

# TI-99ers In The '90s

by Barry Traver

## LET'S REALIZE THE TI POTENTIAL!

My TI column this month starts off "on the soap-BOX," inspired by a thought-provoking editorial with that creative title by Steve Burns in the November 1991 issue of BYTEMONGER, newsletter of the Bluegrass 99 Computer Society, Inc. (P.O. Box 1237, Lexington, KY 40590). (Actually, the article had no byline, but a phone call confirmed the fact that Steve was the author.) Maybe one reason why I liked

Steve's column so much is that I have been recently making some of the same observations and wondering what response we might best make to the situation.

Here's how Steve starts his column: "Much ado has been made over all the new things that have been made available for the TI over the last few years. Every new piece of software and hardware has been hailed as a great breakthrough, pushing the limits of our machines to new heights, far surpassing the abilities that TI had envisioned, blah, blah, blah."

Then Steve asks the important (but perhaps embarrassing) ques-

tion: "So what marvels have we seen from all this fantastic stuff?" The answer to that question is all too often, "Very little."

The TI-99/4A is indeed an amazing computer with amazing possibilities. This is partly a result of software and hardware developments in the past few years, but the same situation was true much earlier. I'm about to make a claim that many who are unfamiliar with the TI may think outrageous, but I'll make it anyway: when the TI-99/4A first appeared, it was ahead of its time, and in some respects, it is still ahead of its time. That is, those who own both a TI-99/4A and an IBM (or PC clone) can testify that there are still many things that the typical TI system can do that cannot be done by the typical IBM system.

More On The PC/TI (Dis)Connection I know, "comparisons are odious," but bear with me on this for a while. Everyone knows of various advantages of owning a PC (and the advantages are real), but not everyone knows of the advantages of the TI compared to a PC. If I program for the TI, I can ordinarily make certain assumptions about the capabilities of the typical TI disk system. These assumptions include the ability to handle color graphics, sprites with animation, multi-voice music with volume control, and even speech synthesis. These are the "extras" that I think make programs interesting. I cannot, however, make the same assumptions (except maybe for the color graphics), if I'm programming for the IBM!

Now, we're comparing the basic TI system (which may cost \$200 to \$300) with TI Extended BASIC to a basic IBM system (which may cost \$1000 or more, even without color graphics) with QuickBASIC. The TI can play music with harmony (and you can control the volume), whereas the basic PC has all it can do to carry an audible melody on its cheap internal speaker. A \$25 TI can handle 16 colors on the screen at a time, but that isn't possible on a much more expensive PC with a monochrome graphics card or even a CGA color card. True, many PCs now are equipped with VGA color graphics (which is fast becoming the standard, even in business applications), but PCs that can do real music or speech (using, for example, an Ad Lib or SoundBlaster card) are right now very much in the minority.

What difference does this make? Probably not much, if you're talking about most business software, but it makes a lot of difference if what you're after is a multi-purpose home computer that can bring out the "bells and whistles" when you want

them. Again, some PCs do have some of these "frills," but as a TI programmer, I can assume in general that ALL TIs are able to handle the things I've mentioned (music, color graphics, etc.), features that are not unimportant to many types of programs; e.g., recreation and education.

## ELEMENTARY EDUCATION ON COMPUTERS

My son, John Calvin, at the beginning of second grade years ago was able to do things like multiply a three-digit number by a two-digit number and do long division by a single-digit number. He was able to do this at a time when other children his age were busy learning their addition tables (when he already knew his times tables and more). How was this possible? Was he simply a "bright" child? Well, no child — regardless of his I.Q. — is able to multiply and divide without being taught.

Who taught him? Was it his Dad? Well, it was "someone" who had the patience to take him step-by-step in a non-threatening way (telling him "Try again" if he got it wrong and "Let me help you" if he got it wrong again) and "someone" who was able to maintain his interest with animation, lively music, speech, colorful pictures, etc. Yes, John Calvin got his head start in math not from his Dad, but from the TI computer (learning the important concepts from Scott, Foresman and getting detailed drill from Milliken).

Incidentally, John Calvin is still ahead in math (he is currently taking calculus in 9th grade, while all of the other students in his class are 12th graders), so the "TI advantage" certainly didn't hurt him any. My point here is not to boast as a parent (even though, like you, I like to do that when I have opportunity — grin), but to emphasize that animation, speech, color graphics, music, etc., are often important to programs and that such features were not only present in commercial programs developed for the TI but also supported by TI Extended BASIC, so that interested Tiers could easily write their own programs making use of these features.

## TI EXTENDED BASIC AND QUICKBASIC

As some of you may know, I have been doing some work on moving BASIC programs between TI Extended BASIC for the TI and Microsoft QuickBASIC for the PC. In many respects, it has proven to be an

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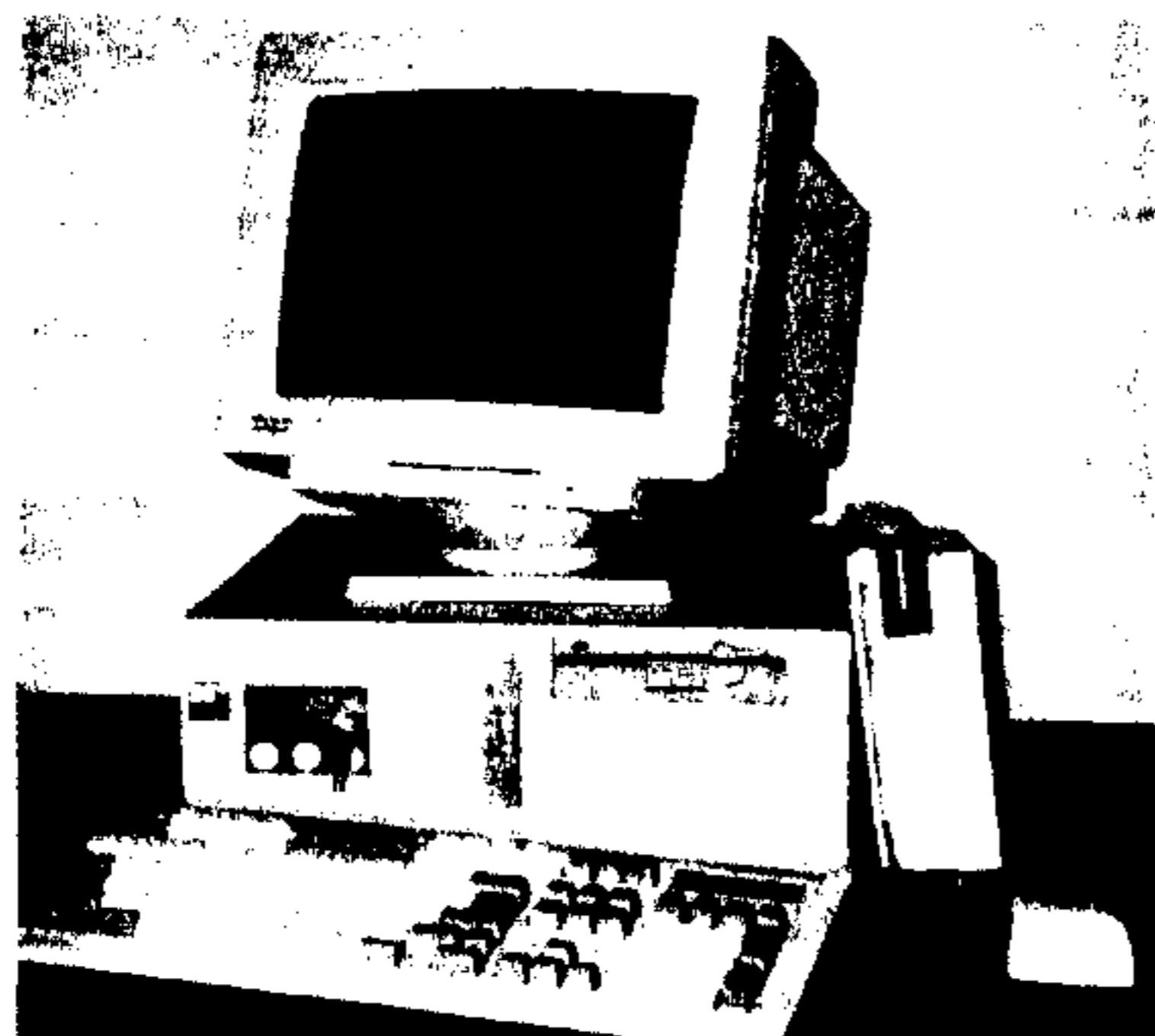
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easier task than I had expected. (I've written, for example, a number of QuickBASIC procedures that emulate various TI XB words, such as ACCEPT AT, DISPLAY AT, GCHAR, HCHAR, KEY, MAX, MIN, POS, SEG\$, and VCHAR). At times, however, I have been frustrated by the difficulty or impossibility of doing things on the PC that are simple to do on the TI.

An excellent example of this is the matter of sprites, which are supported by the 9918A video chip in the TI and are also supported in TI Extended BASIC. With sprites, you can design an irregular shape, and move that object across the screen, without messing up the background. Well, you will not find a CALL SPRITE command in QuickBASIC. It's not so much a matter of a weakness in the language (Microsoft did an excellent job with QuickBASIC, but then again they also produced TI BASIC, which is a subset of TI Extended BASIC) as in the fact that the PC does not have a video chip that supports genuine sprites like our 9918A (or 9938 or 9958, if you happen to have a MYARC 9640 or "TINY T-I-M").

I've been trying to see if I can port my CONEYGAMES collection over to run in QuickBASIC on the PC. On the TI, it was a very simple matter to display a red-and-black checker-

board, put white and yellow checkers on it, and then move the checkers without messing up the background. With the help of the TI XB manual, even comparative novices at programming could do it. Not so on the PC! I've talked with Ethan Winer of Crescent Software and someone at MicroHelp (two major suppliers of QuickBASIC support routines), and found out that among the hundreds of routines they have available, there apparently are none that could accomplish what on the TI is a relatively simple task.

Now, since a checkerboard checker has a simple shape (a circle), in this particular case I eventually found a possible solution to the problem, but my solution would not work for irregular shapes. As Tiers, we take sprites for granted (we assume that "Big Blue" must have similar capabilities), but it can be a shock to discover that things are not that easy on a PC. If you like to program in TI XB on your TI, you should be aware that 16-color graphics (QuickBASIC has a confusing variety of a dozen or so graphics modes to choose from, most of which are supported by only particular video cards), animation (QuickBASIC does not support sprites, much less sprites with automation!), music (QuickBASIC allows you limited melody, but not harmony), and speech (don't look for

speech support in QuickBASIC!) are much more at home on the TI than they are on the PC.

**BACK TO THE SOAPBOX**

The TI then had amazing possibilities from the beginning, particularly for the amateur programmer. But we're not limited to the capabilities of TI XB: there have been many excellent packages that have extended the possibilities of what we can do with TI XB, such as Harry Wilhelm's excellent THE MISSING LINK, available from Texaments. With TML, you can put a colorful TI-Artist picture (in bitmap mode) on the screen, add some text windows, set in motion some controllable sprites, play harmonious music (how about Beethoven's "Moonlight Sonata" for starters?), and — with all of this taking place at the same time — decide what else you'd like to do. That's not a hypothetical example: it's part of the excellent TML demo program, which suggests some of the astounding possibilities of TML.

**...program eliminates fractured files on a disk and reorganizes the FDR's.**

advantage of the new "possibilities" of TML and other advancements being written? If not, they should be. And if they are being written, they should be shared with the TI community in general, as in the past.

Yes, there are many things that display the potential of the TI, but we need to work on realizing that potential. All too often, the "experts" who open up the new possibilities move on to opening other new possibilities, and leave it up to others to follow through on the paths already opened. Are we following through? It's not something we can leave to the experts. (You know what an "expert" is, right? It's a person who learns more and more about less and less, until he knows everything about nothing!)

As we did in the days of the old IUG (International Users Group), I believe at the present time we need to get the rank-and-file membership involved in realizing the potential of "every new piece of software and hardware" which is in reality and in fact "a great breakthrough, pushing the limits of our machines to new heights, far surpassing the abilities that TI had envisioned."

**DISK DEFRAGMENTER PROGRAM**

Next month I'll resume surveying new TI products (e.g., Larry Tippet's MailRoom program from Asgard and Bruce Harrison's ScudBusters from Harrison Software), but this month I wanted to concentrate on something that I think is important to the welfare of the TI community, i.e., our recognizing and realizing — particularly through reinvolvement of "normal" Tiers — some of the potential that we presently have in the TI. Having said my piece, I'll turn the "soaP-BOX" back to Steve Burns...or rather to Mark Schafer, who is the new editor of BYTEMONGER.

Which gives me an excuse to mention Mark's recent DEFRAGMENTER program, which is not yet as well known as it perhaps ought to be. Like Mike Dodd's MCOPY, Mark's program eliminates fractured files on a disk and reorganizes the FDR's (file descriptor records). Unlike Mike's program, however, Mark's does not require two disk drives: the files and table are rewritten on the original disk. His program also has options that give you more control of the files. If you'd like to order the program, just send a check for \$7.00 to Mark Schafer, 539 Whitaker Street, Whitaker, KY 40351. (From a phone conversation with Mark, I understand that the disk contains source code for those who may be interested, but don't expect it to be commented!)

Until next Time, then, why not see what YOU can do to see that the amazing potential of our computer is more fully realized? (There's nothing to it but to do it!)

And that is the problem. TML is just one example "of some software that didn't seem to fulfill [its] full potential" (yet!). Steve Burns mentions a number of others (TI-SINGS, a couple of animation programs, and many more TI XB programming tools, such as STAR, DEP, EDP, XXB, SXB and SEB), and the list could go on to include quite a few significant hardware developments as well; e.g., George Bowman's "Whopper" 96K supercart and OPA's RAMBO?. (Maybe the MYARC 9640 itself falls into this category of yet "unfulfilled potential?")

My "soaP-BOX" plea is simple: shouldn't we spend a little less time working on brand-new software and hardware designed specifically to extend even further the "possibilities" of the TI and a little more time on realizing some of those possibilities?

In earlier times, we had more contributions from so-called amateurs who weren't afraid, for instance, to share their TI XB programs with others. When is the last time you saw a new TI XB program on a local BBS? Are they still being written? (If we can do animation, color graphics, music and speech on the TI when most people can't do it on their computers, let's do it!) Have you ever seen a new TML program? (I can't believe that those who purchased TML are doing absolutely nothing with it!) Are new programs that take

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