TEXAS INSTRUMENTS

TI Forum

by Ron Albright & Jonathan Zittrain
JZ Leads Off...

Believe it or not, cassette recorders and telecommunications can go well together. Many TI users abandoned cassette recorders completely in favor of the much faster and random-access-capable disk drives. Disk drives cannot record sound, though, which is something that cassette recorders can do rather easily.

TI Forum user Rick Phillips was one of the first people to publicize the ability to actually tape online modem sessions. Said Phillips, "[The recorder] is set up to record the FSK tones of an entire online session, or any part of a session I choose. Then later while off line, I can play it back into my modem and recreate the session." Such a cassette "buffer" will never need to pause to write its data (as a disk drive would) or slow down the overall flow of data (as a printer would). Recordings of sessions are perfect ways to create demonstrations of online activities for users group meetings or to download large text files which can later be reconstructed off line.

Setting up the equipment is easy for those with acoustic modems. Radio Shack parts #274-287 (Mini phone plugs), #40-245 (2" mini speaker), and #43-228 (Phone/recorder control) are all it takes. The total cost should be less than $25. The speaker can be placed inside the microphone part of the acoustic modem or inside the handset of an extra standard phone.

For direct connect modems, the wire from the "phone/recorder control" device that usually goes into the microphone jack of the recorder can be moved to the output/speaker jack. With the volume up on the recorder, a cassette can be played back over the phone line—at least as far as the modem is concerned. Some modems may actually require a live line, in which case the phone would have to be taken off the hook. Once the "Please hang up and dial again" message and loud beeping stop, the line can then be used.

Cassette recorders do not necessarily need to be paperweights after all.

A Few Words About Copyrighting

We have often received questions about how to copyright computer programs. It is fairly simple: write one! Copyright is actually secured automatically upon creation of a program. No publication, registration, or anything else is required. Simply printing out a listing of a program will cause it to become copyrighted. If a program is written for hire, it becomes the property of the employer.

In general, copyrighting allows a person who has written a creative work to reproduce, display, or distribute the work, or authorize others to do so. Damages can be recovered for infringement of these rights.

If a program is to be given to others, the very beginning should contain a notice of copyright. A title screen and a REMark at the beginning of the listing are good places for copyright notices. A copyright notice must appear as "Copyright 1987 John Smith" or "Copr. 1987 John Smith." A "C" inside a circle is also acceptable instead of "copyright" or "copr." Interestingly enough, however, a "C" in parentheses (such as "(C) 1987 John Smith") is not considered to be sufficient. If the originators of ASCII had included a character that was a C inside a circle as part of the standard set, a lot of confusion could be avoided.

Copyright registration is a formality that makes a public record of a copyright. Registration is necessary before infringement claims can be made in court—and also helps to prove that an original work has indeed been written by a particular person. To register a computer program as copyrighted, an application and a copy of the listing and any documentation must be sent to the Copyright Office in Washington, D.C. If a program is large, the first and last twenty-five pages will do. A certificate of filing will be sent back to the registrant in two or three months. For copyright questions, call Copyright Office Information at (202) 287-8700, 8:30-EDT, Monday through Friday. The address of the Copyright Office is Register of Copyrights, Library of Congress, Washington, D.C., 20559.

Not-Polyoptics Responds To Spad XIII Review

According to Gene Harter of Not-Polyoptics (13721 Lynn Street, Suite 15, Woodbridge, VA, 22191), the copy of the Spad XIII flight simulator sent to *Computer Shopper* for review was a pre-release demonstration version, and hence was incomplete. "There is a scoring system," said Harter. "At the end of the game the number of enemy planes and balloons shot down and enemy hangars bombed is displayed; also, if you shoot down five or more German planes you are judged an ace." The version sent to *Computer Shopper* merely locked up at the conclusion of each game.

Added Harter, "Spad requires the Extended BASIC module and will not work with the Editor/Assembler module."

In the review a concern was raised about viewing scenery that was blocked by the plane's instrumentation. Harter pointed out that a special "U" command will show the front view without instruments in the way.

Of course, Spad XIII is still recommended as an excellent flight simulator program for the TI-99/4A.

FCC Proposal Endangers TI Community

A recent proposal has been passed by the Federal Communications Commission 4-0 which will seek comments about discontinuing an exemption from telephone line surcharges for commercial computer networks. Information services such as CompuServe and Delphi could be forced to pay up to $5/hour more for the use of local nodes to connect to interstate phone lines. Such companies would be forced to either swallow the charge or pass it along to users. Attempting to absorb the charge would alienate independent information providers that currently work for the networks for a royalty fee—since that fee would be greatly diminished. Passing along the charge would put telecommunications out of reach for many Americans that were just beginning to take part in a budding industry.

But commercial information networks are not the only ones affected. The Telenet PC Pursuit service, for example, would probably no longer be feasible with the new charges. PC Pursuit allows users to pay a flat $25/month fee in exchange for nightly usage of Telenet data lines to call long distance to many metropolitan areas.

The local BBS has a place right next to the local users group as one of the foundations of the TI community. Many BBSs have developed national audiences because of PC Pursuit. For example, according to Bob Fowler, sysop of the BBBB BBS in Maryland (1-301-292-1482), seventy-five percent of his users are long distance callers via PC Pursuit.

The surcharges are scheduled to take effect January 1, 1988. Much can happen between then and now to prevent the charges from becoming reality—but a concerted response is required. We will have more information about this proposed surcharge, as well as comments from various members of the TI community, in an upcoming issue.

Ron's Part...

The next large TI Fair is the Second Annual Seattle TI Fair scheduled for September 26. Organized by Ms. Barbara Weiderhold (owner of the Queen Anne Computer Shoppe, 6102 Roosevelt Way N.E., Seattle 98115; (206) 283-0953), this Fair will certainly be a major event, if it approaches the 1986 inaugural. Speaking of the 1986 event, Barb and Dave Miller put together the best video I have seen outside MTV from their first fair. It is a really nice job and features demonstrations of the Geneve and interviews with Craig Miller, Lou Phillips, and Chris Bobbitt, among others. If you want to see the Geneve in action or get the flavor of a real TI Fair, order this video. You can get a copy from the Queen Anne shop for $25, postage paid. It's well worth it.

Cornucopia!

This months mail really was a bountiful load. Newsletter of the month goes to a newsletter I could only read about half of, because it was in French. It is the "Le ti-MOT" Users Group (3130 Laviolette, Trois-Rivieres, Quebec G8Z 1E7, Canada). A super newsletter, though (I could read the programs!)—32 pages of everything from

TIMEX-SINCLAIR

Sinclair Survival Column

by Mark L. Fendrick

This month we will look at a series of programs for the T/S 2068 and Spectrum computers published by Novelsoft of Toronto, Canada. They were mentioned a few months ago in our report on the Sinclair Fest in Indianapolis, and this time we will take a look at the programs themselves.

In order of their appearance we start with our look at Artworx which was first released in this country by Foundation Systems. Artworx is a graphics package for the T/S 2068 which contains features which have become standard on those computers known for their graphics capabilities.

As with all of Novelsoft's programs, Artworx comes with a T/S 2068 version on one side and a ZX Spectrum version on the other. On each side are three recordings; Artworx, ZX (or TS) Gallery and some demonstration screens. Once loaded you are given the opportunity to make a backup copy to either microdrive or tape.

With the Spectrum version, the program will automatically detect the presence of a Kempston joystick interface and will default to joystick control. With a T/S 2068, both joystick and keyboard control is available at all times. If you feel that your joystick control is either a little too sensitive or sluggish, simple instructions are given for the user to adjust that sensitivity via software control.

Once loaded you start with a blank screen, and the only thing you will have to remember when working with programs comes into play now. That is that in order to invoke the pull down menu all you have to do is press the fire button twice. This will show you the main menu used in Artworx. All submenus stem from this menu. All the features of Artworx are accessed by moving the selection box to your desired feature and pressing the fire button. (While you can use the keyboard to control Artworx, it is much simpler to use even a cheap joystick, reserving the keyboard for text entry only.)

One of the first things that you will notice is that the speed of the cursor does not remain constant. When you first start moving the cursor around the screen you will find that it moves rather slowly, making it easy for fine detailed work. If, however, you are moving the cursor over a long distance, you will

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The keys should bottom out very hard to maintain speed.

The Sanyo keyboard which was manufactured by Fujitsu, the computer giant of Japan. The keyboard it seems has much German influence if you look at the circuit board. Fujitsu has been a long time licensee of Seamens. It would not be a surprise if they got some direction from a German keyboard. As you know, Japanese tradition was far from the use of keyboards. It had been a culture without keyboards.

There had been no Japanese language typewriter until the era of personal computers arrived. If you check this out, you will see that the so called Japanese language typewriters of yesteryear were not typewriters at all, but in truth simple typesetting machines using many thousands of cast types. Therefore, keyboards were not of Japanese tradition.

The Sanyo (which is Fujitsu) keyboard is a nice keyboard. Well, Jim Pelley (of Turbo Pascal fame because he invented the patch which enabled Turbo Pascal Version 3 to work in the Sanyo screen environment.) wrote me the other day saying he loves the old Microswitch keyboard. This keyboard uses a Hole switching element. A small magnet is attached to the key and when pressed down, the magnetic flux turns on the Hole switch mounted on the PC board.

He did not know that I have the same keyboard. The fact is, the surplus keyboard I'm using to operate my S-100 CP/M machine is the same one. The reason why I use it is because I liked it better than any other keyboard I had. The touch is good. It may be slightly better than the Sanyo's, but, the keytops are rather high as most old keyboards are, and not quite comfortable. If I could mount the keyboard into the desk as was done in some operator's desks for mainframe computers, by cutting a hole in the desk top, it could be another story.

In the Sanyo keyboard, it was my experience that some keys drift in operation. That is, for instance, I had the (+ / =) key almost dead. It did not make contact and was inoperable from the beginning. I took the keyboard apart and bent the spring slightly. This cured the difficulty. To take the keyboard apart, I recommend you have the Japanese type screw driver, so you don't damage the screws used in the keyboard. They call it "purasu" screw driver which is similar but not quite the same as the Phillips type. The "purasu" type was developed some time ago to avoid Phillips' patent. The patent has expired some years ago, but the "purasu" screws became the standard screws in Japan. One

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c99 to Forth. Also, we received newsletters from the Cleveland Area User Group (20311 Lake Road, Rocky River, OH 44116), the Suncoast 99'ers Group (8421 Westridge Drive, Tampa, FL 33615), the BCS 99er newsletter from the TI SIG of the Boston Computer Society (One Center Plaza, Boston, MA 02108) and the Sun City TI Club (P.O. Box 6966, El Paso, Texas 79906). Thanks for keeping JZ and I on your mailing lists. We get a lot of our material from what you forward to us—without your support, this column would be much smaller. Again, if you do not belong to a user group, locally or at a distance, you are missing out on more than you can imagine.

This Month's Winner...

Gary Cox of Memphis, Tennessee, is this month's software prize winner. He takes home "Cryptopad" (Cryptopad*, P.O. Box 3222, Camarillo, CA 93011; $12.95), a neat program for solving cryptograms and the "GPL Linker" and "GPL Assembler" from Ryte Data (210 Mountain Street, Haliburton, Ontario, K0M 1S0 Canada). Speaking of Ryte Data—they have developed for immediate release a new "snazzy" IBM-like expansion box for the TI. It will replace the old PE Box with the look of an IBM chassis with room for 4 half-height drives and 5 peripheral cards to boot. Looks great in the pictures I have seen of it. Price, I think, is less than $200. Write them for the details. They continue to amaze me. By the way, next month's drawing will feature some nice prizes, so be sure to enter. All it takes is a postcard. Freebie handouts are still available for the usual self-addressed, stamped envelope.

Wither The 9460?

Those of you following the development of the Myarc "Geneve" or 9640 in this column must know that things have remained at a virtual standstill. The machines were shipped in late April or so. But, it is quite clear to me, at least, that the machines were released before there was adequate software support. Specifically, a complete DOS. The "Version 0.0" operating system being shipped now allows you to run saved cartridges and the My Word word processor, but has no disk utilities or other commands at all. A nice manual of documentation was sent out, but it had nothing to do with the rudimentary software Myarc sent out with these first machines. I suspect all but the most informed owners with access to Compuserve's TI Forum or a hotline to Myarc were a bit confused by what they got in their Geneve box. The sofware released with the Geneve would only work with the Myarc disk controller and was incompatible with either the TI or CorComp disk controllers. This proved to be a major inconvenience to some early buyers. Well, I have heard the controller incompatibilities have been resolved, but there is still no DOS. There is also no further word on the Pecan UCSD Pascal run-time package promised with the Geneve either. As you may remember, that was to be one of the major selling points of the machine—to have a Pascal system that would run the best of that large software world without the expense and clumsiness of the TI Pascal system. According to the Myarc people I had spoken to earlier this year, this system was to be developed with Pecan Software, the folks now running the UCSD software development. I was also told it was so near completion (back this spring) that it would be shipped with the first computers. It appears that the package is not only absent from the Geneve

Software, it appears to be greatly delayed in being introduced if it is to be available at all. I have the card and the hardware is not a problem. I would have a lot of trouble justifying the purchase of the 9640 to myself with the current state of the support software. I would have an even more difficult time recommending this computer to a friend as it is being shipped now. This may change with the next column, if the DOS is ready. This is a long-winded way of explaining why there is no review of the 9640 in this issue as I had promised. I have explained before, on another medium, (with apologies to the Gallo brothers) that "I will review no computer before its time." And without an operating system, the Geneve has not reached "its time." Next month? No promises.

A sample of what may lie ahead, though, for those hearty souls who "damn the torpedoes" and buy a Geneve now, is graciously contributed by Chris Bobbitt, president of Asgard Software. Chris and his firm are developing some exciting software for the Geneve which will include, they whisper, a multi-tasking operating system called "AMOS." In any case, Chris has had a Geneve for many months and offered us these benchmarks for speed comparisons.

Editor's Note: They had better not call it AMOS. The Alpha Micro Operating System (AMOS) has been the copyright of Alpha Micro since 1977.

"The following is a series of benchmark tests and their results for comparing the various forms of Extended BASIC and the Geneve."

Explanation Of Benchmarks:

All benchmarks were performed with the following basic equipment—1 DS/DD 6MS Tandon floppy disk drive and a Myarc DS/DD floppy disk controller.

In Benchmark #1, the test was to see how long it took to draw 100 lines with the ran-

dom start and stop points. The following is the program used:

In Benchmark #2 the test was to compute and print 360 SIN calculations, of the numbers between 1 and 360. This test was performed, whenever possible, in the four graphic modes supported by Myarc XBII on the Geneve. The code is as follows:

Benchmark #3 is a test of how fast the basics and the computers count from 1 to 2000, and can display each number as the count in the upper left corner. This test was also performed in all graphics modes possible for the language and computer.

Benchmark #4 tests how long it takes to write 100, 80 character sequential records to disk. This test was performed in the Pattern Mode (alternately GRAPHICS 1 in Myarc XB and the only graphics mode in TI XB):

The Last Benchmark #5, tests how long it takes to read in the 100, 80 character sequential records created in Benchmark #4. Again, this was run in Pattern mode:

Benchmark 1-5 on page 383.

Final Note: All of these times will improve dramatically when the new version of Extended BASIC (Advanced Extended BASIC) is available for the Geneve. That Geneve-specific language will feature at least a two-fold increase in most things, so the total speed improvement in BASIC will be around 6-fold. Other languages will also show remarkable improvements, specifically those written exclusively for the Geneve."

Many thanks to Chris. I reproduced some of his results on my demonstration unit as well. I found a 2-3 fold increase in speed with the Geneve on my benchmarks as well. Do note Chris' "disclaimer" at the end of his article. He emphasizes that the new Myarc "Advanced Basic" (whenever that will be ready) will show an even larger speed improvement with the Geneve.

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Explanation of Benchmarks for TI Forum:

All benchmarks were performed with the following basic equipment - 1 DS/DD 6MS Tandon floppy disk drive and a Myarc DS/DD Floppy disk controller.

In Benchmark #1, the test was to see how long it took to draw 100 lines with random start and stop points. The following is the program used:

```
100 CALL KEY(0,K,S) :: IF S=0 THEN 100 ELSE IF K<>89 THEN 100
110 FOR I=1 TO 100
120 X1=INT(RND*192)+1
130 Y1=INT(RND*256)+1
140 X2=INT(RND*192)+1
150 Y2=INT(RND*256)+1
160 CALL DRAW(1,X1,Y1,X2,Y2)
170 NEXT I
```

In Benchmark #2 the test was to compute and print 360 SIN calculations, of the numbers between 1 and 360. This test was performed, whenever possible, in the four graphic modes supported by Myarc XBII on the Geneve. The code is as follows:

```
100 CALL KEY(0,K,S) :: IF S=0 THEN 100 ELSE IF K<>89 THEN 100
110 FOR I=1 TO 360
120 Z=SIN(I)
130 PRINT I;Z
140 NEXT I
```

Benchmark #3 is a test of how fast the basics and the computers count from 1 to 2000, and can display each number as they count in the upper left corner. This test was also performed in all graphics modes possible for the language and computer.

```
100 CALL KEY(0,K,S) :: IF S=0 THEN 100 ELSE IF K<>89 THEN 100
110 FOR I=1 TO 2000
120 DISPLAY AT(1,1):I
130 NEXT I
```

Benchmark #4 tests how long it takes to write 100, 80 character sequential records to disk. This test was performed in the Pattern Mode (alternately GRAPHICS 1 in Myarc XB and the only graphics mode in TI XB):

```
100 CALL KEY(0,K,S) :: IF S=0 THEN 100 ELSE IF K<>89 THEN 100
110 A$=RPT$("X",80)
120 OPEN #1:"DSK1.OUT",DISPLAY,VARIABLE 80,OUTPUT
130 FOR I=1 TO 100 :: PRINT #1:A$ :: NEXT I
140 CLOSE #1
```

The last Benchmark, #5, tests how long it takes to read in the 100, 80 character sequential records created in Benchmark #4. Again, this was run in Pattern mode:

```
100 CALL KEY(0,K,S) :: IF S=0 THEN 100 ELSE IF K<>89 THEN 100
110 OPEN #1:"DSK1.OUT",DISPLAY,VARIABLE 80,INPUT
120 FOR I=1 TO 100 :: INPUT #1:A$ :: NEXT I
130 CLOSE #1
```

Results of Tests

(NOTE: All times to nearest second)

	Myarc XBII (Version 2.11) Geneve	Myarc XBII (Version 2.12) TI-99/4A	TI Extended BASIC Geneve	TI Extended BASIC TI-99/4A	Largest Ratio
Benchmark #1:	14	22	n/a	n/a	1.57
Benchmark #2					
GRAPHICS 1:	33	55	35	84	2.55
GRAPHICS 2:	33	58	n/a	n/a	
GRAPHICS 3:	33*	54*	n/a	n/a	
GRAPHICS 4:	44	n/a	n/a	n/a	
Benchmark #3					
GRAPHICS 1:	28	49	53	121	4.32
GRAPHICS 2:	28	50	n/a	n/a	
GRAPHICS 3:	n/a**	n/a**	n/a	n/a	
GRAPHICS 4:	30	n/a	n/a	n/a	
Benchmark #4:	14	21	n/a***	28	2.00
Benchmark #5:	11	14	18	33	3.00
				Average of ratios:	2.69

GRAPHICS1 = Pattern mode
GRAPHICS2 = Text mode (40 col.)
GRAPHICS3 = Bitmap Mode (99/4A)
GRAPHICS4 = Text mode (80 col.)

* Garbage was displayed on screen

** Nothing was displayed - test couldn't be done

*** Every time a disk write was tried, from anywhere, in 99/4A mode of Geneve the machine locks up either during or after. Running SLOWVDP does not help.

Final Note: All of these times will improve dramatically when the new version of Extended BASIC (Advanced Extended BASIC) is available for the Geneve. That Geneve-specific language will feature at least a two-fold increase in most things, so the total speed improvement in BASIC will be around 6-fold. Other languages will also show remarkable improvements, specifically those written exclusively for the Geneve. "