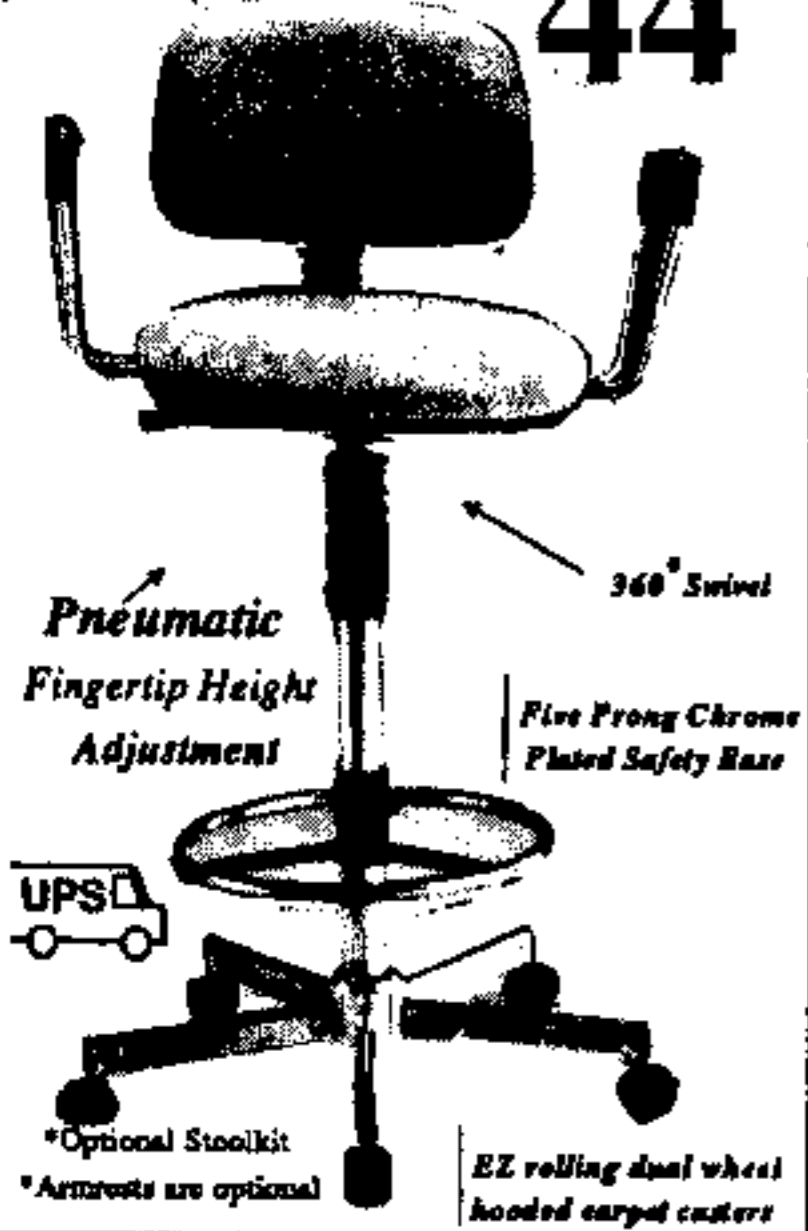
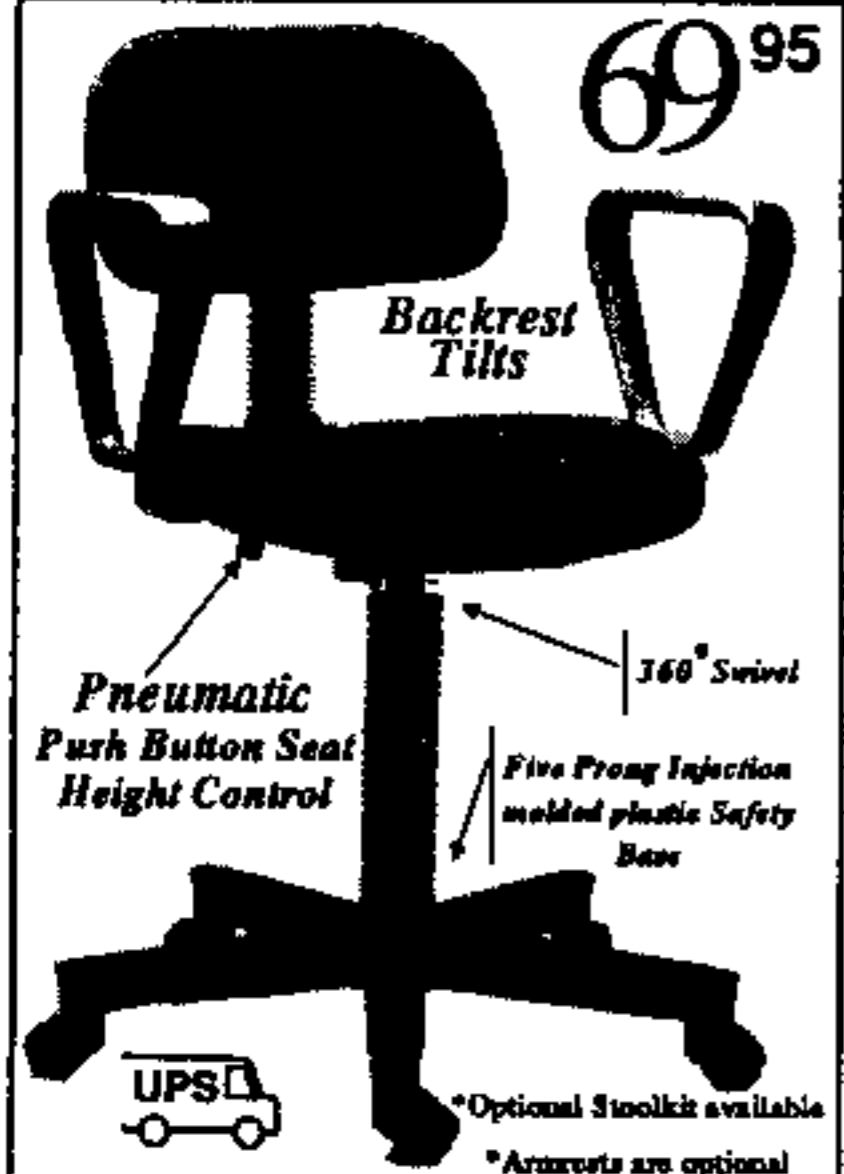


Guaranteed Lowest National Prices
Sale Save 71% 44⁹⁵



Ergonomic Task Chair



Ergonomic Computer Chair



Executive Leather Chair

***3 Years limited Warranty**
 *Shipping & Handling extra
Many Other Models Also Available
Free Color Catalogue
(800) 999-9942
In CA 213-459-5599
Ergonomic Technologies, Inc.
 860 Via De La Paz #F11
 P.O.B. 1664
Pacific Palisades, Ca. 90272

CLASSIC COMPUTERS CLASSIC COMPUTERS CLASSIC C

TEXAS INSTRUMENTS

THE TI FORUM

by Barry Traver and Jonathan Zittrain
Good News For Music Fans

Have you given up on finding good music for the TI-99/4A? Has it been your experience that even programs by fairly well-known programmers in the TI community are "adequate" at best? Well, if you happen to like classical music (or even light classical), there is good news for you. At the San Diego TI Faire, Ellen Kramer of Ringwood, New Jersey, called attention to some very nice "concert disks" available from Harrison Software, 5705 40th Place, Hyattsville, MD 20781.

The music is written in assembly, and it is professionally done. Thus far at least six different disks are available—three by Johann Sebastian Bach, two by Johann Christian Bach, and one by Peter Ilyich Tchaikovsky—with the possibility of other musical offerings in the future (including Mozart and Handel?). Although written in assembly, they all run from Extended BASIC with an automatic LOAD program, and some of these "concerts" may last for nearly ninety minutes!

If you're not really into classical music, you may still enjoy Tchaikovsky's Nutcracker Suite (\$4.50), including "Dance of the Sugar Plum Fairy" and "Waltz of the Flowers," with special effects sounds imitating such instruments as the celeste, harp, basset horn, and clarinet. If you believe in getting "Back to Bach" (J.S., that is), you should like "20 pieces from Anna Magdalena's Notebook" (\$4.50), "15 Two-Part Inventions for Clavier" (\$4.50), or "15 Three-Part Inventions for Clavier" (\$4.50), all emulating piano. You can follow that up by listening to a "Son of Bach" (i.e., J.C.), listening to six sonatas for harpsichord or pianoforte (both Opus 5 and Opus 17 are available at \$7.50 each).

Don't expect much in the way of graphics, because there aren't any: this is music for listening, not music to look at! What you get is a menu of choices, and most (but not all) menus allow you to set things up to play all the musical selections on the disk (nearly an hour and a half in the case of the sonatas by J.C. Bach). Unfortunately, "all" is not a menu choice for the disk containing the pieces from Anna Magdalena's Notebook (and some of the selections on this disk are rather short), but that is perhaps a minor complaint, in view of the fine programming evident in the music itself.

For those aware of the limitations of the sound chip used in the TI-99/4A (viz., a maximum of three different musical voices plus one noise), the quality of the music is amazing. It is to be hoped that "Harrison Software" will continue to come out with new software similar to that which they have already released, because they are certainly doing a fine job so far, and the price is a bargain as well (how much

have you paid for a ticket to a classical concert recently?).

Comprehensive Product Lists

TI nostalgia buffs and serious collectors, take note: Mike Wright (45 Centerville Drive, Salem, NH 03079; telephone 603/893-1450) has put together some "TI-99/4A Reference Lists" (\$5.75 including shipping) for you!

The lists are divided into three categories. First are the "PHx Lists" of all products officially announced by Texas Instruments, including PHA items (Accessories), PHD (Diskettes), PHL (Libraries), PHM (Modules), PHP (Peripherals), PHT (cassette tapes), and PHV (Value packs). (Don't ask us what the PH stands for; we don't understand the chemistry of that abbreviation!) Whenever possible, numbers have been verified against actual products (e.g., the number on the Sneggit module is PHM 3145, not PHM 3146 as incorrectly shown on TI's 1983 price list). In addition to "PHx" products, also included here are lists of HEX-BUS accessories and command modules by third parties (Atari; Funware; Navarone; Parker Brothers; Romox; Scott, Foresman; Tigervision).

The second section is a "Book List" of all known books which have material relating to the 99/4 or 99/4A. Building upon the list first published in Barry Traver's *Genial TRAVeLer* and later republished in Ron Albright's *The Orphan Chronicles*, Mike has added new titles that have been published or "discovered" in the meantime. The books are listed in alphabetical order by title, a summary of each is given, and the main list is followed by cross-reference lists by publisher and author.

Third we have TI's "1984 Price List," "the definitive price list published in the last heady weeks before Black Friday." As Mike indicates, "it includes some future products which never made it to market and allows you to calculate the net worth of your system before prices tumbled to absurd levels." Examples of rare or never-released products include Westinghouse's Key to Spanish (PHL 7012 at \$149.95), TI-Pilot (PHD 5066 at \$49.95), TI Mini-Writer (PHT 6103 at \$19.95), and TI's Video Controller (PHP 1290 at \$149.95), but you'll also find on this list more common items, such as Video Chess (PHM 3008 at \$69.95), TI LOGO II (PHM 3109 at \$129.95), Early Reading (PHM 3015 at \$54.95), and Parsec (PHM 3112 at \$39.95).

Important: the first section includes some items not found in TI's 1983 price list, e.g., TI's Course Designer Authoring Package (PHD 5068), which is rumored to have been officially released in limited distribution (and was, if I remember correctly, actually reviewed in the now-discontinued 99'er *Home Computer Magazine*). If you happen to own any rare TI items such as this,

I am sure that Mike would be glad to hear from you!

There are two ways at looking at the tumble in prices. One is to say, the Early Reading I bought years ago at \$54.95 is only worth \$10 today. The other is to say, the Early Reading I bought yesterday at \$10 is really worth \$55! The product hasn't changed; only the price.

Let me illustrate the point. Recently I bought a foreign language program for the Apple II for my son. It cost \$30 or so, but in quality it didn't come close to any of the educational cartridges released by Texas Instruments. The graphics were primitive, no use was made of sound (not to mention speech), and the pedagogy was rather limited (rote drill with little use of creativity). Now, it wasn't a bad program. My son learned some vocabulary from it and actually enjoyed the arcade game (even though it would not have been difficult to write a similar program in TI BASIC). My point is this: instead of being unhappy that the financial value of TI products has declined, we can rejoice that they have become more affordable. Put together color graphics, sprites with automotion, music, and (often) speech, and you have an outstanding program, regardless of how much it cost when or how little it costs now.

Well, whether you choose to be sad or glad about the events of 1983 or later and their effect on TIers (and I for one choose to be encouraged), you should find Mike's lists to be fascinating reading as a "slice of our history."

TRAVeLer Comes To The Networks

As most readers of this column are aware, one of the authors here is editor of a magazine-on-disk or "diskazine" for the TI-99/4A called the *Genial TRAVeLer*. Since issues come out on a somewhat irregular basis, something new has been initiated as a means of providing additional support to GT readers: a private-access library on two major telecommunications networks, CompuServe and GENie. In both cases, access is limited to current subscribers, Data LIBRARY 15 in the case of TI Forum on CompuServe (GO TEX-200) and Software Library 37 in the case of the TI Roundtable on GENie (M 576). In this electronic age with more and more TIers having modems, this method of customer support may become as helpful among us as it is elsewhere in the computer world, especially since there are so few retail stores that currently support the TI-99/4A.

GIF Graphics On The 99/4A

GIF for the /4A? Why not! You shouldn't have to purchase a Myarc Geneve in order to have beautiful pictures on your monitor. In addition to several programmers (including Jim Reiss?) working on GIF for the stan-

CLASSIC COMPUTERS CLASSIC COMPUTERS CLASSIC C

TIMEX SINCLAIR

MORE TIMEX SINCLAIR

by Michael O'Brien

No one individual is perhaps more closely associated with Sinclair technology, other than Clive Sinclair, than Nigel Searle. From his many years on the marketing "battle-lines," to designing programmable scientific calculators, his involvement in the Q1's Pision resident software and pub hopping lifetime friendship with Sir Clive Sinclair. Nigel Searle is a man of many facets, dimensions and talents. With great pleasure I recently spoke with him from his home in Keene, New Hampshire.

Nigel now owns and presides over his own company, The Marketing Clinic, serving some 23 clients. Oddly enough, only three of those clients are computer related, something he attributes to acquiring a change of scenery. The other 20 clients are as diverse as Nigel's talents.

One client that his firm continues to consult is Cambridge North America,

which controls the exclusive distribution rights. Z88 laptop computer Cambridge is just a part of a much larger publicly controlled company with diverse interests. The other interests include distribution of consumer electronics, such as Noland Bushnell toys.

Nigel was very enthusiastic when speaking about the Z88 computer. The Z88, he feels, will best find its mass marketing niche as a laptop companion for PC or Mac users. Oh no! What have I said? Have I committed blasphemy, will I be as hunted down like Salmon Rushdie for speaking the unspeakable?

When shown at COMDEX in late 1988, the Z88 was shown under two different environments. Half of a table was devoted to a Z88 attached to a PC transferring data, while the other side of the table was devoted to a Z88 Macintosh marriage. Oddly enough, Nigel found that Mac interest was four to five times that of the PC/Z88 arrangement. The logic was quite sim-

ple. PC owners tend to have marketing tunnel vision. While their units may be very complex, they are also very bulky and large. While searching for the convenience and size of a portable, it wasn't MSDOS oriented, they generally were not interested. Mac owners on the other hand, had to be interested. They currently have no portability options available. Any unit that features portability that can later communicate effectively with their desktop Mac, was an option they had to investigate. They just aren't waiting for Apple to design a \$6-\$7,000 unit that weighs over ten pounds anyway. Their response to the Z88 was overwhelmingly good.

Where is the Z88 headed as a stand-alone unit? Nigel feels that first time users suffer from a lack of confidence in the unit initially. That is to say, for example, when a buyer examines a clone they are intimidated initially by the complexity of the unit, but have an

► THE TI FORUM

dard /4A (using the 9918A video chip), there seems to be significant interest in both the Mechatronic 80-column card and in the "AVPC" (Advanced Video Processor Card) from Dijit Systems. We hear that Barry Boone has been working on GIF programs for both cards, as well as possibly a new eeprom for the former. For those seriously interested in GIF for the /4A, the 9938 video chip is the best way to go, so it is good to see some worthwhile software being written for these two cards. (Barry Boone is, of course, the well-known author of Archiver III, and he reportedly has also been working on some software for use with the MBX or Milton Bradley eXpansion System utilizing speech recognition.)

Two New Products For Programmers

Two veteran 99/4A software authors have recently announced new programming languages and tools for the Myarc 9640; Alan Beard has completed 9640 Fortran, and Paul Charlton has produced a 9640 Program Developers Package.

Beard's 9640 Fortran is an extension of his 99 Fortran compiler for the 99/4A. The package includes a full screen text editor especially tailored for Fortran programming, an optimizing Fortran compiler that produces immediately executable MDOS assembly code, and three Fortran libraries of various Function subprograms and subroutines.

Also included in the package is a symbolic debugger, which includes a built-in disassembler, memory display and modification, and breakpoints by line number and Fortran label.

The package is priced at \$69.95 suggested retail from Disk Only Software, P.O. Box 244, Lorton, VA, 22079 (1-800-456-9272).

Charlton's "Program Developers Package" has five principal components:

1) GENASM macro assembler. This is an assembler that runs in MDOS mode on the 9640, compiling between three and five times faster than the original 99/4A assembler and offering several other major improvements for debugging and linking purposes.

2) GENLINK linker. A linker for the 9640 that resolves references between subroutine libraries and saves chained program images for MDOS, TI99, and GPL program images.

3) GENLIB librarian. According to Charlton, "the librarian has full interactive support for maintenance of linker subroutine libraries, including insertion and deletion of subroutines." Included are libraries for the full Editor/Assembler programming environment, as well as a library for MDOS programmers.

4) GENMAKE make utility. This program allows an author to easily keep track of file dependencies in programs and large documents. When run, it updates all files which need to be updated, and will optionally ignore all files which are already up to date.

5) MDOS programming environment documentation, with programming examples for all MDOS library functions and programming tricks for MDOS.

The documentation may prove to be the most valuable part of the package, allowing potential software authors to work their way into MDOS programming with a minimum of effort.

The Program Developers Package is available through Genial Computerware (P.O. Box 183, Grafton, MA, 01519) and Disk Only Software.

West Penn 99ers Continue To Innovate

First there was Scott Coleman's Prototype Board for the Peripheral Expansion Box, and now Eric Zeno of the Western Pennsylvania 99ers is working on another hardware project, assisted by the talented and genial John F. Willforth.

The proposed "Zenoboard" installs inside the console itself, and has sockets for the chips from an Extended BASIC cartridge, a 32K static RAM chip, the speech synthesizer chips, and a battery-backed clock.

By allowing peripherals such as the Extended BASIC cartridge and the Speech Synthesizer to be installed internally, not only space can be saved; often the Extended BASIC cartridge or a tenuous connection in a console/speech synthesizer/peripheral box link causes a console lock-up.

Zeno plans to offer the board for less than \$15, including installation instructions. The board fits inside the console above the CPU board and solders directly to the back of the GROM connector with a few wires to the CPU board, and includes a RESET circuit.

If you are interested in Zeno's project, send a SASE to him at 414 Highland Road, Pittsburgh, PA, 15235. And while you are at it, you may want to think about subscribing to one of the most often quoted and respected club newsletters in the country; annual newsletter fee is \$10 to the West Penn 99ers, R.D. #1 Box 73A, Jeannette, PA, 15644.

HERE'S TO YOU DIRECT BUYER

Knowing Where To Find
PC Products Is How A Savvy
Direct Buyer Shows His Stuff

"...I'm a field engineer for Honeywell Bull and I rely on *Computer Shopper* for locating many of the peripherals and parts I need on the job. I buy serial ports, boards, printers, whatever it takes to get the job done. And in *Computer Shopper* I can find whatever I need..."



Dave Wentzel
Field Engineer
Honeywell Bull

"...When you can always find what you're looking for, at the best prices, with excellent support and service then you don't need to shop anywhere else. *Computer Shopper* is the greatest place to buy any computer product..."



Bethleem Steel

"Anytime you want to buy a computer product, *Computer Shopper* is the magazine to get. I've been using it for over three years... I buy many of our supplies, labels, printer stands and disks. You name it and you're sure to find it in *Computer Shopper*."



William Hubbard
Programming Engineer
Rockwell International

Jam-packed with hundreds of pages of the best buys in microcomputer products, more and more smart direct buyers are turning to *Computer Shopper* for all their computing needs.

COMPUTER SHOPPER

For Complete Advertising
Information, Call (407) 269-1663



MMG
MARKETING GROUP

Where
Direct Buyers
Buy.