

THE TERM NEWRON USERS GROUP

Vol. 6 - No. 4

April, 1988

NEXT MEETING -- Note NEW LOCATION!!!
MONDAY, April 11, 1988 - 6:30 PM

NEVADA POWER BUILDING MEETING ROOM

PRESIDENTS MESSAGE

I seem to have missed the deadline (again) for the newsletter. I think I'll use excuse number 27 this month... Yeah, thats it, I haven't used good ol' #27 for ages. Let's see now... How does that go again... Oh yeah, I remember. It was a holiday weekend and I had to spend it with the family. Yeah, and I just didn't have time to write my newsletter article. This is oreat! Nobody would get upset with me for spending time with the family! Yeah, and it was Easter too. What kind of person would fault me for spending Easter with my 6 year old son? HMMmmm, That takes care of Sunday. Now let's see about why I couldn't get to it earlier. I got it!! I was watching the Final Four basketball tournament! Anyone could forget about deadlines and such when they get involved with the Final Four! Ok, that's it Rudy, Holiday weekend and NCAA basketball tournament. Take it or leave it! Number 27 ought to be good for at least one more extension. indeed! Ed.)

Now that I've got that out of the way, guess I'll get down to business.

This month's meeting will feature several demonstrations. The first one will be Joypaint from Great Lakes Software. I saw a demo of this program on the video tape from TIXPO. I was quite impressed. This program will allow many options not available in other drawing programs as well as virtually any you can think of that are available elsewhere. As far as I could see, the only thing you give up 'u get these extra features is color. You still have the option of changing screen colors, but your drawings will be essentially black and white. If you only plan to draw pictures to display on your monitor, then this might be considered a shortcoming, but if you mostly want to make hard copies on your printer, then you will hardly notice. I won't go into the many features of this fine program here because I really as running late with this article and don't have time. If you want to see a great graphics program in action, either come to the next meeting (April 11, 5:30PM, Nevada Power Building) or check out the video tape from TIXPO. This demo will be by Rudy Johnson who always does a thorough job and a good presentation. (That's right. Butter me up to make up for a late article. Ed.)

Also on the adgenda is a demo of PRE-SCAN-IT from J Peter Moddie. I have read reviews of this program. I have heard what it does and how well it works, but have never actually run it or seen it in action. I am anxious to see this demo myself. I have had many occasions to write prescan headers for Extended Basic programs, and have found it to be, at best, tedious. Even with some of the "aids" available, it is still very time consuming. This program takes all the tedious work out of it and acutally writes the program for you. This demo will be given by Dee Wellman.

The third demo for this meeting will be of an older program that still serves us well. Neatlist has been around for several years now and I still use it quite often while writing or modifying programs. This program will make your program listings MUCH more readable. Neatlist will list a program to your printer with all the line numbers separated from the code. With this program, there is no chance of accidently mistaking a line number for part of your code Neatlist will also break each (or vice versa). multi-statement Extended Basic line into several lines. Each time the program encounters the "::" that normally separates different segments of a multi statement line, it prints the :: and then puts the following code on the next line. This makes debugging a program much easier. There are also options to print out all the variables used in the program (and any subprograms you may have written) along with line number references showing where each variable was used througout the program. There is an option to send control codes to your printer. This could be useful for setting it to condensed print so you could print your listing in 132 column format (also an option). Neatlist prints with margins that you can adjust for such things as 3-ring binders. You can set your page length for whatever kind of paper you are using. Neatlist skips over perforations so each page is neatly formatted and easy to read. The latest version was modified by J. Peter Hoddie

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and now carries version number 1.1. I haven't yet found what the difference is between the older version and the new one, but will attempt to discover it before the meeting. This demo will be given by... Egad't It's ME!! According to my notes, I'm scheduled for this one. Guess I better dust it off and run it a few times before the meeting.

There will be a raffle this month, but there is too much stuff to list it all here. You will just have to come to the meeting to see what's there.

Last I heard, we will have 2 DDM's this month. DISK UTILITIES Version 4.0 by John Birdwell, and TELCO version 1.3 by Charles Earl. These are both excellent programs and well worth adding to your personal libraries. These are both FAIRWARE programs, so you can expect a collection for them at future meetings.

He are exchanging newsletters with a few more user's groups since the TIXPO. There is a lot of very interesting and informative information available in these exchange newsletters. If you are not checking out a packet of newsletters each month, then you are missing out on a very good source of information and programs for your computer. I have noticed lately that many groups are printing a listing of which newsletters they have gotten each month and what was in them. This is a good idea. If anyone would like to volunteer to read and summarize the newsletters we recieve, we would be happy to let you have first (or at least second) crack at them each month. I would do it, but I seem to have bogged down with the things I'm doing now (see \$27 above).

We still have a large supply of disks for sale at \$6.00 for 12 disks or \$11.50 for 24. If you need disks, bring a few bucks with you to the meeting. The same thing applies to the leftover TIXPO hats. There is still 1 full box of hats left. If you didn't get one at the show, there is still a chance for you to get one of these fine souveniers.

Having said that and noticing that the clock on the right side of my MY-Word screen says 20:55 (I forgot to set it ahead for PDT yesterday), I guess I'd better get this off to Rudy so he can put the newsletter (and himself) to bed.

See ya all at the meeting!

-John-

FUNNELWEB 4.0 TIP

Need to change the case of your text? When using Funniweb 4.0, use (CTRL) (;) to change a lower case letter to upper case. (That's holding the CONTROL key down and pressing the semicolon key. It auto repeats and only affects A thru Z.) To change an upper case letter to lower case type (CTRL)(.) (CONTROL and period.)

EDITOR'S BITS

One would think that a person pressed for time would end up with a short article. But not our President! I called him up with 7 seconds left in the final game in the NCAA Tournament and he came back with the above message in a half hour or so. And you know how he writes when he has Elsewhere in this issue you will find a continuation of Jack Sughrue's IMPACT 99 column, as well as a letter from Ray Kazmer on attending TIXPO 88. Depending on how space goes there may be a few other tidbits (maybe a lot.)

ARROWS

This is another demonstration of the power and capabilities of 99/4A sprites in Extended BASIC which has appeared in number of other newsletters. (Remember not to type the checksums, !xxx, at the end of the lines.)

1 !############ !249 2 ! BY DANNY COX # !044 3 ! ############# 1249 4 ! !131 5 CALL MAGNIFY(4):: CALL CLE AR :: CALL SCREEN(2) !073 6 CALL CHAR(96, *FFFFFFFFFFFF FFFFF7F3F1F0F07030180C0E0F0 F8FCFEFFFFFFFFFFFFF*) 7 FOR X=7 TO 4 STEP -1 '190 8 R=190 :: C=250 !090 9 FOR I=1 TO 25 :: CALL SPRI TE(#1.96.RND+3.R.C):: R=R -X :: C=C-7 :: NEXT I !236 10 R=190 :: C=250 !090 11 FOR I=25 TO 1 STEP -1 :: CALL SPRITE(#1,96,RND+3,R ,C):: R=R-X :: C=C-7 :: NEXT I !090 12 NEXT X :238 13 FOR X=5 TO 7 !081 14 R=190 :: C=250 !090 15 FOR I=1 TO 25 :: CALL SPR ITE(#1,96,RND+3,R,C):: R= R-X :: C=C-7 :: NEXT I !236 16 R=190 :: C=250 !090 17 FDR I=25 TO 1 STEP -1 :: CALL SPRITE(#1,96,RND+3,R ,C):: R=R-X :: C=C-7 :: NEXT I !090 18 NEXT X :: GOTO 7 !198

SPECIAL TREASURER'S and LIBRARIAN'S REPORT-APR 88 by R. J. BIEBER

TI-XPO-88 Treasurer's SUMMARY REPORT

I still don't have a final report from one of our members for his expenditures Sunday during TI-xpo-GD. This brief summary is based solely on the facts I have on hand.

TI-xpo-88 Hat expenses = - \$ 464.30 TI-xpo-88 Hat collections = + 300.00

(sub total) = - \$ 176.30 State Sales Tax deductions = - 17.28

(LOSS from SNU6's GENERAL FUNDS) = - \$ 181.58

TI-xpo-88 Show collections - + \$ 1843.00 TI-xpo-88 Show expenditures - 1558.83

PROFIT. = + \$ 284.17

Purchases by SNU6 at TI-xpo-88 = - \$ 400.00

(LOSS from SNUG'S GENERAL FUNDS) = - \$ 115.83

BULK DISKETTES:

SNUG still has bulk diskettes for sale. The price for a package of 12 diskettes which includes Tyvec sleeves and labels is as follows: SNUG members - \$6.00 per package or 2 Packages for \$11.50. NON-MEMBERS - \$7.00 per package. First come, first served.

APRIL'S DISK OF THE MONTH!

This month we will feature 2 DOM's. One disk will contain Disk Utilities Ver 4.0 by John Birdwell and the other disk will feature TELCO. Both programs were demonstrated by John Martin during March's meeting.

I have archived and compressed TELCO from 531 sectors down to 264 sectors so it fits onto one SS/SD disk. I've also included Barry Boone's "Archiver Ver 2.4" for those of you who may not have it. You'll need it to decompress and dearchive the TELCO file (Int/Fix 128).

The second disk contains John Birdwell's Disk Utilities Ver 4.0. It only takes up 91 sectors so I'll try to fill up the disk with some other goodies. Documentation is not included with the program. John Birdwell was smart. In order to get the BDCs you must sent him the "Fairware fee" of \$15.00 and he'll send you the complete documentation.

APRIL RAFFLE

Last month's raffle was pretty successful. We do have a large selection of items in the raffle pot. Be sure to bring a few extra bucks so you can participate. The raffle tickets currently go for \$2.00 each.

SNUS is always looking for new/used items to include in the monthly raffles. Please look through your modules, books and assorted disks to see if you may have some item(s) to donate. Any and all items are welcome and appreciated. Remember, some of our new members are cassette based only and may be able to use those old program books you have lying around.

That's all for this month. --- rjb

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(Item adjusted March 1988)
FIXED ANNUAL EXPENDITURES:
SNUGLETter (Estimated cost per 100) Publication Costs (\$43/Mo X 12) \$ 516.00 Postage (\$25/Mo X 12) \$ 300.00 P.O. Box Rental Fee (\$22 Annually) \$ 22.00 Bank Account Service Charge (\$8.00/Mo X 12) \$ 96.00 SNUG B/Board Phone Line (\$11/Mo X 12) \$ 132.00 Long Distance Phone Calls (Estimated) \$ 44.00 P.Miscellaneous Expenditures (Estimated) \$ 90.00
TOTAL ANNUAL OPERATING COSTS (Estimated) - \$ 1200.00
Annual Dues Collection: (Avg 30 Mbrs X \$18) + \$ 540.00
ANNUAL DEFICIT (Estimated)
To be recovered thru Fund Raisers, Disc Copying Fees, Special Sales, etc \$ 660.00
A FUNDO DALANCE A TOTAL OF CONTRACT AND A TOTAL AND AT A
FUNDS BALANCE (as of 29 February 1988) + \$ 450.43 # (Includes \$9.14 Feb 1988 Service Charges)
COLLECTIONS (during March 1988)
Membership Dues (Regular \$18 X 3 + \$7.00)
(Sub-Total) + \$ 555.50
EXPENDITURES (during March 1988)
Publication Cost (SNUGLETter)-(D. Wellman) Har 89 - includes \$2.40 for stapling \$ 50.24 Postage (SNUGLETter Mailings)-(D. Wellman) Har 88 \$ 22.00
50 SNU6 Promotional flyers for prospective new members - Mar 88 - (Dee Wellman) \$ 1.59 Postage to mail ?? SNU6 Promotional flyers to
prospective new members - (Dee Wellman). \$.?? Advance on April SNUGLETter Postage (D. Wellman) 22.00 ? IIxpo88 expenses paid in March 88 \$ 250.41
(Sub Total) - \$ 346.24
FUNDS AVAILABLE (as of 31 Mar 88)
Checking Account (General operating funds). + \$ 559.6° FIXpo88 Vendor/UG Booth+Tickets Trust Fund. + \$ 0.0v FunnelWeb Donations Trust Fund + \$ 65.00 J.J. Menu Donations Trust Fund + \$ 35.00
(Bank Balance))) + \$ 659.69
PROJECTED EXPENDITURES:
SNU5 - Related (Non-Reimbursed to date) \$ TIxpo88 - Related (Non-Reimbursed to date) . \$
Bank Account Service Charge (Mar Estimate). > \$ 9.00

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is a 99'er, with
OBVIOUS good
taste and a HIGH
moral character!

13225 Azores Ave., Sylmar, CA. 91342 March 11, 1088

Mr. John Martin, Esq. c/o S.N.U.G. P.O. Box 26301 Las Vegas, Nevada 89126-039

Dear John,

Just a quick note to thank you (and ALL the WONDERFUL S.N.U.G folks I met) for your TI-XPO-08 bash! I can't speak for EVERYBODY of course, but I had me THE TIME OF MY LIFE! I honestly can't remember ANY TI-FEST ANYWHERE, that I enjoyed MORE than YOUR bash (and THAT'S the TRUTH!!)

Some of my more memorable moments were: Watching a beautiful little girl named KELLY, as she watched WOODSTOCK for the first time; hearing STEVE MEHR go "Banzai" as he drove into the rear of a car shead of him, as he took RODGER MERRITT and I to breakfast at CIRCUS-CIRCUS; getting in for FREE with a special "badge." (I always have to pay \$5 whenever I go to an LA FEST, even if I'm manning a booth, giving demos, etc!) That last item shows YOU folks have LOTS of CLASS!! And last, but not least, having strangers walk up to me and ask, "Are you Ray Kazmer?" and when I'd say yes, they'd hand me MONEY! EGADS, what an experience! (Usually, when I'd say "yes," I'd either have to duck or run, OR duck AND run!!)

I slept a total of five and a half HOURS in two and a half DAYS! I wolfed down GOURMET FOODS (until I had to put my fingers in my ears, to prevent it from squirting out) met THE REGENA, hit FOUR BIG JACKPOTS (2 of which were during the time my name was called for a doorprize, and I STILL don't know what the prize was! AND on top of all THAT, I returned with twenty bucks MORE than I had when I left! What a FAN-TAS-TIC trip!

One suggestion: Next time, arrange your "demos" schedule (speakers) WELL IN ADVANCE of the show. If somebody doesn't show up, just leave a spot open OR look for "volunteers" AND make SURE that RAY KAZMER'S DEMO does NOT coincide with any CHAMPAIGN BRUNCHES! (E-GADS!)

Incidently, I just got a letter from a "nut" in Ohio, who must have down-loaded BARBARA WIEDERHOLD'S piece on the TI-XPO-88, from a BB. He said, that if HE had KNOWN I was going to be there, he would've flown out! (He ALSO included \$10.00 for WOODSTOCK, instead of just \$2!) Well, I TOLD you he was some kinda NUT, didn't I?! (I LOVE nuts!)

The weekend BEFORE your XPO, my 1966 Chevy "Trashmobile" was parked at the curb (seemingly asleep) when for NO apparent reason, it suddenly BURST into flames (an INCREDIBLE phenomenon!) But AFTER the XPO, my bad luck has ALL VANISHED! I'm getting money for programs that have been on the market for years and YEARS! (I'm selling EVERYTHING but my shorts!) The "crowd" was a bit "thin" THIS TIME, but when "word" gets around, of ALL THE FUN we 99'ers had there, next year, WATCH OUT!! I predict: Your TI-XPO-89 is going to draw the BIGGEST crowds of ANY TI-FEST, ANYWHERE! (Them's pretty STRONG words from somebody who can tell when a "slot" is about to pay off!) Keep up the good work and MANY, MANY THANKS, AGAIN! (I'll be there NEXT time, even if I have to sleep on the floor!!)

HAPPY COMPUTING

Tay Marquer



...IMPACT-99... T.I. Happenings

by Jack Sughrue Box 459 E Douglas MA 01516

600D OLD DAYS

PART II: MIDDLE AGES

Last time we IMPACTed I took you on a personal tour of my early experiences with the 4/A, which were more typical than not.

After I had anassed my 100-plus programs on tape (mostly typed in from "99er" Magazine and some early books), I, like so many others, wanted to expand my computer "mastery." My II appetite was voracious.

I bought every TI book available, which, in 1983, was a considerable number. These included such masterpieces as Loreto's THE TI-99/4A IN BITS & BITES. Datamost's ELEMENTARY TI-99/4A, Addison-Wesley's TERRIFIC GAMES FOR THE T199/4A, Que's T1-99/4A FAVORITE PROGRAMS EXPLAINED, Davis's PROGRAMS FOR THE TI HOME COMPUTER, and the books being published by SAMS and COMPUTE! Of the latter, PROGRAMMER'S REFERENCE GUIDE TO THE TI-99/4A was always at ay side. This was written by Regina (Cheryl Whitelaw) who wrote the best programs *99er* magazine published: HOMEWORK HELPER, NAME THAT BOME, TYPING FOR ACCURACY, CIVIL ENGINEERING FUNDAMENTALS, HARRIED HOUSEWIFE, DODGE 'EM, MAZE RACE, SAN FRANCISCO TOURIST and so many others. These were already classics. What astounded most of us Regena groupies was the depth of her knowledge. She seemed to know an incredible amount about computers, obviously (and a lot of different KINDS of computers), but she also knew so much about music and children and electrical engineering and geography and art and just about any topic a staff of college professors would know.

That was in 1983. Regena was already in her third year of TI publishing when she moved to COMPUTE! under some systerious circumstances. So I began a COMPUTE! subscription to continue getting her monthly column. I got lots more out of that magazine, too. Tutorials of all kinds. Programs galore. It was TI's Cloud Nine. In that same year, Regena began writing for ENTHUSIAST 99, too.

Boy, what a year! Mark Leyton began his wonderful UNOFFICIAL 99/4(A) magazine. K-POWER and FAMILY COMPUTING (early supporters of the 4A) had also made their debut. I subscribed to them all: 6 TI magazines a month 1/ if one includes the non-monthly SMART PROGRAMMER)! CSUPER 99 MONTHLY and MINIMAG 99 wouldn't be out for another year.]

I find it hard to believe in 1988 that the final 4A classic book - - THE LAST WHOLE TI99/4A BOOK by Paul Garrison - was published within a year of this creative time. Published by Wiley Press in 1984, this still stands as one of the best books ever written for 4A owners. (Do not confuse it with Linda and Allen

Schreiber's THE LAST WORD ON THE TI-99/4A, also published in 1984, which is one of the worst books in my TI library.]

It's even harder to believe that the magazines mentioned above no longer exist (or no longer carry any TI stuff).

As magazines like COMPUTE! and FAMILY COMPUTING dropped TI (which still had the largest home computer ownership of all; more than the Apple, Commodore, and IBM Jr. combined) many of us wrote letters of protest. After all, we were still buying disks and drives and monitors and printers and lots of other advertised things. No good. Even though the ADAK and the PEANUT (Do you remember?) were still curried. I dropped all magazines that dropped the 4A. The only ones left are MICROpendium, the last monthly devoted solely to the TI, which began its life in February of 1984. In that issue (originally called HOKE COMPUTER COMPENDIUM Editor/Publisher John Koloen said this of his new magazine, "It is a conduit, a source of information and a vehicle for the dissemination of information." It has certainly lived up to those criteria. I would find it difficult to be a 4A owner without MICROpendium and user groups. The only other magazine still supporting our community with a very informative monthly column is COMPUTER SHOPPER.

It's sad to look through that first COMPENDIUM. All the advertisers except one are gone: Gadget Software (Megaworld), TJ Software (Kandy Kong), THinc (Colors), C.A.Root (On Gaming), Maple Leaf (Sky Diver), Silicon Valley Software (S.A.T. Verbal Section), Machine Shoppe Software (Cassette Indexer), Larry Vision (Guackers), Programs Software (Personal Enrichment), Microworld (Snac Man), Soft Relations (Super Speller), DCH Software (Home Budget), CALLCAR (Emotional Health), Software Programs (Starship Concord), TI Books and Software.

The one advertiser in that issue who is still with us is TIGERCUB SOFTMARE, owned and operated as a completly one-man venture by Jim Peterson (Mr. T.I.).

And that brings me back to 1983 (before the orphaning) when we were still high on TI and user-group business was booming. For all the other things that were going on for us (and they were numerous: every big department store and book store and software store carried 4A items on their front shelves, for example) - for all those other things, the year will still be known to me as the year of the TIGERCUB.

User-group newsletters articles, for the most part, were not as sophisticated as they are today. The big exception was the "TIPS from the TIGERCUB" monthly columns by Jim.

Nobody did what he did. His articles (many old ones as well as new ones are still being published worldwide today) opened the door to understanding. One was either a techie or a dummy. But Jim made us all feel intelligent. He pulled us up. His explanations and his "experiments" and his enthusiasm came out in every article. He always stayed far enough ahead of us to challenge us completely, yet he never talked down to us

slow learners.

From his very first article: "Are you tired of that blankety blinking black cursor? This won't work in BASIC but if you're in XB try 1 CALL COLOR(0,11,1).

I did it. Then I tried it in BASIC (just in case mine worked, which it didn't). Then I fiddled with the numbers until I finally understood what happened.

This is the way Jim taught, for teaching is what he certainly did (and does). His classroom, though, included thousands and thousands of pupils.

He taught me to use Line # and FCTN/X for El instead of EDIT and how to use REDD for expanding program lines and how to slash my zero and how to highlight operators. He let me in on lots of secrets: You can type RUM*DSK1.FILE* without any spaces and it'll work; that typing the double colons in 18 lines without spaces before or after won't matter, either. Do these sound mundane? Not if you didn't know any of that stuff, and none of us did.

His teachings were so natural, so filled with personal experience, that you couldn't wait to try the thing Jim had just found out. Here's another from that first "Tips": "Have you ever been typing in a program, and the computer suddenly jumped back to the title screen, and you were sure that you didn't have a finger anywhere near that infernal QUIT key? But maybe you were drinking coffee with one hand and trying to press FCTN and I simultaneously with the other? So, if you don't have anything valuable in the computer right now, try pressing FCTN, Space Bar, H and N all at the same time. Gops! Another useless bit of info - try FCTN, 5, 6 and 7 all together. Break!"

My vision of him was a young kid (maybe as old as a college student) doing improvisational computing, the way Art Tatum played the piano; somebody with great knowledge and understanding exploring human/machine potential.

I didn't find out until a very long time after that Jim is a grandfather and that he bought the 4A because he liked the keyboard!

It didn't matter. Genius is genius no matter what

He used to close off those early columns with Happy Hackin' until hackers got a bad reputation by a few pirates and vandals, then he closed it with Memory Almost Full. Too bad, in a way. I think of Jim as the Ultimate Hacker, in the real. "discovery" sense of that word. I don't know anyone who knows more about BASIC (and XB) than Jim.

Nay back in 1983 he did a lot more than give us little "useless" tips. Most of the tips are the most "useful" things I ever learned for any computer. (There is no Jim Peterson for Apple, Commodore, Tandy, or IBM.)

Each article contained at least one original type-in program.

While other programmers and writers were making bundles selling their stuff to commercial magazines and

software houses, Jia SAVE his annthly column away in exchange for the user-group newsletters. (He probably has the largest library of TI written material in existence.) Whenever any item in his column, large or small, came from any other source, Jim always credited the originator.

His generosity is known throughout the entire TI

His programs for which he charged \$3 apiece (along with a discount for future purchases) was during a time when programmers were charging \$20 and \$30 for programs nowhere nearly as professional. Jim never sold hoopla. He just sold quality. Now his programs are \$2 or much less in disked batches.

The first batch of four programs I ordered came back with seven programs in the package. Jim always puts "a little extra" in each order. He still does. He has over 3000 Public Domain (not Fairware) programs which he shares by putting them as bonuses on any disk orders. These programs, too, are well done and credited and worth owning.

I was surprised by the bonus, as no clue was given by him that I was going to get more than my money's worth. There was not a single program that I ever got from Tigercub (and that is many) that did not exceed my expectations. Many I ordered for my 5th-grade class and mre still popular (like BAZOO and MECHANICAL APTITUDE TEST). It would be hard for me to pick a favorite because there are so many varieties of programs: educational, music, utilities, games, and so on.

About three hours ago I saved this textfile and loaded up some of Jim's disks. I played the fiendish SBUINCH and the diabolical SCRUM and went through his HANDY DANDYS and SPEEDER READER and — and I noticed it somehow got to be 2:10 AM. I have to go teach tomorrow and Jim Peterson, the fiend, did it to me again!

Next day!

When I reread the above, I got to thinking about all the other TIGERCUB programs I didn't mention. The most important, for me, are the three "NUTS & BOLTS" disks containing over 300 files. When these started coming out a few years ago, it was a "TIPO" maniac's delight. Here was a discovery collection that every TI learner dreams of. These files can be merged into any XB program fincluding a file that converts BASIC to XB) to produce remarkable results. Because of incremental line numeration, multiple subs can be called into single programs. They are efficient, neat, incredibly easy, and remarkably creative. And lots more. Send Jim \$1 for catalog (worth every penny; refundable with first order): TISERCUB Software, 156 Collingwood Ave., Columbus, OH, 43213.

[This is 2 of 3 articles traveling down 4A's Memory Lane.]