SUPER 99 MONTHLY

MERGER!

On March 19, 1986, Bytemaster Computer Services purchased all rights to *The Smart Programmer* from Millers Graphics. Beginning in April, a new and timely quality publication under the name *The Smart Programmer* will be released to subscribers of both *Super 99 Monthly* and *The Smart Programmer*, as well as through magazine stands.

Staff writers from both publications will continue as contributors, with Richard Mitchell serving as Editor. As most of you know, *The Smart Programmer* has been a prominent fixture in the 99/4A community under the competent pen of Craig Miller. Craig's role with *The Smart Programmer* will be as a Corresponding Staff Writer. Many of the features of *The Smart Programmer* initiated by Millers Graphics will continue, including more memory maps and a 16-page format. The only major departure from the format and plans of Millers Graphics is that four 16-page issues will replace the proposed "final" 64-page issue and *The Smart Programmer* will be an on-going project. Improved, regular services will be featured in the new publication.

We are also pleased to announce that talented programmer D.C. Warren will be a Corresponding Staff Writer for *The Smart Programmer*. D.C. wrote Millers Graphics' EXPLORER program and has played an important role in several MG hardware and software projects, including Gram Kracker™.

As it turns out, the merger of *Super 99 Monthly* and *The Smart Programmer* is an expanded version of the major announcement we promised last month for 99' Fest West '86 (in Los Angeles), where we announced the affiliation of Craig Miller and D.C. Warren as Corresponding Staff Writers.

Rates for new subscriptions and renewals to *The Smart Programmer* are shown on page 12 of this issue.

While we are very excited about the future under our new banner, it has brought us the greatest of joy to produce *Super 99 Monthly*. The support of you, our readers, has been great. Thank you all very much!

We'll be looking forward to being back with you in the pages of *The Smart Programmer*!

SHOW NEWS

99' Fest West '86

99' Fest West '86, held at the Shrine Auditorium in Los Angeles on March 1 and 2, was a great success! Show organizers estimated the attendance to be nearly 2000. The L.A. 99'ers Computer Group, hosts of the Fest, showed all of the warmth and hospitality for which the group has

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long been famous. We especially want to thank Terrie Masters, George Steffen, Tom Freeman and Rick McDonald for going out of the way to aid us directly. We commend L.A. 99'ers for seeing that every individual attending and participating in Fest West was offered an enjoyable weekend. And, as one might expect, the weather and scenery in Southern California were incomparable.

Many new and pending products were announced at the show, many of which were very exciting and welcomed additions for the 99/4A community.

Millers Graphics announced the latest from their drawing board, an IBM Keyboard Interface Card for the TI-99/4A PEB, a two-phased project. In Phase One, users will be able to hook up any IBM PC or IBM XT keyboard to the 99/4A (including the cableless models), yielding separate cursor control keys, function keys and a 10 key pad. The 99/4A console would remain hooked up as normal, but can be relocated to a position that would get all of the cabling out of the way (the hint, decimal 15, which we mentioned last month, was a reference to the 15 pin connector on the 99/4A keyboard). All software will be 100% transparent and the product will work with all software, hardware and firmware currently on the market. A type ahead keystroke buffer is available from the IBM keyboards. The card is driven by a Z80 microprocessor. In phase two, the product will enable a smart programmable keyboard via 32K of additional plug in chips. Keystrokes will be completely programmable, including use of macros and/or batch files. The programmed keystrokes will be available from TI-Writer, Extended BASIC (CALL CLEAR could be a single keystroke, for instance) or any other software. The card will be in a case. The 32K memory will be battery backed up and the key definitions can be saved to and loaded from disk. The card will be priced at under $200 (possibly far less) and the additional memory will be about $40. The card will be available in about 10 to 12 weeks. IBM keyboards were available at Fest West for $55 to $79.

Millers Graphics demonstrated DisKassembler⁺ᵐ (see our previous mention of this product in our November 1985 issue). The program allows disassembling Dis/Fix 80 or Program Image files directly from disk or disassembling memory. It is by far the most powerful product of its type, even allowing viewing of both opcodes and text, with the capability of easily swapping out blocks of opcodes for text where appropriate. The program even builds labels, REF's, DEF's, a symbol table, EQUates and an END directive. It generates source code that is ready for re-assembly with very little, if any, editing. Priced at $19.95, DisKassembler⁺ᵐ will be available in about 4 weeks. The address for Millers Graphics is 1475 W. Cypress Ave., San Dimas, CA 91773.

MYARC's President, Lou Phillips, demonstrated their Extended BASIC II, which was recently released. The demonstration was quite impressive and included a routine similar to the Mini Memory Lines program, drawing lines at various angles directly from Extended BASIC II. Phillips also showed the power of switching display parameters, changing the listing of a program several times -- from the upper left hand corner of the screen only, from 40 columns, from 28 columns -- almost anything seemed possible. The cursor was completely mobile for editing any point in a program line and the speed of the listings was far faster than in TI Extended BASIC. According to Phillips, Extended BASIC II is designed to execute statements and commands at least as fast as TI Extended BASIC and in most cases about 2 to 3 times as fast (up to 10 times as fast). Phillips also explained the advantages of Extended BASIC II's expanded memory segments for most functions (similar to his Chicago talk). User subprograms, DEF's, passing variables to Assembly and integer arithmetic are not yet available (the lack of integer arithmetic substantially slows Extended BASIC II), but will be

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implemented as free upgrades. Extended BASIC II requires the MYARC MEXP-1 memory card and an EPROM upgrade for the MEXP-1 (no charge for the EPROM). Extended BASIC II carries a suggested price of $84.95, with the combined package of the MEXP-1 card and XB II being available at a special package price.

Phillips then covered the latest on the MYARC computer project. The most substantial change in plans since the November Chicago show was a decision to expand video memory from 64K to 128K (192K is still a possibility). Additional information on MYARC's proposed peripheral interface cable was also released -- everything on the 99/4A except the TI cable and console I/O port was designed to support at least 3 more lines than TI implemented, so that by introducing a new expansion cable on the new computer, addressing 512K and possibly other features will be possible. Phillips explained that Extended BASIC II has taken longer than anticipated to release, thereby delaying work on the computer project, but the only product remaining in the works is the computer, allowing MYARC to devote full attention to the computer. Phillips stated that MYARC hopes to formally introduce the computer at the Summer Consumer Electronics Show, with availability to consumers coming sometime after the June show. MYARC's address is P.O. Box, 140, Basking Ridge, NJ 07920.

The always popular Barry Traver maintained quite a crowd around his firm's booth, where he offered subscriptions to the *Genial TRAVeIER* diskazine. Subscriptions for the excellent diskazine are $30 for six issues from Genial Computerware, 835 Green Valley Drive, Philadelphia, PA 19128.

Bytemaster Computer Services, publishers of *Super 99 Monthly*, unveiled two new disk offerings. The first, The Best of *Super 99 Monthly*, Vol. 1, is a two-disk package that includes nearly all of the non-FORTH programs published (the FORTH programs

will be made available in the near future), priced at $12.00. Also shown was Super 99 Handicapper, the most user-friendly and complete thoroughbred horse race handicapping aid available for the 99/4A. Super 99 Handicapper is available for $15.00 from Bytemaster Computer Services, 171 Mustang Street, Sulphur, LA 70663.

John Keown demonstrated his impressive multi-level menu program called Program Manager. The menu's can be stacked up to four deep to load and run thousands of assembly language programs almost instantly. The menu's are stored to disk for quick access. The program is being distributed by Pilgrim's Pride, 5 Williams Lane, Hatboro, PA 19040.

John Keown also showed GPL Interpreter, a program that is said to be destined for inclusion in the MYARC computer. The program stores GPL code to disk for later loading into RAM, from which the GPL code is interpreted by the program. Keown showed an impressive demonstration of the TI Chess module implemented through his program. No mention was made of how one might implement RAM-dependent modules, such as TI-Writer. Both GPL Interpreter and Program Manager require a MYARC MEXP-1 card or a 6000+ module (similar to a so-called Super Cartridge). Keown also indicated his programs would carry an intricate copy protection scheme.

Ryte Data (Bruce Ryan), Canada, and T.A.P.E., Ltd. (Franz X. Wagenbach), U.S., are distributors (each firm had a booth) of the German line of products from Mechatronichs GmbH. Mechatronics will be releasing several new products soon, with the two that seem to be generating the most interest being an 80-column upgrade ($200.00) and an Eprommer ($129.50). Other products include a 128K/512K GRAM-Karte ($249.95), Expansion 128K Memory Card ($159.95), Stand Alone 128K Memory ($149.95), Mouse ($98.95), Extended BASIC II Plus ($79.95) and TI-99/4A Intern Book ($17.95). We'll be bringing you more
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news about these exciting products in the near future. The address for Ryte Data is 210 Mountain Street, Haliburton, Ontario, Canada KOM 1SO. T.A.P.E. can be contacted through their dealer, Douglas J. Morgan & Associates, 7655 Cherimoya Court, Fontana, CA 92335.

Dijit Systems, 4345 Hortensia Street, San Diego, CA 92103, offered an RGB converter, enabling use of a true RGB (Red, Green, Blue) monitor with the 99/4A. The video images were strikingly sharp. Though RGB monitors are expensive, if you want outstanding video output from your 99/4A, this product is definitely for you. The price for the converter is $98.

Texaments, a major New York mail-order firm, offered many products, reporting sales of Dave Rose's TI-Artist's Companion #1 (see our December 1985 article referencing this product) and TI-Artist Extras to be particularly brisk. Texaments, 53 Center Street, Patchogue, NY 11772, is also a distributor for the TI-Artist products (dealer inquiries invited). Additionally, Texaments operates a very popular BBS at (516) 475-6463.

Kent Thomson showed his Realestate/Tax Planning Package, a must for the 1st time home buyer or the sophisticated real estate investor. The package includes programs for home purchase analysis, income property analysis, mortgage analyzer, tax estimator and tax database updates. We've heard some very positive comments about this powerful package, which is available for $22.95 plus $1.00 shipping (California residents add $1.49 tax) from R. Kent Thomson, 409 Elberon Ave., Suite 2, San Pedro, CA 90731.

Asgard Software introduced Artist Companion, an Asgard support product for TI-Artist 2.0 (Inscebot). Artist Companion includes 7 pictures, 41 "instances" (clipart), a font called "Peignot" and a picture and slide file combination for music. Artist Companion carries a retail price of

$7.00. Asgard also released Warren Agee's Recipe Writer, written in FORTH (with the loader being accomplished through Extended BASIC). The program is excellent for storing, maintaining and converting recipes (yes, even for large gatherings). Recipe Writer is $12.00. Asgard also released Quick Dialer, a dialing aid for telecommunications through smart modems (supported through Fast-Term or, by modification, through other programs). Quick Dialer is $10.00 from Asgard Software, POB 10306, Rockville, MD 20850.

DataBioTics made available the latest version of /4A Talk, a telecommunications program that has received top reviews. DataBioTics also offered Todd Kaplan's new Disk Master program, which has been receiving excellent reviews. DataBioTics' address is P.O. Box 1194, Palos Verdes Estates, CA 90274.

The Source was on-line during the weekend with popular Sysop Blaine Crandall staffing the booth. To find out more about 99/4A services on The Source, write P.O. Box 866153, Plano, TX 75086.

Also on-line with live reports from the show was Compuserve Information Services, represented by Jim Horn. Compuserve's address is 5000 Arlington Centre Blvd., Columbus, OH 43220.

Holmes and Company, 87 Rhodes Court, San Jose, CA 95126 offered discount priced, high-quality diskettes.

Stewart Company, 837 E. Alosta Ave., Glendora, CA 91470, offered the "Fingerprint" option for 99/4A Impact Printers.

Silver Wolf Software, P.O. Box 883362, San Francisco, CA 94188 had a variety of products, including an I/O port extender cable for getting the TI "firehose" cable out of the way, a popular product.

Data Systems, 2301 Churchill
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Drive, Oxnard, CA 93033, offers several software products, including educational software (including Chemistry), software for generating last will and testaments and several other offerings.

Bits 'N Chips, 933 N. 182 Street, Seattle, WA 98133, is a retailer that offers many quality products for the 99/4A. CorComp, invited to participate at Fest West, elected to be represented by the nice folks from Bits 'N Chips.

Irish Input, 4026 Alabama Street #5, San Diego, CA 92104 is a retailer carrying many fine 99/4A products.

Vendors participating, but unable to attend, included Tigercub Software, *Computer Shopper*, Tenex and *MICROpendium*.

There were also a number of user groups participating, with two groups, San Fernando Valley and Pomona Valley, having their own booths.

The Fairware booth was quite active. Offerings included the following:

Weather Forecaster, Gary Cox, 3174 Melbourne Drive, Memphis, TN 38127

PRBase, William Warren, 2373 Ironton St., Aurora, CO 80010

Mehrware, Steve Mehr, 633 Hollyburne, Thousand Oaks, CA 91360

Banners, Bernard Falkin, address not available at press time. Member of

San Fernando Valley TI99 Computer Users Group.

Sprite Builder (2 disks) and Home Budget (disk), John Taylor, 2170 Estaline Drive, Florence, AL 35630

Screen Dump and (separate disks) Neatlist, Danny Michael, Route 9, Box 460, Florence, AL 35630

Remember to send disk, mailer, postage and anything else that costs money to receive the above Fairware. If you use the program, then send the amount the author suggests -- usually $10.

The distinction of being the most distant traveler goes to Paolo Bagnaresi, who came all the way from Milan, Italy! Paolo is famous for his ACE program, which appeared in the June, 1984 issue of The Smart Programmer. More recently, he has released a Fairware program called BA-Writer, which implements a number of improvements to TI-Writer.

Most of the folks from out-of-town stayed at a motel only a half-block away from the Shrine. The proximity to the show site made it easy for everyone to coordinate. Dozens of people got together for meals and some very interesting conversations and important discussions. It was really quite impressive to see the 99/4A community draw together for the event.

We certainly hope Fest West becomes an annual event and continues to be supported by 99/4A users.

FORTH

Beyond The Basic String

by Warren Agee

STANDARD: 1A 2EA 4B 5A 6B 7B 9B

In the past, we have looked at the basic string, how it sits in memory, and the basic string array, and how it sits in memory. We've learned how to store a string, retrieve it, and print it. Where do we go from here? Well,

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you have been playing around on your own with strings, along with some of the
new words I presented (like ACCEPT). From now on, things are gonna get a bit
more advanced, and the knowledge gained (hopefully!) from the first two
tutorials is important. In this tutorial, I will be presenting some very useful
and powerful string utilities that I have collected from countless sources;
some of them I have written myself.

     Some terminology, first: a BASE STRING is a string to which you want to do
some sort of manipulating. A SUBSTRING is a separate string from the base
string. You usually use it as a reference. For example, if we were to delete
the word FOX from the sentence THE QUICK BROWN FOX, the sentence would be the
base string, and FOX would be the substring. Also note that the utilites
presented here work only with single strings and NOT string arrays. These words
are INS$, DEL$, and -MATCH. First of all, let's say we reserve memory for a
100-byte long string called TEST$. We also have another string called SUB$.
here are the contents of these strings:

```
------------------------------------------------------
|22|N|O|W| | |S| |T| |M|E| |F|O|R| |D| |N|N|E|R|
------------------------------------------------------
```

```
----------
|3|T|H|E|
----------
```

(You can use ACCEPT and type in the above if you want to follow along).

     Notice that the first string is NOT an array, merely a long string which
happens to be a sentence. The 22 is the count byte. Unfortunately, we seem to
have a word missing! What to do? At the end of this tutorial is a definition
for INS$, which will insert a "substring" into a "base" string. The stack
arguments correspond as follows:

     INSERT$ (adr1 n1 adr2 n2 adr3 ---)

     adr1 --> address of base string
     n1   --> length of base string
     adr2 --> address of substring
     n2   --> length of substring
     adr3 --> address of insertion point

     So, using the above strings, assume that the word "THE" (the word that is
missing) is located at SUB$.   (Remember that variable names just supply an
address, which is what we need for INSERT$ to work).   Now to insert THE into
the sentence, do the following:

     TEST$ COUNT   (adr1 n1)
     SUB$ COUNT   (adr2 n2)
     TEST$ 9 +   (point of insertion - addr3)
     INSERT$

     Your string will now look like this:

```
------------------------------------------------------
|26|N|O|W| | |S| |T|H|E| |T| |M|E| |F|O|R| |D| |N|N|E|R|
------------------------------------------------------
```

     Experiment with INS$ until you become comfortable with it; use the
previously defined ACCEPT to store a long string at one location, and a
substring to insert at another location. Just remember that YOU have to supply
the location, or address, of the insertion point.

     -MATCH
     ======

                                                              -->

Now HERE is an interesting word! —MATCH looks for a matching string and returns a 1 if no string is found, and a zero (0) if it is found. Additionally, —MATCH also leave the address of the byte AFTER the match. It requires four stack arguments: the address of the base string and its length, and the address substring and its length. —MATCH tries to find an occurence of the substring in the base string. This word is useful in conjunction with INS$ above. Here is one possibility using INS$ and —MATCH. Say you want to insert the word MY after the word FOR in the above string (TEST$). It might go something like this:

```
: GO
PAD 3 ACCEPT _THE_    (Word to search for)
                      Note: anything that appears between underscores (_) is
                      to be typed in as a response to ACCEPT.)
TEST$ COUNT           (Addr & cnt of base string)
PAD COUNT             (Addr & cnt of substring)
—MATCH                (stack: --- adr3 flag)
IF                    (1=no match)
  DROP ." Not found!"
ELSE                  (else found; adr3 is left on stack)
  CR ." ENTER NEW WORD:"
  PAD 10 ACCEPT _MY_  (Word to insert)
  TEST$ COUNT         (Addr & cnt of base string)
  PAD COUNT           (Addr & cnt of substring)
  5 ROLL              (Bring up adr3 which was left by —MATCH; this is the
                       insertion point)
  INSERT$
  CR CR TEST$ COUNT TYPE  (Displays new string)
ENDIF  ;
```

Please note that ROLL does not exist in the standard TI FORTH dictionary and must be defined separately. That definition appears at the end of this article.

DEL$

Finally, we come to DEL$, which, by no surprise, deletes a substring. It works along the same lines as INS$; the stack arguments require the address and length of the base string and the substring. DEL$ searches the base string, looking for a match with the substring. It accomplishes this by using —MATCH, explained above. Once it finds a match, it deletes the string. If no match is found, it clears the stack and exits, no harm done. If you plan to use DEL$ in a program, you may want to modify it a bit. With —MATCH, you can test to see if a match is found. Perhaps you want to do the same with DEL$. You could very easily leave a 1 on the stack if the string was found and deleted, or leave a zero if no match was found. Examine the comments for the listing of DEL$ to demostrate how to do this.

Well, that's it folks! FORTH is a powerful language, but it lacks in some areas, especially string handling. But the real power in FORTH lies in its extensibility. As demonstrated here, we now have a good number of basic string utilities which can now become part of our FORTH vocabulary of words. Does XBASIC have a built-in INSERT or DELETE function for strings? Sure, you can simulate it with SEG$, but that is very clumsy and VERY slow. With a little bit of ingenuity, you can make FORTH run circles around most languages without sacrificing ease-of-use. Have fun!!

DEFINITIONS OF NEW WORDS
========================

```
: ROLL DUP 1 = IF DROP ELSE DUP 1 DO SWAP R> R> ROT >R >R >R LOOP 1
  DO R> R> R> ROT ROT >R >R SWAP LOOP ENDIF ;
```

--->

(NOTE: the following definitions require the word PICK which was defined in an
earlier article in this series.)

```
: INSERT$   (adr1 n1 adr2 n2 adr3 ---)
  DUP 6 PICK 6 PICK +
  1+ OVER -
  OVER 5 PICK + SWAP <CMOVE
  OVER 5 ROLL + 5 ROLL
  1- C! SWAP <CMOVE ;


: -MATCH    (adr1 n1 adr2 n2 -- adr3 flag)
  SWAP DUP C@ 5 PICK 5 ROLL +
  DUP 1 SWAP 6 PICK - 1+ 7 ROLL
  DO
    3 PICK I C@ =
    IF
      0
      6 PICK 1
      DO
        J I + C@ 6 PICK I + C@
        = NOT
        IF
          DROP 1 LEAVE
        ENDIF
      LOOP
      IF ELSE
        DROP DROP I 4 PICK + 0
        LEAVE
      ENDIF
    ENDIF
  LOOP
  ROT DROP ROT DROP ROT DROP ;


: DEL$    ( adr1 n1 adr2 n2)
  4 PICK 4 PICK
  4 ROLL 4 PICK -MATCH
  IF                        (NOT FOUND)
    DROP DROP DROP DROP     (clear stack)
    ( 0 )                   (insert the 0 if you want to leave a flag if not
                             when not found)
  ELSE
    DUP 3 PICK -
    5 PICK 5 PICK +
    3 PICK - 1+ CMOVE
    - SWAP 1 - C!
    ( 1 )                   (insert the 1 if you want to leave a flag if match
                             was found)
  ENDIF ;
```

-->

CORRECTIONS

Last month, we really goofed! All of the "@"'s from the FORTH article were omitted and a couple of lines did not appear as they were on the original FORTH disk. So, here are the lines that need to be changed:

```
SCREEN 90
3  PABS @ 16 + 0 OVER 1- FILE TERMIN
4  PABS @ 48 + 0 OVER 1- FILE TERMOUT
8     2 PAB-ADDR @ VSBW 1 PAB-ADDR @ 5 + VSBW PAB-ADDR @ ALTIN !
9     1 PAB-ADDR @ 4 + VSBW
11    3 PAB-ADDR @ VSBW 1 PAB-ADDR @ 5 + VSBW PAB-ADDR @ ALTOUT ! ;
12    1 PAB-ADDR @ 4 + VSBW
13 : CONSOLE 0 ALTIN ! 0 ALTOUT ! CLSE CLSE ;
14
SCREEN 91                                  ♦
4  : ID# ." SCREEN " SCR @ . 25 EMIT ;    : CHAR3 EMIT EMIT EMIT ;
11 : MARK T-BUFF @ CURSE @ + ; : CHNG MARK C! ;
12 : BELL 7 EMIT ; : CLR 12 EMIT ;
14 : NEWLINE DUP 64 MOD 0= ; : OLDLINE DUP 1+ 64 MOD 0= ;
SCREEN 92
2  : UP CURSE @ 64 - DUP 0< IF BELL DROP ELSE CURSE ! 31 EMIT
4  : DOWN CURSE @ 64 + DUP 1023 > IF BELL DROP ELSE
5     CURSE ! 10 EMIT ENDIF ;
6  : LEFT CURSE @ DUP 0= IF BELL DROP ELSE 1- OLDLINE IF 32 31 13
8  : RIGHT CURSE @ 1+ DUP 1023 > IF BELL DROP ELSE NEWLINE IF
10 : TAB BEGIN RIGHT MARK C@ 32 - 0= CURSE @ 1023 = OR UNTIL
11    BEGIN RIGHT MARK C@ 32 - CURSE @ 1023 = OR UNTIL ;
12 : STED CURSE @ 16 OVER 64 / DO 64 0 DO DUP T-BUFF @ + C@ EMIT 1+
SCREEN 93
2  : ROW CURSE @ 64 / ;                   : COL CURSE @ 64 MOD ;
3  : DET 0 Z1 ! CURSE @ BEGIN DUP 1+ 64 MOD WHILE 1 Z1 +! DUP DUP
4     1+ T-BUFF @ + C@ DUP EMIT SWAP T-BUFF @ + C! 1+ REPEAT 32 SWAP
5     T-BUFF @ + C! 9 13 32 CHAR3 COL 1+ 0 DO 28 EMIT LOOP ;
6  : IST 0 Z1 ! 32 Z2 ! CURSE @ BEGIN DUP Z2 @ DUP EMIT SWAP T-BUFF
7     @ + DUP C@ Z2 ! C! 1+ DUP 64 MOD WHILE 1 Z1 +! REPEAT
8     9 13 32 CHAR3 COL 1+ 0 DO 28 EMIT LOOP ;
9  : START DUP SCR ! CLR ID# TOP SIDE HOME BLOCK T-BUFF !
10    0 CURSE ! STED ;
11 : NEXT SCR @ 1+ DUP DISK_HI @ - IF DUP START THEN DROP ;
12 : LAST SCR @ 1- DUP DISK_LO @ - IF DUP START THEN DROP ;
13 : RETURN CURSE @ DUP 64 / 1+ 64 * SWAP - 0 DO RIGHT LOOP ;
SCREEN 94
2
3  : ROWAD DUP 64 * T-BUFF @ + ;    : BLANKROW 80 32 FILL ;
4  : MROW 32 0 DO OVER @ OVER ! 2+ SWAP 2+ SWAP LOOP DROP DROP ;
7  : DELL ROW ROWAD BUFF MROW ROW CURSE @ Z1 ! BEGIN DUP 15 - WHILE
9     @ 64 / 64 * CURSE ! ROW IF ROW 0 DO 10 EMIT LOOP THEN STED Z1
10    @ CURSE ! 28 COL 1+ POSITION 10 ROW 1+ POSITION ;
11 : INSL 15 BEGIN DUP ROW - WHILE DUP ROWAD DUP 64 - SWAP MROW 1-
12    REPEAT ROWAD BUFF SWAP MROW CURSE @ DUP Z1 ! HOME 64 / 64 *
13    CURSE ! ROW IF ROW 0 DO 10 EMIT LOOP THEN STED Z1 @ CURSE !
14    28 COL 1+ POSITION 10 ROW 1+ POSITION ;
SCREEN 95
10    DUP 31 SWAP < IF DUP EMIT DUP CHNG 1 CURSE +! CURSE @ DUP
11    1024 = IF HOME THEN NEWLINE IF 9 10 13 CHAR3 32 EMIT THEN
13 : ED@ SCR @ EDIT ;
```

In our haste to complete the January issue before Fest West, we left some loose ends with the Database program. Here are some updates to the program:

```
>70 CALL CLEAR :: CALL SCREEN
   (6):: FOR J=0 TO 12 :: CALL
   COLOR(J,16,6):: NEXT J
>2070 IF X>18 THEN DISPLAY AT
   (21,1):"ENTER SELECTION (#,N
   =NEXT, P=PREVIOUS,E=END):";
   "1" ELSE 2050
>3900 DISPLAY AT(12,1)ERASE A
   LL:"FILE IS NOT A PROPERLY
       FORMATTED DATABASE FILE"
   :: FOR J=1 TO 500 :: NEXT J
   :: F$(S)=""
>3910 ON ERROR 3920 :: CLOSE
   #2
>3920 RETURN 110
>4100 GOSUB 4500 :: Y=0 :: RE
   TURN
>4420 Y=Y+3 :: L$(Y)=SEG$(A$,
   1,28):: L$(Y+1)=SEG$(A$,29,2
   8):: L$(Y+2)=SEG$(A$,57,28)
>4600 H=1
>4610 B$=SEG$(A$,H,28):: X=LE
   N(B$):: IF X=0 THEN 4650
>4620 IF POS(B$," ",1)=0 OR B
   $=RPT$(" ",X)THEN 4640
>4630 IF SEG$(B$,X,1)<>" " TH
   EN B$=SEG$(B$,1,X-1):: X=X-1
   :: H=H-1 :: GOTO 4620
>4640 IF B$<>RPT$(" ",LEN(B$)
   )THEN Y=Y+1 :: L$(Y)=B$ :: I
   F Y=21 THEN GOSUB 4950 :: Y=
   0
>4650 IF H+28<81 THEN H=H+28
   :: GOTO 4610
>4660 RETURN
```

Also, we have learned that some readers have incorrectly included carriage returns within the keyword area -- if there is any text in the keyword name area, there must also be a line reference, so that putting only a carriage return on a line is invalid. Another common problem has arisen due to readers assuming that the Tab in TI-Writer begins at 1, while in fact it begins at 0, causing keyword entries to be one character position off. Also, you must turn word wrap off in TI-Writer by pressing <CTRL> <O> to be able to put 4 keywords on one line.

We've also been asked how our reference to 2032 keywords was computed and whether that was possible on a SS/SD disk. The minimum number of lines for a file for our database is 5, 4 for the keywords and one line of text. If one puts 16 keyword references to that one line of text and follows essentially the same procedure for the maximum number of files for a 99/4A disk, 127 files, then that totals to 2032 keywords. Because the files are Dis/Fix 80, the maximum number of records per sector is 3 and our minimum file has 5 records, which computes to 2 sectors. For each file, one must also add 1 sector for the file descriptor record, totalling 3 sectors per file. 3 times 127 plus 2 disk overhead sectors equals 383 sectors. Obviously, at least DS or DD is required to achieve the 2032 keywords on a single disk. As you can now see, the availability of 2032 keywords on one disk could be considered a case of "over-kill", but that is the only way to have an adequate number of keywords, 16, per file.

Finally, to make the process of building your keyword section easier, here is an Extended BASIC program that builds a template that can be merged into TI-Writer by using LoadFile, O DSK1.TEMPLATE to place it at the beginning of your current file. You can then erase any unused keyword segments. You may want to use <CTRL> <K> to delete all text to the right of the cursor to the end of the line.

```
>100 !************************
       * SUPER 99 DATABASE    *
       * KEYWORD TEMPLATE     *
       * BUILDER              *
       ************************
>110 !  COPYRIGHT 1986
        BYTEMASTER COMPUTER
        SERVICES
        ALL RIGHTS RESERVED
>120 DISPLAY AT(1,1)ERASE ALL
   :"SUPER 99 DATABASE KEYWORD
    TEMPLATE BUILDER":"COPYRIG
   HT 1986":"BYTEMASTER COMPUTE
   R SERVICES"
>130 DISPLAY AT(7,1):"PRESS '
   0' FOR TEMPLATE":"        '1'
```

--->

```
 TO END"
>140 DISPLAY AT(12,1):"FILENA
  ME:":"DSK1.TEMPLATE"
>150 ACCEPT AT(13,1)BEEP SIZE
  (-15):F$
>160 OPEN #1:F$
>170 FOR I=1 TO 4
>180 PRINT #1:RPT$(RPT$(" ",1
  4)&"005005",4)
>190 NEXT I
>200 CLOSE #1
```

Texas Instruments is closing all Exchange Centers effective the month of March. To exchange products, phone 1-800-TI-CARES for instructions. All product exchanges will be handled through a central exchange center in Lubbock, Texas.

I WISH I HAD:

Wish #5: As a subscriber to MCI Mail I find it impossible to upload TI-Writer and Microsoft Multiplan™ created files to MCI. Are you or any of your readers aware of a program or procedure that would rectify this situation? Gerhard Finke, Agoura Hills, California.

Mr. Finke, we are not MCI Mail subscribers. Perhaps some of our readers will have a suggestion.

Bonnie Snyder, President of Front Range 99'ers User Group is seeking assistance for the school at which she teaches. Anyone having software for visually impaired or blind students, please send the programs to Ms. Snyder through Front Ranger 99'ers, P.O. Box 9572, Colorado Springs, CO 80932.

FAIRWARE

Scott Darling is offering a BBS program that he wrote while he was running a BBS. There's over 400 sectors of code, so one SS/SD disk is not adequate. Send disks, etc. to Scott Darling, W. 5515 Woodside, Spokane, WA 99208.

WARNING!

We gave this warning long ago, but it seems the time may be right again. We have received many complaints about firms that operate as if they're a club. Our suggestion is that if you can't vote for officers and the expenditure of funds, then you are not dealing with a club and should proceed with caution! Ask before you join! There are plenty of good legitimate user groups around to assist you. If you have tried to locate a user group and have been unable to do so, contact us and we'll let you know where the nearest group is.

The Triton Spring Catalog lists color monitors for $99.95 and Smith-Corona dot-matrix printers for only $99.95. Prices do not include shipping and handling. For more information, contact Triton, P.O. Box 8123, San Francisco, CA 94128.

Biloxi 99'ers is organizing The MeeTIng, which will likely be the largest event for 99'ers ever held on the Gulf coast. Several key speakers have been invited to participate. For more information, contact Rich Davies at (601) 374-4409 (before 9 PM) or on "The Keep" BBS at (601) 392-8717. We will have more details next month.

Next month, we'll have info from the New England Fayuh in Boston (April 5) and the New Jersey T.I.C.O.F.F held March 15. There will also be shows coming up in Nashville (Music City 99'ers) and Ottawa (Ottawa User Group). Attend a show in your area!

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READER FEEDBACK: (Attach comments)

STANDARD KEY

1	Computer	A	TI-99/4A
2	Module	EA	Editor/Assembler
4	Disk Drive	B	TEAC 55-B
5	Expansion Box	A	TI
6	Disk Controller	B	CorComp
7	Memory Card	B	MYARC MEXP-1
9	Monitor	B	TI

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