TI-99ers In The '90s

Classic Computer Column
by Barry A. Traver

Projem Update

Back in September 1990, I reviewed PROJEM's MMXB (Multi-Mode XB), a very powerful package of assembly language subprograms that greatly expand the capabilities of Extended BASIC. At that time, however, there were a number of factors that hindered many TIers from taking advantage of this tremendous resource for XB programmers.

Well, I am happy to note in this month's column that those hindrances have been removed, and I am hopeful that TIers will support this product, so that we may continue to see other new products from PROJEM (a company whose name contains a reference to its gifted PROgrammer, JEan Marleau).

I have lots of news this month about PROJEM (including news of a brand new product that is reportedly even more powerful than MMXB), but let me say first that I have not lost my enthusiasm about MMXB. If you have a TI-99/4A with a disk system and 32K memory and do any programming in XB, MMXB will allow you to write much more powerful programs in any one of three graphics modes: normal (32-column) graphics mode, text (40-column) mode or multicolor mode (hence the name Multi-Mode XB).

MMXB does not handle bitmap mode--for that, I recommend Harry Wilhelm's TML (The Missing Link), available from Texaments, 53 Center Street, Patchogue, NY 11772--but MMXB does an exceedingly good job in multicolor, text or graphics mode, with features not available elsewhere. In a moment (for the sake of those who are not familiar with MMXB) I'll tell you something about what MMXB has to offer. Before I do that, however, let me bring you up to date on the new situation.

New News On MMXB

Perhaps the most important news about MMXB is a change in price. The news is so good that I had to phone Jean Marleau to make sure that what he told me in his letter was not a typographical error. Earlier MMXB was selling at $25, but now it is available for $6.99 (plus $3.00 for shipping)! If that's not enough, Jean is also including his SAFXB (Save-Asm-For-XB), which I briefly reviewed earlier. SAFXB is a utility for embedding assembly routines in XB programs, a resource very similar to Todd Kaplan's ALSAVE or Barry Boone's SYSTEX, although Jean Marleau's SAFXB has its own special features. Also--as a result of my earlier review of MMXB in Computer Monthly--Jean has added a fast-loading version of MMXB along with everything else. This has got to be one of the great bargains in the TI world!

Personally, I think sometimes TIers tend to be cheap or spoiled in the prices they pay for software. I am concerned that if we don't properly support those programmers who are supporting us, we may not continue to see many new programs for the TI in the future. One reason that Jean Marleau has lowered the price on MMXB is that he has written another programming utility (he calls it PL/2 for Projem Language #2) that he considers to be even much more powerful than MMXB. But I'm afraid that if TIers don't support his efforts by buying MMXB/SAFXB or PL/2, we may not see any other new products from PROJEM. Anyway, I heartily recommend MMXB, and I hope that enough people will purchase it or PL/2 to keep Jean coming out with yet more things for us.

One hindrance some people may have experienced in getting MMXB may have been their not having an up-to-date address. (The P.O. Box in Montreal is no longer valid.) If you would like to order MMXB/SAFXB, here is the address you should use: Jean Marleau, 1424 Des Melezes, Saint-Hubert, Quebec, Canada J3Y-8S8. Even if you live in the U.S., you should (based on my telephone conversation with Jean) send your order directly to him, making payment either by money order or personal check.

So ... new price, new address, new contents (MMXB plus SAFXB plus a new fast-loading version of MMXB, as recommended in my earlier review here): you have all the information you need to obtain two utilities that can greatly improve your XB programs!

Projem Language #1

Essentially, just as Extended BASIC greatly extended the capabilities of TI BASIC, so MMXB greatly extends the capabilities of Extended BASIC. You can still use XB commands, but MMXB gives you 54 new or expanded assembly commands that allow you to do what you could not do before with XB alone. You need to learn the new commands, of course, but they are no more difficult to learn than Extended BASIC--the essential difference is that with the new commands you will be using the format CALL LINK instead of the usual plain CALL. If you can program in XB already, you can learn to program in MMXB. Even if you're a "slow learner" that's no problem, because you can "increase your repertoire," so to speak, a command at a time.

Incidentally, the same is true of most of the Extended BASIC extensions out there, but many people do not seem to realize that. We have lots of XB extensions available for the TI--DEP, EDP, MechXB, MyarcXB, MMXB, SEB, SM, STAR, SXB, TML, XXB and more --but thus far few people seem to be using them and/or sharing their programs, even though many (or most?) TIers already know how to program in XB and would find it fairly simple to radically improve their programs by adding on one or another of these resources. If you've never tried programming in an "extended Extended BASIC," MMXB may be a good starting point, and you certainly can't complain about the price!

I won't list the 54 MMXB commands here nor the 10 XB subprograms that show how to take advantage of some of them--you'll have to look up my earlier review in Computer Monthly for that--but I'll mention a few features to indicate how useful MMXB is. You can use MMXB for lots of things (for example, if you're into games, "JOYSTS" lets you quickly read the direction of both joysticks and both sides of the keyboard and also checks the fire-buttons and Q/Y keys), but I like most the features for text mode.

In text mode, MMXB gives you the ability to define (and to display) 240 different characters. That's over twice as many as are ordinarily available in XB! The DEMO program shows how you can define characters 0-13 as geometric patterns (useful in defining windows), characters 32-127 in the normal way (punctuation, numbers, letters, etc.), characters 128-159 as control characters (similar to the way the TI-Writer editor displays characters 0-31) and characters 160-255 as reverse video versions of characters 32-127. Oh yes, I almost forgot: 30-31 are cursor and edge characters as usual.

You can define the characters, of course, any way you want. For example, when you have that many characters available to you, you can do a lot more with graphics than you can in normal graphics mode in XB (where you often have the problem of running out of characters to redefine). You do have to remember that in text mode, characters are defined in a 6x8 matrix rather than an 8x8 matrix (I'm hoping to write a utility to make it easier to convert from the latter to the former, and may have done so by the time you read this), but that would be one way the new available characters could be utilized. In other words, reverse video is just one use of this facility--many other uses are possible as well.

Even if you aren't interested in graphics, it's very nice to be able to use 40 columns on the screen (compared with the usual 28 or 32). MMXB has what Jean justly calls a "SUPER powerful new ACCEPT," which includes four new function keys, lets you define up to 18 of your own, detects all 256 characters, gives you direct access to control characters, and more. Don't panic: you don't have to use all these features, and you can just copy what Jean does in the DEMO program or examples in the manual.

There are about 50 other commands which I'm not going to try to mention here (but which I did mention in my earlier review), but I've perhaps said enough to indicate how much you get for your $10 (without even having mentioned that you can display a full screen immediately and then scroll the screen up or down

◄ FROM PRECEDING PAGE

and handling, you will be sent YULE TRIM Vol. 1. This bonus package contains numbers with snow on them, plain numbers, candy cane numbers to go along with the cute candy cane letters on YuleTOOLS-I, Christmas wrapped packages, wreathes, and the sweetest set of elves you ever saw. This package is definitely good enough to be sold on its own, but the author of YuleTOOLS-I wanted you each to get as much for your money as possible.

I realize this is primarily a Christmas package, but please don't wait until next Christmas to order it. Many of the files on both of these volumes can very easily be modified to use on other holidays, such as Valentine's Day; as well as weddings and birthdays, among other things. Some of the files won't need ANY modification to be used for other "special" days. I wish I were as talented as the author of these two packages. Maybe someday I can wrangle a few free lessons! When we both have time, that is.

See you next month. Don't forget to register for ADAMCON 03. I'll be there, and I'd love to meet you. If you would like to contact me for any reason, my address is 411-B North Sea Lane, Fort Walton Beach, FL 32548. If you would like a reply, please enclose a legal-sized SASE. ■

with bottom and/or top lines locked, if you want). MMXB is indeed a very powerful resource, worthy of your attention, but PROJEM has another exciting product available for programmers that would seem to be equally worthy.

Projem Language #2

At the time of writing this article, I have not yet had opportunity to try out Jean Marleau's PL/2, so I am dependent upon his description in a recent letter he sent me. If it were not for my knowledge of his accomplishments with MMXB, I'd suspect his enthusiastic description as at least partly "hype" (he says, for example, "think of almost all that XB, MMXB and other util programs for XB are, and this is PL/2!"). But past experience gives me optimism about the positive benefits of this program as well.

Jean says, "PL/2 is very, very like XB, with the difference that it is incredibly fast, and it has some routines never seen before." In fact, PL/2 has "more than 100 routines." As a few examples, he mentions that "the screen utils support 80x25 for those who have the 9938 VDP for their TI (or Geneve, since PL/2-- unlike MMXB--works on both the /4A and 9640), the scroll up and down supports windowing, the super ACCEPT of MMXB was improved, it has a utility for programs that want to load CHARA1 files, 32 GOSUBs at the same time, etc., etc., etc."

One important advantage of PL/2 is that "programs made with PL/2 will work on others' computers because the 33-sector PL/2 is allowed to be sent with PL/2 programs of registered users, but NOT any instructions about PL/2 and NOT the PL/2 equates file." If I understand Jean correctly, this means that people do not have to purchase PL/2 itself in order to make use of programs created using PL/2.

If this is correct, fully free-standing, useable PL/2 programs could be placed in user group libraries, uploaded to bulletin boards, etc., something that is not true of other commercial XB extensions.

Again, I haven't seen PL/2 yet, but I wanted to get the news out without any delay. Maybe next month I'll be able to tell you more about PL/2 on the basis of my own experiments with it. If you're interested in ordering, just send $22.99 (plus $3.00 for shipping) to Jean. And if you bought MMXB earlier at the old price of $25 and can supply proof of purchase, you can subtract $10 from the price of PL/2!

By the way, technically you don't buy PL/2 itself, but a non-transferrable license to use PL/2 on one computer, receiving a personal copy. Please note that Jean says, "PL/2 will ABSOLUTELY NOT BE SOLD by anyone but me," so be sure to order it directly from him--and let us know if you know of anyone else who claims to be selling it.

LGMA Language #3

Since we're talking about languages this month, let's switch from Jean Marleau's PROJEM to Al Beard's LGMA PRODUCTS (5618 Applebutter Hill Road, Coopersburg, PA 18036), another excellent resource for languages for the TI-99/4A and MYARC 9640. In an earlier column, I told about two languages available from LGMA, 99 FORTRAN and 9640 FORTRAN, both of which have been upgraded to version 4.4, which (according to Al Beard in a recent Conference on the TI RoundTable on GEnie) "contains some very significant improvements over previous versions, and in fact has some features (such as complex arithmetic and long word arithmetic) that are still unique among all programming languages for the TI-99/4A and MYARC GENEVE."

Among some other improvements, 99 FORTRAN and 9640 FORTRAN now support 80-column mode (good news for /4A owners who have 80-column cards), super-cart memory and bit-map mode (which will work fine, as Al describes it, "with ANY garden variety TI- 99/4A").

My purpose this month, however, is to talk about what we might call LGMA Language #3, TIC (i.e., C for the TI). Actually, the name may be just a bit misleading, since--although TIC produces code that will run on the TI or the Geneve--TIC itself will not run on the TI. Versions of TIC, however, already run on the Amiga and on MSDOS machines, and a version of TIC running on the Geneve may perhaps be available by the time you read this. But let me let Al describe it in his own words, as he did at the Conference:

"My latest project is a C compiler for the GENEVE called TIC. TIC is a full K&R style C compiler that is adapted from Matthew Brandt's PDC compiler for UNIX 68000 machines. TIC (TI-C) improves on c99 in a number of ways, including full C structures, unions, enumerated data types; extensive register, common subexpression and peephole optimizations; and C compatibility mode.... [Also,] some ANSI extensions (e.g. the preprocessor symbols, the void data type) are added to TIC."

"Since TIC is written in C, it is portable to many machines and operating systems, including AmigaDOS, UNIX and MSDOS. I have released an MSDOS version into the public domain in December of 1990 through 9640NEWS (P.O. Box 752465, Memphis, TN 38175-2465). This version contained a ZIP file that had the compiler and documentation all on one floppy."

At the time of the Conference, TIC for the Geneve was not yet completed. Al commented, "The register optimizations that TIC is able to perform become quite complicated, and are needed to make TIC fit on a native GENEVE. The optimizations

SEE NEXT PAGE ➡

Notes From The Expo Floor

Show Report
by Fred Terry

The MacWorld Expo in San Francisco

Most Macintosh users are familiar with the MacWorld Expo held in San Francisco each spring and in Boston late in the summer. The Expo has become the place to introduce new products or upgrades of existing products.

For Macintosh users hungering for new toys, it is the functional equivalent to Christmas, the 4th of July and their birthdays--all conveniently rolled into a three-day show that boggles the mind and overloads the senses. Unfortunately, my reflections may be old news, but they should have the impact that any time capsule would--showing trends to people who crack it open later.

What Macintosh Portable?

The most surprising thing about the Expo was the number of rumored products from Apple that weren't announced. The rumored upgrade for the Macintosh Portable wasn't announced or shown, nor were the two new True Type printers that Apple has in the works. By the time you read this (allowing for the three-month lead time), the printers should be shipping. The Portable probably won't appear until the Boston MacWorld.

Even though Apple wasn't ready, the show was not without Macintosh portables. DynaMac was showing two new portable products. The Dynamac IIsf is based on the Macintosh LC logic board, and the IIsf/30 is a 68030 version. Dynamac takes the logic board from a Macintosh LC and repackages it. The case is sleek, covered in black leather, and the whole unit weighs around 12 pounds: it could conceivably sit on an airplane tray table.

The IIsf laptops have backlit screens, built-in microphones, and are equipped with UnMouse touchpads (my personal favorite). The IIsf has 2MB of RAM and a 40MB hard drive. The internal battery can power the IIsf for three hours. The IIsf/30 has the same features as the IIsf with an additional 2MB of RAM, 512k of VRAM, and an external battery to power it for an additional seven hours. It also has an FPU and an internal FAX modem. The IIsf has a one year warranty, and the IIsf/30 has a three year warranty. Both warranties pay for Federal Express shipping to and from Daynamac and guarantee a one day turnaround.

Dynamac was also showing the LCDisplay--a flat panel display for the Macintosh IIlc. It is a backlit, 9 1/2-inch monochrome LCD screen with a resolution of 640x480 pixels. The LCDisplay provides 16 levels of gray. The screen is small and light enough that you can use it and the IIlc as a totable computer.

OutBound has been making a true Macintosh laptop (only nine pounds) since 1989 which uses the ROMS from a Macintosh 512KE, Plus or SE. At the show they announced support for the Macintosh Classic. They were also showing a new Universal Power Supply and the Pocket Port modem to accompany their portable.

Smaller even than the Dove FAX modem, the pocket modem weighs only 2.4 ounces. It draws all of its power from the computer and the telephone line and does not require batteries or an external AC adapter. The 2400 baud modem is fully Hayes compatible and supports the extended AT command set. The Pocket Port also has automatic dial and answer, and the internal, non-volatile memory allows you to store four telephone numbers and the modem configuration. A user manual, six-foot phone cable and the Pocket Comm communications software are supplied with the modem.

The Universal Power Supply weighs nine ounces and measures 2.2-inches x 1.2-inches x 5.7-inches. It automatically adjusts to voltage and frequency requirements and can accept 100 to 240 volts AC and 50 or 60 Hz. The power supply has a standard plug connector which accepts any detachable power cord.

Networking Hardware

Each Expo has its own release of new products and upgrades of existing ones, but this Expo was remarkable for the number of networking tools that were announced or upgraded. At the top of the list was Apple's own announcement of a "plug and play" Ethernet products. Apple showed the Ethernet LC Card for the new Macintosh IIlc and the Ethernet NB Card for Nubus-based Macintosh II computers, including the new Macintosh IIsi. Apple also introduced the new Ethernet cabling system which includes three media connectors that allow you to connect the cards to any Ethernet media.

The Ethernet Thin Coax Transceiver supports thin coaxial cable (10BASE2). It is self-terminating and contains a built-in circuit that automatically terminates the end of the network without the need for a user-supplied terminator. Apple's Ethernet Thin Coax Cables are also self-terminating. A network built using these cables is not disrupted if a user removes his computer from the network and leaves the coax cable disconnected. With regular thin coax cabling, such a situation can exist.

Apple's new cabling system leaves the network divided into two fully operational networks so it is easy to locate the disconnection. The Ethernet Twisted Pair Transceiver allows you to connect to an unshielded twisted pair network (telephone wire). The Ethernet AUI (Attachment Unit Interface) Adapter connects to any thick coax or fiber-optic cabled network.

Dayna Communications announced new Ethernet cards for the Macintosh IIlc and IIsi which should be shipping by the time you read this. The whole line of DaynaPORT adapters are being redesigned using the SONIC Ethernet controller chip from National Semiconductor which allows for data to be transferred directly into memory and provides for 70 percent of Ethernet's speed. The DaynaPORT E/LC and E/si cards will have a socket for the 68882 floating point math coprocessor.

Dayna also introduced the DAYNAFILE II. It has been repackaged in a smaller case, and the external power supply is now smaller. The original DaynaFILE was available in eight single and dual-drive configurations, but the new version has been consolidated into three single-drive models. Two new 5.25-inch drives read and write 360k and 1.2MB disk, and the 1.2MB model can also read and write 360k disks. The 3.5-inch drive reads and writes 1.4MB disks as well as 1.4MB Macintosh disks. This makes it a perfect external SuperDrive for older Macintoshes. Dayna is also bundling DOS Mounter 2.0 with all models of the DaynaFILE II.

Network Analysis

This Expo brought new network analysis and management tools. Until now network administrators had to check each Macintosh individually or use Apple's InterPoll or TrafficWatch and CheckNet from Farallon to check the configuration of individual

← FROM PRECEDING PAGE

are quite impressive, however--Clint Pulley reports that the SIEVE program that takes 20 seconds to execute using c99 takes 7 seconds under full TIC optimization. The resulting object code on a GENEVE is roughly the same size as is generated by the latest version of Turbo C++ under MSDOS."

Clint Pulley (well-known for his own c99, itself a great contribution to the TI community) seems impressed with the capabilities of TIC. In fact, Clint "has agreed to convert his c99 library over to TIC native format." So far he has "converted the CSUP routine and the PRINTF routine; both are working well in the native TIC environment."

"The goal," says Al, "is to produce a good C compiler that can be used to port tools and code from other operating systems and computers.... By creating equivalent libraries to some of the more popular MSDOS compilers (e.g. Turbo C), it may be possible to even port graphics intensive programs."

Unlike 99 FORTRAN and 9640 FORTRAN (which are regular commercial products), TIC will be kept as a shareware product. "This is really being done for fun," says Al, "and although I anticipate a high demand for the product, I would like to keep the 'user' participation concept of developing it. Can we work together as a community and develop the compiler to a reliable and extensive product?"

Incidentally, it is expected that the Geneve version--like the MSDOS version--will probably be released through 9640NEWS (see address above).

Out Of Time And Space Again

I had intended this month to include some comments on the latest version of FUNNELWEB (4.31 at the moment, with some spectacular features), but I'll have to postpone that until another time when I have more space. If you haven't upgraded your FUNNELWEB recently (or if you've never used FUNNELWEB at all!), you should definitely get a copy of the latest version. One way is to send some disks (four SSSD, two DSSD, or one DSDD) plus a paid return mailer to the Lima Users Group, P.O. Box 674, Venedocia, OH 45895. (Thanks, Lima!)

Also, even though I can't promise to answer all letters, I do read them, so keep them coming. My address is 835 Green Valley Drive, Philadelphia, PA 19128; phone 215/483-1379--as long as you don't call collect!. And, until next month, keep on compuTIn'! ■