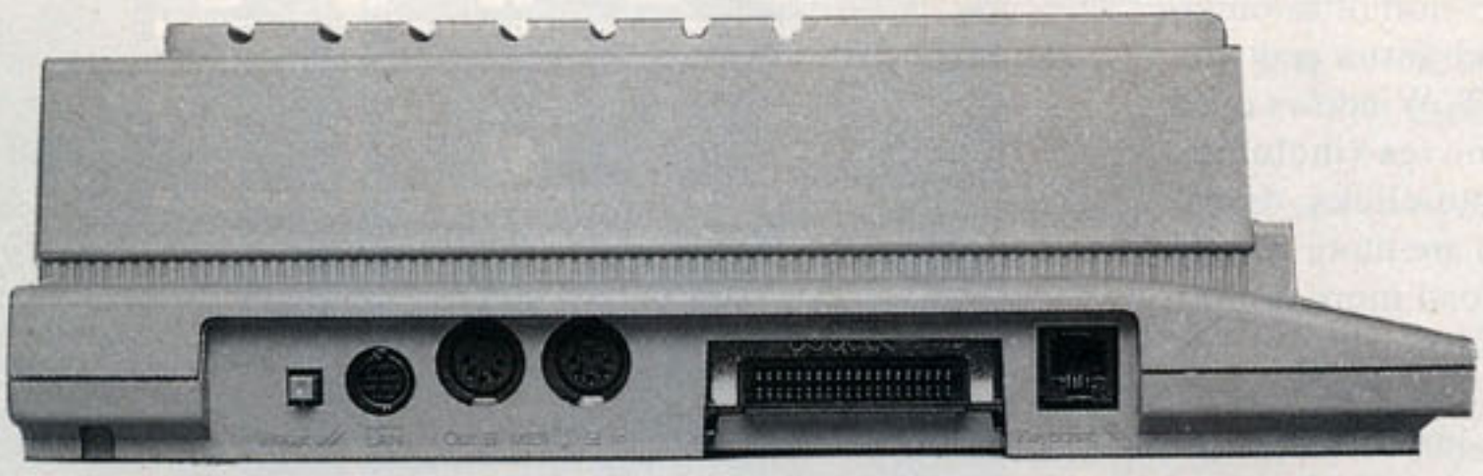
Small and Simple

Adapted from Ira Velinsky's design for the TT030, the Mega STe is small and easy to set up, offering the convenience of a low-profile, small-footprint enclosure and easily-accessible connectors. The grey base system unit, which contains the motherboard, one 720K ST-standard floppy drive, and a hard disk, measures a scant 19-1/4" wide by 11-1/4" deep by 3-1/2" high. The left side of the case, where the motherboard resides, is braced to support a monitor. Cooling vents, contained in shallow troughs atop the case, permit airflow no matter what the configuration of the monitor base. To the right of the motherboard enclosure, a separate hatch covers the hard drive, allowing for easy upgrade and servicing of the hard disk subsystem without sacrificing the elegance and simplicity of a monolithic case. Motherboard and hard drive subsystems rest on an "I/O pedestal" whose rear integrates with the backplane and whose left-hand side contains connectors for keyboard, MIDI, cartridge, and LAN. The front rim of the pedestal forms a rest for the detachable keyboard, so that the system may be set up as a one-piece workstation, if desired.

With the release of the Mega STe, all current Atari systems now possess the same set of enhanced graphics and sound features.

The separate keyboard, identical except in color to the one on the TT, is an evolutionary improvement on keyboards used with the original Mega series. Measuring only 6-1/2" from front to back, the new keyboard allows a bit more desk space, while maintaining the original Mega's full-size, sculpted layout. The main keyboard, cursor-control keys, and separate numeric keypad remain in the same relation to one another as in the original Mega design. The Mega's embedded function keys, however, have been replaced on the Mega STe with raised, full-travel keys, that are somewhat easier to press. Above the function keys is a convenient pencil well/template mounting. Particularly appealing is the fact that the mouse and joystick ports, long hidden beneath the keyboard in original Mega designs, now project accessibly from the right and left sides of the keyboard.

The Mega STe's backplane (see above) contains more ports than a standard ST or STe. Most notably, the Mega STe offers the STe-standard RCA "video out" port, which permits use of an NTSC color monitor or television (with RF adaptor), and left and right stereo audio ports. Replacing the STe's single 25-pin serial connector are three industry-standard 9-pin serial ports, labeled "Modem 1," "Modem 2," and "Serial 2," the latter mounted on a removeable plate that fits in a backplane knockout. The knockout, labelled "VME," can optionally be used to provide backplane access for an internally-installed single-Eurocard-sized (3U) VME board. It is expected that by the time this article reaches print, at least one third-party vendor will announce a 1 Mbit sec. VME Ethernet board that can fit in this slot.



Side view of the Mega STe, showing (left to right) LAN connector, MIDI ports, catridge slot, and keyboard connection.

All serial ports support full handshaking. Modem 1 and Modem 2 are drawn, respectively, from one of the Mega STe's two 68901 Multi-Function Peripheral chips and from the Mega's new Zilog 8530 Serial Communications Controller (SCC). Serial 2 is drawn from the second channel of this controller, which may be reprogrammed to drive the LocalTalk-compatible LAN interface. The SCC can also be programmed to provide support for both asynchronous (RS-232, RS-423) and synchronous byte-oriented protocols (HDLC, SDLC) used in wide-area networks.

Our test unit came equipped with 4 MB of RAM, and a 50 MB built-in hard drive. Like the original Mega series, a built-in muffin fan cools the motherboard, though at no time during testing or subsequent use did we notice any particular tendency of the system to overheat. The hard drive subsystem is well-integrated with the Mega STe system as a whole. Fast and reliable, it comes preformatted with system software installed, though the end-user is naturally free to reformat and/or repartition the drive as necessary. The problem of turning on the whole system from one power switch has been solved with circuitry that delays bootup until the hard disk has come up to speed. The pause also makes it easier to boot the system from floppy disk, in the event that the hard disk should become corrupted. Additional hard drives or other ACSI-compatible peripherals may be added to the system by plugging them into the DMA port.

With all speed-up options active, the Mega STe's performance is nothing short of astounding.

High-speed Processing

The Mega STe is capable of substantially faster throughput than a standard ST or STe, while retaining the highest possible degree of compatibility with existing ST software. Indeed, in its most basic mode of operation, the Mega boots in a fashion that makes it electronically identical to a standard STe, insuring total compatibility with even the most "system-hostile" programs (e.g., programs that use software loops for timing, that modify their own instructions on the fly, that employ the high bytes of pointers as data, etc.)

Using the enclosed General Setup utility (part of a suite of Control-Panel Extensions distributed with the machine), the system can be configured to boot with the CPU at 16 MHz, with or without memory caching. With cache disabled, the Mega's CPU executes individual instructions twice as fast as that of a standard ST or STe, though access to all other system features —notably RAM memory — still occurs at the overall system clock rate of 8 MHz. With memory caching enabled, however, an entirely new dynamic takes over. In this mode, sections of code are moved into a 16K fast-RAM buffer, from which they can be executed at the processor's full speed. The algorithm used to fill the memory cache is highly intelligent, employing both statistical and analytic methods to determine which sections of code will be cached; and is even capable of caching sections of code which normally reside far apart in main memory.

Also distributed with the Mega STe is Atari's disk-caching utility, CACHEnnn.PRG, that attacks the performance-limiting factor of hard-disk access speed. Installed at boot time from the \AUTO folder, the cache establishes a user-definable set of RAM buffers into which File-Allocation Tables (FATs), directories, and sectors are read from disk, according to the order and frequency with which they are accessed by software. As a work-session continues, the contents of the cache typically become better and better "tuned," until eventually, a very high percentage of disk access is actually taking place in the form of transactions to and from main memory — in other words, at RAMdisk speeds.

With all of these speed-up options active, the

Mega STe's performance is nothing short of astounding. Subjectively, things happen much faster and with greater fluency than on a standard ST. Windows open and close more quickly; mouse moves (including menu selections, single- and double-clicks, drags, resizes, and other gestural controls) are more crisply and reliably processed; programs load more rapidly and terminate more neatly; disk files are read and written in half the time, on average, and often better.

To quantify these subjective impressions, we developed a series of three benchmark tests designed to stress different aspects of machine function. Benchmarks were programmed using the Mark Williams C-language Development system. The first benchmark is processor-intensive, employing no I/O and little memory access. Basically, it just sets one of the 68000's registers to zero, then increments this register half a million times. The second benchmark is disk-intensive. Employing standard I/O library functions, it creates a disk file 1,000 characters in length, then reads this file back into memory, character-by-character. The third benchmark involves compiling and linking a 900-line C-language source file with multiple include files and library references. This is a sort of "worst case" application scenario: a task involving both a substantial amount of computation and almost continual disk access.

The first two benchmarks were timed by executing them as subroutines of a master program that references the system's 200 Hz timer interrupt, insuring that the results would reflect only execution time, and not loading time. The compiler benchmark was timed using the Mark Williams "time" function, a profiler that times execution of a program from start to finish, including load time for the compiler, assembler, linker, and various overlays. Benchmarks were executed on the Mega STe at 8 MHz, at 16 MHz without memory cache, and at 16 MHz with cache enabled. Additionally, the disk and compile benchmarks were executed in all permutations both with and without disk caching.

The results confirmed our subjective impressions. Our processor-intensive benchmark ran moderately better when the CPU was kicked up to 16 MHz alone; more than twice as fast when memory caching was enabled. On the surface, this would seem impossible, since true doubling of performance would require increasing the speed of all components — not the case in the Mega STe. We speculate, however, that part of the performance edge demonstrated here may result from the fact that the system services disproportionately fewer interrupts during execution of the routine at higher speeds.

Our disk-intensive benchmark revealed some interesting facts about how different performance enhancements can work synergistically to produce dramatic results. When the benchmark was executed with the Mega's disk-caching utility disabled, perfor-

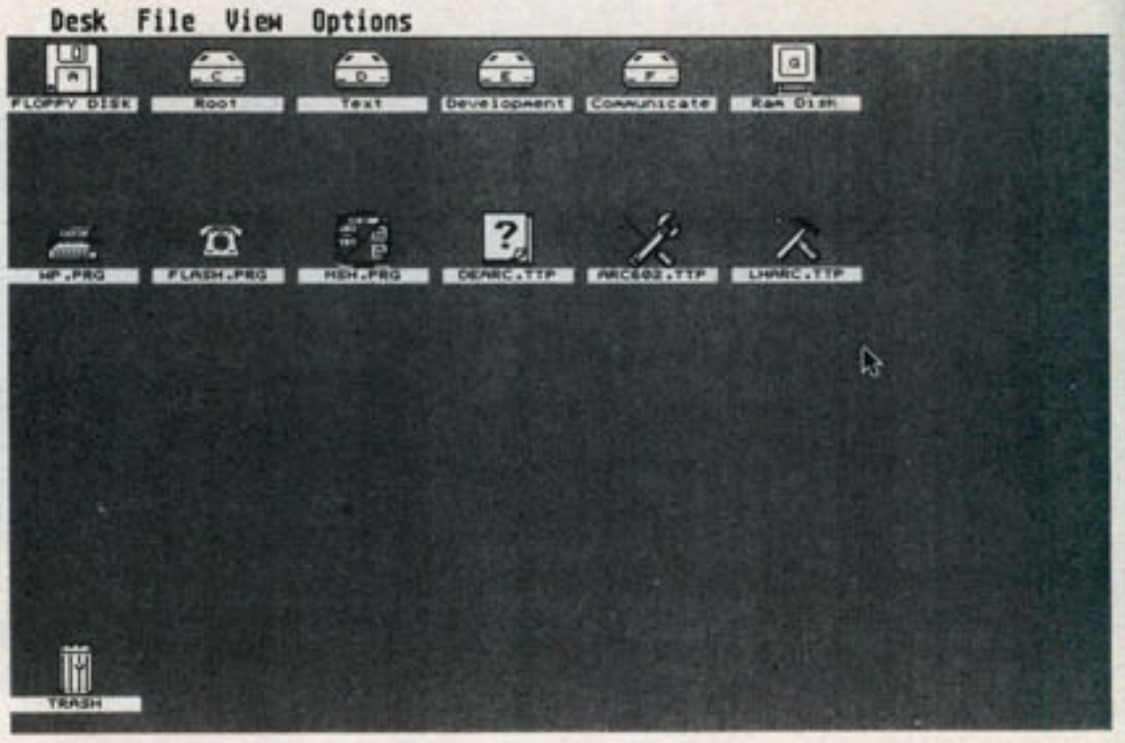


Figure 1. The Mega STe desktop, showing icons for standard devices and a typical working suite of applications

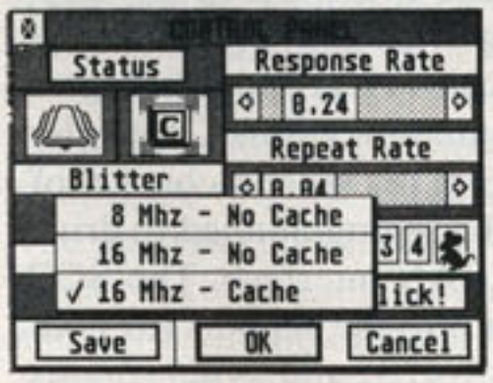


Figure 2. The Extended Control Panel's General Setup CPX, showing its submenu of Mega STe processor speed options.

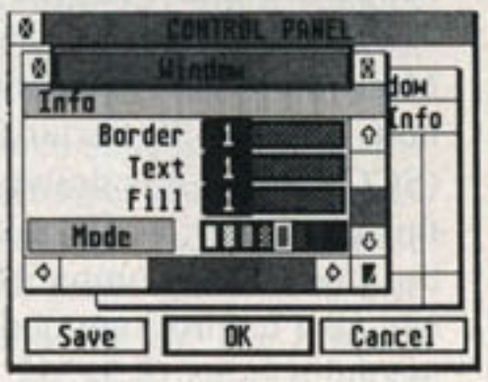


Figure 3. The XCP's Window Colors CPX, shown in the process of applying custom halftones to window sections.

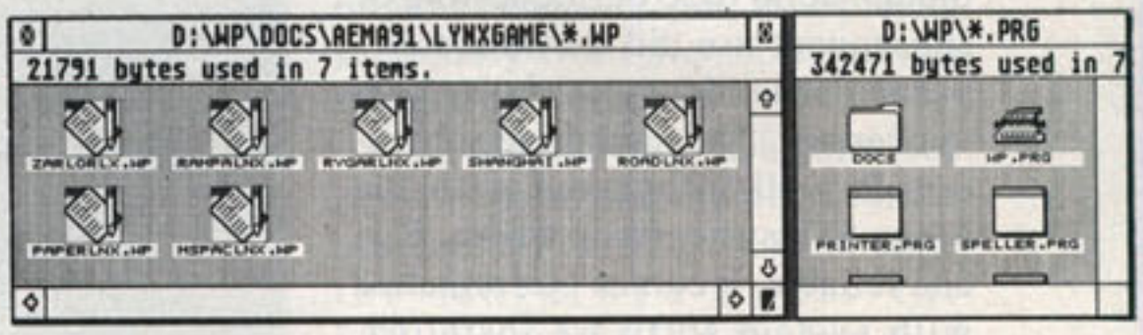


Figure 4. A pair of semi-custom windows, showing installed icons for an application (WordPerfect) and its data files (.WP files). Note use of file-masking to display only relevant items.

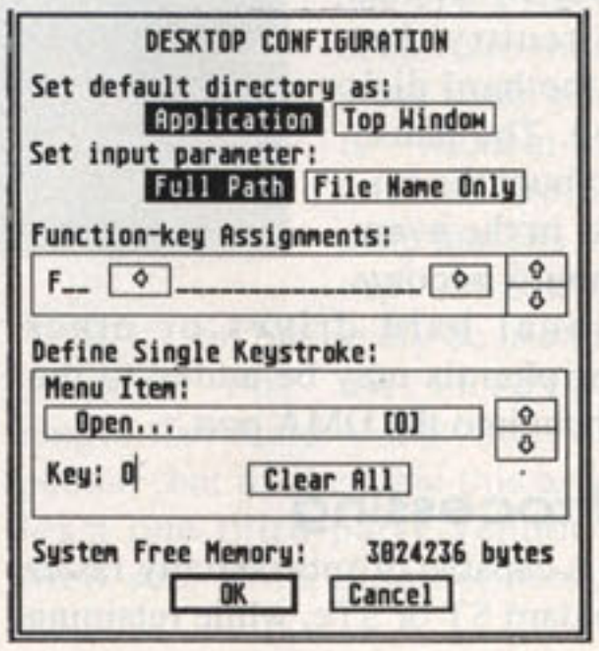


Figure 5. The Desktop Configuration dialog, which permits the user to define keyboard equivalents for Desktop functions.

mance was only very slightly improved by switching to higher processing speeds. But when the disk cache was installed, results more or less paralleled the processor benchmark — performance improved moderately at 16 MHz, almost 100% when the memory cache was also enabled. In other words, when the disk cache utility was not present, disk-access speed became a performance-limiting factor that far outweighed the importance of processor speed. When the disk cache was installed, however, disk access became sufficiently rapid so that processor speed was significant in determining overall execution time.

	8 MHz	16 MHz	16 MHz/ cache
BENCHMARK #1:			
(register increment)	142 ms.	116 ms.	64 ms.
BENCHMARK #2:			
(file create/read)			
w/o disk caching	68 ms.	69 ms.	70 ms.
w. disk caching	51 ms.	49 ms.	28 ms.
BENCHMARK #3:			
(compile and link)			
w/o disk caching	52.205 s.	51.660 s.	41.230 s.
w. disk caching	47.120 s.	46.620 s.	32.250 s.

Table 1. Benchmark comparisons of Mega STe performance. Tests were performed on a 4 MB Mega STe with factory-installed 50 MB hard disk. Performance at 8 MHz is equivalent to STe performance.

Our compile-and-link benchmark proved about equally vulnerable to processor speedup and disk caching, topping out at a little over 80% improvement when all speed-enhancing options were in effect. We would hazard that for most typical processes (spreadsheet recalculations, database searches, file conversions, etc.), the Mega STe user can expect this degree of performance enhancement over ST norms.

Moreover, though processor speed and disk-caching are framed as options on the Mega STe, ostensibly for the sake of software compatibility, we have found no software that is not capable of exploiting all of the Mega STe's speed-up options productively. Our test unit, running flat-out at 16 MHz with memory cache enabled and and disk cache installed, has quietly and reliably (not to mention quickly!) taken over Explorer's editorial, financial, program development, and internal desktop publishing work — all without a single hitch. Such standard programs as WordPerfect, PageStream, LDW Power, Mark Williams C, Flash!, DBMAN V, and others, all function perfectly in the Mega STe environment.

System Software

Another feature the Mega STe shares with the TT is the new Desktop and Extended Control Panel, both of which were described in detail in a feature article in Explorer's January/February 1991 issue (see "The TT Desktop: Hands-on," Atari Explorer, Jan/Feb 1991, page 36). Briefly, the ST's standard desktop has been improved by the addition of numerous new features that make it a far more powerful and flexible tool for file- and system-management. Among the new features are the ability to alter the color and style of desktop background and window details, to establish unique icons for different classes of devices and files, to move file and application icons to the desktop for easy access, to search directories and subdirectories, and to display only selected files in a window via filename-masking conventions. Additional improvements include the automatic resizing of windows and reshuffling of their contents to permit the display of the maximum amount of information. The new Desktop conceals numerous hidden enhancements as well, among them, the ability to establish a startup environment for GEM applications, and the ability to define keyboard equivalents for desktop functions.

Enhancing the power of the Desktop is the Extended Control Panel, a complete reformulation of the original Control Panel desk accessory that creates an entirely new class of "sub-application": the so-called "Control Panel Extension," or CPX. CPXs are somewhat like desk accessories, in that they can be accessed cooperatively through the Control Panel from within GEM applications. Unlike desk accessories, however, CPXs can either be loaded automatically at boot time or left on disk for loading only when required. Up to 99 CPXs can swiftly be accessed in this fashion.

Functions formerly associated with the Control Panel, such as RS-232 parameter-setting, clock-setting, color- display management, etc., have been reframed under the new system as CPXs. Several CPX utilities are included with the Mega STe, including extensions for managing processor speed and other basic system parameters, defining the extensive color pallettes, configuring the Mega STe's superb stereo sound, setting serial port parameters, and other functions, including one for the management of CPXs! The Extended Control Panel and CPXs, moreover, are compatible with all ST's and STe's. We have tested them extensively on our own Mega 4 ST, and have discovered to our gratification that not only does the XCP work perfectly well on this older system, but that the CPXs adapt themselves

to whatever hardware they're running on, offering the user only those options that are meaningful in context. On an old-style Mega ST, for example, the General Setup CPX shows only a blank where the "processor speed" control would normally be displayed.

Also included with the Mega STe is Atari's newest set of hard-disk utilities, and the abovementioned user-configurable disk cache. All of this software is also compatible with previous ST models.

Graphics and Sound

Though the Mega STe's three graphics modes are compatible with ST-standard low (320 x 200, 16 colors), medium (640 x 200, 4 colors), and high (640 x 400, black and white) resolutions, like the STe, it draws color information from a much broader pallette of 4,096 RGB combinations. Obviously, this enhanced color capability is immediately useful in a variety of application areas: games, entertainment, and color graphics software among them. Perhaps less obviously, the greater freedom offered by the Mega's STe-style pallette will make possible a variety of new applications, as well as promote the addition of new features to existing software. For example, a sufficient number of shades of the same color can now be displayed to permit efficient anti-aliasing to be incorporated in CAD, paint, and image-processing programs.

Also like the STe (and TT), the Mega STe offers stereo DMA sound. The sound hardware is capable of conveniently reproducing digitized music at high fidelity, of handling the grunt-work of voice-synthesis, and other audio effects. Sound can be output with full stereo balance and tone control, through standard hi-fi equipment. Like the enhanced color pallette, the Mega's DMA sound capability should make possible the development of an entirely new generation of software in categories such as entertainment, education, and multimedia.

As important as these capabilities are, it is also significant to consider that with the release of the Mega STe, all current Atari systems now possess the same set of enhanced graphics and sound features. Software developers can proceed with confidence to develop products that address these features, secure in the knowledge that a large and growing number of consumers possess equipment that can take advantage of what they produce.

A New Standard

The Mega STe's release marks a watershed for the Atari in the American market. For the first time in several years, Atari has introduced a significant new product on these shores, a fact that emphasizes Atari's committment to its American customers. Perhaps just as important, the Mega STe project proves that Atari has significantly shortened the lag time between product announcement and delivery: announced at November Comdex, the Mega STe passed FCC Class A certification in a flash, and is presently on its way to dealers. The ability to promise, and then to deliver on-schedule, is crucially important in maintaining credibility in today's fast-paced and competitive computer market.

As noted above, the release of the Mega STe also serves to establish STe-quality sound and graphics as the Atari norm. Beyond this, the Mega represents a zone of overlap between low-end STe's, currently being marketed to the home and basic productivity user, and the high-end TT, which will be aimed at technical users, engineers, and others who require its exceptional speed and Unix compatibility.

Positioned between these two extremes, the Mega STe is destined to serve the myriad users, in business and the professions, who require a field-proven, high-performance system capable of running state-of-the-art software in a wide variety of categories. ■

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ATARI EXPLORER

S·U·B·S·C·R·I·P·T·I·O·N H·O·T·L·I·N·E
(218) 723-9202

Hot Type!

Tired of the same, old Times Roman copy with Helvetica subheads? Spec yourself silly with our compendium of font packages for Atari desktop publishing software!

Different type styles, or fonts, can add emphasis and versatility to any document. Fonts can be ornamental, whimsical, or simply utilitarian. While other factors, such as margins and layout, can alter a document's appearance, the most noticeable personality changes can be made by using a font in a style that reflects the intended message or presentation.

The advent of powerful desktop publishing software on the ST has encouraged the development and marketing of numerous "add-on" font packages for each major program. Exploring these options is part

By PAMELA HAHN

of the fun of learning about Atari DTP, and can enhance the flexibility of whatever software you use. Remember, however, that when choosing font packages, note carefully that the font you wish to buy is compatible with the brand and version number of the software you intend to use it with.

The following list and quick critiques, while not exhaustive, illustrates the enormous scope and high quality of Atari DTP font choices. Hopefully, the list and contact information will help guide Atari desktop publishers ready to step beyond the plain vanilla, Helvetica and Times Roman way of looking at things.

Soft-Logik Corp.

11131F S. Towne Sq., St. Louis, MO 63123
Phone: (314) 894-8608
Fax: (314) 894-3280
BBS: (314) 894-0057

PageStream Font disk sets: $39.95 each

Soft-Logik is presently distributing some 21 font disk sets for their PageStream DTP program. Under the PageStream system, a font is provided in versions for screen display and dot-matrix output, in various sizes. Intermediate sizes are produced by the software itself, via scaling.

Whether you're outputting straight text or illustrated copy,the PageStream font disk collection contains something for just about every need. *Crackers* and *Anchovies* take the PageStream user beyond the simple bullets possible with *Dingbats*. I used *Mars One* for a college astronomy program brochure logo. Anyone producing mathematical documents will love the *Math* font. I used *Decollection* for a unique card for my parent's fortieth anniversary. Jay Pierstorff does a remarkable job creating most of these fonts. I then get to experience the fun of finding uses for them. Examples appear everywhere: I recently ran the best-labeled garage sale in the neighborhood.

Disk 1: Spokane, Devoll, Thames
Disk 2: Elegance, Roman Bookface, WestSide
Disk 3: Avant Garde, Bookman, Chancery
Disk 4:Courier, Palatino, Symbols
Disk 5: Dingbats, Schoolbook, Helvetica Narrow
Disks 6-19 are original designs by Jay Pierstorff.
Disk 6: Fab Fifties, Speak Easy, Stencil Caps
Disk 7: Mars One, Oddballs, Paint Brush
Disk 8: Autobahn, Leroy Script, Crackers
Disk 9:Bodoni, Quadrant, Romanopolis
Disk 10:Meteor, College, Scrollopolis
Disk 11: Bengal, Trellis, Uncial
Disk 12: DECO, Quill, Blaster Chrome
Disk 13: Licorice, Koala, Floaters
Disk 14: COLISEUM, Tripoli, Anchovies
Disk 15: FAR EAST, Jeanette, MERLIN
Disk 16:30 Wt. Solid-Round, Antiquity, Teepee-Lincoln
Disk 17: Celeste, Decollection, Stance
Disk 18: Math, Safari, Tuxedo
Disk 19: Gourda, Sticks, Whistle

Disk 20: PageStream, Calgary, Athena, LinePrinter
Disk A: Screen fonts for PostScript (Helvetica, Helvetica Narrow, Avant Garde, Chancery, Courier, Times, Bookman, Palatino,Schoolbook, Dingbats, Symbols)
Disk U: More PostScript screen fonts.

FLOATERS

A B C D E F G H I J K L M N O
P Q R S T U V W X Y Z

CELESTE

A B C D E F G H I J K L M N O P
Q R S T U V W X Y Z

ODDBALLS!

A B C D E F G H I
J K L M N O P Q R
S T U V W X Y Z

Fifties

A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z a
b c d e f g h i j k l m n o p q r s t u
v w x y z 1 2 3 4 5 6 7 8 9 0

Quill

A B C D E F G H I J K L M N O P Q R
S T U V W X Y Z a b c d e f g h i j k l m
n o p q r s t u v w x y z 1 2 3 4 5 6 7 8 9 0

Antiquity

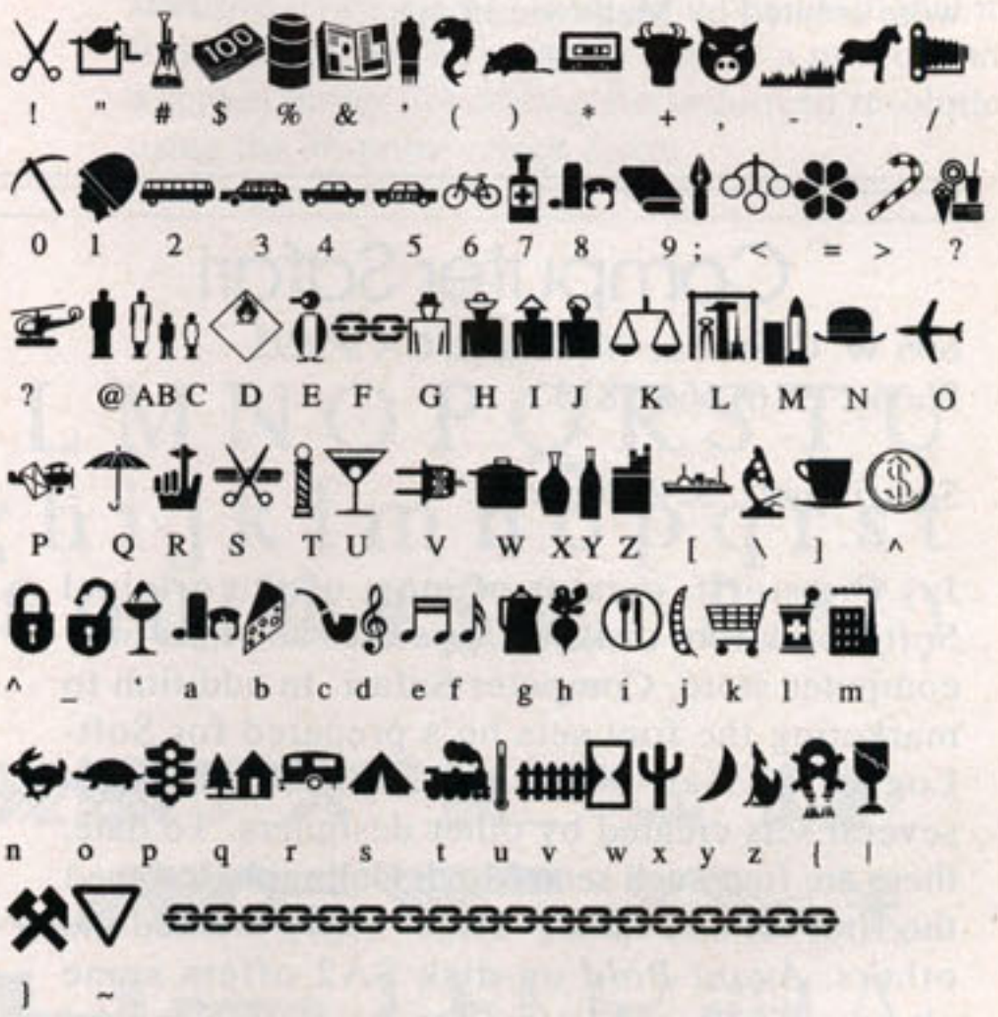
A B C D E F G H I J K L M N O P Q R
S T U V W X Y Z a b c d e f g h i j k
l m n o p q r s t u v w x y z 1 2 3 4 5
6 7 8 9 0 ! " # $ % & ' ( ) _ - = +

Licorice

A B C D E F G H I J K L M N O
P Q R S T U V W X Y Z a b c d e f g
h i j k l m n o p q r s t u v w x y z 1 2 3
4 5 6 7 8 9 0

Crackers

Anchovies



Decollection

Magnetic Images

P.O. Box 17422 Phoenix, AZ 85011
(602) 435-2006

GDOS Font Disks 1-8: $34.95
PageStream Line Font Disks: $34.95 each

Magnetic Images also creates some excellent fonts. Their font sets are available for GDOS programs such as EasyDraw and Timeworks Desktop Publisher ST as well as in PageStream scaleable font format. Their font styles are shown at right.

As a bonus, Disks 5, 7, and 8 each also contain a folder with fonts for Migraph's Touch-Up program. (The ten fonts included with that program were created by Magnetic Images.)

Disk 1:	Avant Garde, Courier, Calligraphy
Disk 2:	Times, Helvetica Narrow, 16 bit
Disk 3:	Chancery, Bookman, Chicago
Disk 4:	Palatino, Schoolbook, Computer
Disk 5:	Dingbats, Symbols, 8 bit
Disk 6:	Complete set of 11 PostScript printer screen fonts
Disk 7:	Script, Devine, Gothic
Disk 8:	Brush Script, Marlow, Chamfer

Magnetic Images upgraded their scaleable line fonts to where they are now compatible with both Publishing Partner and PageStream. Owners of original Magnetic Images or Font Factory disks can upgrade their fonts by sending their original disks plus $2.00 per disk to the company.

Computer Safari

606 W. Cross St., Woodland, CA 95695
Phone: (916) 666-1813

Safari Fonts: $29.95 each

Jay Pierstorff, creator of most of the original Soft-Logik font disk sets, operates an Atari-only computer store, Computer Safari. In addition to marketing the font sets he's prepared for Soft-Logik, his mail-order operation also handles several sets created by other designers. To date, there are four such sets: Mitch Galbraith designed the first set and James "Kibo" Parry created the others. *Avant Bold* on disk SA2 offers some alternative slanted letters for interesting special effects. The *Lightline* fonts on SA3 were created specifically for improved appearance on dot-matrix printers. They're good!

Sa1:	Wild West, Export, Nervous (This set contains both Pagestream and Calamus fonts.)
Sa2:	Hari Extra Bold, Avant Bold, Two-Tone
Sa3:	Lightline Sans, Lightline Italic, Lightline Roman
Sa4:	Carole, Micrographic, Micrographic Bold

Dennis Palumbo

104 Barrymore Blvd., Franklin Square, NY 11010

Font Disk 1 & 2 for PageStream, PostScript: $34.95 each

I'm in love with Dennis Palumbo's *Basketville*. Its lines and serifs are superb. Compare it next to the *Tyme* font included with PageStream and *Basketville* comes out the winner. Until I found this font, I was a *Palatino* fan. That's all changed now. *Basketville's* finer lies produce more readable copy.

While *Baskerville*, the inspiration for this font, tends to set its letters farther apart, *Basketville's* letters are neatly kerned and closely fitted without running together. Setting this font at 10 points with the default leading gives the crispest bodycopy I've seen in a laser font. Lower resolution printouts (Yes 300 dpi is low resolution.) often suffer at smaller point sizes. Basketville doesn't. Dennis also includes a bonus on each font disk: screen fonts for truer WYSIWYG appearance. Disk 1 contains a 36 point *Helvetica* screen font; Disk 2 has *Tyme*.

Also, Palumbo's fonts are so complete (around 200 characters each) they can cause problems with UltraScript, so he includes specific reduced PS files for use with that PostScript emulator. (True PostScript printers should have no problems with the entire, full-sized sets.)

To date, there are only two sets in the Palumbo series. The second set is:

Disk 2: *Gallya, Basketville, DecorativeBorders*

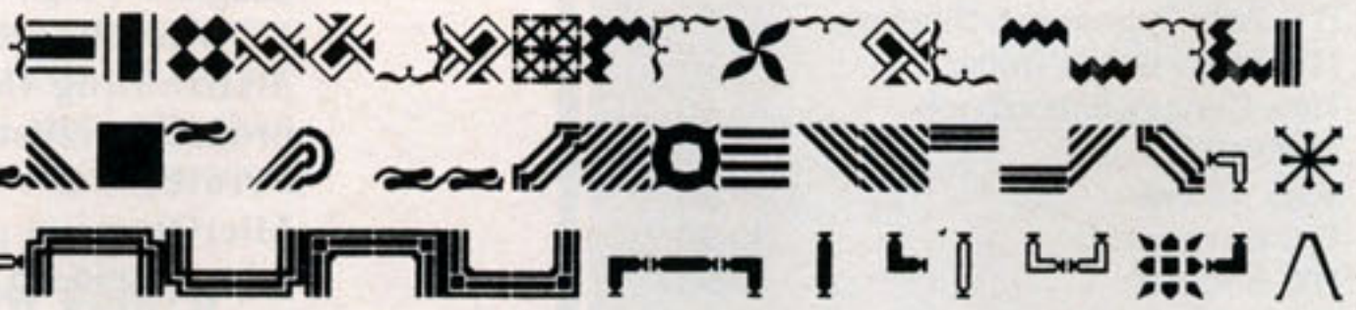
(Note: Those who receive the Computer Safari mailings will recognize these sets as D1 and D2.)

Send Dennis Palumbo a self addressed, stamped envelope and he'll send out additional information on his font sets as well as a printout and a screen dump illustrating the improved resolution using the 36-point screen fonts.

Basketville

A B C D E F G H I J K L M N O P Q R S T U
V W X Y Z a b c d e f g h i j k l m n o p q r s t
u v w x y z 1 2 3 4 5 6 7 8 9 0 ! @ # $ % ^ & * ( )

Decorative Borders



Gaylla

A B C D E F G H I J K L M
N O P Q R S T U V W X Y
Z a b c d e f g h i j k l m n
o p q r s t u v w x y z 1 2 3

Imagen

P.O. Box 81250, Mobile, AL 36689
Orders: (800) 631-2692 Phone: (205) 633-4300

UltraScript ST SLM804: *$195.00*
UltraScript ST 1: *$195.00*

Package	*Prices:*
PS 1: Times, Helvetica, Courier	**$129.95**
(Note: The above fonts are now included in both UltraScript packages.)	
PS 22: (Sets 2-7)	**$149.95**
PS 35: (Sets 1-7)	**$229.95**

Plus $5.00 postage and handling per package for ground UPS; $15.00 for Next Day UPS.

I obtained the UltraScript PostScript interpreter as soon as it was available. A short time later, Imagen offered our user group a special discount on PS 22 and I ordered it, too. I've been pleased with the results thus far, particularly when using UltraScript for output of files containing EPS (Encapsulated PostScript) clip-art. Additional UltraScript font sets and their prices are:

1	Times, Helvetica, Courier	$129.95
2	Palatino	49.95
3	ITC Bookman	49.95
4	Helvetica Narrow	49.95
5	ITC Zapf Chancery & Dingbats	49.95
6	ITC Avant Garde Gothic	49.95
7	New Century Schoolbook	49.95
8	Optima	49.95
9	Park Avenue	39.95
10	ITC Garamond	49.95
11	ITC Souvenir	49.95
12	ITC Lubalin Graph	49.95
13	ITC Korinna	49.95
14	Univers	89.95
15	Hobo, Brush Script, Stencil	39.95
16	Helvetica Light and Black	49.95
18	ITC New Baskerville	49.95
19	Lucida Calligraphy	39.95
20	Futura	49.95
21	Lucida, Lucida Sans, Lucida Sans Typewriter	89.95
22	Eurostyle	79.95
23	Cooper Black	39.95
24	ITC Cheltenham	49.95

The UltraScript program and font sets are available directly from Imagen or from most Atari dealers. Registered users also have access to technical support via a toll-free number between 9:00 a.m. to 6: p.m. EST.

MicroTyme

P.O. Box 369, Kettering, OH 45409
Info: (513) 294-6236
Orders: (800) 255-5835

Printer's Devil Value Packs Volumes 1, 2, 3, and Holidays: $29.95 each (Order the first 3 volumes and receive Holidays free.)

These Value Packs, created by Dick Brice of Panache Designs, are potpourri collections of .IMG format graphics and 300 dpi (laser or other 300 dpi output devices) GDOS printer and screen fonts.

Volume 1 has over 70 images, which include arrows and eyes as well as 3 GDOS (*Ostia*, *Glasgow*, and *Raffels*) font sets. Volume 2 images include butterflies, food, and faces, *Coventry* and *Dunharrow* GDOS 300 dpi fonts, and *BlackPool*, *Depot*, and *Dazzle* D.E.G.A.S. Elite fonts. Volume 3 images include halftones, history, seashore, signs, shadows, and sports; the 300 dpi GDOS fonts are *Runymede* and *Covington*. Each set comes with a visual index that displays the graphics complete with their file names and image size. Examples of the fonts are also shown in several point sizes.

All Printer's Devil illustrations are cleaned-up, scanned images, done at either 150 or 300 dpi. The GDOS fonts are excellent. I used *Raffels*, a script style font, to create the invitations to my daughter's high school graduation open house.

MicrOtyme, the mail order company, is distributing these packages. As with other products available from them, you can order the Printer's Devil Value Packs from from MicrOtyme at prices discounted below the list price mentioned above.

Migraph

200 S. 333rd, Suite 220, Federal Way, WA 98003
Phone: (216) 838-4677 Orders: (800) 223-3729

GDOS Fonts/Printer drivers

Any mention of GDOS fonts would be incomplete without some mention of the combination printer driver and font packages from Migraph. Available for the Atari SLM804 laser, some 24-pin dot-matrix printers, Hewlett-Packard laser, and Hewlett-Packard DeskJet printer, in my opinion these packages include the best 300 dpi standard (i.e., *Swiss*, *Dutch*, *TypeWriter*) GDOS fonts obtainable.

ISD Marketing

2651 John Street, Unit #3
Markham, Ontario Canada L3R 2W5
Phone: (416) 479-1991
Fax: (416) 479-1882

Calamus Vector Font Editor: $99.95
Compugraphic Fonts: Price varies from $99.95 to $249.95 each

Calamus is unique, not only its features, but also in the manner necessary to access those features. The diversity of icons and menus necessary to accomplish your ultimate DTP results can be overwhelming. Once those steps are mastered, however, the program can provide pleasing results, rivaling the output possible from PostScript.

Yes, Calamus rivals PostScript; but, it's not the same. Calamus uses its own proprietary scaleable font system, vector-drawn screen and printer fonts that can be sized from 1 to 999.9 points in tenth of a point increments. The program itself isn't copy protected, the fonts from ISD are. Fonts marketed by ISD must be installed against the program's serial number. ISD currently markets a wide variety of Compugraphic fonts for Calamus, each at a hefty (for the ST market) suggested retail price ranging from $99.95 to $249.95. Fonts are listed in chart opposite.

ISD is currently in the process of obtaining 31 of the most popular families from Linotype that contain "hinting" to improve printouts at lower resolutions. They're also adding URW and further Compugraphic fonts, which will add more than 300 additional selections to an already impressive library.

Calamus Vector Font Editor

There is a less expensive way to initially add some font variety to your Calamus documents — the Calamus Vector Font Editor. As far as Calamus font prices are concerned, the C/VFE is a bargain at its suggested retail price of $99.95 since it also includes more than 24 additional Designer fonts, such as *Data, Logo, Segmenta, Fractur*, and *Arc*.

The C/VFE installs as a desk accessory. It can be used directly from the desktop or within the Calamus program, I should point out, however, that the additional fonts are what make the C/VFE a bargain since, while it can be used to edit and create fonts as well as graphical objects and pic-

CALAMUS AGFA COMPUGRAPHIC FONTS

Set/Font Name	# of Typefaces	US Price
Antique Olive	5	$149.95
ITC Avant Garde Gothic	5	149.95
Bauer Bodoni	5	149.95
Baskerville II	4	149.95
Black Letter & Broken	1	129.95
Modern Blackletter	1	
Old English	1	
Wedding Text	1	
CG Century Schoolbook	3	149.95
Decorative	4	149.95
Raphael	1	
Revue	1	
Uncial	1	
Eras	3	99.95
Friz Quadrata	2	99.95
Futura II	8	199.95
Garamond	4	149.95
ITC Garamond	16	299.95
Garth Graphic	4	149.95
Greek & Math Series	4	99.95
Serif &Sans Serif		
Helios Rounded	2	99.95
ITC Korinna	4	149.95
ITC Lubalin Graph	4	149.95
ITC Novarese Book	4	149.95
CG Omega	3	99.95
CG Palacio	4	149.95
Schneidler	3	149.95
Script & Brush #1		169.95
Brush	1	
Coronet	1	
Dom Casual	4	
Signet Roundhand	1	
Script & Brush #2		149.95
Isabella	1	
Lucia Script	1	
Park Avenue	1	
Quill	1	
ITC Zapf Chancery Med.	1	
Slab Serif		99.95
ITC American Typewriter	1	
Typewriter Large Elite	1	
Souvenir Gothic	2	99.95
ITC Souvenir	6	149.95
CG Times	4	149.95
CG Triumvirate	11	249.95
Univers	4	149.95
Zapf Dingbats Series	3	99.95

tures in the vector format, it isn't an easy task to master. Any font creation is a time-consuming process, no matter which editor you employ. The task is compounded with the C/VFE since its abundance of features (and sparse manual with minimal instructions) make it a difficult program to master. (ISD's book, The Guide to Calamus Desktop Publishing, provides some tutorial assistance with the font editor as well as Calamus and Calamus Outline. The book is available to registered users direct from ISD for $29.95.)

The C/VFE allows Bezier curves with moveable start, middle, and end points. Other features include freely-adjustable helplines, automatic kerning, two presentation sizes, a clipboard, more than 160 editable characters, and a graphical interface. The built-in calculator employs italics, free rotation, mirror imaging, vertical and horizontal calculations, and font condensing. Vector-format fonts as well as graphical objects and pictures can then be loaded into Calamus where they can be manipulated, outlined, shadowed, and rotated as well as adjusted to a maximum size of 999 points.

As mentioned, the additional Calamus fonts included in this package are what, at least for me, make it attractive. I've done some experiments attempting to create my own logo and letterhead initials. I have yet to design anything I'm satisfied with. (I do have to accept some of the blame for that as I am better as an experimenter than as a designer.) The Calamus Vector Font Editor is available at deep discounts from Atari dealers, which certainly makes it an attractive addition to your Calamus setup.

Calamus seems to be responsible for its share of cottage font industries as well. And, as is the case with PageStream, new additions seem to appear daily. While the font packages mentioned elsewhere in this article are for the most part fine additions to a Calamus font library, it is important to note that the prices are somewhat deceptive. ISD markets entire typefaces, i.e. *Garamond* is a typeface while *Garamond Bold* is a font. Each typeface is comprised of a family of fonts. Unlike a GDOS program or PageStream, text attributes such as bold or italic are not added within the program. An attribute change requires a font change. The upside to all this is that should your typesetting needs require a true italic, rather than a font that has simply been skewed, most typeface families marketed by ISD will include that font. Some of the sets mentioned below only contain one variation of a typestyle, so base your font-buying decisions on your overall printing needs.

Modern Face

Bauer Bodoni
Bauer Bodoni Italic
Bauer Bodoni Bold
Bauer Bodoni Bold Italic
Bauer Bodoni Black

CG Century Schoolbook
CG Century Schoolbook Italic
CG Century Schoolbook Bold

Sans Serif

Antique Olive
Antique Olive Medium
Antique Olive Medium Italic
Antique Olive Nord Italic
Antique Olive Bold

ITC Avant Garde Gothic Extra Light
ITC Avant Garde Gothic Book
ITC Avant Garde Gothic Medium
ITC Avant Garde Gothic Demi
ITC Avant Garde Gothic Bold

Futura II Light
Futura II Book
Futura II Medium
Futura II Demi
Futura II Bold
Futura II Bold Condensed
Futura II Extra Bold
Futura II Extra Bold Condensed

Helios Rounded Bold
Helios Rounded Bold Italic

CG Omega
CG Omega Medium
CG Omega Bold

CG Triumvirate Ultra Light
CG Triumvirate Light
CG Triumvirate Light Condensed
CG Triumvirate Light Extended
CG Triumvirate
CG Triumvirate Regular Condensed
CG Triumvirate Regular Extended
CG Triumvirate Bold
CG Triumvirate Bold Condensed
CG Triumvirate Bold Extended
CG Triumvirate Heavy

Old Face

Garamond
Garamond Italic
Garamond Demi Bold
Garamond Demi Bold Italic

Garth Graphic
Garth Graphic Italic
Garth Graphic Bold
Garth Graphic Bold Italic

ITC Novarese Book
ITC *Novarese Book Italic*
ITC Novarese Bold
ITC *Novarese* Bold Italic

CG Palacio
CG Palacio Italic
CG Palacio Bold
CG Palacio Bold Italic

Schneidler Light Italic
Schneidler Black
Schneidler Black Italic

Transitional

ITC Souvenir Light
ITC Souvenir Light Italic
ITC Souvenir Medium
ITC Souvenir Medium Italic
ITC Souvenir Bold
ITC Souvenir Bold Italic

CG Times
CG Times Italic
CG Times Bold
CG Times Bold Italic

Script and Brush

Brush
Coronet
Dom Casual
Dom Casual Italic
Dom Casual Bold
Dom Casual Bold Italic
Signet Roundhand

Isabella
Lucia Script
Park Avenue
Quill
ITC Zapf Chancery Medium

Cherry Fonts

Unit #4 - 2250 Tyner Street, Port Coquitlam, B.C. Canada V3C 2Z1
Phone: (604) 944-2923

FontPaks for Calamus: $42.95 each

In their literature, Cherry Fonts advise that their fonts are each "hand drawn using extremely high-resolution typeface-rendering software," and are also "subjected to rigorous testing for weight balance and character spacing." In other words, Cherry Fonts are optimized to maintain their print integrity at all resolutions. While I haven't yet tested the Linotype output, I can testify that I'm impressed with what I get from my SLM804. I have FontPak #1 and FontPak #3 and hope to get more.

Those in the know will recognize, and appreciate, Cherry Fonts' *Unifont 49*, *Fenice*, and other interpretations. Good Stuff!

Cherry Fonts can either be purchased individually or in sets:

Facade, Facade Italic	**$24.95**
Unifont-49, Unifont-49 Italic	**$24.95**
Cherry Garamond, Garamond Italic	**$24.95**
Suisse Compact, Suisse Compact Italic	**$24.95**
Ice Medium, Ice Medium Italic	**$24.95**
Cherry Time, Cherry Time Italic	**$24.95**
Cherry Time Bold, Cherry Gotcha!	**$24.95**
Max Bold, Max Bold Italic	**$24.95**
Pompeii, Pompeii Italic	**$24.95**
Fura Bold Condensed, Fura Bold Condensed Italic	**$24.95**

FontPaks are $42.95 each

- **FontPak #1: Cherry Facade, Cherry Facade Italic, Unifont-49, Unifont-49 Italic, and Cherry Gotcha!**
- **FontPak #2: Cherry Garamond, Cherry Garamond Italic, Suisse Compact, Suisse Compact Italic**
- **FontPak #3: Ice Medium, Ice Italic, Ice Bold, Ice Bold Italic**
- **FontPak #4: Cherry Time, Cherry Time Italic, Cherry Time Bold, Max Bold, Max Bold Italic (Cherry Time Bold Italic is promised soon.)**
- **FontPak #5: Fura Bold Condensed, Fura Bold Condensed Italic, Pompeii Book, Pompeii Book Italic**

ABCDEFGHIJKLMN
RSTUVWXYZabcd
ijklmnopqrstuvwx
34567890!”#$%&’()

ICE Medium

Fonts by Guber

Sol Guber, 717 Elkington Lane,
St. Louis, MO 63132

Price: $12.50 each, 5 or more at $10.00 each

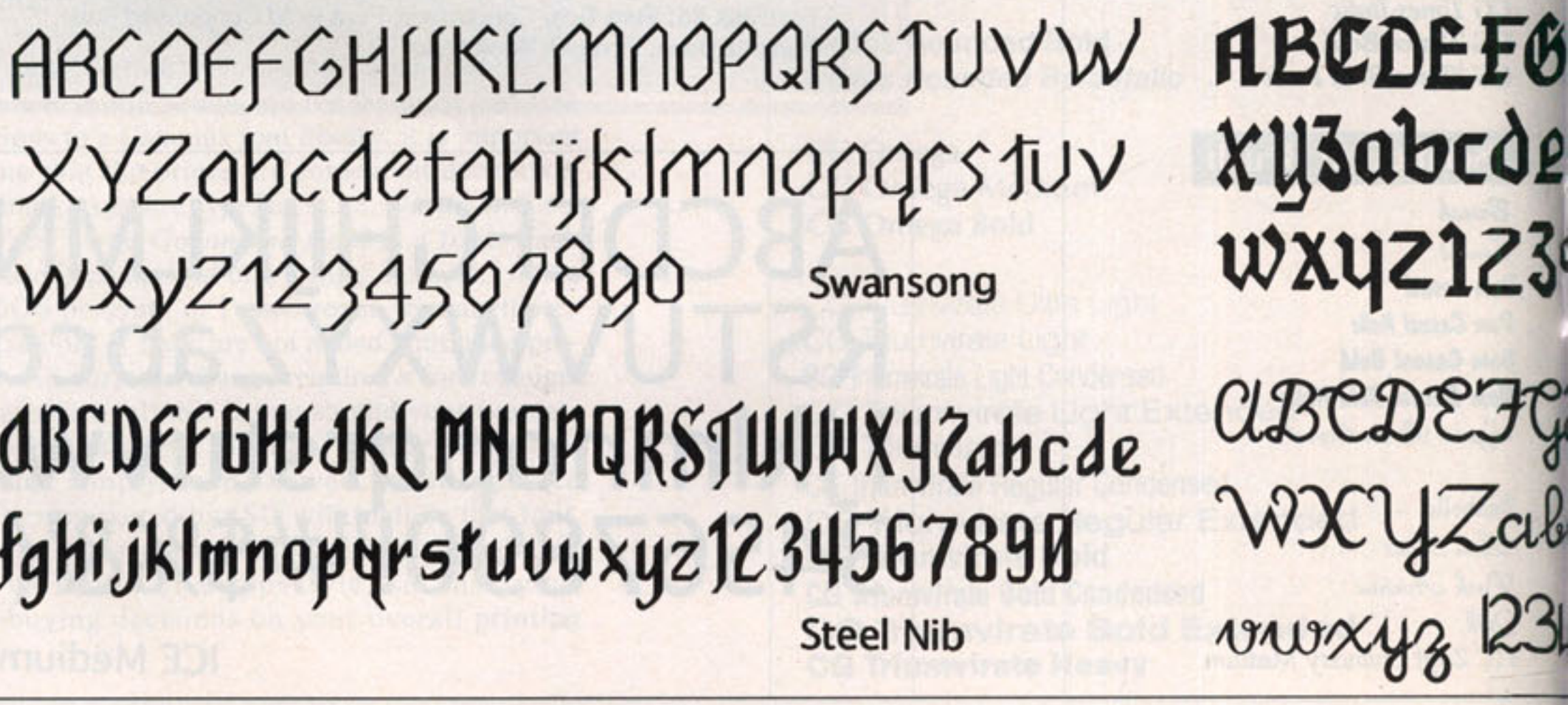
Fifty-seven. Yep, count 'em. Fifty-seven different fonts, most of which are available in a variety of formats — Calamus, PageStream, GDOS, or as a Hewlett-Packard downloadable font such as those used with the newest IBM version of WordPerfect, 5.1.

Each font, in its chosen version, is available for only $12.50. Order 5 or more and they're only $10.00 each.

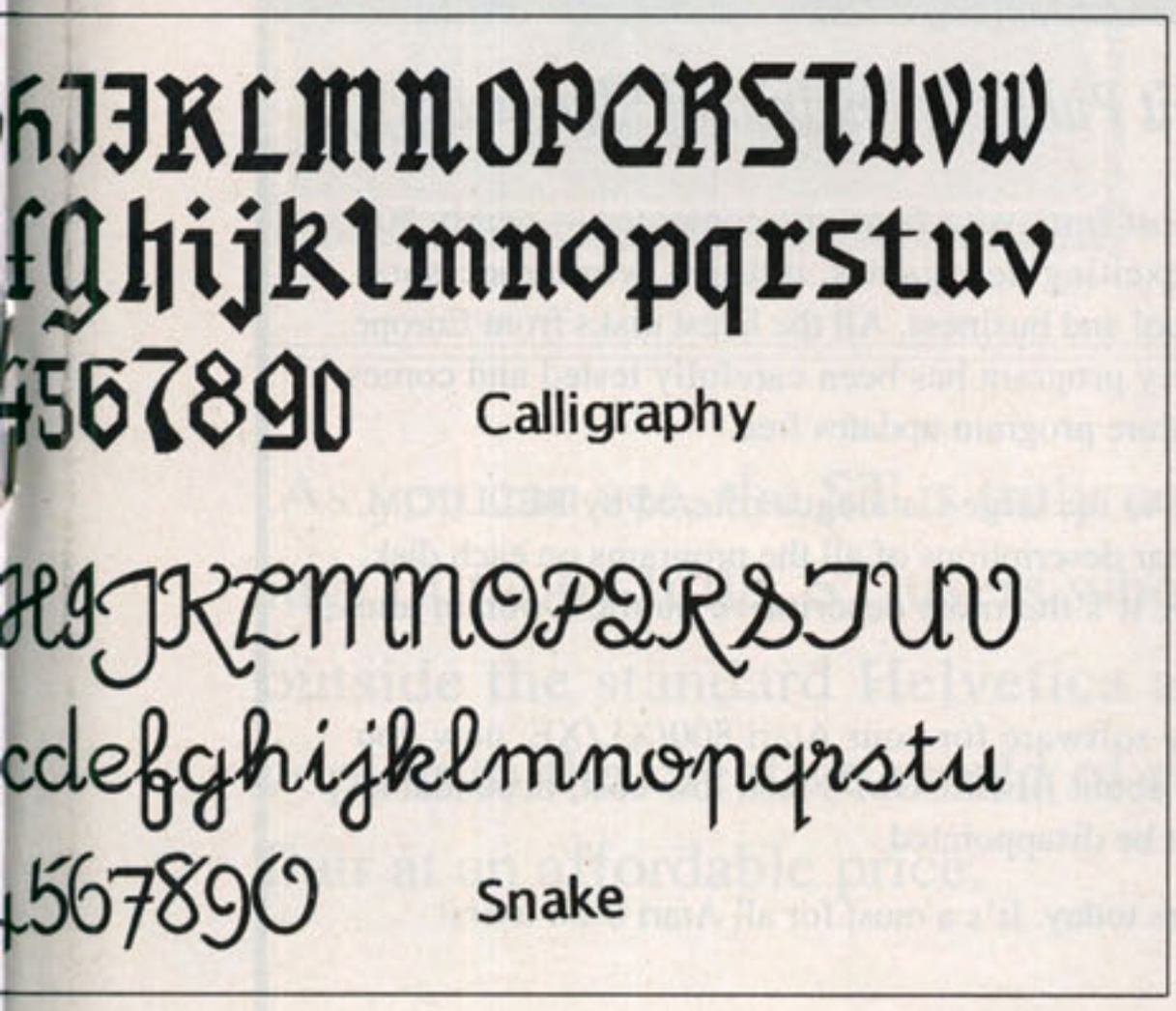
Mr. Guber will send out sample printouts if you send him a self- addressed 9 x 12 envelope with $.45 postage. Considering the vast array of styles available, I'd recommend taking a look at his printouts before you buy. Many are of the "love 'em or leave 'em" variety. One in particular, *Steel Nib*, is best described by, in this case, a punny cliche — different strokes for different folks. While admittedly it is a matter of taste, I don't care for the inconsistent sizing of this font, particularly the oversized lowercase 'g' and 'k' and larger '1', '3', and '7'. I'd love to see a similar version with consistent sizing. Many of the other fonts may be too heavily weighted for some tastes. Others, such as *Swansong*, are a delight in design, but still lack overall character. *Monroe* is an interesting, *Broadway*- style interpretation and *Bullwinkle* is simply interesting.

FONTS BY GUBER AND THEIR FORMATS

NAME	Calamus	PgStrm	GDOS	HP
42nd Street		Yes	Yes	
Art Deco	Yes	Yes		
Apple	Yes		Yes	Yes
Bakewell	Yes	Yes		
Boise	Yes	Yes	Yes	Yes
Boswell	Yes			
Boxie		Yes	Yes	
Bullets	Yes			
Bullwinkle	Yes			
Calligraphy	Yes		Yes	Yes
Camelot	Yes	Yes	Yes	Yes
Candyland		Yes	Yes	
Celtic	Yes		Yes	Yes
Century	Yes			
Classy	Yes			
Critchment	Yes			
Cupertino	Yes			
Dali	Yes		Yes	Yes
Derwent	Yes			
Fancy Chancery		Yes		
Future	Yes			
Gavaralli			Yes	Yes
Green	Yes		Yes	Yes
Half Uncial	Yes			
Hebrew	Yes		Yes	Yes
High Darby	Yes			
Manville	Yes	Yes	Yes	Yes
Math	Yes			



NAME	Calamus	PgStrm	GDOS	HP
Manilow	Yes	Yes		
Modern Bold	Yes	Yes		
Monroe	Yes	Yes		
Mosel	Yes		Yes	Yes
Norway			Yes	Yes
Oblique	Yes		Yes	Yes
Old English	Yes		Yes	Yes
Old Irish	Yes		Yes	Yes
Old Style	Yes			
Ornate			Yes	Yes
Pioneer	Yes	Yes	Yes	Yes
Pirate		Yes	Yes	
Pittsburgh	Yes		Yes	Yes
Peigno	Yes	Yes		
San Francisco	Yes	Yes	Yes	Yes
Serpentine	Yes			
Silic	Yes	Yes	Yes	Yes
Snake Bite	Yes			
Steel Nib	Yes	Yes	Yes	Yes
Stencil	Yes			
Stiletto	Yes	Yes	Yes	Yes
Swansong	Yes	Yes	Yes	Yes
Swissy			Yes	Yes
Toyland			Yes	Yes
Umbrage	Yes	Yes		
UltraThin	Yes			
UltraGothic	Yes	Yes		
Wolf Trap	Yes			
Vero Block	Yes			



Mirthful Fonts!

Mark N. Crislip, Box 5311, Columbia, SC 29250

Packaged sets for Calamus: $15.00 each

Mark Crislip is kind enough to tell the user which font style he's emulating for each of his designs. They are:

Taffeta — Tiffany
Delphyn — Delphin
Carolina— Korinna
SchoolBook — New Century Schoolbook
Claire — Benguiat Gothic
Opiate — Optima/Stone Sans
CaroWind — Benguiat
RagTime — Bernhard Antique
Chrome — Machine
Mouse — Musketeer

Mirthful Font!'s packaged sets are only $15.00 each postpaid or $25.00 for any two sets. Mark Crislip often offers even lower- priced specials, so send him a self-addressed, stamped envelope for further details.

Don't let the low prices of these sets fool you. These are quality, professionaly-done designs. I'm especially impressed with his newest *Carolina* addition, a cursive and cursive italic interpretation.

PACKAGED SETS:

- **CaroWind CaroWind, CaroWind Italic, CaroWind Condesnesd, CaroWind Condensed Italic, CaroWind Extended, CaroWind Extended Italic.**
- **Chrome Chrome, Chrome Oblique, Chrome Condensed, Chrome Condensed Oblique**
- **Mouse Mouse, Mouse Italic, Mouse Condensed, Mouse Condensed Italic**
- **Opiate Opiate Regular, Opiate Oblique, Opiate Condensed, Opiate Condensed Oblique**
- **Sweet Carolina, Carolina Oblique, Carolina Condensed, Carolina Condensed Oblique, Carolina Extended, Carolina Ext. Oblique, Carolina Cursive, Carolina Cursive Cond.**
- **Claire Claire, Claire Italic, Claire Condensed, Claire Condensed Italic**
- **Delphyn**
- **Schoolbook, SchoolBook Bold, SchoolBook Italic**
- **Taffeta, Taffeta Italic, Taffeta Condensed, Taffeta Condensed Italic**

Ideal West

Design Department
2700 Brookpark Road
Cleveland, OH 44134
Phone: (216) 661-7935

Packaged sets for Calamus: $39.95

At present, this company only has two type styles available. But, what an impressive assortment of faces each of those styles includes: Ideal West's *Broadway* and *Pump* packaged sets are professionally done, fine implementations of these two fonts. They increased the thin lines of the *Broadway* font by 50% to maximize that font's 300 dpi printout quality. The standard *Broadway* font maintains its integrity all the way down to 9 points; the embellished styling of the *Broadway Engraved* font in medium or expanded is best at 21 points or larger and 24 points or larger is best for the condensed versions.

Their *Pump* series is an equally fine package. All fonts, except the *Broadway Engraved* styles, contain both uppercase, lowercase, and extended character set characters.

PACKAGED SETS:

SET 1: Broadway, Broadway Medium, Broadway Med. Italic, Broadway Condensed, Broadway Cond. Italic, Broadway Extended, Broadway Ext. Italic, Broadway Engraved Medium, Broadway Engraved Med. Italic, Broadway Engraved Condensed, Broadway Engraved Cond. Italic, Broadway Engraved Expanded, Broadway Engraved Exp. Italic

SET 2: Pump, Pump Medium, Pump Med Italic, Pump Med. Condensed, Pump Med. Cond. Italic, Pump Med. Extended, Pump Med. Ext. Italic, Pump Demi Bold, Pump Demi Bold Italic, Pump Demi Bold Condensed, Pump Demi Bold Cond. Italic, Pump Demi Bold Extended, Pump Demi Bold Extended Italics

ATTENTION ATARI 8-BIT USERS

Where is the best place to buy Atari 8-bit Public Domain and Shareware?

That's easy. BELLCOM has all you need to get the most from your favourite computer — nearly 500 packed Theme Disks to choose from! Hundreds of exciting new games, utilities, wordprocessors, graphics demos, and useful applications for home, school and business. All the latest disks from Europe. Many items have never been offered before! And every program has been carefully tested and comes GUARANTEED to run. BELLCOM even gives you future program updates free.

It's almost unfair to compare anyone else's catalogue to the large Catalogue offered by BELLCOM. Unlike the others, BELLCOM's Catalogue contains clear descriptions of all the programs on each disk. So you know exactly what you're ordering. Frankly, it's the most descriptive public Domain and Shareware catalogue available anywhere!

So, if you've been wondering where to obtain quality software for your Atari 800/XL/XE, now you know. Join the thousands of users who already know about BELLCOM's fast, low cost, dependable worldwide service, with free help if needed. You won't be disappointed.

Send for your Catalogue and FREE DISK coupon offers today. It's a must for all Atari 8-bit users! And it's FREE!

BELLCOM, P.O. Box 1043-E, Peterborough, Ontario, Canada K9J 7A5

MS Design

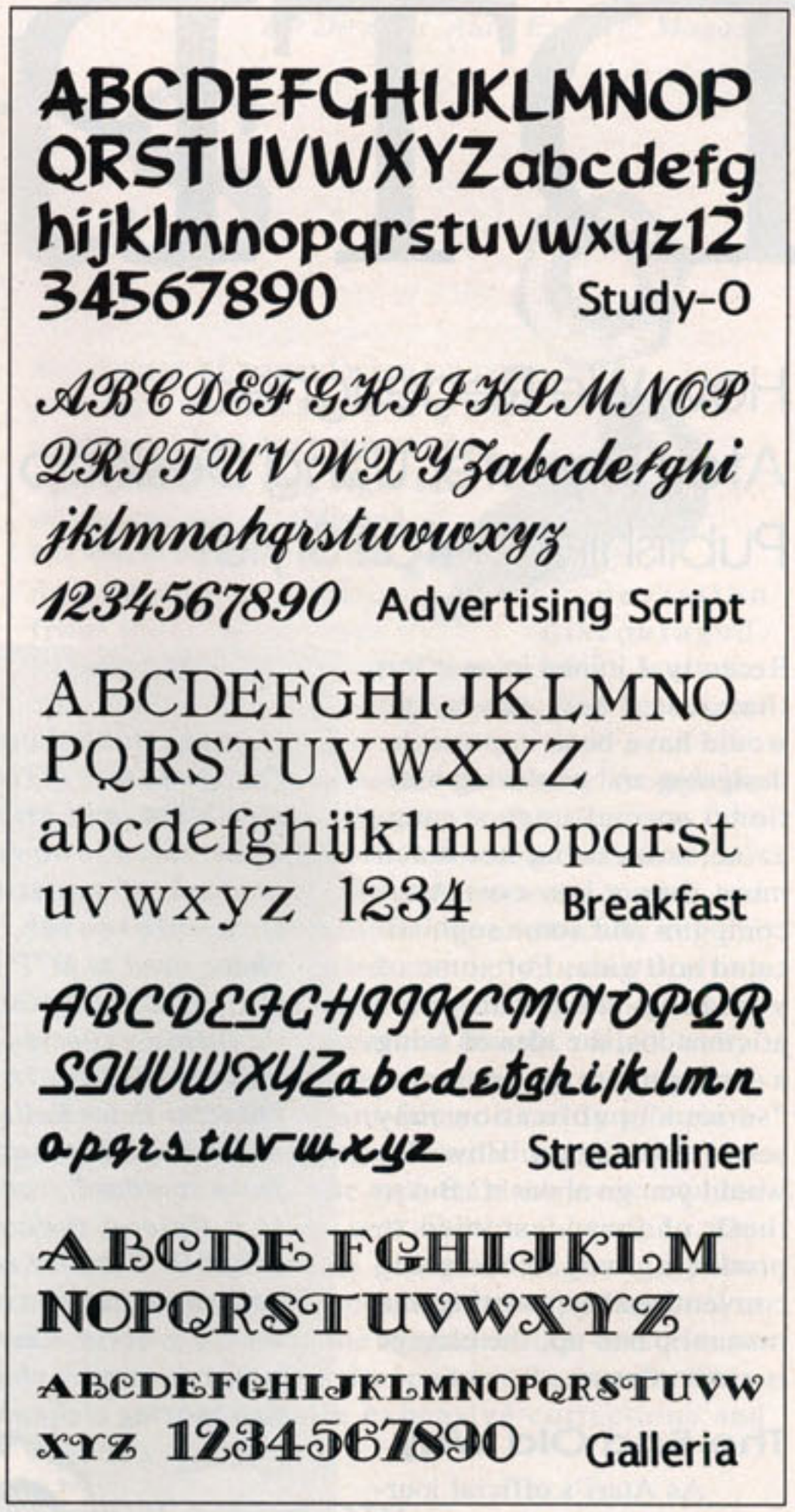
611 West Illinois, Urbana, IL 61801
Phone: (217) 384-8469

Font (Group) Sets: $39.95 each;
$199.00 for all 9 sets
plus $1.50 per group shipping/handling
Add $3.30 for COD
7.25% sales tax for Illinois residents

Each MS Design set includes both the Calamus and complete PageStream versions of their fonts. Just because this is the last company I've listed here, don't begin to think it's because of any order of preference. This compnay produces some truly fine work. I'm partial to their *Old English*; *New Bean* and *HoBow* are interesting, and *Kiddos* is fun. They offer enough style and variety to fit any publishing mood or tempo.

Henry Murphy and Carl Stanford originally released some of their designs as Shareware; however, the packaged versions are improved renditions of those initially released.

Group #1	Study-O, Study-O Italic, Streamliner, Stencil
Group #2	Gaudy, Gaudy Condensed, Legendary, Solemn
Group #3	Cursive, WindyCity, Trumpet
Group #4	MerryHill, Primate, Advertising Script
Group #5	HighStyle, Gillies, Galleria
Group #6	Kiddos, HoBow, Terragone
Group #7	Old English, Old English Condensed, Rhiner Script, Gill Ko
Group #8	Advanced, FreeFoot, Slogan
Group #9	Circley, NewBean, Breakfast

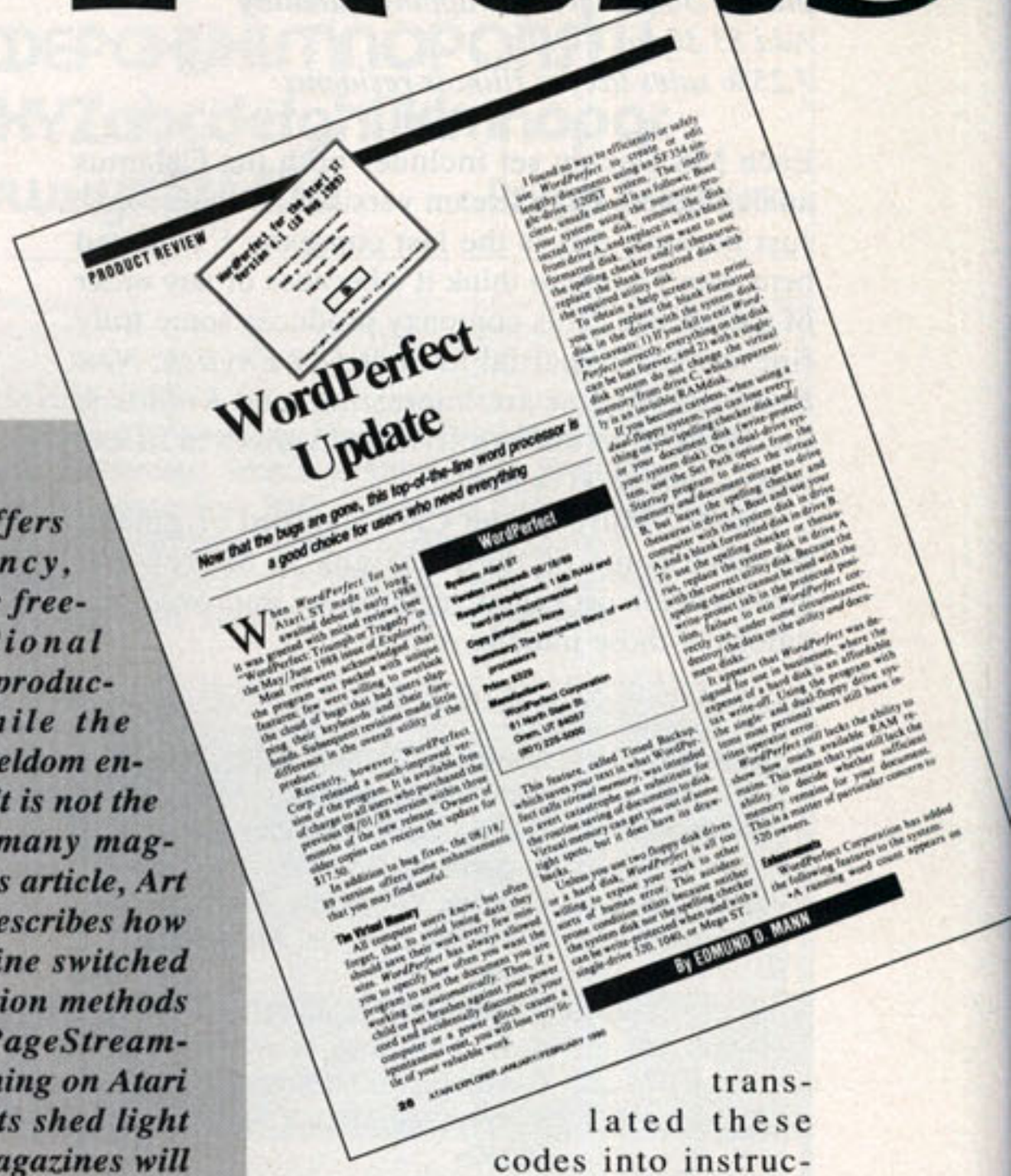


Advertising Script

As you can see, the ST is truly conquering the realm of desktop publishing. Little by little, ST users who are gaining the confidence to venture outside the standard Helvetica and Times Roman headline and body-copy into the creative world of expressive page design, can do so with flair at an affordable price. ■

DTP Nuts

How We Redesigned Atari Explorer Using Desktop Publishing, Atari Style!


PRODUCT REVIEW

WordPerfect Update

Now that the bugs are gone, this top-of-the-line word processor is a good choice for users who need everything

WordPerfect

By EDMUND B. MANN

Desktop publishing offers far greater efficiency, flexibility, and artistic freedom than conventional methods of magazine production. Moreover, while the changeover to DTP is seldom entirely straightforward, it is not the daunting experience many magazine staffs fear. In this article, Art Director Peter Kelley describes how Atari Explorer magazine switched from standard production methods to a state-of-the-art PageStream-based DTP system running on Atari computers. His insights shed light on the process other magazines will undergo as they change over to this fast-moving technology.

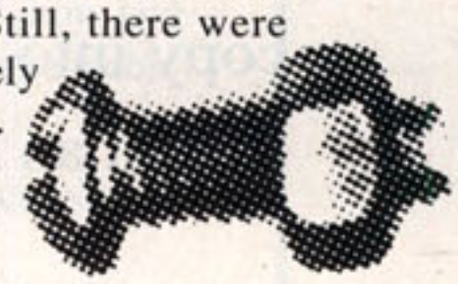
Recently, I joined in an effort that just a few years ago would have been impossible: designing and producing a national special-interest magazine, solo, using not much more than a low-cost Atari computer and some sophisticated software. For some of you long-time computer aficionados, the idea of using a computer to design a "serious" publication may seem very natural. How else would you go about it? But to those of us accustomed to producing magazines using conventional typesetting and manual paste-up, the change is extraordinary.

The Bad Old Way

As Atari's official journal, Atari Explorer was no stranger to computers even before DTP arrived on the scene. We always used word processors to edit manuscript, and adapted quickly to using modems and electronic mail to send files back and forth. Five years ago, Explorer implemented a modem-based link between then top-of-the-line 1040 ST's and the mainframe "front end" driving our printer's typesetting machine.

At the time, it sounded like a great idea. Specific codes were designated for each format: headlines, bylines, copy, etc. Editors would insert these codes into articles as part of the process of manuscript preparation. Article files were then transmitted by modem to the typesetting computer which translated these codes into instructions for digital type specification. Type was output as galleys, long sheets of paper with only one column of type running down them. These galleys were returned by messenger (between 24 and 48 hours later), and we cut them up and pasted them onto mechanical boards to create the pages of the magazine.

By eliminating the staggering labor cost of keyboarding manuscripts, the system supplied us with high-quality type at relative savings. It also eliminated errors that resulted when non-technical personnel would manually typeset Explorer's usually-quite-technical material. Still, there were numerous places that things routinely went wrong at either end of the link. Type was often mis-specified, codes were mis-entered, and strange errors were sometimes introduced in



& Bolts

By PETER KELLEY
Art Director, Atari Explorer Magazine

Who's got the best font design package in the world? Hint: it isn't Apple, and it sure ain't IBM!

Font Designer 1.1

By DONAVAN VICHA

Atari Explorer,
before (left) and after DTP.
Our old conventional magazine production utilized relatively inflexible galleys of type for columns. Copy could not be wrapped around artwork, changes in headline sizes were difficult, and boxes and rules were created by hand. DTP production not only overcomes these shortcomings with an amazing array of options, but it offers dramatic cost savings as well.

modem transmission. Any of these mishaps would force a repeat of the entire process — a single article might go through the system twice before the glaring errors were eliminated. Less-obvious errors could then be repaired by generating small "patches" of type, for hand-cutting into finished mechanicals — itself a finicky, costly, and time-consuming process.

Furthermore, the system was severely lacking in flexibility. The art department had no systematic way of communicating its design goals to the editors, who were the ones actually handling the input of specifications. It was therefore impractical to base any aspect of page design on complex type specifications (e.g., odd column widths, text-runarounds, etc.) Instead, a very rigid set of layouts was established for each section of the magazine, and creative deviation from these norms was discouraged. Experimentation, beyond a certain point, was also discouraged, less because of its cost, than because of the time it would require.

And there were further problems, though we didn't see them as problems, yet, but simply as "the way things had to be done." Boxes and rules, so useful in offsetting page elements from one another and for confining information in geometrically-regular ways, had to be created manually, using drafting tapes. Tinted areas were specified by hand-cutting overlays of a transparent red plastic, called "rubylith." The overlays were later used by the printer to create windows for tint films; a costly and time-consuming process. Any desired change in type size or the creation of white type on black areas required expensive photostats, and additional handling. The resulting mechanicals consisted of many, painstakingly-arranged pieces, and it was not unusual to discover in proofing the magazine, that one or more pieces had shifted or dropped off the boards. This, again, would require expensive corrections and re-shoots.

Deciding on DTP

In our privileged position as Atari's official journal, Explorer had early access to desktop publishing technology. Our offices were efficiently stocked with 4-megabyte Mega ST's and SLM804 laser printers. Though the hardware was in place early, the first generation of Atari desktop-publishing software was impractical for the complex and exacting task of magazine production. Products like TimeWorks' Desktop Publisher ST and SoftLogik's Publishing Partner were great tools for preparing reports, newsletters, and other small-scale publications. However, while both these products would have been adequate for basic proofing and page design (especially since both could output to the Atari SLM804 laser printer), there was no easy way of translating their output to

the resolutions required for lithographic reproduction.

Why not generate our pages directly from the laser? Compare the appearance of this paragraph, proofed on laser and stripped in by hand, with that of the one following. At a resolution of 300 dots per inch, laser output looks great on paper, but appears fuzzy when compared with the output of a high-resolution imagesetting machine. This is hardly surprising when you consider that a square inch of laser output contains 90,000 dots, while a square inch of even low-resolution imagesetter output, at 1,270 dpi, contains 1,612,900 dots — almost 18 times as many!

In addition to this basic problem of image resolution, early DTP products did not handle kerning (intercharacter spacing), leading (interlinear spacing), and hyphenation/justification with nearly the sophistication of the typesetting systems we were already using. The resulting type, though reasonably attractive when compared to the monospaced output of dot-matrix or letter-quality printers, was far less professional-looking than that produced by the typesetter.

The PostScript Solution

It was a while before an industry-standard solution was provided for these problems. The second generation of Atari desktop publishing tools: Calamus, DeskSet II, and PageStream, all offered simple means for generating output from high-resolution imagesetting equipment: the first two using CompuGraphic typesetters (via CompuGraphic's proprietary page-description system); the latter via PostScript output to a wide range of printers and high-res imagesetters. All three of these software systems, moreover, offer powerful and sophisticated type-management functions, including user-alterable character positioning and hyphenation libraries.

Ultimately, we made the decision to go with PageStream, largely because of its ability to generate PostScript output files. PostScript is a graphic "page-description" language developed by Adobe Corporation, that describes page elements economically in terms of operations, rather than resolution- dependent arrays of dots. A PostScript program file can be interpreted to generate copy at any desired resolution — from the low resolutions possible on laser printers, to the higher resolutions used by imagesetting equipment. It thus provides a convenient means for translating documents between different types of display and imaging hardware.

Since the purchase of an in-house imagesetter was out of the question (they cost more money than Explorer's operating budget could justify, though costs are falling rapidly), we knew that we would have to employ the services of an outside agency or "service bureau" to generate our final pages. There are many such businesses in our area, most of which use PostScript-compatible imagesetters thanks to Adobe's successful marketing of the PostScript standard to a wide variety of equipment manufacturers. Many of these businesses, moreover, allow the submission of PostScript files by modem — crucial to the efficiency of our new production process.

We also chose to go with a PostScript-based system because it permits us, when necessary, to debug the process by which our DTP program communicates with high-res output equipment. Normally, we find that there's a good correlation between PageStream's direct bitmap output to the Atari SLM804 laser, and its PostScript output to our service-bureau's Linotronic imagesetter. For this reason, it's been unnecessary either to purchase a PostScript-compatible laser printer, or to drive the SLM804 via Imagem's UltraScript PostScript interpreter, under normal circumstances. However, when, as occasionally happens, the service bureau's Linotronic chokes on PageStream's PostScript output, it's useful to be able to load up UltraScript and run the PostScript file locally to isolate the problem. Indeed, because UltraScript supplies verbose error messages, it is far more useful as a debugging tool than any PostScript laser printer would be.

Go With the Flow

Once we had the basic software configuration set, we had to consider overall production procedures. This is the process we have evolved at Atari Explorer: Articles are written or received at the editorial office in one of the standard Atari word processor formats. There they are imported into WordPerfect 4.1, edited and checked.

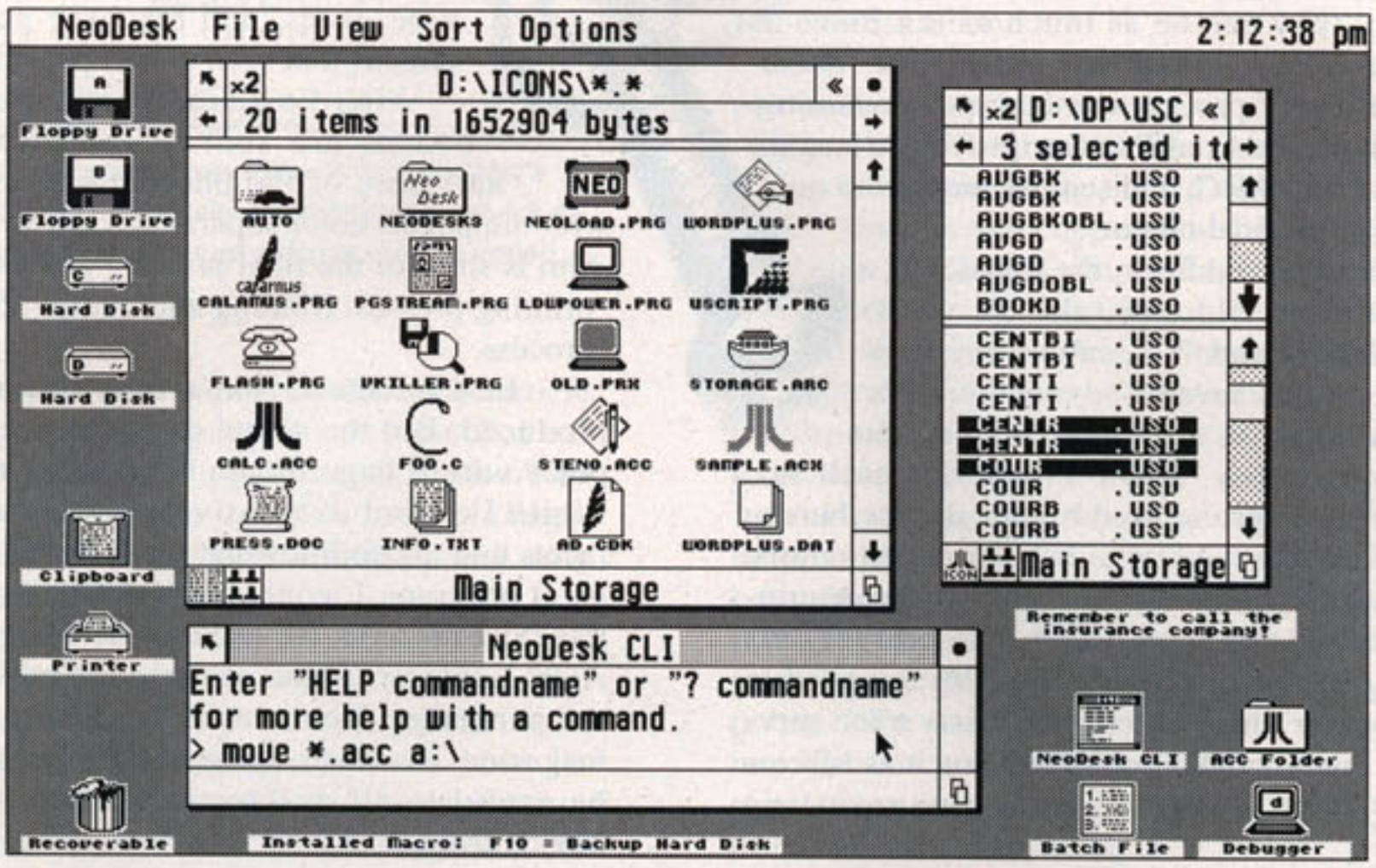
Because our design studios are separate from the editorial office, we transmit story files by modem. The final versions are compressed using the popular archive utility ARC (for the efficiency the smaller file sizes give to telecommunications) and uploaded to GEnie, the General Electric information service, via Xmodem file-transfer. I can then download them at my convenience and extract the word processor files. These files are imported into PageStream using its import module.

Once the pages have been designed, laser output is used to proof or check them. Usually, each article is kept in a separate PageStream document. Copies of these PageStream files can be telecommunicated back to the editorial office for checking. However, at this point we usually establish a "paper trail" by delivering copies of the laser output to the office either by fax or mail. The editors can make physical notations on these copies (they love that red ink!) and this saves the time of printing more laser copies. (PageStream can take minutes to build a complex page.)

Gribnif Software Presents...

NeoDesk™ 3

The Ultimate Desktop



NeoDesk™ 3 is a complete replacement of the boring, built-in desktop that comes with the Atari ST. Its advanced, yet intuitive, graphical interface will make your computer both easier to use and much more powerful.

It is the easiest and most affordable way to realize your Atari's true potential. Many have called it "the ultimate upgrade for the Atari ST".

NeoDesk introduced the idea of placing your commonly used programs directly on the desktop while pioneering the concept of assigning different custom icons for individual files and folders.

Now NeoDesk 3 takes you a step further, introducing several new and original concepts which will make you want to scream "I want my NeoDesk 3!".

In addition to keeping commonly used files and programs on the desktop, you can now also keep folders on the desktop. And not to limit your creativity, with NeoDesk 3 you can even write *Desktop Notes*™ right on the desktop itself.

Only NeoDesk 3 allows you to look at two different parts of the same window, thanks to its amazing *Split Window* feature. Of course, each window can be set to display text or icons, independently of any other window. Each window can even have its own sorting and text options.

NeoDesk is also smart, using all of its available memory for file copying so that as many files and folders that will fit into memory are read in at once. No more useless disk swaps, even hard drives benefit from its speed and efficiency.

Add some of the other NeoDesk 3 features, such as a brand new Icon Editor, keyboard equivalents, desktop picture, file templates, *Active Icons*, and *Hot Keys* (execute your favorite program with a single key), then you have more than enough reasons to buy NeoDesk. But for those of you who need a little more, read on.

NeoDesk 3 now offers a unique *File Clipboard*™ which lets you temporarily hold files and folders in memory while you are busy doing other things. In a way, you can think of it as an automatically expanding and shrinking ramdisk.

You now also have the power of *Macros*, with which you can automate any series of desktop operations like opening windows, copying files, running programs, etc. These can also have *Hot Keys* assigned to them.

NeoDesk 3 even has special support for 5 1/4" floppy drives and formats all disks with the correct information so they work on most MS-DOS computers.

From low resolution to ultra high resolution, NeoDesk 3 supports up to 10 different resolutions in each system.

Of course, these features would not be useful unless they were easy to use. Rest assured, NeoDesk 3 has been designed to be "upwardly compatible". Use NeoDesk just like you used the original desktop, no need to forget all that you have learned.

It doesn't stop there. The included *Recoverable Trashcan* lets you recover files deleted with it at any time in the future. It was created using the *NeoDesk Developer's Kit*, which opens a whole new world of possibilities. There's also the *NeoDesk CLI* (both available separately), a complete window based command line interpreter which allows you to create pop-up menus, automate file operations, and much more.

No matter who you are, NeoDesk 3 has something for you. From helpful search capabilities to a powerful file reorder function. Thanks to its ability to remove itself from memory, it only needs about 35K of memory. Of course, there's lots more, which you can discover by ordering today!

NeoDesk 3 and the NeoDesk CLI are available from your local dealer, or order toll free by calling (800) 284-GRIB and get FREE 2nd Day Air (US only). Call or write for upgrade and other information.

GRIBNIF SOFTWARE
P.O. Box 350 • Hadley, MA 01035
Tel: (413) 584-7887 • Fax: (413) 584-2565

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These corrections are returned to me and incorporated into the PageStream files. When the file is complete, the PostScript printer driver is loaded into PageStream. Then the file is "printed" to disk, meaning that the file is translated from a PageStream file into an Encapsulated PostScript (EPS) file. Since Encapsulated PostScript files contain all the instructions to print pages independent of the host software environment, including font information, they can be as much as ten times as large as native PageStream document files. Therefore, the "printing" process can be time consuming. When finished, the final PostScript files are again compressed using ARC, and sent by modem to our service bureau for final output.

Even in archived form, the transfer of a large PostScript file can take 20 to 30 minutes at 2,400 baud. Yet, submitting files in this manner has several advantages. For one thing, it allows us to sidestep the problem of disk compatibility. While PostScript itself is generic, the IBM system used by our service bureau would have trouble reading a disk formatted on one of our workhorse Mega ST's. (Current Atari equipment, including the new Mega STe, solves this problem by formatting disks in IBM-compatible fashion; however, the problem still exists when service bureaus employ other equipment, such as Macintoshes, as front-ends for their imagesetting equipment.)

The other advantage to submitting files by modem, of course, is that we only have to go to the service bureau once. In fact, our bureau operates 24 hours a day so that a file sent during the night is generally ready for pick-up first thing in the morning.

Once paper output is received, I mount the pages on stiff, heavy paper boards with tracing paper overlays, in the same way that our mechanicals have been prepared in the past. At this point another round of proofing takes place and any last minute corrections can be noted on the tracing paper right on top of the error. The tissue paper also serves to protect the mechanical from scratches and dirt, and instructions to the printer are written right on it.

The mechanical board is larger than the finished page, both to protect the "live" area on the page and to provide space in the margins to affix any overlays. Crop marks showing the printer where the edges of the pages will be are drawn on the mechanical board in the margins.

Though the equipment at our service bureau can output finished film for direct use by a printer, we've elected paper output for several reasons. First, paper is cheaper than film, and our printer charges less of a premium to shoot our mechanicals in-house than our service bureau charges for film output. Second, it's difficult to do last-minute corrections on film, except by resubmitting entire pages. By contrast, we can group patches for several pages together on a single sheet of output paper, then cut the finished output into our more-or-less conventional mechanicals by hand.

The choice of 1,270 d.p.i. output is also aimed at cutting costs. Though imagesetters can produce output at 2,400 d.p.i. and beyond, we feel that the added cost is not justified by the almost indiscernable improvement in the quality of type, rules, and machine-generated tint screens that such output provides.

After final corrections, the mechanical boards are sent to the printer. There, halftones of the photographs are combined with the pages, color separations are stripped in, and film is shot for the final printing processes on offset printing presses. Binding and mailing completes the process.

In a nutshell, that's how this magazine is produced. But the actual design process that takes place within PageStream is far more complicated. While I cannot exhaustively review all the many facets and capabilities that make PageStream such a great program, I would like to describe how certain PageStream tools are used in the design of the new Atari Explorer. Some of these are most relevant to the particular problems of producing a periodical magazine. However, some of our tips and tricks will be useful to all desktop publishers, veteran and novice alike.

His Master's Page

Fundamental to the design of a multi-page document are the concepts of formats and grids. By using repeated elements like column size, type style, margins, page numbers, rules, etc., consistency is maintained from page to page within individual articles and sections and distinctions are clearly made among features, departments, and advertising copy.

Fortunately, Desktop Publishing is perfect for creating and maintaining consistent formats. PageStream allows you to create a "Master Page" which will contain any element common to all your pages. A document can even be double-sided so that right and left pages will place these elements in different positions.

For Atari Explorer, I create the folio line and type on the Master page. The page number is inserted as an "m" on this page using the "Insert Page Number" option in the layout menu. The correct page numbers automatically appear on the actual pages in the PageStream file. Since each article is in a separate file, the page numbers on each will run 1, 2, 3, etc. Once the placement of each article in the magazine is decided and the time comes for final output, blank pages can be inserted in front of an article in order to make the numbers on the particular pages correspond to the actual ones planned. Then when the file is

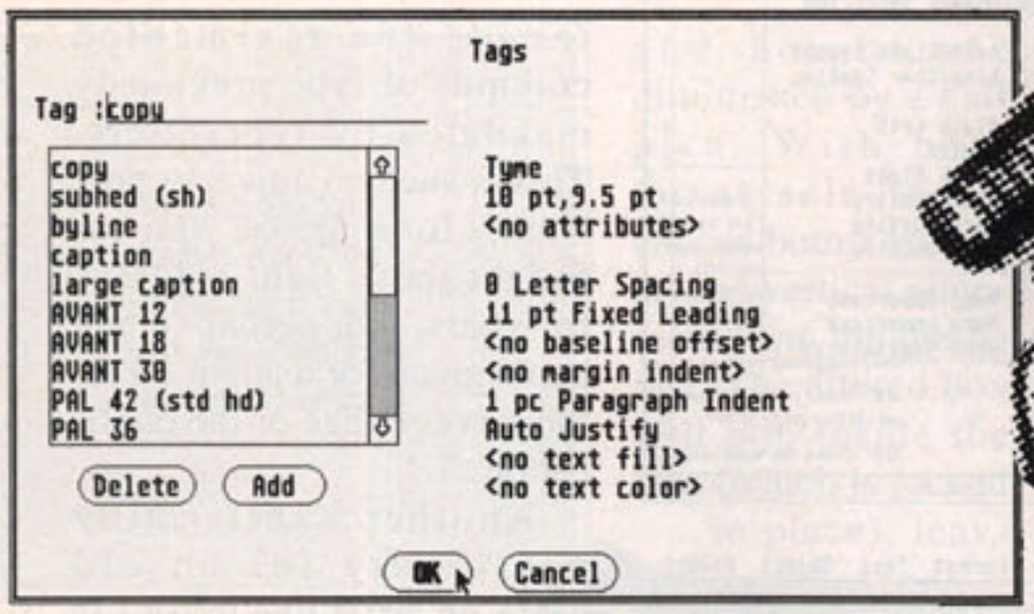


Figure 1. This Tag dialog box shows some of Atari Explorer's type formats. Attributes for the selected tag (copy) appear at right. When no value is chosen, that attribute may be varied within tagged text.

printed, I can select only those pages with the article on them to print, skipping the blank ones. For example, a three-page story appearing on pages 67-69 would have 66 blank pages added up front. PageStream inserts the correct page numbers, and only pages 67 to 69 are printed.

Pour It On

It would be inefficient to recreate the same master page each time an article is to be laid out. Instead I retain a single file which I use as a template or format file. In addition to the Master page, this file contains a string of pages with blank columns created using the "create columns" selection of the edit menu. Atari Explorer generally uses pages with either two or three columns and specific margins outside and between the columns. The empty template file columns are linked so that copy will flow from one column to the next.

Each time I start to work on an article, I open this file, import the word processor file into the first column and let it flow into the pages. Then I immediately save the file to a new name so that I retain the template as an unchanged blank file.

In addition to the columns, the template file contains a roster of tags for type specification. It would be difficult to exaggerate the value of the tag function in the production of any formatted document. Page after page, there are repeated styles and sizes of type in this magazine. It would be extremely tedious to specify each attribute over and over again. PageStream allows you to completely bundle every aspect of type style, size, attribute, indent, etc. under a single tag name. This tag can be applied to any highlighted text and reused throughout a document. Figure 1 shows some of the tag formats which I routinely use on these pages. By storing up a complete list of formatted type applications, I can easily maintain that important consistency.

When a story is poured into the template and saved, the type is ready to be be formatted. By selecting the first column of a linked chain of columns in object mode and tagging it as "copy," all the type in the article is tagged. Then it's a simple matter of going into the document and selectively re-tagging particular elements like headlines, bylines, subheads and the like, in text mode.

If none of the standard tags are quite right, I can easily create new ones. Or I can remove the tag application for any selected text by going to the tag dialog box and deleting the tag name and clicking on "OK." The selected copy will be freed from all its tag attributes and can be changed at will. Once copy has flowed into the linked full columns of the template and has been tagged, it's a simple matter to design pages by resizing the existing columns to make way for the addition of art, headlines, captions or just more white space.

I use another trick to make type line up automatically from column to column. Explorer's body copy is 9.5 point Tyme with 10 point width (it is slightly expanded) set with a fixed leading (interlinear spacing) of 11 points. (We won't go into the intricacies of measuring systems here, if you don't know picas from points, suffice to say that they are common units for specifying type.) Setting the vertical component of PageStream's page-grid to a corresponding 11 points, (see Figure 2) insures that columns that snap to this grid always contain an integral number of lines of copy, and that type always lines up across the page. In order to maintain this consistency of body-copy spacing, larger display type (such as used in headlines) or type on different leading (such as used in captions) is either created as an object outside the copy columns or put into a separate text box.

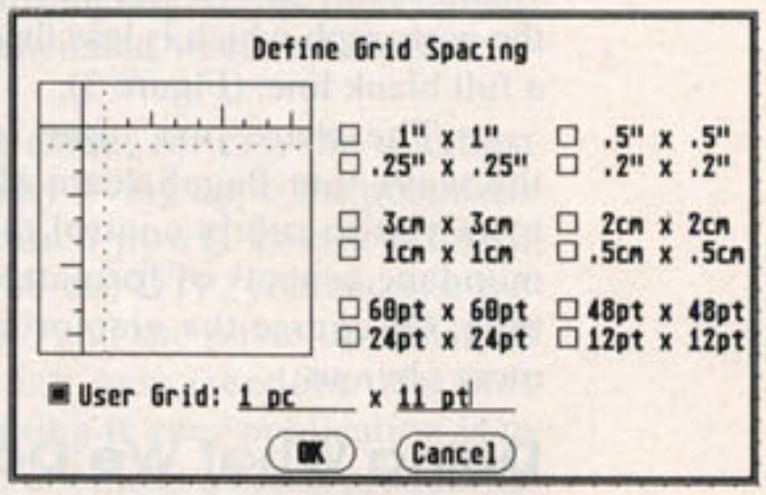


Figure 2. By creating a user-defined grid with vertical units equal to our line space (11 points), all text boxes will have integral numbers of lines.

The next problem is what to do about subheads that appear in the text columns but which are bigger than the body copy. Here the super- and subscript functions really help. Rather than being limited to mathematical applications, superscript and subscript allow type to be moved up or down slightly by amounts less than a full line space. For instance, our subheads are 12 points tall. But in order to keep lines of copy above and below the subheads even with

neighboring columns, the subheads are set on the same 11 point fixed leading as body copy. By putting one blank line above each subhead and imposing four points of superscript space beneath, the subhead can be floated neatly in two vertical lines of space, without disrupting the overall 11-point leading.

This same trick is also useful for putting only a half a type line of white space above and below a paragraph (for instance, in the question-and-answer format of the "Dialog Box" article in this issue.) I start out with a full blank line of space above the question paragraph and no extra space below it. Then the question copy is made into superscript by about half a line space. The result is a pleasing break of white space above and below the paragraph which is less than a full blank line. (Figure 3).

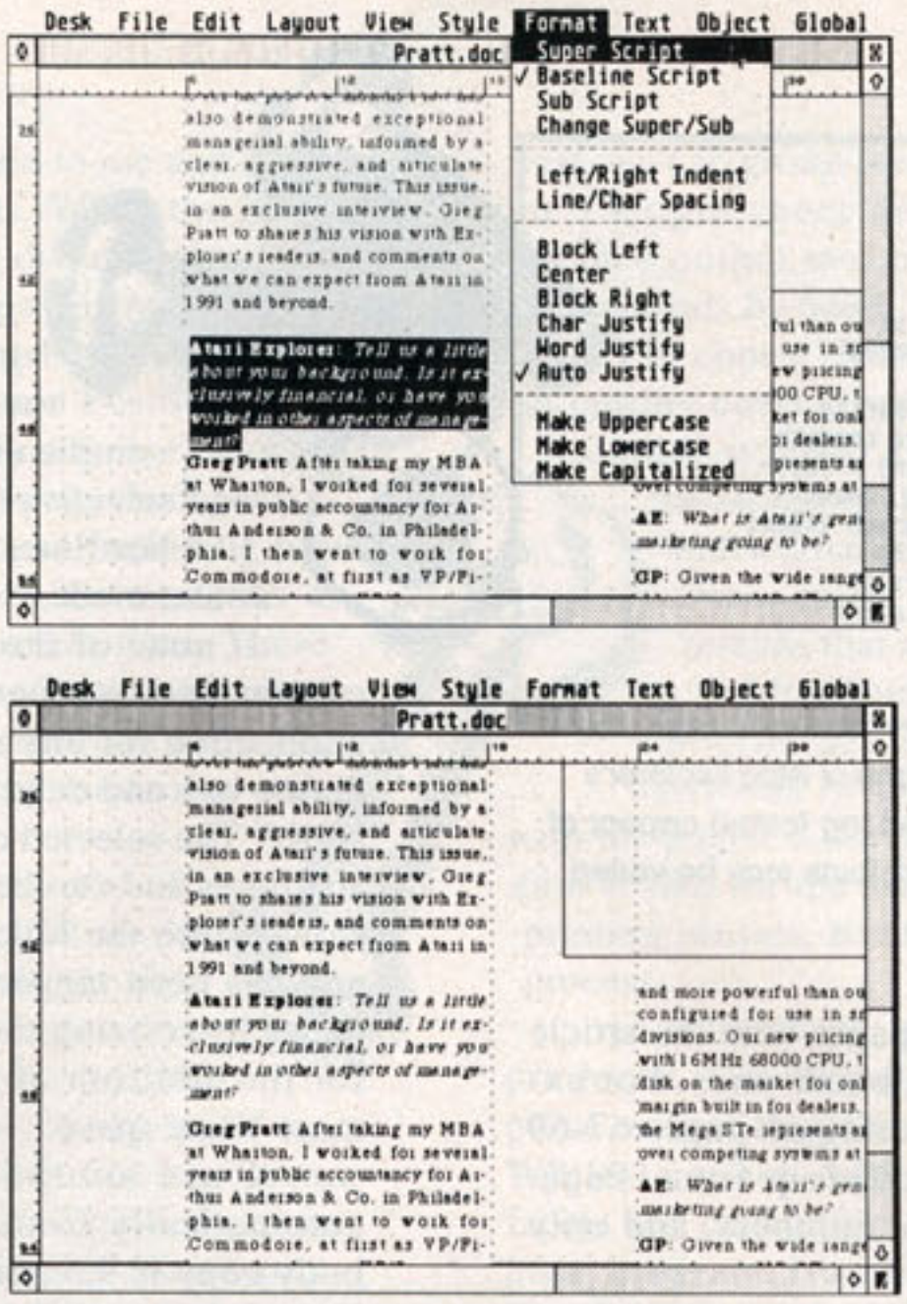


Figure 3. Half-line spacing between blocks of type is possible using super- or subscript functions. A paragraph with a full line space above it and no extra space below it can be selected (top) and moved up with superscript to leave space equally above and below it (bottom).

These are just some of the ways that PageStream allows you to subtly control the mundane aspects of formatted type. Of course the glamorous aspects of DTP are more obvious.

Doing What We Do Best

Until now we have been talking about the ways DTP can recreate the professional standards of type presentation which were possible even with our old production system. While this is an important consideration, the real fun of using a personal computer for design work is in doing things that are impossible by other means.

The flashiest tool available is text runaround. Simply, this allows objects to push body copy out of the way, conforming to the outlines of the selected object. Figure 4 shows the dialog box of options for text runaround. Type can continue to flow from column to column as adjustments are made to any of the objects in a layout. A page can be adjusted to make the available copy fill exactly to the end simply by changing the size of a picture. Text run-arounds shatter dull graphic design limitations by allowing pictures, boxes, or white space to invade the regimented columns of type previously mandated by typesetters. This is such an amazing possibility for someone who has fought those tight columns for years, that perhaps I can be forgiven for using it on almost every page of the publication.

Another exhilarating possibility for an old paste-up artist like myself is the ability to duplicate objects with an exactly-measured shift between them. I love using two thin rules closely spaced, not only because of their elegant, light appearance, but also because it is such a difficult thing to do manually. With PageStream I can easily draw a rule snapped to the grid. Then, with unerring consistency, I can duplicate the selected rule with just a small Y-axis shift (Figure 5) to create two half-point thick

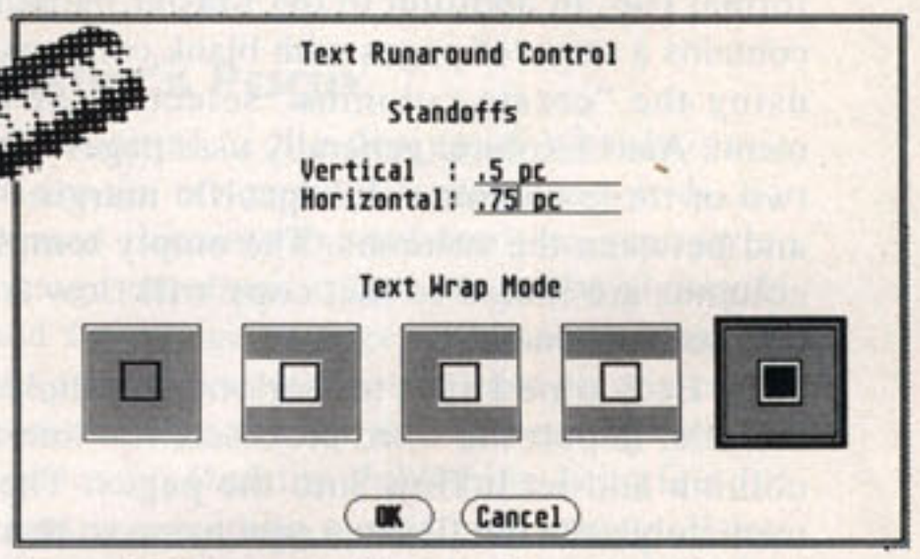


Figure 4. Text runaround is one of PageStream's most powerful design tools. Standoff (the white margin between object and type) is user-defined and there are a variety of wrapping options.

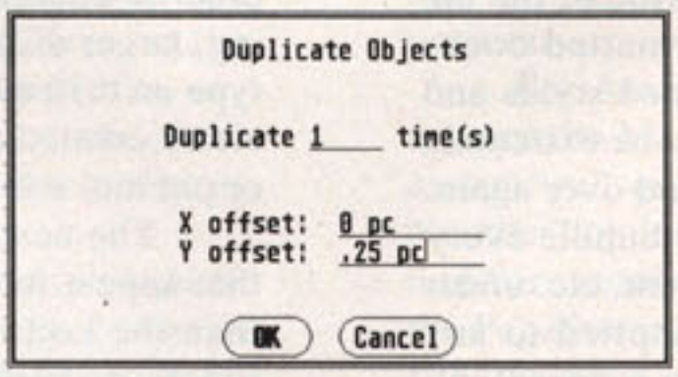


Figure 5. Objects like rules and boxes can be duplicated and positioned with a high degree of accuracy and consistency.

rules which are three points (one twenty-fourth of an inch) apart. Try doing that by hand, with drafting tapes!

A similar capability to exactly edit the coordinates of any object allows me to create double-ruled boxes. Here's one way: first I create a box and and lock it so that it will not move. The box is duplicated with a slight offset in position; the duplicate is unlocked and the width

Figure 6. Elegant, double-ruled tint boxes are a snap with PageStream's wide array of tools.

and height are diminished by a half pica. With both boxes selected, I choose both horizontal and vertical alignment from the dialog box. The altered box will pop inside the first (which is locked in place), leaving exactly a quarter pica space between them all around.

Now if I put a copy block with a text runaround attribute inside the boxes, I can wrap regular body copy around both the copy block and the grouped boxes. By giving the inside copy a clear fill for its background and selecting a tint fill for the inside box, the type will surprint on top of the tint. Figure 6 shows a sample of such a box. Creating type like this in a gray box would previously have required the printer to strip different pieces of film together in a costly, laborious process.

Although we have just scratched the surface, you can see how DTP directly benefits both the design process and the bottom line. But life in DTP land isn't always rosy. We did encounter a few problems along the way.

A Few Provisos

Perhaps the most traumatic fear in any computerized undertaking is the prospect of hardware failure. Indeed, when just the hint of problems arose with the booting of my hard disk, we scrambled to replace it with a back-up immediately. And all those truisms about saving work to back-up floppies suddenly seemed most real!

Similar to hardware failure is the threat of software misbehaving; perhaps due to a bug, or more commonly, due to human error or inexperience. Once, while experimenting with PageStream, I tried importing a Degas image into a document. Later, unsatisfied with the results, I deleted the empty graphics window — or so I thought. When the document was uploaded to our service bureau as a PostScript file, the Linotronic choked on it, and to make matters worse, nobody at the service bureau was sufficiently conversant with PostScript to figure out why. Finally, after lengthy debugging with the UltraScript PostScript interpreter, we determined that the empty graphics window had not been deleted after all, but merely rendered invisible by setting one of its dimensions to zero. After removing the ghost object, the file output fine, but we had learned a few important lessons about PageStream, PostScript, the UltraScript system, Linotronic equipment, and the computer-literacy of your average Linotron jockey.

Another gripe has to do with screen size. PageStream is wonderful at giving you the actual size option for the close-in work and the full page view for manipulating objects overall. Even though flipping back and forth between them only takes a few seconds, those seconds really begin to add up after a while. I will never really be able to fully optimize my design efforts until I get a large screen capable of displaying an 8 11 inch page at actual size.

My one real criticism of PageStream involves the hyphenation function used when creating justified columns of copy. Generally, the program is quite capable, utilizing a huge dictionary of word hyphenations. However, it does not recognize that words created by combining two words with a hyphen can obviously be broken if the hyphen falls at the end of a line. You must either add the compound word to the dictionary manually (time consuming) or add a space after the hyphen to force the break. (A feasible solution, except that the space appears if the text is re-flowed and the hyphen no longer falls at the line end.) PageStream should include in the next update the ability to break hyphenated words as needed for justification.

But complaining aside, for me, the toughest challenge of DTP is really living up to the potentials it presents. With so much power comes a lot of responsibility. When you use DTP, you become the typesetter, the designer, and the paste-up artist all rolled up into one. Each new freedom demands thoughtful decision-making if your publication is to succeed. Better tools do not make a better product all by themselves.

Even more, the options DTP makes available for creating good design work are exponentially greater than those of traditional methods. Facing that huge smorgasbord of choices without pigging out is a hard thing to do. Too often, publications produced with DTP try to make use of every font, design trick, and type manipulation the designer can think of. As with nutrition, a light and consistent design diet is the most healthy.

We've always wanted Atari Explorer to provide you with useful and interesting information. Now that we've changed over to Atari DTP, we also want Explorer to be an example of what Atari publishing technology can produce. Not to imply that we've reached the limits of the power Atari DTP has placed at our disposal, since like any publication, we operate under the practical constraints of budget and schedule. Still, we continue to "push the envelope," and work towards ever greater cost-efficiency, coupled with what we hope is striking and effective publication design. ■

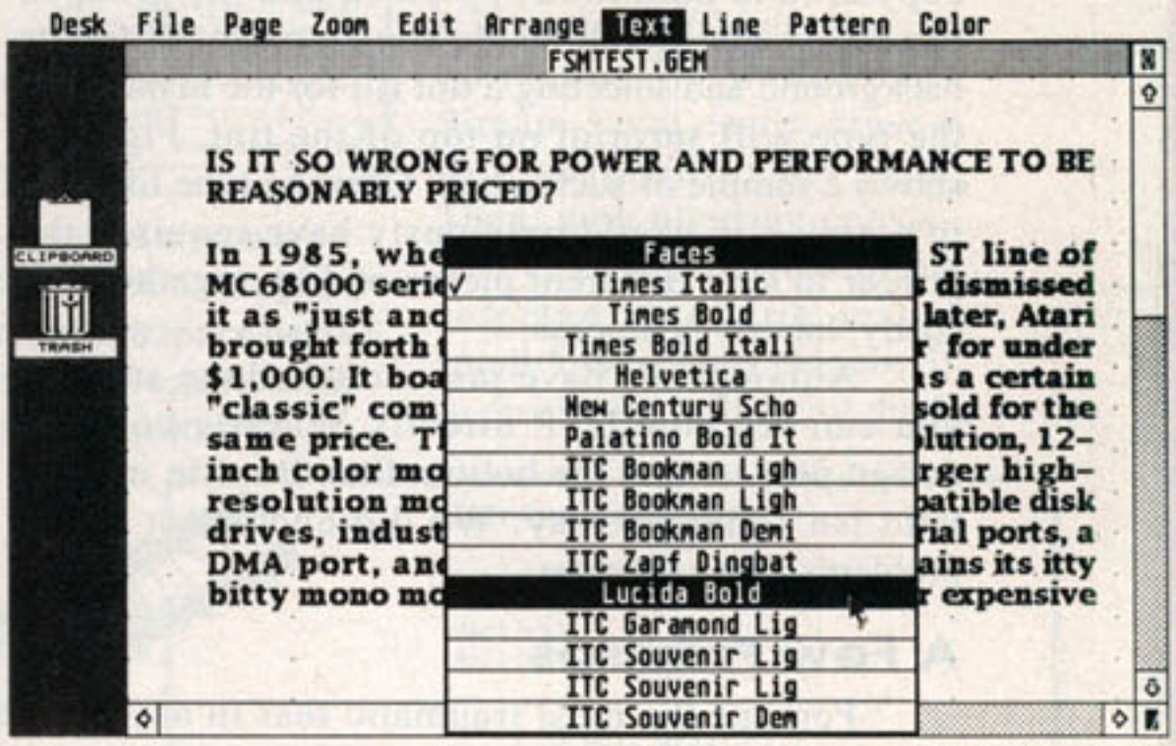
FSM/GDOS brings state-of-the-art scalable font technology to the ST!

Font Scaling for GDOS

By DONAVAN VICHA

Excitement at the release of Atari's 16MHz Mega STe and 32MHz TT030 hardware platforms has partially obscured a software development of equal or greater importance to the majority of current Atari ST owners. Shortly we will see the release of FSM/GDOS: a potent upgrade to the ST's central graphics operating system that can give all ST owners access to the state-of-the-art in text processing, desktop publishing, and related applications.

FSM/GDOS is the successor to GDOS — the Graphic Device Operating System — released in 1985 as an extension of the ST's native GEM (specifically, to that portion of GEM referred to as VDI, the Virtual Device Interface, which contains a wide variety of routines for graphics and device-handling). GDOS was designed to provide software developers with standard means of working with graphics and output devices (screen and printer), saving them the effort of developing such tools independently. At the same time, GDOS' standardized approach was aimed at allowing compatible applications to share fonts and device-drivers — things that should, properly, be system resources.



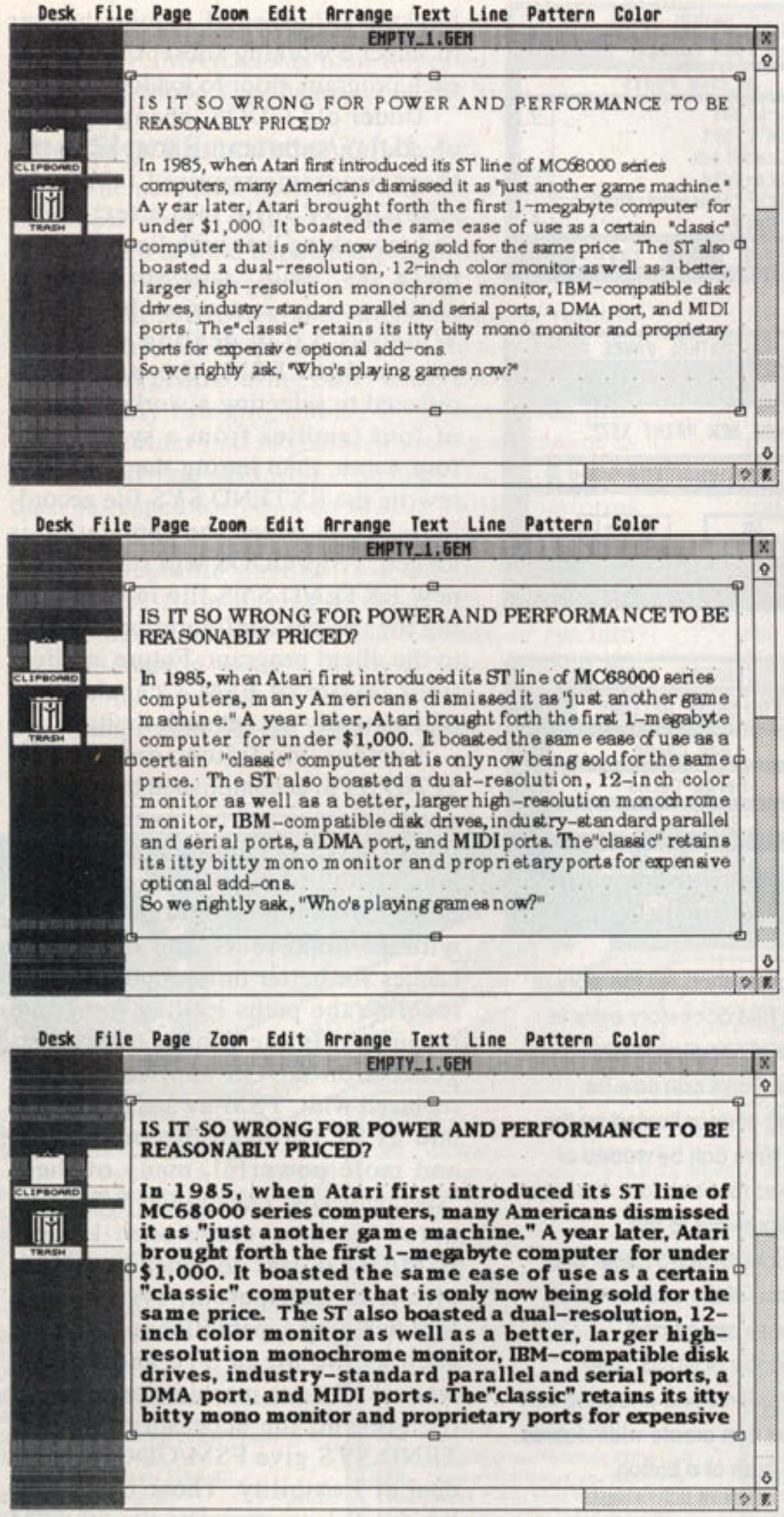
The FSM/GDOS replacement program works with existing GDOS-dependent programs as shown here. The Easy Draw font menu brims over with never-before-seen font names in sizes that you delineate using the FSM accessory.

GDOS Limitations

The original GDOS uses "bitmapped" fonts, in which each character is represented as a dot-image in a rectilinear grid. The problem with bitmaps is that if you want your image to look the same on a variety of different displays, bitmaps must be provided for each display. For a quick proof of this, compare text on the ST's standard low-rez Desktop display with the same text at medium-rez. Though text in both displays is drawn from the same 8 x 8 bitmapped "system font," medium-rez text appears substantially narrower, due to the fact that medium-rez pixels are half the width of low-rez pixels.

While a sufficiently detailed bitmap may be scaled down without worsening its appearance, an enormous amount of memory would be required for the bitmap of even a single font at resolution high enough to serve all conceivable output devices. Instead, GDOS' designers took the more efficient route of providing separate bitmaps for each font size and for each class of output device (9 or 24-pin dot-matrix printers, the SLM804 Laser Printer, etc.). By taking this approach, GDOS font bitmaps could be optimized for best appearance wherever they were used, and scaling could be employed only to generate intermediate character sizes, reducing its impact on overall appearance.

Unfortunately, this meant that a GDOS user — depending on what he wanted to accomplish, how



FSM onscreen display of Garamond Light/New Century Schoolbook/Lucida Roman Bold is improved over previous GDOS renditions. You will especially appreciate the letter and word spacing, not so much here in Migraph's Easy Draw but in Timeworks Desktop Publisher ST, notorious for odd word spacing onscreen.

many screen resolutions he wished to work at, and how many output devices he wanted to employ — might be forced to maintain a myriad of font files. Managing such a large number and assortment of files could be ungainly.

As for quality, while GDOS screen fonts always seemed to appear better than those used by competing systems (such as Publishing Partner/ PageStream), GDOS printed output never looked quite as good due largely to the variation in font quality among fonts shipped with popular third-party GDOS packages. Printing under GDOS was always considerably faster than that possible with other systems, such as PostScript, particularly when using high-resolution printers such as the SLM804. The speed advantage was due to the relative ease by which bitmaps may be translated to printable data.

Enter FSM!

FSM/GDOS (FSM, *Font Scaling Module*) employs a completely different font-management technology, in which characters are represented in resolution-independent terms. Under the FSM system, the outline of a character is expressed as a collection of *vectors*, describing its lines and curves at arbitrarily high resolution, much like an "object oriented" graphic. Instead of drawing a character's exterior and interior in a single, laborious pass, as with a bitmap, FSM draws the outline of a character first, translating it to the dot-grid of whatever device is currently in use, and then fills it in, algorithmically.

By representing only a character's outline, and by conceiving of that outline in terms of continuous vectors, FSM's font format maintains high quality without resorting to the enormous data volume that super-high-rez bitmaps would require. FSM fonts are both size and device-independent: data from a single font file can be scaled to any size and translated to any dot- or pixel-grid, while providing the best possible image on that device, given its resolution constraints. This means that a single FSM/GDOS font file is capable of providing data for the representation of an entire font for all sizes, for all output devices.

FSM/GDOS will include fonts licensed from QMS/Imagen of UltraScript fame. The quality and variety of these scalable fonts will make confirmed font freaks of just about anyone. The list of fonts that should become available include the usual PS LaserWriter

bunch (Palatino, Bookman Light, Avant Garde, New Century Schoolbook, etc.) as well as UltraScript favorites like Helvetica Black, Garamond Light, Souvenir, Optima, and Eurostile.

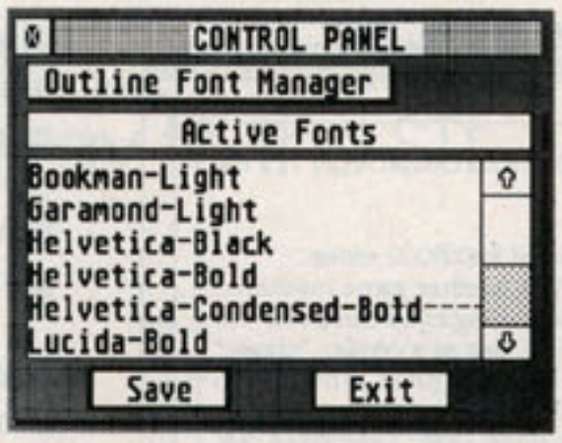
Application, and Accessory

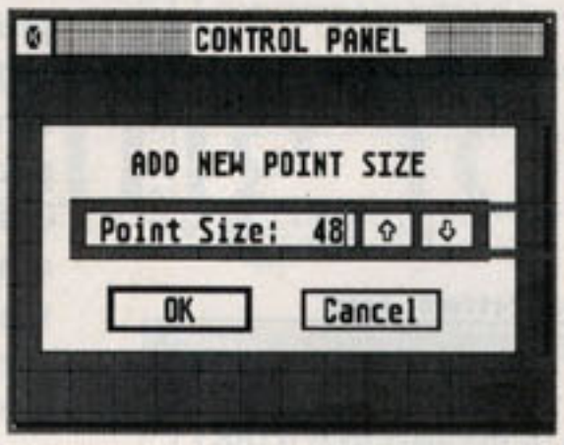
Atari's software engineers have labored to made FSM/GDOS compatible with original GDOS, while imposing no roadblocks on its new technology. Like original GDOS, FSM/GDOS loads from the \AUTO folder and resides in memory, presenting an entirely compatible set of functions to client applications. To determine the location of fonts and device drivers, it refers to an ASSIGN.SYS file whose format is entirely compatible with that employed by original GDOS. But here, the two programs begin to deviate from one another.

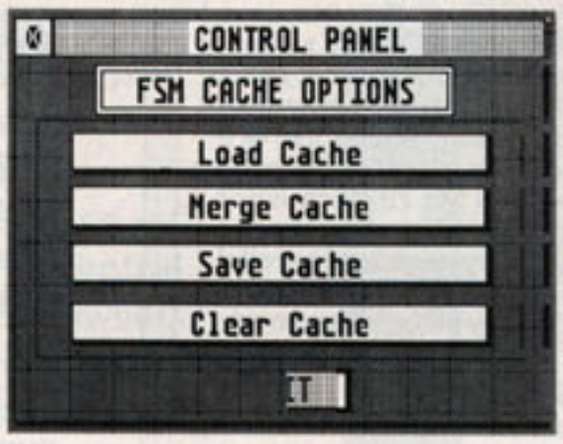
To modify which font and driver files are currently available, original GDOS required you to modify ASSIGN.SYS by hand, using a text editor (or using the GDOS INSTALL program distributed with several Atari products, such as Microsoft Write.). To overcome this problem, while retaining full compatibility with GDOS, FSM/GDOS employs a second configuration file, EXTEND.SYS, with a more complex and sophisticated format, to qualify its interpretation of ASSIGN.SYS in various ways.

Nor is it ever necessary to edit EXTEND.SYS manually. Instead, FSM/GDOS employs an accessory to place the process of modifying EXTEND.SYS under convenient mouse control. This accessory will be distributed with FSM/GDOS.

The FSM accessory can be used to create EXTEND.SYS files for a wide variety of circumstances. For example, though FSM is inherently capable of generating any size character on any display device by reference to only a single font-outline file, present- generation GDOS applications assume that only pre-defined font sizes are available and thus provide only a limited number of font slots in their menus. While this limitation is not based on any constraint imposed by GDOS itself, applications such as Migraph's Easy Draw and Timeworks Desktop Publisher ST require the user to select a working subset of fonts for each program, prior to loading.







These screenshots tell the story of how the FSM accessory adds to the ease of handling GDOS functions. Fonts can now be activated or deactivated on the fly. Font sizes can be added or subtracted for each font. You can set the pathways to the appropriate GEMSYS folder and set the size of the cache, which will improve speed and performance of GDOS. After activating fonts and choosing font sizes, you can create width tables with the push of a button.

Under old GDOS, changing fonts or adding/subtracting font sizes for these programs required taking the ASSIGN.SYS file into a text editor and reworking lists with lines like "31 meta.sys" and "attr08hi.fnt." (A similar process is required by users of Windows 3.0 in dealing with .INI files.) With FSM, the process is reduced to selecting a working subset of font families from a systemwide font menu, then letting the accessory rewrite the EXTEND.SYS file accordingly. Then, when the application is loaded, FSM/GDOS will refer to this new EXTEND.SYS file in determining the system configuration it shows to the client program. Future applications, aware of FSM's capabilities, will naturally not set such limits.

Further modifications to EXTEND.SYS, accomplished through the accessory, can be used to tell FSM/GDOS to employ old-style bitmap GDOS fonts in particular situations, can define width tables for use with different fonts, can set up font caches for better throughput, and can redefine the paths leading to system resources. In the future, as present-generation GDOS applications are replaced with "FSM-aware" revisions, and as ST hardware becomes more and more powerful, many of these "special needs" capabilities will be ignored by the average user. Indeed, FSM/GDOS was designed to provide efficient, transparent, system-wide font-handling capabilities on machines such as the Mega STe and TT030, without all these machinations. But for the present, the accessory and EXTEND.SYS give FSM/GDOS a great deal of flexibility. Those users with limited disk space can work with FSM in the raw, requiring very few support files, while those with disk space to burn can create support files and width tables to heart's content without the tedium of using a text editor on a seemingly unending list of exotic names.

The bottom line about FSM/GDOS is that it works very well with present GDOS-compatible software. As the accompanying illustrations demonstrate, both screen and printer image-quality is equal to or better than that obtainable by today's most widely-

accepted proprietary systems. The redraw and output speed of FSM/GDOS is also impressive — faster even than Adobe Type Manager on the Mac.

The Significance of It All

The people at SoftLogik can tell anyone interested just what it is like to have to switch font formats, which is what happened going from Publishing Partner to PageStream. It's not pretty. When Nathan Potechin at ISD/Ditek announced he would release Outline Art with its proprietary graphics format, the reaction of people using other programs scared him into quickly bringing out an EPS conversion program, a format that is standard among hardware as well as software platforms. The battle for a font standard has raged for years on Mac and IBM platforms and only now is really being settled. A single standard of scalable outline font technology saves developers from having to work out printer and screen drivers, contract for font licenses, or get into the font-creation business. It allows users to buy fonts to serve the functions of a number of software packages rather than buying separate fonts (and storing them) for each.

FSM/GDOS will provide a platform for the standardization of graphics across all Atari applications, and may encourage the conversion of popular PC and Mac programs (Hypercard and Ventura Publisher, for instance) to even higher-performance versions, running on the ST line. Certainly, now that fully-scalable outline fonts will be readily available, Migraph can now complete its long-discussed Illustrator-type drawing program. FSM-compatible word processors such as Microsoft Write and Wordflair (Goldleaf) will derive that final component of quality, presently missing from their otherwise impressive repertoires.

Atari has done a magnificent job of implementing a standard that provides excellent screen display, large or small, thin or bold, and equally good output for an extraordinarily wide range of printers: laser, dot-matrix, color 9-pin, and others. At the same time, the complexity of this system has been effectively tamed, maintaining compatibility with today's applications, while setting the groundwork for future software, running on ever-more-powerful STs. ■

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138 Grand Prix **2.1** car racing (C)
860 Go Up: Lode Runner clone (M)
884 Hollywood Squares TV show (C)
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143 Love's Fiery Rapture adventure
895 Mini-Golf & Shanghai clone (M)
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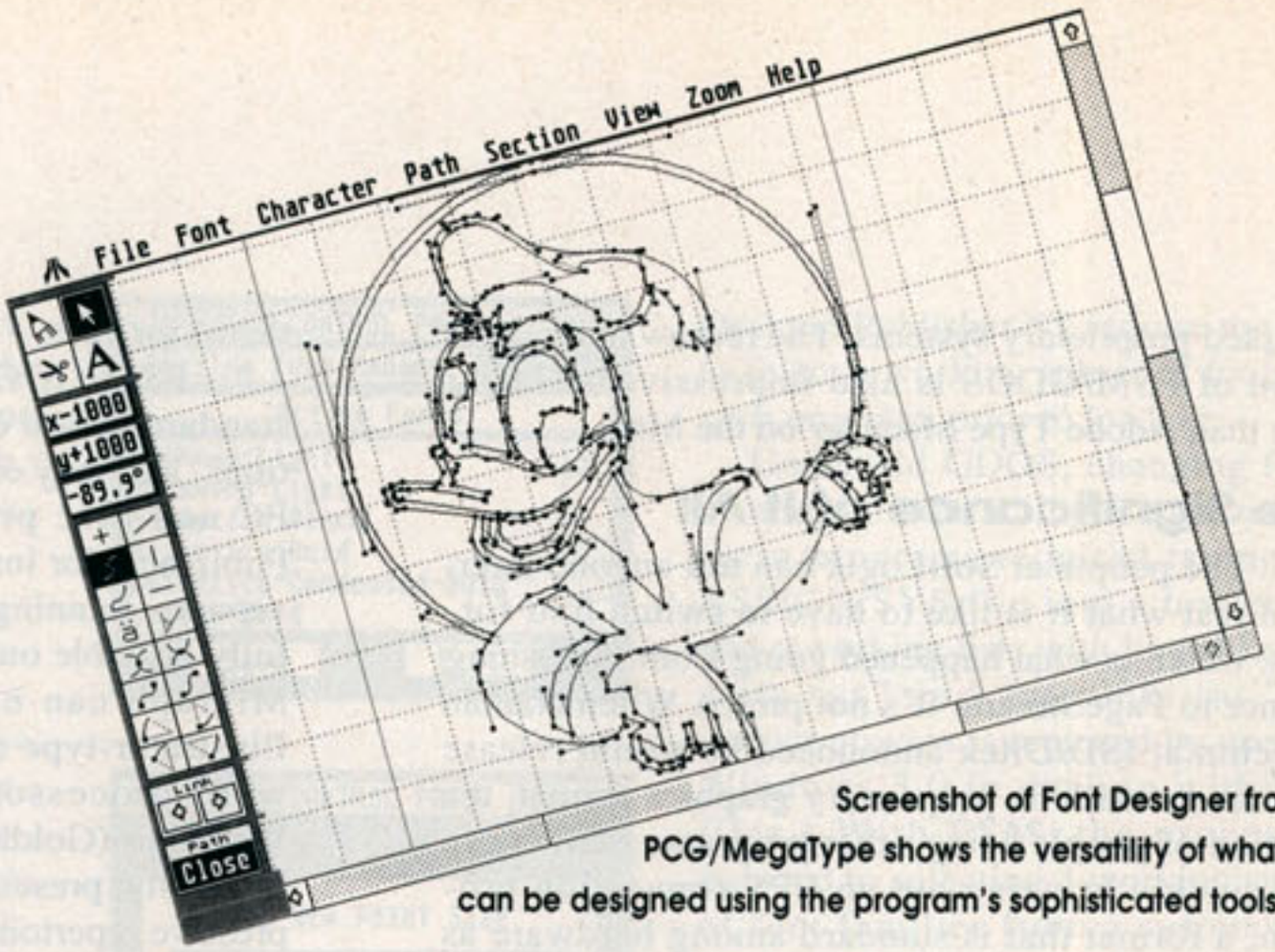
Who's got the best font design package in the world? Hint: it isn't Apple, and it sure ain't IBM!

Font Designer 1.1



Screenshot of Font Designer from PCG/MegaType shows the versatility of what can be designed using the program's sophisticated tools.

Few lay-people consider fonts to be "designed" objects, at least in the same sense as clothing, packaging, logotypes, or furniture. Yet great fonts are created out of the same combination of beauty and utility as went into the creation of a Chanel dress or a Breuer chair. Moreover, although font designers tend to labor in relative obscurity, when successful, their products can remain in fashion longer, and are more widely disseminated and used, than the products of any other design profession.

In the old days (from Gutenberg's day up until about four years ago), the font-designer's tools consisted of pen, compass, ruler, and spline — these, and the peculiar combination of artistic sensibility, mechanical technique, and mathematical intuition that permits the design of beautiful, well-balanced, readable, and reproducible characters. While there is not — and pray God never will be — any substitute for talent, the past few years has seen a considerable revision in the physical tools that font designers employ to ply their trade. Pen, compass, ruler, and spline have been largely replaced by their computer analogues: modern software tools that assist the designer in creating fonts for the modern world.

PRODUCT: **Font Designer 1.1**

MANUFACTURER: **PCG Software**

PRICES:

- **Basic package** (handles PostScript Type 3 fonts only) **$124.95**
- **Plus Package** (handles PostScript Type 1 and 3 fonts, IBM Coreldraw-compatible) **$249.95**
- **Type 1 Converter** (converts PostScript Type 1 fonts to PageStream/Calamus formats. Included in Plus package.) **$39.95**

DISTRIBUTOR:

MegaType
P.O. BOX 645
South Bend, IN 46624
(219) 288-7468

Font Designer 1.1 for the Atari ST is such a tool. Moreover, it is definitive: this import from England is perhaps the most powerful font design software package available for any computer. Used in conjunction with MegaType's Fontverter utility, Font Designer can create compatible fonts for Calamus and for Pagestream. Even more significantly, it can create PostScript Type 3 fonts and Type 1 fonts complete with hints and .AFM files. Type 1 fonts are Adobe's latest innovation that can be transported between Mac and IBM platforms and will play a major role in the upcoming upgrade to PageStream. These are the fonts that provide the highest resolution on screen for optimum WYSIWYG performance.

To enhance ease of creating uniform characters, Font Designer uses stem guides that produce the hinting for Type 1 PS fonts. For example, an 'H' is made up of three stems, two vertical stems and a horizontal stem. These stems can be rotated, vertically and horizontally flipped, and skewed, then snapped to other stems during the construction of characters.

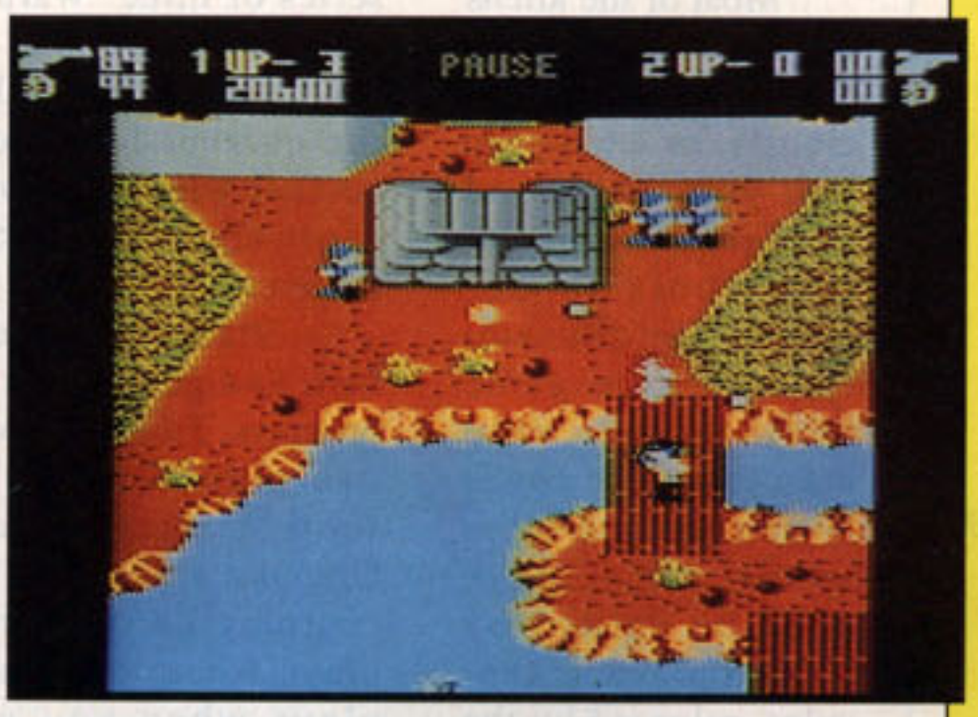
Segments can also be defined and saved for use with each character. These parts of a character are generally termed serifs, the lips or feet of a character and are the main distinctive aspects of a font family. Serifs can be defined, then saved as segments for use in creating characters in a uniform fashion.

Accented and multi-part characters can be built using composites, which can also be scaled and flipped. This feature takes Font Designer

Continued on Page 80

By DONAVAN VICHA

GAMES



SYSTEM: **Atari 7800**

SUMMARY:
Rambo revisited — suck leaden death, enemy swine!

MANUFACTURER:
Atari Corp.
1196 Borregas Ave.
Sunnyvale, CA
94087
(408) 745-2367

PRICE: **$29.99**

Ikari Warriors

Beloved of the bellicose, Ikari Warriors has finally moved out of the arcades and onto the Atari 7800! A fast-action game of infiltration and combat, Warriors pits you (and perhaps a friend) against terrorist troops that have taken your Colonel hostage.

Before you can rescue him, you'll have to fight through enemy lines while avoiding machine-gun fire, grenades, and mines. You'll also get to wade through rivers, hide in bunkers, steal tanks, and generally devastate things ... which in this day and age must be considered good practice for real life (N.B.: it's just a coincidence that "Ikari" is "Iraki," spelled backwards).

Warriors is a vertically-scrolling game in which you must make constant progress up the screen, while opposing forces march down at you from the top. You begin the game with three lives, 99 rounds of ammo, and 50 grenades: enough to make a good deal of trouble if you can avoid getting blasted. Unfortunately, the enemy is numerous, aggressive, and intelligent; and they're at least as well-armed as you are. Luckily, you can pick up various forms of bonus ordnance along the way, and can capture and use an enemy tank if the opportunity presents itself.

The original effect of the arcade game (Rat-a-tat! Boom!) has been preserved with great graphics and enhanced sound effects. Four levels of difficulty and the cooperative two-player mode add extra value to an already memorable play experience. ■

Planet Smashers

New from Atari for the 7800 game system, this is a classic, wave-oriented space shoot-'em-up. The game pits you and your starship against against an incredible variety of alien enemies in a no-holds-barred laserfest! Each of the seven levels of Planet Smashers consists of several waves of increasingly lethal and difficult-to-avoid alien enemies, who fly down at you from the top of

the screen.

Your starship is quite mobile, but must remain within the bottom half of the screen, making evasion difficult. Luckily, you've got multiple shields and ships to play with, as well as a laser weapon that can make mince-mutant out of all but the toughest alien species. And that's a good thing, since each alien you let slip past you weakens the Earth's own shields and brings the planet closer to doom!

SYSTEM: **Atari 7800**

SUMMARY:
Blast off and blast away!

MANUFACTURER:
Atari Corp.
1196 Borregas Ave.
Sunnyvale, CA 94087
(408) 745-2367

PRICE: **$29.99**

Most of the aliens are intelligent. They either fire at you, viciously, or attempt to ram your ship; and most require three or four shots to demolish. Unfortunately, when the game begins, your ship lacks rapid-fire power — this, among other special capabilities, must be earned by collecting bonus capsules, released by the alien cargo vessels you destroy. "Extra Ship" capsules will give you extra lives ... if you can avoid the booby-trapped ones. Collecting a series of three "warp" capsules in proper, color-coded sequence allows you to zoom ahead through the current level to a final encounter with the wave "boss" — a super-alien with enormous resistance to fire.

Planet Smashers starts off fast, and gets faster as the waves progress. Two levels of difficulty, a two-player mode, and a "high scores" feature are supported. Graphics are terrific, especially the "burning Earth" picture that displays when you lose! What displays when you win is up to someone with better reflexes than this reviewer to discover. ■

Mean 18 Ultimate Golf

This recreation of a golf tournament at Pebble Beach is among the finest microcomputer games ever created by gaming giant, Accolade Software. It's now available in an exceptional translation for the Atari 7800 — one that preserves the extraordinary detail and veracity of the original while sacrificing none of its play-value.

SYSTEM: **Atari 7800**

SUMMARY:
FORE! Whack!
.....
ka-plunk!

MANUFACTURER:
Atari Corp.
1196 Borregas Ave.
Sunnyvale, CA
94087
(408) 745-2367

PRICE: **$29.99**

Mean 18 is less a game than a full-fledged golf simulation. The terrain of the course is represented in full physical and graphic detail. When driving, the fairway, rough, sand and water traps, trees, and the green (as well as distant scenery), are all visible in perspective from the position of the player; whereas while putting, you get a detailed birds-eye view of the green (an overhead view of the entire hole is also available). And it's not just pretty to look at! Hitting a ball into a sand-trap causes the same results here (cursing and repeated efforts to chip the ball out of the trap with a wedge) as in real life.

The tools for beating this challenging course are fully and realistically simulated, as well. A complete set of clubs — a driver, two woods, eight irons, two wedges, and a putter — are enhanced by precise power and aiming controls, letting you plan out your shots just as if you were really duffing! Making a drive requires that you control backswing, downswing, and wrist snap (by three, precisely-timed touches on the fire button); and putting demands that you take the break of the green into account, just as if you were really on the course.

A complete, 18-hole course, Mean 18 lets you play from the regular or pro tee, and play a stroke or match game (two-player only) at two levels of difficulty. Exceptional animation and cute sound effects round out the mix. Mean 18 Ultimate Golf is an exceptional gaming value for 7800 owners — and a real practice tool for the serious player. ■

ST Games

SYSTEM:
Atari ST

REQUIRED EQUIPMENT:
Color Monitor.

SUMMARY:
A new level of sophistication in detailed action flight simulations

PRICE: **$59.95**

MANUFACTURER:
Lucasfilm Ltd.
P.O. Box 10307
San Rafael, CA 94912
(415) 721-3300

Their Finest Hour: The Battle of Britain

August 13, 1940. You and your fellow German pilots jump into your *Jabos*, fighter-bombers that can wreak holy havoc on the British. Today is Aldertag, the day when the Luftwaffe establishes total air superiority over the English Channel, decimating the most vital British outposts. As your Bf 109 rises to 9,000 feet from your airfield in Cherbourg, you spot the first of the British targets. Should this one swift strike be successful, the outcome of World War II could be decided.

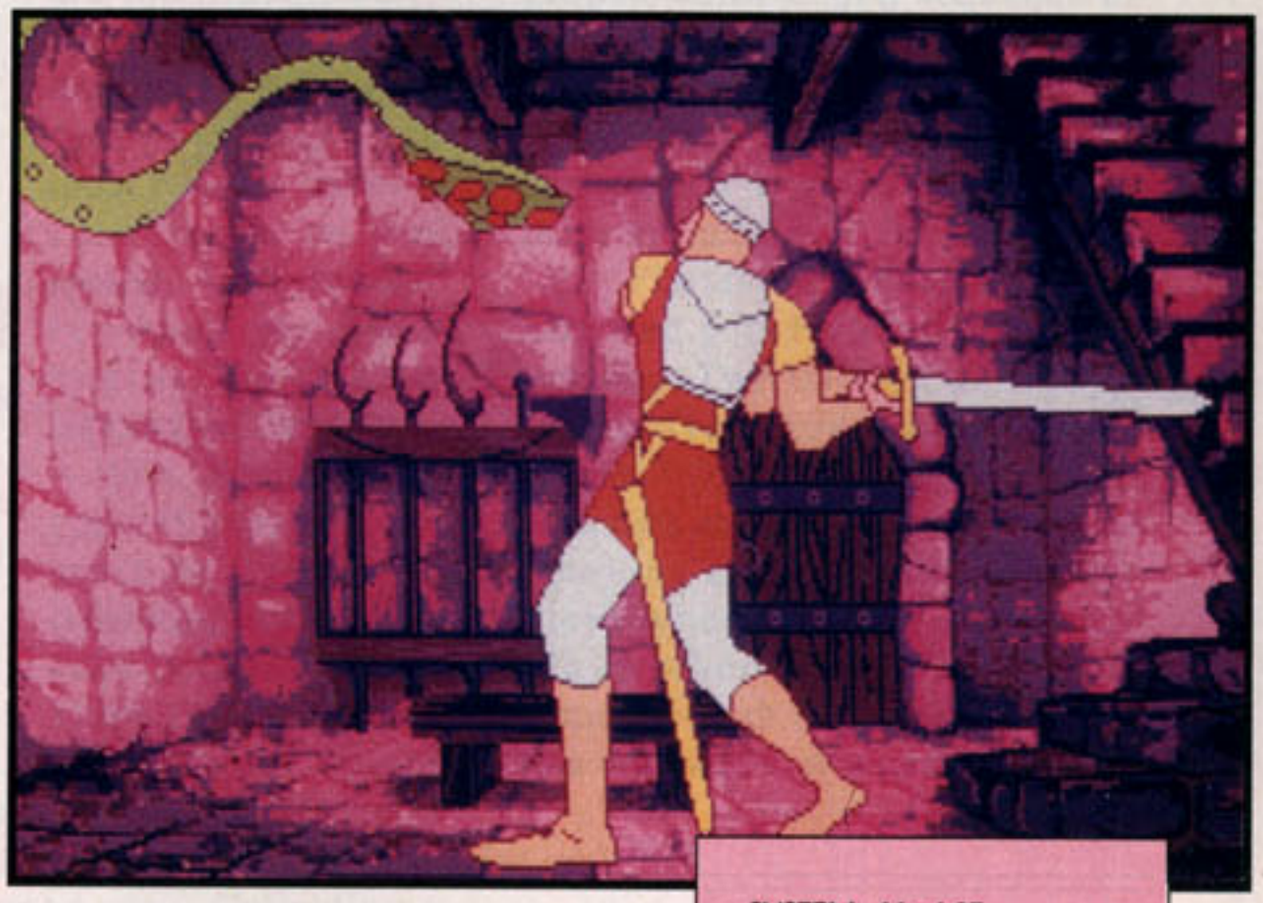
Though the German Aldertag plan failed, the battles raged on, the upper hand changing with almost every clash between the numerically superior Luftwaffe and the small but resourceful RAF. This is the setting in which you find yourself as you begin Their Finest Hour: The Battle Of Britain, one of the newest in Lucasfilm's repertoire of flight simulations. Lucasfilm had previously set new standards for action flight simulations with their popular Battlehawks 1942. But TFH surpasses it on just about

every front.

To start with, the game's complexity is stunning. You can fly missions for either the British or the Germans, in any of eight different aircraft. And there are almost 100 separate missions to fly, from simple training drills to all-out campaigns that will try the skills of even the most seasoned Ace. If those are not enough, you have available the Mission Builder, which lets you set up any number of new missions to fly.

TFH is also a visual treat. Planes are no longer displayed as polygons, but attractive bitmapped graphics. When you are cruising through the wild blue and a Hurricane suddenly cuts in front of you, you see those mottled green and brown wings up close. If you strafe the soft underbelly of your enemy's plane, you will be treated to a satisfying blast as he explodes in midair, sending pieces in all directions. If you simply blow off his tail, his craft will spiral downwards into the drink, trailing smoke. In either case, the parachute-borne pilots will occassionally bail out. The enemy planes will put on evasive maneuvers to avoid your fire, luring you into the sun and trying to make you stall out. Every plane handles differently and has a unique (and authentic) cockpit layout. You will feel your chair banking with every turn.

TFH is an incredibly challenging game, with the potential for long play life. It is also full of nice touches, such as the enhanced Combat Film Replay feature and the ability to install it on a hard drive. With hundreds of possible missions to fly, each with its own goals and hazards, it should take you quite a while to tire of the Battle of Britain. Historically accurate, graphically wonderful, and encompassing many genres from action to simulation to role-playing, Their Finest Hour is worthy of attention from gamers everywhere. All you need is the thirst for combat. ■



Dragon's Lair

When I received Readysoft's Atari ST version of Dragon's Lair, my first response was "No way. Not a chance." Dragon's Lair was the first in a brief flurry of videodisc-based video games that swept the arcades in the early 80s. While not exactly a huge test of eye-hand coordination, it was a tour de force of brilliant, interactive animation by the world famous Don Bluth. The sheer visual beauty, the super sound effects, and riotous (if vicious) sense of humor made this game incredibly addictive, though most of the skill involved timing and memorization. I recall plugging a few hundred quarters into that machine in order to wow my friends and be the first in Harvard Square to be able to finish it with one man. It was as close as you could come to being the star of an animated film. So I was skeptical, to say the least, when I discovered this box staring back at me.

Don't ask me how they did it, but Readysoft has managed to recreate the animation and sound, at full throttle, that made the

SYSTEM: **Atari ST**

REQUIRED EQUIPMENT:
Double sided drive, joystick strongly recommended

SUMMARY:
Eye-popping, though skimpy, arcade translation

PRICE: **$59.95**

MANUFACTURER:
Readysoft, Inc.
30 Wertheim Court,
Unit 2
Richmond Hill
Ontario, Canada
L4B 1B9
(416) 731-4175

original the masterpiece it was. Granted, the colors are not quite as vibrant (though the on the STe it uses the enhanced 4,096 color palette), and the animation is not quite as smooth, but 135 megabytes of graphics make it close enough for Government work.

The object of Dragon's Lair is to maneuver Dirk the Daring to the lair of Singe the dragon, where the scantily-clad Princess Daphne awaits your heroic arrival. "Maneuver" is the operant word here: you don't actually control Dirk, but simply affect what he does at various decision points — the action continues one way or another. You can influence Dirk to perform five actions: moving forward, left, right, or back, and wielding his sword. A loud click accompanies command entry, to let you know your choice has been registered amidst the graphic and sonic maelstrom.

The big problem with this game is that it involves massive data transfers. This necessitates frequent disk swapping and limits the number of scenes you can play with a single-sided drive. The other problem is that the number of scenes has already been decimated. The original game had over 30 scenarios, and they were thrown at you in random order, making for some variation. Readysoft's translation has only 11 scenes, and you must traverse them in the same order each time. I miss the flying horse and the lava monsters. But slime creatures, tentacled beasties, bats, balls, whirlpools, and the Dark Knight are all present and accounted for. And you can save your game.

Any way you look at it, Dragon's Lair is an amazing feat. If you loved the original, then you must have the Atari version. If nothing else, it is probably one of the best 'show-off' programs I have yet stumbled across. My only wish is for Readysoft to release more scenarios for us die-hard fans. (Note: ReadySoft tells us that Dragon's Lair Part II has been released, and includes scenes that never even made it into the original arcade game.) ■

Shark Attack!

SYSTEM:
Atari ST

REQUIRED EQUIPMENT:
Color Monitor

SUMMARY:
A very decent, detailed golf simulation, better than most.

PRICE: **$39.95**

MANUFACTURER:
Virgin Mastertronic, Inc.
18001 Cowan
Irvine, CA 92714
(714) 833-8710

The game of golf has been simulated many times on many different computers, but with only moderate success. This is because many complexities of the game are difficult to compute accurately, and the physical acts of driving, putting, and chipping do not lend themselves to mouse or joystick control. Virgin Mastertronic has decided, however, to attempt the genre once again with Shark Attack: Greg Norman's Ultimate Golf, this time with admirable success.

Greg Norman, according to the excellent and highly-informative manual, is one of golf's most colorful and exciting figures (I never really thought of golf as terribly exciting, though colorful is a good word for those pants they wear ...), with a lengthy career and a penchant for generating enthusiasm even when he doesn't win. I must admit that, even while I am not a heavy-duty golf fan, I was able to appreciate Shark Attack. Virgin Mastertronic has included levels of complexity and difficulty for people of any skill or experience level.

Despite my apparent attitude towards golf, I have played quite a number of times, and I can under

stand the difficulties programmers have in recreating it. The good folks at Virgin have included features for every occasion: an automatic caddy who picks your clubs for you; gauges and meters to tell you everything about the course conditions; two variations each of four different games; multi-level maps of the course and your location; auto handicapping; automatic record-keeping of players for future matches; and the ability to add upcoming course disks for a greater challenge.

The graphics are quite good, better than in most golf games (though the screen refresh rate is slowed down and results in flickering that is just noticeable enough to be annoying). Balls bounce and roll realistically, you can see the contour of the course, and animation is smooth and convincing. The sounds are very sparse, though decent (plus some great intro music). The controls are very simple, but can be made more complex and detailed if you like, controlling every aspect of your swing and stroke. The only problem is that it is too easy to double-click the button when going into a shot, thereby wasting a stroke.

All in all, Shark Attack is a worthy predecessor in a long line of golf simulations; probably the best golf game around. If golf is your sport, but you can't always make it to the course, Shark Attack could help you get your fix. ■

Anarchy

If shoot-'em-ups are your thing, you won't want to miss Psygnosis' new version of the classic "Defender."

In Anarchy, you're the pilot of a spacecraft ordered to protect the few remaining citizens of a world under attack by alien hordes. Your proteges lie helpless in survival canisters on the planet's surface, while alien "stealers" descend to kidnap them from above. Running interference for the stealers are a huge variety of other alien types, all relatively aggressive and lethal.

Your job is to halt the invasion: destroying the stealers and other aliens, catching the falling canisters, and — where possible — protecting them with force fields stolen from their alien captors. If, in spite of your efforts, a stealer succeeds in lifting one of your canisters to the top of the screen, the occupant of that canister becomes a "mutant," changing sides and attacking you fiercely.

Anarchy is played on a horizontally- scrolling, wrap-around playfield, representing the planet's surface. You can only see directly that portion of the playfield immediately surrounding your ship; the rest of the besieged planet is monitored by watching a radar display at the top of the screen. Your ship is controlled by the joystick; is admirably fast and can turn on a dime. Basic armament consists of a front-mounted, horizontally-firing single-shot laser which can be augmented as play progresses. Defense consists of a force-field, whose power is diminished when your ship accidentally runs into an alien.

The challenge of Anarchy comes in learning to control the ship and its weaponry with precision. Because the ship cannot really hover, but always maintains some forward speed, successful combat involves lining up with an alien opponent and quickly squeezing off a sufficient number of shots to blast him before running into him. Additional complications arise when fighting at ground level, since your lasers are deadly to the canisters you're supposed to be protecting. Several alien types, notably "walk- ers," hug the ground, encouraging you to blast them and destroy can- isters in the process.

To even the odds, blasted aliens release power tokens that can be collected to power-up your shield and to acquire a variety of additional weapons, some of which are selectively destructive to aliens, but harmless to canisters. Learning to recognize and use these weapons effectively creates another level of challenge in the game.

Graphics are beyond-belief intense. The basic playfield employs parallax animation, to create a 3-D effect; and animation is eerily smooth. Title and between-game screens employ fully-animated, mini-movie sequences, and boast a heavy-metal digitized soundtrack. And, best of all, the game supports the STe's enhanced 4,096-color pallette and sound capabilities. ■

SYSTEM: **Atari ST**

REQUIRED EQUIPMENT:
Color monitor, joystick

SUMMARY:
Defender plus ultra!

PRICE: **$39.99**

MANUFACTURER:
Psygnosis, Ltd.
29 St. Mary's Ct.
Brookline, MA
02146
(617) 731-3553

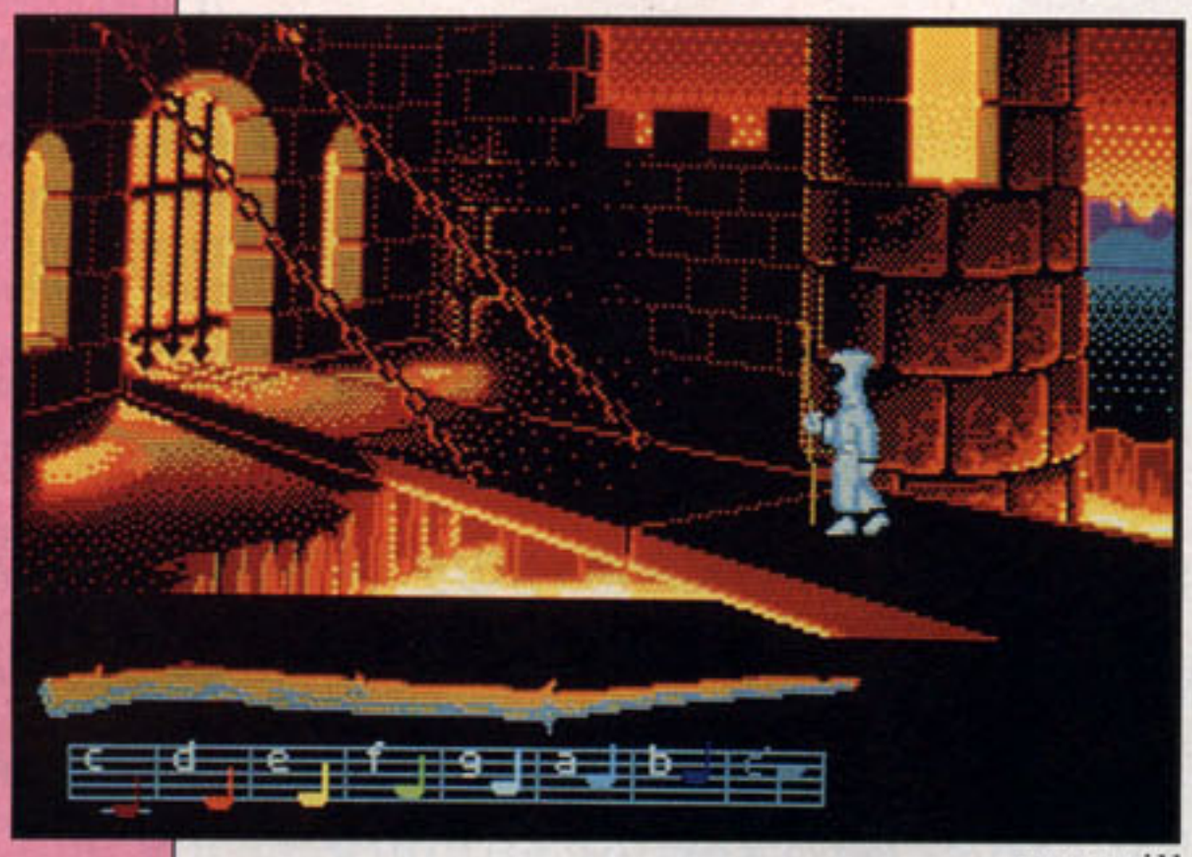
SYSTEM: **Atari ST**

REQUIRED EQUIPMENT:
Color Monitor, mouse.

SUMMARY:
A beautiful fantasy tour de force with you in the lead role.

PRICE: **$59.95**

MANUFACTURER:
Lucasfilm Games
P.O. Box 10307
San Rafael, CA 94912
(800) STARWARS



Loom

There is a fine line between our reality and that which lies Outside. The pattern of the universe is worn and frail at best, and only strong magic keeps it together: the magic of the Loom. The guild of Weavers on Loom island, separated for decades from the world, realize that the Third Shadow is near, and they are unable to weave the spells necessary to prevent it.

You, as young Bobbin Threadbare, bastard child of the great Loom itself, must discover the fate of your fellow weavers, the evil plot brewing in your land, and the even greater evil lurking just Outside.

Lucasfilm has long been known for producing outstanding graphic adventures that work not just as adventures but virtually as interactive films in which you play the lead. Loom takes this concept even closer to computer celluloid. From the introduction right down to the credits, it is suitable for any player of almost any age, and will be equally enjoyed by all.

Bearing only your your magic distaff, you must disclose the fate of your world. You can control the incredible power of the Loom through your distaff by singing the notes, or "threads" of each four-thread spell. You will discover these among your travels, and must write them down in your Book of Drafts. Not all of the spells will be useful to you, but be sure to read each description carefully — they sometimes hold clues.

Loom is not a difficult adventure. If you have conquered the likes of Zork or The Last Crusade, you will not find yourself over your head. On the contrary, you will likely solve this game within six hours, even at the most difficult level. It is a game whose challenge is suited to novices, children, and sightseers. But the sights are SO worth seeing.

From the start, Loom is lavishly produced. A fully orchestrated, half hour "audio drama" accompanies the game on tape, which sets the scene. The graphics and animation are breathtaking. The soundtrack is atmospheric and well used. The Lucasfilm interface makes it easy to get completely wrapped up in the story and not worry about details; there is no typing at all. And the game's sense of humor will give you a few good laughs. I cannot think of a better-produced or more playable adventure, even from Lucasfilm.

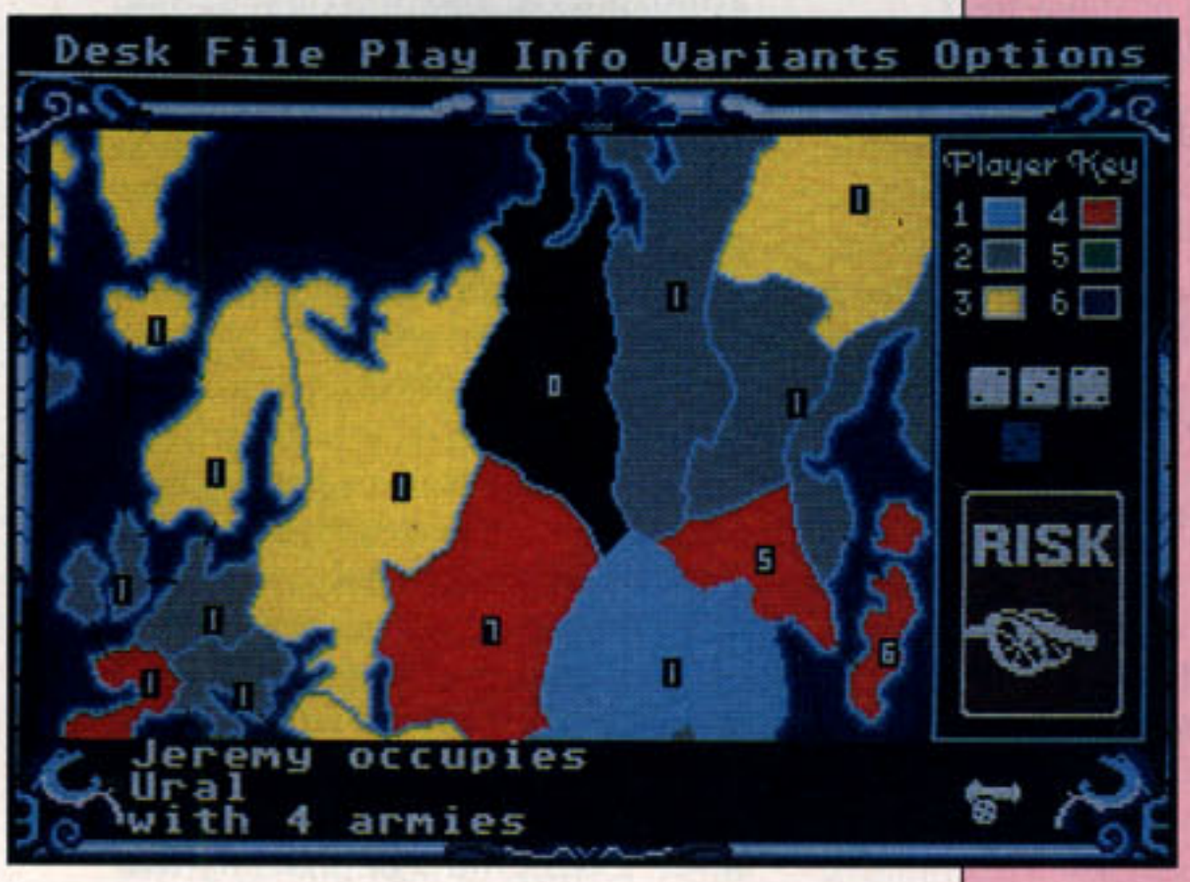
Loom deserves the highest rating an adventure can get. Though it is easy to solve, it can be played more than once, even by expert adventurers. And you'll want to — there is a special animated sequence at the end of the game for those who finish on the Expert level. Lucasfilm's philosophy that adventures were meant to be playable and enjoyable, not frustrating, shines clearly through the rich tapestry woven by Loom. ■

Risk

Utter global domination — it's everyone's secret aspiration, right? No? Well, ok, it's not mine either, but I'm certain that there are a few of you out there. If you do fall into the category of Conqueror-in-Training, you will be familiar with Risk, the popular board game (anyone remember board games?) that serves as a sort of military megalomaniac's starter set.

Parker Brothers introduced this simplified struggle for total control of the earth in 1959. Now Virgin Mastertronic's Leisure Genius games division has tried to capture all the base, primitive, acquisitive glory of this land-snatching contest on the Atari ST.

The game is quite simple: At the start, each of the 2 to 6 players is given armies which he or she must place in whichever countries seem appropriate. Once all the armies are distributed, players take turns invading each other's personal space and generally trying to cream everyone else. Antisocial, perhaps, but the point of this game *is* to take over the world. After each round, countries are tallied up, and reinforcements are distributed. Cards can be won for successful battles, and they can be traded for more armies. Players then place their reinforcements, attack again, and the game goes on until the world is blanketed in the winner's color. This can be a lengthy process, so there are also shorter versions where the goal is to conquer a set number of hidden headquarters. There are also British versions of the game to add to the variety.



SYSTEM:
Atari ST

REQUIRED EQUIPMENT:
none

SUMMARY:
Board game bounces back to big screen.

PRICE: **$39.99**

MANUFACTURER:
Virgin Publishing
18001 Cowan
Irvine, CA 92714
(714) 833-8710

Virgin's Risk is a decent translation from the original. The original game, though simplified, was pretty complex, and it greatly benefits from a computer moderator. The computer speeds up play and does all the dirty work for you. Serious war aficionados may scoff, claiming that the real fun is in such details. But armchair commanders who want to keep the emphasis on "armchair" will appreciate having the details cared for.

The graphics are fairly nice, though not stunning, and the controls are fair. The map does not fit on the screen, so you must scroll across the globe to get to your chosen countries. This is mildly annoying, but becomes transparent after a while. I only had two problems: There was no way to quit a computer-computer match once you'd begun other than resetting; and at one point, the computer got stuck scrolling in an endless loop while searching for a country. These problems aside, the computer plays a pretty good game of Risk.

Personally, conquering the earth has never been high on my list of Really Fun Things, but perhaps that's exactly why *you* want to take over. If your military ambitions have been stifled by rampant outbreaks of peace, you can safely satisfy them with a few games of Risk. ■

Turbo Out Run

SYSTEM: **Atari ST**

REQUIRED EQUIPMENT:
Color Monitor, Joystick

SUMMARY:
Fearsome Ferraris and fickle females for fast-paced fun.

PRICE: **$39.99**

MANUFACTURER:
Sega of America, Inc.
573 Forbes Blvd.
South San Francisco, CA
94080
(800) USA-SEGA

At these speeds the white lines don't mean much. You ever so slightly twist the wheel of your Ferrari F-40 to whip around a seemingly stationary automobile that seconds later is just a speck behind you. Flying across the dusty red plains of Indianapolis at over 300 Km/h takes swift reflexes. Suddenly, the white Porsche slides up beside you and its driver gives a lascivious grin to Katrina, your fickle, full-figured partner. Grinning back, you flip the Turbo switch on your dash and blow his doors off. Katrina's admiring attention is yours again ... for now.

I've never been a big proponent of race-game translations for home computers. The processors are not dedicated enough to handle the super-smooth graphics necessary for a real illusion of speed, the controls feel wrong, and the loading time is ridiculous. But these complaints, all of which hold true for Sega's Turbo Out Run, were not enough to keep me from really enjoying this game.

Ported over from the arcade mega-hit, Turbo Out Run is one of the better racing games on the market. This cross-country rally starts you in New York; your goal: to get to L.A. as fast as possible, hitting all the checkpoints along the way. At some checkpoints you'll get a bonus for your speed (the local rock band awaits your arrival and plays for you as your points are tallied), and some let you beef up your vehicle with better tires, engine and Turbo. All that stands between you and victory is The Road. And the weather, and sunday drivers, and cops, and the omnipresent white Porsche. You have five credits to accomplish your mission. Should you fail, you'll go home alone and emptyhanded.

While the graphics are a bit jerky and it still feels wrong controlling a car with a joystick, there was an overall feel to the arcade original that Sega has somehow managed to keep intact in the Atari ST version of Turbo Out Run. The graphics don't slide by as liquidly as the original, but they are just as gorgeous. Each locale has its own music and its own images, from the icy wasteland of Pittsburgh and the twisty roads and tumbleweeds of Memphis to Chicago's tricky night driving between seedy billboards.

This is not just another "floor-it-and-pray" tire-squealer; you have to know when to use your brakes, and when to sparingly use your powerful turbo. And no matter how little it actually reflects your skill, there is something satisfying about being able to score over 12 million in a single game. For coast-to-coast racing action, Turbo Out Run leads the race. ■

MEMORY UPGRADES

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520 ST™	365.00	195.00	80.00
520 ST	365.00	195.00	80.00

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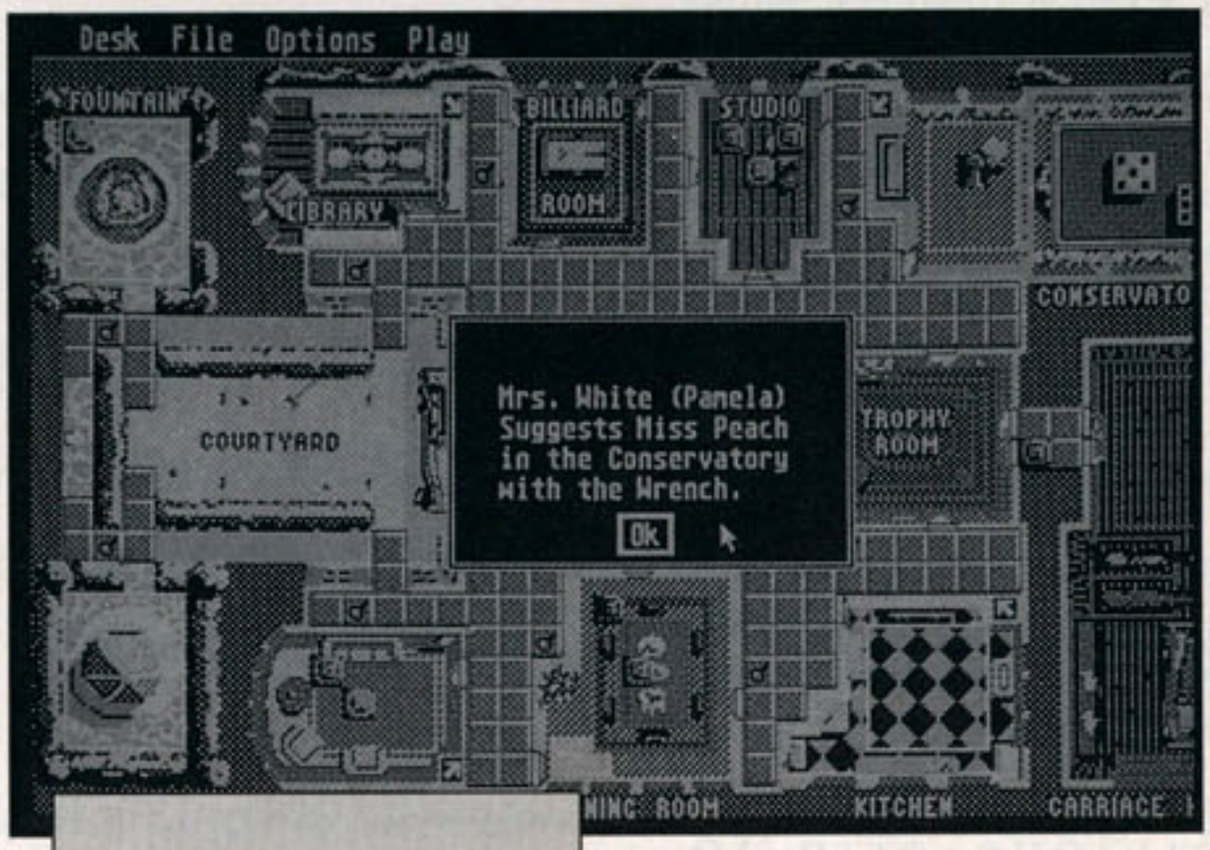
Boost productivity and processing power of your ST with Turbo 16 Accelerator.....285.00

Automatically set system time and date with internal real time Clock/Calendar.....48.00

For maximum storage capacity and flexibility get internal or external Single to Double Sided Drive upgrade.....105.00

MasterCard VISA

Clue: Master Detective



Contrary to some people's diagnosis, board games are not dead; they've just gone high-tech. Virgin Mastertronic has been one company spearheading this effort to bring old classics up to speed, and they've come yet another step with the release of Clue: Master Detective. This translation brings the most advanced version of Parker Brothers' Clue, with more suspects, locations and weapons, to the Atari screen.

It is likely that everyone has played Clue at some point or another, since it is practically a staple of the family games closet (a tradition that could go out of style if these computer versions keep showing up). One evening at the Boddy Mansion, Mr. Boddy is found dead. One of the ten guests staying at Boddy Mansion is surely to blame for this murder most foul. It is up to you to discover which guest is the perpetrator, by sleuthing stealthily around the house, picking up clues and listening to alibis. By keeping track of who says what and who goes where, you must deduce the fiendish villain, his or her weapon, and the location of the crime before your opponents.

The Virgin translation is quite good. The graphics are nice, and the sound is sparse but appropriate (as characters enter some rooms, they hear sound effects, like chirping birds in the courtyard, and the gurgling of the fountain). The actual computer implementation is a sort of mixed blessing, providing some nice touches and making some things easier, but complicating others. For example, occasionally the computer will not let you move, but will give you no idea why not (clicking on the Dice box will usually let you resume your game), and it is difficult to get a good look at your cards, since they can only be examined one at a time. However, the notes sheet lets you know at a glance which cards you have in your hand. And when you suggest a solution to the mystery, any cards that are revealed to you will automatically be marked down on your notes sheet.

The interface is a bit clunky, and the commands are not exactly intuitive. This, combined with a sparse manual, makes the game a bit difficult to get into. But overall, the computer provides plenty of flexibility. Up to ten can play, in any mix of human and computer players; the computer can play at three skill levels; the strategies that are integral to successful deductions are all valid, often necessary. I don't think that Virgin Mastertronic's Clue will signal a death knell for the original, but if you are a mystery fiend who dislikes dealing with all the pieces, cards and clues, or if you just can't find enough opponents, Clue: Master Detective might be your solution. ■

SYSTEM: **Atari ST**

REQUIRED EQUIPMENT:
Color Monitor

SUMMARY:
Fair-to-middlin' translation of a favorite old mystery game.

PRICE: **$39.99**

MANUFACTURER:
Virgin Mastertronic International, Inc.
18001 Cowan
Irvine, CA 92714
(714) 833-8710

New software, hardware, and accessories for all Atari systems

New Products

Portfolio Printer

Sure, the Atari Portfolio can drive a standard printer — but did you ever try to fit a Hewlett-Packard LaserJet in your Gucci attache? Portfolio owners who want to print and run will love this new mini serial printer from **Extech Instruments** of Waltham, MA. Color-coordinated with the Atari Portfolio, the rechargeable-battery or AC-operated (adapter included) impact printer produces clearly-legible output on plain 2-1/4" calculator paper or two-part carbonless paper. Models are available for printing either 24 or 40 characters per line, and are compatible with a subset of the IBM character set and print protocols, allowing double-width and graphics printing. Printers operate at 1200 or 2400 baud. An additional model, to be released in May, incorporates a built-in 2400-baud modem! Portfolio Serial Interface required.

Mini Serial Printer: $249.00 (specify 24 or 40 columns)

Extech Instruments Corp.
150 Bear Hill Road, Waltham, MA 02154
(617) 890-7440

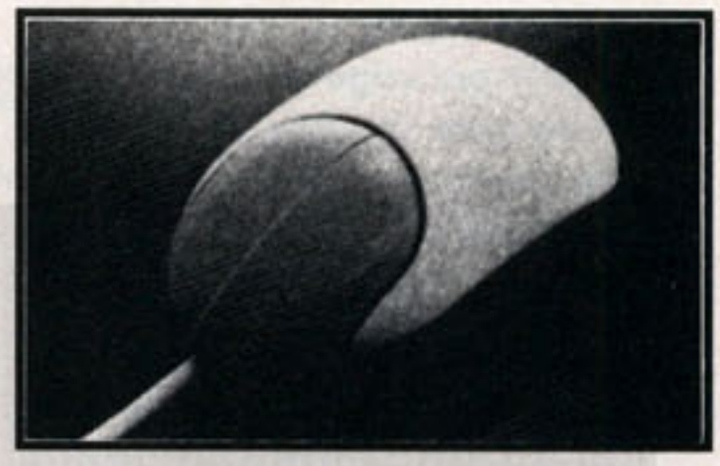
Join the Revolution!

Artisan Software of Manteca, CA, distributors of the popular Word Quest puzzle-construction systems and Graph Maker graphing software, has just released the new edition of their famed Revolution Handbook. The Handbook combines a good general introduction to computing with a manifesto and 1991 calendar for grass-roots action, aimed at popularizing the Atari computer line. Atari user groups, show organizers, local Atari dealers, and others will find the Revolution Handbook an invaluable source of practical, well-thought-out, and imaginative ideas for promotion, co-marketing, and fund-raising! And one dollar of the price of each copy sold has been pledged to fund the purchase of Atari equipment for schools! So, join the Revolution!

Artisan has also just announced the release of TransporT, a program to manage the serial transfer of information between the Atari ST and the Atari Portfolio palm-top MS/DOS computer. The program features step-by-step prompts that lead the user through the data-transfer process both on the ST, and on the Portfolio itself! (Just think! No more wondering if you should be in "server" or "terminal" mode!)

The Revolution Handbook: $14.95 ($16.95 CAN.)
TransporT: $24.95 plus $1.50 shipping and handling (California, add 6.25% sales tax).

Artisan Software
P.O. Box 849
Manteca, CA 95336



Beetle Mouse

Talon Technology, **distributors of the SuperCharger and ATonce PC Emulators, is offering a handsome replacement mouse for the Atari ST. Rated at 320 dpi, the Beetle Mouse is ergonomically designed to fit the hand, and features commercial grade tactile buttons. It's available in a variety of colors.**

***Beetle Mouse*: $49.95**

Talon Technology, Inc.
234 N. Highway 101, Ste. #11
Solana Beach, CA 92075
(619) 792-6511

Hand Scanners for ST/TT

RIO Computers **of Las Vegas has just announced availability of Geniscan II and DAATAscan Pro, two new hand scanners for the Atari ST and TT systems. Geniscan II uses the DAATAscan hardware and software interface from Pandaal Marketing in England. It interfaces the Geniscan 4-1/8" hand scanner to any Atari ST or TT system. DAATAscan Pro is a full 8-1/2" wide hand scanner for full page scanning. Also available as an option is a sheet feeder to automatically scan full-page images. Both scanners provide real-time scanning displays at 100, 200, 300, and 400 DPI resolutions. Software supports .IMG, TIFF, and Degas formats compatible with most DTP packages. Scans can be done in black and white, or in one of three built-in "dither" modes representing a 64-level gray scale. Drivers are included for SLM804 laser, plus selected 9- and 24-pin printers.**

Geniscan II: **$299.95**
DAATAscan Pro: **$989.95**
(Sheet feeder option: $249.95)

RIO Computers
3430 E. Tropicana Ave. #65
Las Vegas, NV 89121
(702) 454-7700

PX Electronic Classifieds

People's X-Change is a national multiline network dedicated to classified advertising. Whether you're searching to buy, or registering something for sale, connecting to the network costs only 50 cents per minute. To try PX, set your terminal program to 1200 or 2400 baud, no parity, eight data bits, one stop bit, and dial (908) 685-0948.

For further information: **People's X-Change**
27 Warren Street
Somerville, NJ 08876
(908) 685-1900

Lynx Newsletter Debuts!

Clinton Smith, **who many of you will recognize as a frequent contributor to Atari Explorer and STart, has founded a quarterly newsletter dedicated to the Atari Lynx Portable Entertainment System. Called "A.P.E." (Atari Portable Entertainment), the newsletter contains news, reviews, gaming tips, strategy, and projects.**

A.P.E. Newsletter: $6.00 for 4 issues (one year), plus one free issue. Send check or money order, payable to Clinton Smith, to:

A.P.E. Newsletter
2104 North Kostner
Chicago, IL 60639
(312) 227-2353

New From Gadgets!

Gadgets by Small, Inc., developers of the Spectre series of Apple Macintosh emulation systems, has announced the release of Spectre GCR 3.0. The last major release of Spectre was 2.65/C, in March, 1990. Spectre 3.0 is fully compatible with all Mac OS releases up to System 6.0.5, and runs even more Mac programs. The new revision also sports new menus, improvements to the disk drive subsystem, and fixes to the Mac Sound Manager, Serial Driver, and Restart emulations. The best gets better!

Also announced, for March release, was Spectre's MegaTalk Communications Board. Compatible with the Mega's internal expansion slot, the MegaTalk board adds two serial ports and a Mac-compatible SCSI port to the Mega ST. The high-speed serial ports can run as fast as 921,600 baud. Software is included to let ST programs access the ports, or the board can be controlled by Spectre GCR 3.0. The Mac SCSI port on MegaTalk is plug-compatible with Macintosh SCSI peripherals, which can be run directly under Spectre GCR's control.

Spectre 3.0 (update, for prior GCR owners only): $20
Spectre GCR: $299.95 plus $6.05 shipping (U.S.)
MegaTalk: $299.95 plus $6.05 shipping (U.S.)

Gadgets by Small, Inc.
40 W. Littleton Blvd. #210-211
Littleton, CO 80120
(303) 791-6098

Dragon's Lair II

Yes, gaming fans! **ReadySoft** has finally released Dragon's Lair II: Time Warp, sequel to Don Bluth's history-making Dragon's Lair, for the Atari ST! In Time Warp, you direct Dirk the Daring through a harrowing rescue mission through prehistoric, mythological, and (I think) Biblical sequences, to rescue Daphne (Mrs. Daring) from the clutches of the evil wizard, Mordroc. Like Dragon's Lair, Time Warp is a kind of cross between an action video game and a "participatory movie." As you progress from scene to scene, your job is to trigger the correct response to each situation with which you are confronted — influencing, but not strictly controlling, the character. Graphics and sound are extraordinary — all sequences are fully-animated, and much of the sound is digitized for high-fidelity realism.

Dragon's Lair: Time Warp: $59.95

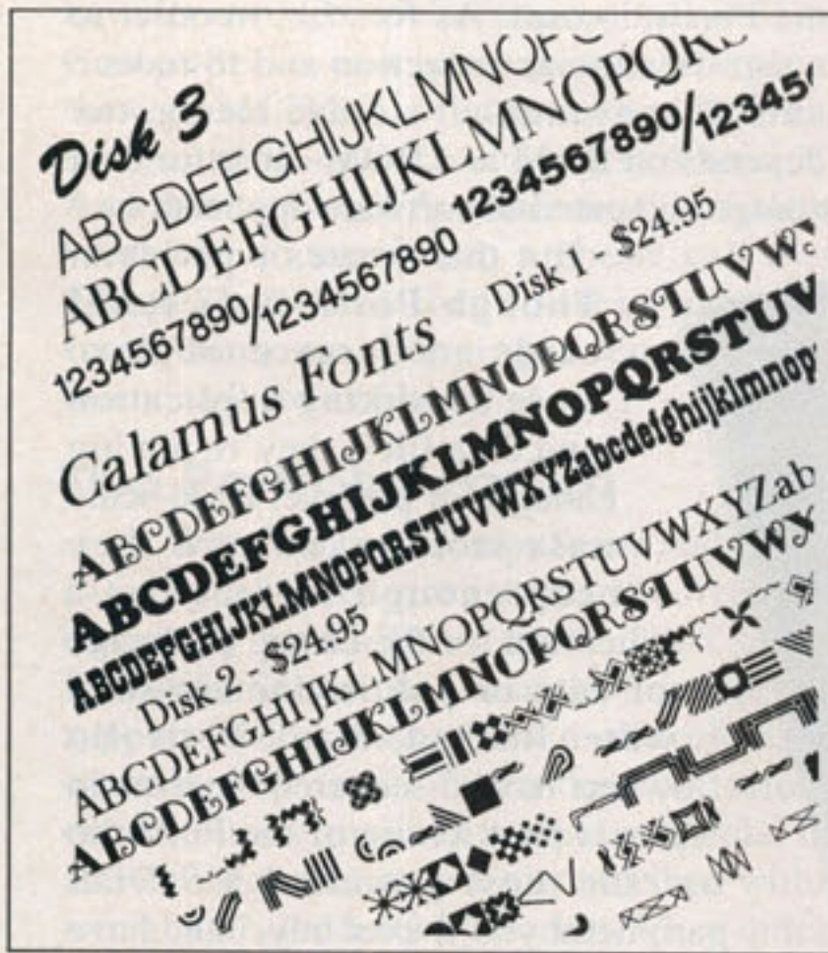
ReadySoft, Inc
30 Wertheim Crt., Unit #2
Richmond Hill, Ontario
Canada L4B 1B9
(416) 731-4175

Minix 1.5 "Unix-like" OS for ST!

Prentice Hall **has announced that the Minix 1.5 operating system is now available for the Atari ST. Minix is a Unix-like, multiuser, multitasking OS, and is probably not compatible with much existing ST software. Nevertheless, if you're of a mind to tinker with a genuine multiuser/multitasking operating system on your ST, Minix sounds like a heck of an interesting product. The ten-disk package includes a K&R compatible C compiler, a Bourne-compatible shell, three editors based on ed, vi, and emacs, 125 utilities with the usual funny names (cat, grep, make, nroff, etc.), and over 225 library procedures. It also includes complete source code for the operating system, and a 688-page manual that you'll probably want to at least skim before attempting to install the thing. Minix 1.5 runs on an ST with at least 1 MB of RAM and a 720K disk drive (hard disk optional).**

Minix 1.5/ST: **$165.00**

Prentice-Hall
College, Technical, and Reference Division
Prentice hall Building
Englewood Cliffs, NJ 07632
(800) 624-0023



More Palumbo Fonts!

Dennis Palumbo is releasing Font Disk 3 for PageStream and Font Disks 1,2, and 3 for Calamus. The PageStream font disk includes three major fonts, Helvetic Extra Light, Casslon, and Fractions, plus Dot-Matrix equivalents (.DMF files), screen fonts in 12, 24, and 36 point sizes, Font-Metric files (.FM files), kerning pairs tables, and PostScript downloadables. The Calamus font disks parallel Palumbo's releases for PageStream: Disk 1 includes fonts Gallya Ornamented, Kooper Black, and Plaebill; Disk 2 includes Basketville, Gallya, and Decorative Borders, and Disk 3, the above mentioned Helvetic Extra Light, Casslon and Fractions.

PageStream Fonts Disk #3: $29.95
Calamus Font Disks 1, 2, and 3: $24.95 each

Dennis Palumbo
104 Barrymore Blvd., Franklin Square, NY 11010

Carpal Tunnel Caution

The American Physical Therapy Association **has released a two-page guide describing exercises designed to strengthen the hands and wrists and prevent Carpal Tunnel Syndrome, a progressively-debilitating condition of the hands that is apparently caused or exacerbated by typing at computer keyboards. The early warning signs of Carpal Tunnel Syndrome include numbness, weakness, tingling or burning in the fingers and hands, escalating into acute, persistent pain. For more information, contact:**

American Physical Therapy Association
1111 North Fairfax St., Alexandria, VA 22314
(703) 684-APTA

Need help with your Portfolio? Want to learn more about it? How about some free software? What you need might be no more than a modem call away, on CompuServe's Portfolio Forum.

By BEN PARKER

Portfolio Management

Using Atari's Palmtop PC-compatible

Atari computers have long been characterized as having "Power without the price," but the highly successful introduction of the Portfolio palmtop computer in 1989 extended this description to one of "Power without the price *or* size." Portfolio's *power* is twofold: its built-in applications — spreadsheet, editor, calculator, address book, and diary — make it a SuperOrganizer *par excellence*; while MS/DOS compatibility renders a whole world of PC-type commercial, shareware, and public-domain software available to the Portfolio user. As for *size*, in order to achieve the Portfolio's significant size reduction and to reduce the power requirements of conventional storage media, the Portfolio depends on RAM and ROM cards for data storage and external software applications.

But this creates a problem: Though Portfolio's RAM cards are large enough to store a working application and data files, they're not big enough for passive, large-scale mass storage, nor are they cheap enough to serve as a medium for the casual exchange of data or public-domain software. Instead, many Portfolio owners have discovered the truth in Atari's positioning of the Portfolio as "the most powerful MS/DOS peripheral you'll ever buy," and have learned to use the Portfolio in concert with a standard desktop PC —

The Atari Portfolio with Serial Interface, SX212 modem, and communications software, connected to CompuServe's Portfolio Forum.

either by means of the Portfolio's parallel or serial interfaces and upload-download software, or, increasingly, by employing Atari's PC-compatible card-reader peripheral, which gives a desktop system the power to read and write RAM cards, Portfolio-style.

The Modem Connection

Direct-connect with a desktop system is a terrific way to extend Portfolio's power. But once you've mastered the ins and outs of sending data between Portfolio and another computer, this knowledge can be exploited even further by branching into wide-area telecommunications. Imagine this scenario: you've just finished a meeting in L.A., and have all the figures your New York staff needs to complete a big report. Unfortunately, it's now 8:00 P.M. in New York, and nobody's in the office to take your call. No problem! Connecting your Portfolio, via the Serial interface, to a small, battery-powered modem, you make a local call to CompuServe, a national information service on which you have an account. After uploading your figures via CompuServe's EasyPlex electronic mail, you sign off and go to dinner, secure in the knowledge that the data will be ready for download by your staff, first thing in the A.M.!What if your company doesn't have its own CompuServe account? Still no problem: CompuServe can route your electronic message through MCIMail, print it out and deliver it via fast surface mail, or even convert and send it via FAX! And that's not all. A whole world of electronic services are no more than a phone call away for the CompuServe subscriber: financial services, periodical research, home shopping, even realtime "teleconferencing" are available!

The Portfolio Forum

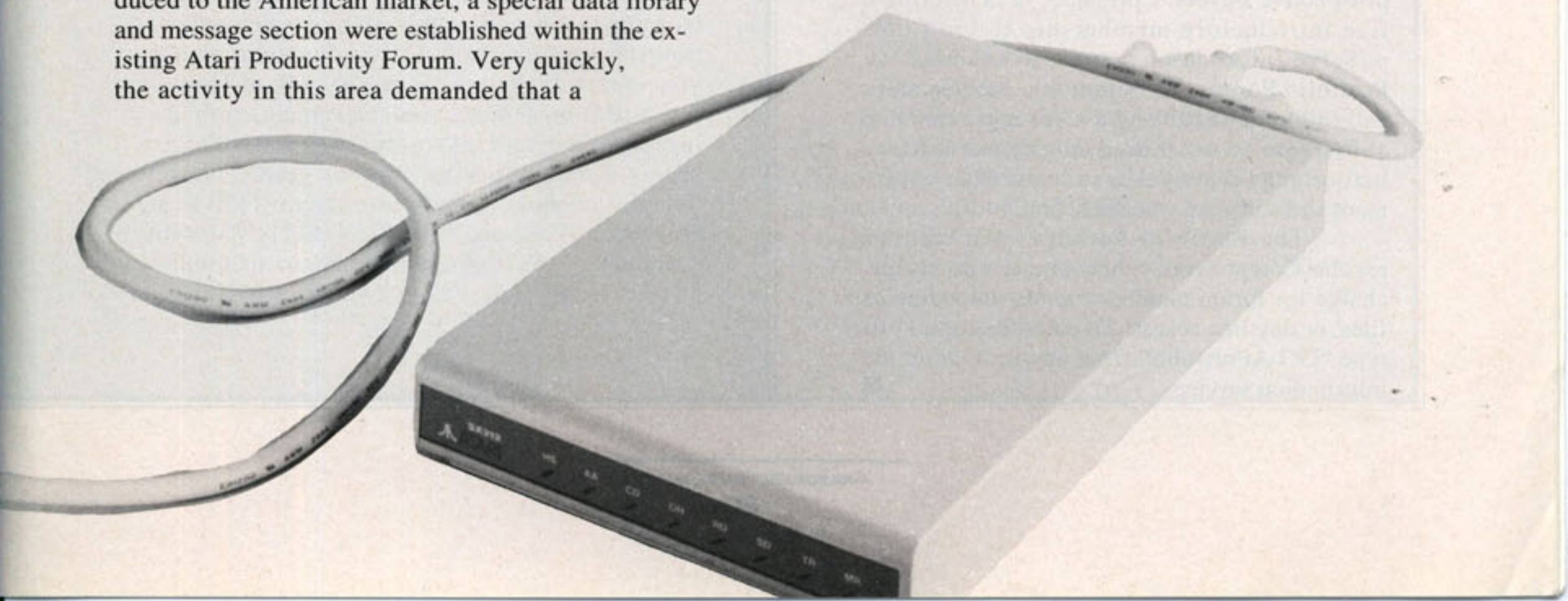
What's more, CompuServe and Atari are working together to create an electronic "forum" especially for Portfolio users. The CompuServe Information Service has been the home of Atari-related support forums dating back to the original Atari 8-bit computer systems. When the Portfolio was introduced to the American market, a special data library and message section were established within the existing Atari Productivity Forum. Very quickly, the activity in this area demanded that a separate, distinct users forum be set up to accommodate the special needs of the Portfolio audience. This new forum opened its doors to the public in the Spring of 1990.

The CompuServe Forum software consists of three areas — the message boards, a realtime public conferencing facility, and the data libraries. Each facility is further broken down into subsections by topic.

Currently, the Portfolio Forum features message sections covering topics such as COMMUNICATIONS, PROGRAMMING, ENTERTAINMENT, UTILITIES and APPLICATIONS, NEW PRODUCT ANNOUNCEMENTS, NOVICE HELP, a special section for Portfolio-to-Macintosh connections, and a COMMUNITY SQUARE area for miscellaneous chatter. A special restricted message section has been established, open only to registered Portfolio developers for privileged communications with Atari Corporation support personnel.

Within the first six months, the forum's data libraries quickly accumulated well in excess of 200 text files and programs written or adapted to work specifically on the Portfolio. Aside from a wealth of user-written utilities, there are tutorials on programming the Portfolio, a complete telecommunications program with support for binary file transfers with the popular XMODEM protocol, helpfiles for novice users, an expanding archive of new product announcements and press releases as well as reports from the various computer trade shows. For lighter moments, there are a wide variety of games available for the Portfolio including chess, arcade-action style games, casino and card games.

To help build up the library contents, the forum staff sponsored the first programming contest during the summer of 1990. One popular winner was the first BASIC interpreter written specifically for the Portfolio by member B.J. Gleason. Once this freeware program was made available to the membership, a flood of new submissions began appearing in the data libraries.



The forum is managed by head sysop, Ron Luks. Luks founded the original Atari 8-bit forum almost 10 years ago and oversees all the Atari-related forums on CompuServe. He is assisted by John Knight, a sales executive for Time-Warner, and Howard Sambol, a California based computer consultant. According to Luks, the true strength of the forum lies with the membership. Although the sysops perform the regular chores of forum upkeep (such as merging new files into the libraries), it is the constant flow of new programs and helpful messages posted by the membership that keeps people coming back. "Very often, before a sysop can respond to a user's question, another experienced member will post a reply to solve the problem. Once we got up and running, the forum seemed to develop a life of its own," says Luks.

Although the library archives are allowed to grow continuously, just over 500 active messages are maintained at any one time. Whenever there is a thread of lasting importance, the staff archives it in the data libraries for reference. According to Luks, this prevents new users from entering the forum and being overwhelmed by having thousands and thousands of messages to wade through. This virtually guarantees that the information in the message base is the most current available.

Free Intro Membership

With membership numbering in the thousands, the Portfolio Forum on CompuServe has become a central place for both Portfolio owners and developers to share the latest information. In recognition of its success, Atari Corporation has designated this area on CompuServe as an "official support site" for the Portfolio line of computers and representatives of its support staff can frequently be found participating in the message boards.

As a special for Portfolio owners and prospective buyers, CompuServe is offering a free introductory membership to the CompuServe Information service to examine the Portfolio Forum. To obtain this membership, call (800) 848-8199 and ask for representative 198. If you've never used telecommunications before, read our sidebar to learn what equipment and software you need, first.

The Portfolio Forum is available at regular CompuServe connect rates with no surcharge for forum membership, downloading of files, or daytime access. To enter the forum just type "GO APortfolio" from any prompt on the information service. ■

A Portfolio Tel

What You Need to Go Online

Setting up a Portfolio for use as a telecommunications terminal is a snap! There are four variables in the Portfolio telecommunications equation:

1. The Atari Portfolio Serial Interface. This inexpensive attachment, which plugs into the Portfolio's peripheral connector and draws power directly from the system, adds an industry-standard, AT-style, 9-pin RS232 serial port to your palmtop computer. Suggested retail price for the interface is $79.95. It's available at your Portfolio dealer, or can be ordered direct from Atari at (800) 443-8020.

2. An AT-style RS232 cable (optional). This standard cable, available at most electronics stores or by mail-order, mates the Portfolio Serial Interface's AT-style 9-pin connector with the 25-pin connector found on most modems. Note that certain battery-powered "portable" modems come with an AT-style 9-pin connector built-in, allowing these devices to plug into the Portfolio Serial Interface directly.

3. A modem. Short for "MOdulator/DEModulator," This is a device that sends and receives data from your Portfolio via the serial interface, translating it to and from audio tones suitable for transmission over telephone lines.

Whichever modem you choose, it's important that it be compatible with the Hayes standard, meaning that it will work with most communication software available for the Portfolio and/or your desktop system. Many brands of Hayes-compatible modem are available, ranging from the inexpensive and powerful Atari SX212 to battery-powered "pocket" modems scarcely larger than a matchbox. X-Tech Instruments (150 Bear Hill Road, Waltham, MA 02154 (617) 890-7440) even makes a Portfolio-compatible miniature impact printer that has a 2400-baud Hayes-

com Primer

compatible modem built in (for more information, see New Products in this issue).

4. Communications software. This is a program that runs on your Portfolio, manages your modem, and lets you communicate with a remote computer, either directly (by typing on the keyboard), or automatically (as when files are transferred). The Portfolio's built-in file-transfer software possesses this latter feature, but doesn't offer a "terminal mode" that permits direct keyboard communication with a remote system. For this reason, more powerful communications software is a necessity.

Several basic communications programs are available at low cost or free of charge in the public domain. Atari's own XTERM.COM, by Jim Straus, is a multi-featured. public-domain telecommunications package that features error-free Xmodem file transfer capabilities, useful for downloading free software from BBS's and public information services. If you already have a desktop PC outfitted for telecommunications, XTERM.COM can be downloaded free of charge from many BBS's and information services, including CompuServe. If not, the program is currently included on Atari's Portfolio DOS Utilities card ($89.95 at your dealer or order direct from Atari at (800) 443-8020). Alternatively, your Portfolio dealer may be prepared to copy XTERM.COM or the more recent XTERM2.COM onto one of your RAM cards, as a courtesy.

Going Online

Once you've availed yourself of serial interface, cable, modem, and software, you're ready to go on line. This is a four-phase operation. Step 1 is to hook everything together: Portfolio, Serial Interface, and modem, and turn Portfolio and modem on. Remember, because the Serial Interface draws a small amount of power from the Portfolio's own batteries while in operation, you should not leave the interface plugged in and unattended for great lengths of time. In fact, it may be advisable to run the Portfolio off house current, via the AC Adaptor, during long telecommunications sessions.

Step 2 is to set serial port parameters so that the Portfolio is talking at the same rate of speed and in the same format as the computer or information service with which you're attempting to connect. Your terminal program may offer a menu for setting these parameters. Alternatively, the Portfolio's built-in "Setup" utility can be used. Four parameters are important: *baud rate*, *parity*, *word size*, and *stop bits*. It's also important to match the *duplex* or "local-echo" setting supported by your host — this is accomplished from within your terminal program. Without getting into particulars, it's enough to say that all parameters should be set to match the specifications of your target system. If you're trying to sign onto a local BBS or other "informal" information service that doesn't publish specifications for new users, try the "generic" parameters of 1200 baud, no (or even) parity, 8-bit words, one stop bit, and full duplex. These parameters will work in many, if not most cases (including CompuServe).

Step 3 involves getting into "terminal mode," dialing, and making connection. Follow the instructions that come with your terminal program and modem, and refer to any published "new user" instructions from your host system. Finally, Step 4 involves actually communicating — learning the rules for making a distant system respond to your commands. There's a whole world to explore out there, and it's all no more than a phone call away!

For more information about CompuServe Information Service, call CompuServe Customer Relations at (800) 848-8990, Monday through Friday, from 8:00 AM to midnight, EST, and Saturday and Sunday from Noon to 10:00 PM EST. Or write to them at:

CompuServe, Inc.
Attn: Customer Service, P.O.B. 20212
5000 Arligton Centre Blvd.
Columbus, OH 43220

Portfolio users — and other Atari owners — may also wish to explore the services offered by GEnie, General Electric Corp.'s national information network. GEnie's Atari Roundtables are also recognized as official Atari on-line resources. For more information about GEnie, call (800) 638-9636. ■

An exceptional sample editing and sequencing package for the ST

By DAVID SNOW

Quartet

The reputation of the ST as a "musician's computer" is the byproduct of Atari's prescient decision to make MIDI a standard feature. But what about ordinary folks who just want to make music with the computer right out of the box? The original ST's Programmable Sound Generator is better than the sound chip in many computers, but it was never designed to reproduce high-fidelity digitized sound or drive stereo equipment. Nor does the advent of the STe's DMA-driven stereo sound architecture completely solve the problem.

Part of the difficulty is getting sound into the machine, a problem that was adequately answered some time ago with the introduction of MichTron/MicroDeal's ST Replay series of analog-to-digital sampling hardware and software. ST Replay also solved, at least in part, the problem of getting standard STs to drive high-fidelity audio equipment -- a problem more definitively solved by the STe. Still, though Replay and other products made it possible for any ST owner to sample sound and play it back, there was heretofore little way to employ ST-sampled sound in a musically-satisfying fashion.

Enter Quartet from Microdeal. This clever program transforms the ST into a polyphonic sample playback module/sequencer, providing audio output either through the monitor speaker or through an external amplifier via the Replay or Replay Professional cartridges, or on the STe, via the standard audio ports. Included in the 3-disk set are auxiliary programs for editing samples, and a large library of sampled sounds that you can incorporate into your own songs.

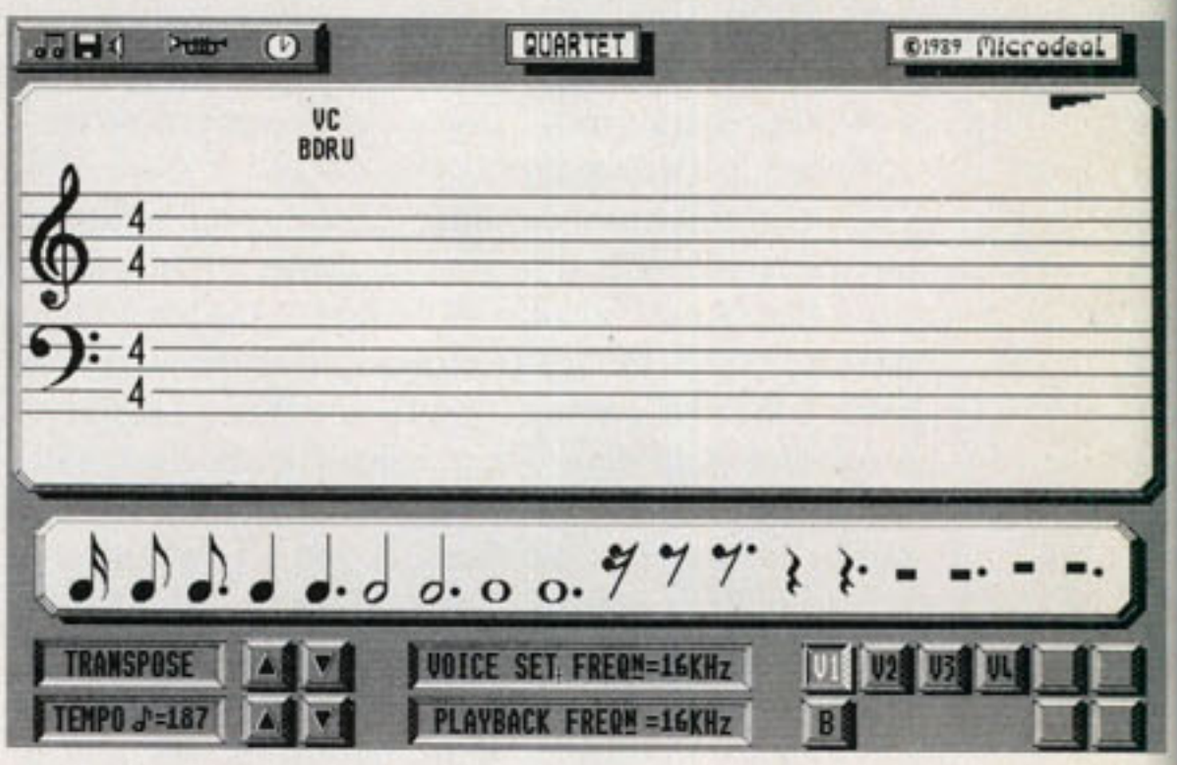


Figure 1. Quartet's main screen, showing the Grand Staff.

Using Quartet

The program's screen display (See Figure 1) presents a grand staff upon which notes are entered using the mouse. You select a note or rest value from the Note Display below the staff and insert it into the staff by clicking at the appropriate pitch position. As notes are entered into the staff, the display automatically scrolls left. You can jump forward or backward to any measure by clicking on the "Goto" menu option and entering the measure number, or scroll to the desired location by clicking in the left or right side of the staff display. You select the meter for your song from a menu of standard time signatures; the part you are working on is automatically barred as you enter notes (nice touch). Multiple meters in one song are not allowed. You can define odd meters such as 7/8 or 5/16 by entering the "numerator" of the time signature in the TSig menu option; the default "denominator" is always 16 (thus 7/8 would be entered as 14/16). This procedure works fine, though it does not change the displayed meter signature.

Besides using the mouse, parts can also be entered from a MIDI keyboard connected to the ST's MIDI input. Quartet automatically quantizes (rounds off) the rhythm to the nearest eighth-note. There is no internal metronome to keep time while you enter a part from MIDI, but you can use a pre-

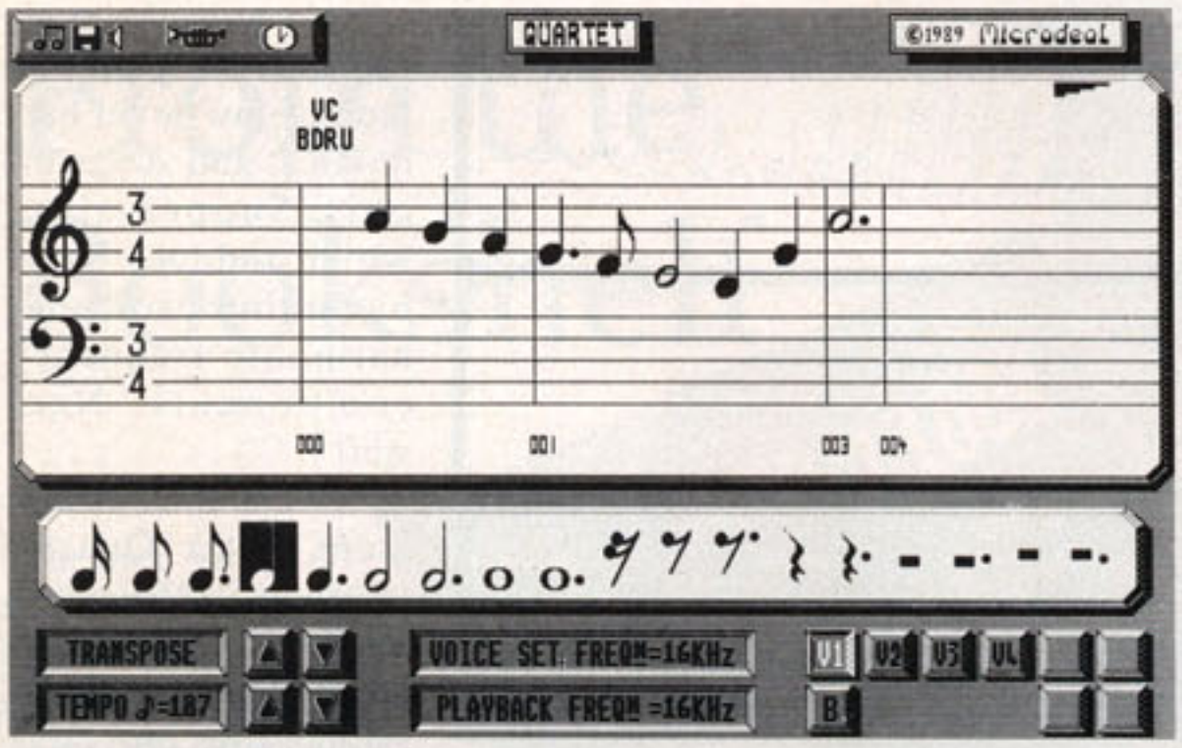


Figure 2. Quartet's note-entry system doesn't split and tie notes whose durations cause them to cross bar lines.

PRODUCT: **Quartet**

DESCRIPTION: **Sample sequencing/ editing software**

HARDWARE REQUIREMENTS: **Any ST or Mega (Replay and Replay Professional cartridges optional). STe version, featuring DMA sound, is finished and will be available shortly.**

COPY PROTECTION: **No**

DISTRIBUTOR:
MichTron, Inc.
3201 Drummond Plaza
Newark, DE 19711
(302) 454-1403

PRICE: **$59.95**

viously-entered rhythm track on another part for this purpose. (An alternate MIDI option allows you to play samples in real time from your instrument keyboard with up to 4-voice polyphony, but this function cannot be used simultaneously with the sequencer.)

Manual note entry is simple and intuitive, and screen redraws are lightning fast, but having to click on the Note Display every time you want to change a note value quickly gets tiresome (keyboard selection of note and rest values would be a good upgrade feature). There is also a glitch in the note entry process: attempting to enter accidentals (chromatic notes) does not work. The user's manual states that in order to sharp a note, you point to it with the mouse and press the "#" key (presumably meaning SHIFT-3), but that did not work, nor did any other key combination I attempted. A call to Michtron confirmed that this was indeed a bug, and that a fix was in the works. (It is possible to move all notes in the staff chromatically by clicking on the onscreen Transpose Up/Down buttons, however.)

There are some anomalies in the musical notation. No ledger lines are provided for notes above or below the staves (making them hard to read), and the depiction of accidentals is bizarre: only sharps are displayed, and they're placed on the wrong side of the note. Aside from aesthetic objections, these quirks are confusing and irritating, and ought to be fixed. In addition, note durations that cross bar lines are not divided and displayed as tied notes, which messes up the barring (See Figure 2).

Cut-and-paste editing options allow you to extract a segment from the instrumental part you're working on and store it in a buffer for editing and repositioning elsewhere. It would have been a good idea to also include a "copy" option that would duplicate the segment in the buffer without deleting it from the original part. A powerful component of Quartet's editing repertoire is its flexible looping system that allows you to repeat segments of a part a predetermined number of times. This option is especially useful for drum and bass parts. Loops can be nested up to 100 deep, more than enough for most real-life situations.

The sequencer supports up to four simultaneous parts (voices), although only one part can be displayed at a time. Quartet also is a true multitimbral instrument: each part can be assigned its own sample to play. You can also change the sample assigned to a part at any time, even on every note if you like (a single drum part, for example, can be comprised of multiple drum sounds).

On playback the rhythm is rock-steady, the pitches perfectly in tune. Sound quality through the monitor speaker is tinny, but adequate; considerably better when piped through a stereo. Original ST owners can do this via the Replay cartridge or an audio signal-splitter apparatus such as Practical Solutions' Monitor Master or Video Key. STe owners can do it directly. As visual stimulation, Play mode displays a four-channel "VU meter" on the screen that responds to the amplitude of each part (useless, but fun to watch). My single complaint with sequence playback is that you can't start a song anywhere but at the beginning; it's maddening to have to listen to a whole song when you're simply trying to fine-tune a short section at the end.

And one final, minor aggravation, associated with disk access: whenever you save or load a song, the GEM file selector reverts to the program's root directory even though you set it to a different file path the last time you used it.

DSP for the Masses

The second disk of the set contains a sample-editing program called Digital which converts sample files into a format that Quartet can use, and allows you to massage audio data in a variety of ways. Digital can load 8-bit sample files in any for-

mat up to 64K in length, and save them in AVR (Audio Visual Research) format for use with Quartet. Once loaded, a sample can be cut, looped, altered in amplitude, filtered, or mixed with another sample. You can also change the sample's default playback sampling frequency.

When a sample is loaded into Digital, the top window of the screen displays the entire waveform (see Figure 3). Using the Cut option truncates a sample by discarding data which lies outside the start and end points that you set in the top window. It's difficult to set cut points with precision because it can only be done visually; you can't audition the selected portion of the sample before making the cut. If you botch it, you have to reload the sample from disk and try again.

The Loop option allows you to set a starting point from which the sample will be looped to its end. A magnified display of the wave in the bottom window aids in locating a good loop point. Since setting the loop does not alter the sample data itself, you can experiment with different loop points until you are satisfied. A rough loop can be smoothed out with one of two different crossfade algorithms.

Clicking on the Frequency Domain button initiates a Fourier Transform that analyzes the frequency content of the sample and determines its fundamental pitch (if any). The calculation can take anywhere from a few seconds to several minutes, depending upon the length of the sample. A graph of the frequency spectrum is displayed in the lower window. Noisy samples can be low-pass filtered to remove hiss or high-pass filtered to remove 60Hz hum or other sub-harmonic debris. In the Frequency Domain mode it is also possible to modify the playback (sampling) frequency of a sample without changing its pitch, and to change the pitch of a sample without altering its playback frequency. And there are two more pieces of DSP (digital signal processing) candy that Digital has to offer: Background Smoothing, which cuts sample noise by scaling down the amplitude of low-level harmonics, and Anharmonic Suppression, which reduces noise by cutting back non-harmonic frequency components. Neat stuff.

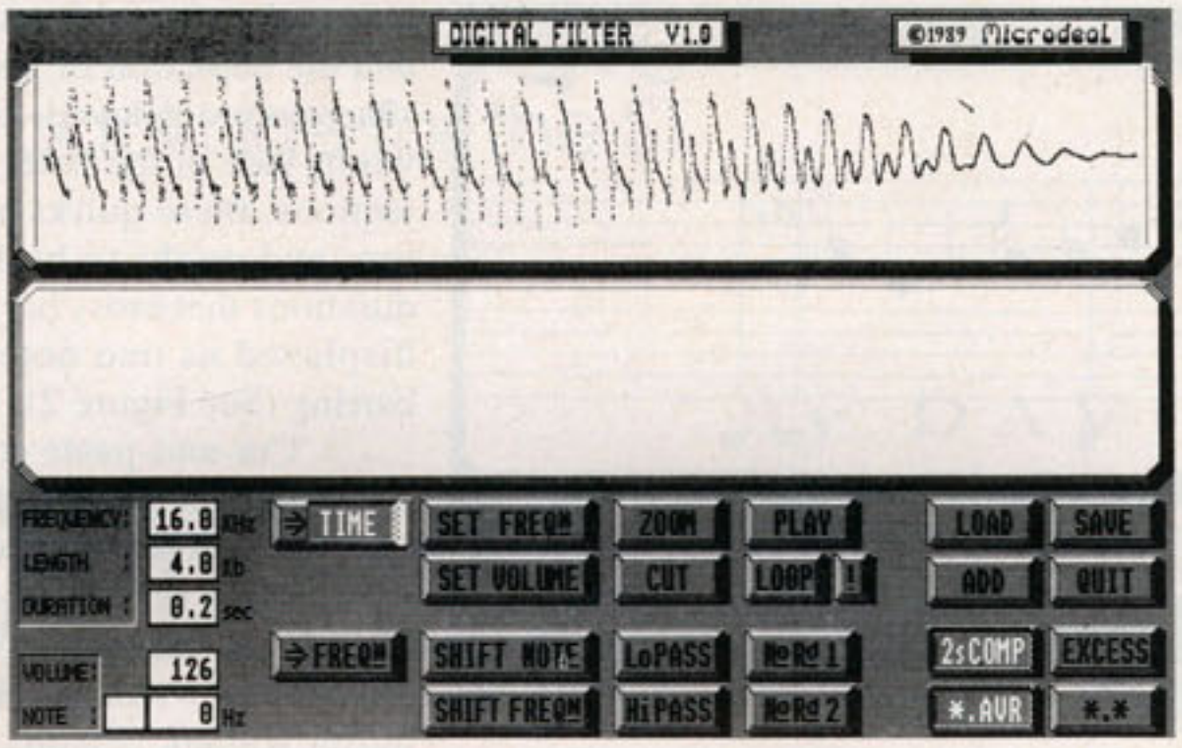


Figure 3. Digital's waveform display.

The final installment of the Quartet triptych is Voices, a utility program which groups individual sample files into large Voice Set files for loading into Quartet. Up to twenty AVR-format samples can be included in a Voice Set.

Playin' Yer Own Thang

Despite its bugs and flaws, Quartet is really quite remarkable. To rate it objectively as music software however, its 8-bit sound quality and rudimentary sequencing place it below entry-level MIDI programs. So besides low cost, what does it have to recommend itself?

The answer can be found in the last chapter of the user's manual, which explains how to incorporate Quartet songs into your own programs. Programming examples in HiSoft BASIC, Laser C, and assembly language are included on disk. Because of software constraints, high-level languages are limited in what they can do during song playback, but assembly language programmers can perform simultaneous animation and other video tricks.

It would be hard to beat Quartet as a music development system for games or entertainment software.

It would be hard to beat Quartet as a music development system for games or entertainment software, which as a rule don't require sophisticated compositions but which can use novel sounds to great effect. Just consider the alternatives: the cheezy bleep-bleep of the sound chip used in the conventional way, or the RAM- and disk-hungry requirements of a fully-sampled, non-sequenced score.

And affordable as it is, you might still get a kick out of Quartet even if you're not a programmer. It's fun, easy to use, and most importantly, perhaps the cheapest way possible to make a sampled moose sing "Raindrops Keep Falling On My Head". ■

From the Bookshelf

The Professional Look: The Complete Guide to Desktop Publishing

By Stephen E. Manousos & Scott W. Tilden

PRICE: **$19.95** plus $2.00 shipping & handling

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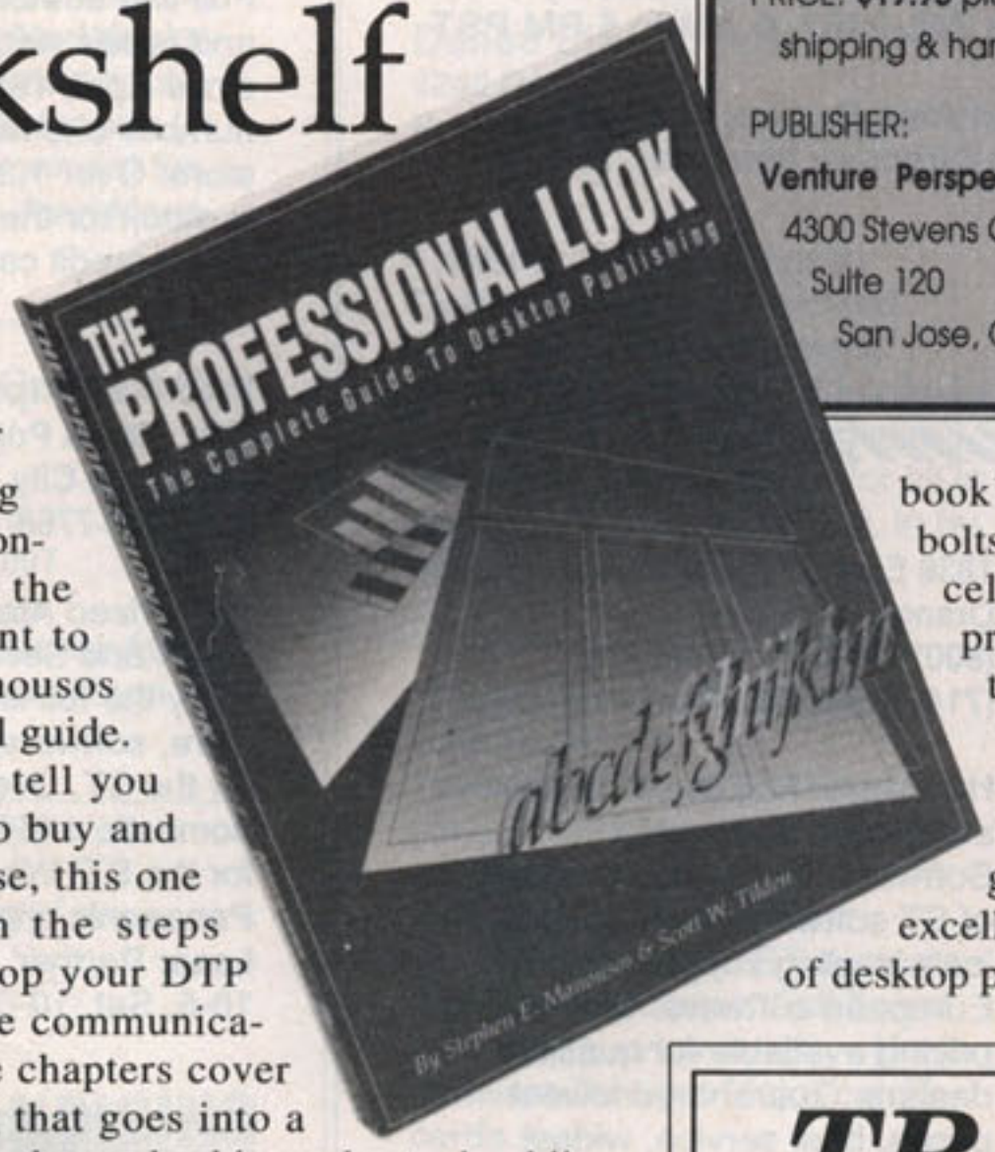

Whether you've already fallen victim to the lure of desktop publishing or you're still just contemplating taking the plunge, you'll want to take a look at Manousos and Tilden's helpful guide. While other books tell you which computers to buy and what software to use, this one con- centrates on the steps necessary to develop your DTP pages into effective communication tools. Separate chapters cover the initial planning that goes into a publication, defining the readership, and actual publication design. The different editorial and layout approaches necessary for effective newsletters, advertisements, brochures, catalogs, and business documents are each treated in individual chapters. Further chapters cover artwork and photos, paste-up, working with print shops, and mailing options. Current PageStream users (and, probably by the time you read this, Calamus users as well) will be especially interested in the chapter devoted to working with multiple colors; it includes glossy color examples.

The theme throughout the book is on maximizing your publication's effectiveness while taking advantage of the increased productivity possible with DTP. The obvious advantages include those areas where DTP really shines: stylesheets, WYSIWYG screen displays versus time-consuming manual paste-ups, etc. However, they also point out other important considerations. For example, one company found that simply changing the paper stock for their brochure improved the results. In other words, DTP encompasses more than just learning your way around your DTP program so you can dress up your text. Today's information-laden world demands efficient presentation of written communications. Failure to intelligently analyze a myriad of important factors will result in disaster for your publication. In other words, *your words won't get read.*

Anyone who uses, or intends to use, their computer as the means to produce effective communications will benefit from this book. The novice will welcome the hand-holding in the first two chapters; the experienced user will probably skip them to get at the book's strong treatment of more nuts-and-bolts topics. The authors not only do an excellent job of presenting their vision of present-day DTP possibilities, but also touch on future considerations. Though the book could also use a few more illustrations and examples, in fairness to the authors, it isn't intended to be a graphic arts tutorial. It is, however, an excellent "generic" manual on the mechanics of desktop publishing. ■

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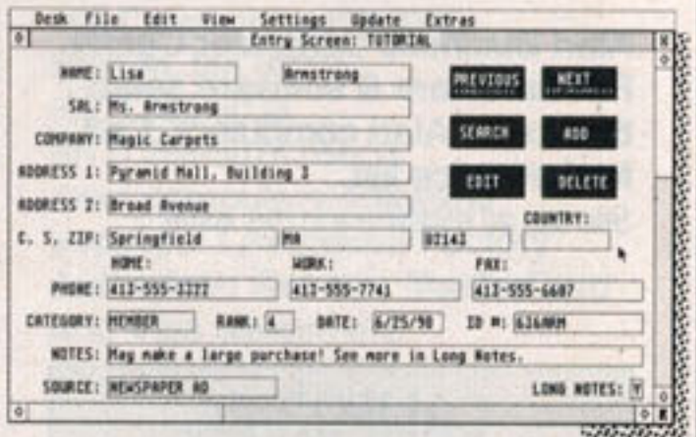

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Dialog Box

Continued From Page 7

people we hadn't seen in a long time. Many of these have come back in the fold as dealers. CES was a watershed for us; we more than doubled the number of outlets carrying our game systems, from 2500-3000 before the show, to around 7000 now. I'm particularly proud that we've managed to pull in almost all of the major chains, including Kay Bee, Sears, Montgomery Wards, and K-Mart.

The Portfolio continues to be a very popular item for us, and 1991 will see a reaffirmation of Atari's committment to the hand-held computer market. With the new software we announced at CES, Portfolio now has software in every product category, from productivity to personal reference. We will continue to advertise Portfolio aggressively, emphasizing the versatility of the device as both a SuperOrganizer and an MS/DOS compatible computer. To this latter end, we and certain third-party vendors are making progress in developing and marketing peripherals that connect directly to the Portfolio bus.

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The other part of the equation, of course, is to continue pushing the technology through careful engineering and efficient manufacturing practices, offering state-of-the-art capabilities at reasonable prices. This is something Atari has always excelled at, and will continue to emphasize. ■

Font Designer 1.1

Continued From Page 56

beyond mere font-creation; the program could as easily be used to create logos and images that can be accessed by single strokes of the keyboard when the font is properly loaded into a DTP program.

Font Designer begins with its own scalable outline font format, which allows you to deal with a character 2,000 points tall for optimum resolution control. All of the standard editing tools found in other font packages are implemented to control baseline, X-height, and cap height, permitting uniform printing. In addition, overshoot guides are used, providing yet another set of "handles" for working with curves.

Font Designer also features printing capabilities, requiring a PostScript printer for direct output from within the program.

Font Designer is a sophisticated program for a very specialized market, thus the price is well above norm for Atari applications and includes a licensing fee for users planning to market fonts either as shareware or commercially. However, a demo version of the program with limited printing capabilities and disabled save facility is available for downloading from GEnie. ■

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