COMPUTE!'s Guide to Extended BASIC Home Applications
a Review by Bill Acquard

First, it is an explanation of the more advance features of **Extended Basic**. Second, it is a series of programs designed for use in the home.

This book discusses several of the more advanced aspects of **Extended Basic**. It shows how expanded use of If-Then expressions can simplify programs. Subprograms are illustrated both in the discussion and in the programs that follow. Other advanced features mentioned are error-trapping and program design. The book is written with the advanced programmer in mind but can be understood by anyone with some knowledge of Basic.

The second part of the book has several programs intended for home use. These programs include two **Spreadsheet** programs, two **Barchart** programs (one for video and one for a printer), two **Card File** programs and an **Appointment Calendar**. There is a **Load** program to tie all these programs together and also included is a system menu and a system catalog to list all created by the programs.

COMPUTE!'s Guide to Extended Basic can be bought at the Christiana Mall book store. The programs are available to those who purchase the book through the *DE. Valley Users' Group* program library. The programs require the book to use them properly.

LAWSUIT-COPYRIGHT

From The SPRITE(the newsletter of the 9900 Users' Group) August 1984 Vol. 2 No 8. If a Users Group is not real careful it will discover that a Users Group can be it's own enemy. User Groups if left alone and not controlled are self defeating. There is a Users Group way south who is being singled out for lawsuits. I can hear all the laughs and snickers already. Hey you say, what are they going to do throw them a all in jail? That's true, not all. Just the poor blokes who stand in front! Even if they don't succeed in the lawsuit against that that group they will still win HANDS DOWN!!! After all the legal fees, bail if required etc,etc, they will undoubtedly be BROKE!!! That means OUT OF BUSINESS! So, a lawsuit for copyright infringements doesn't have to stick to take effect if you see what I mean. Incidentally, a group out west LOST a FIVE FIGURE judgement against them by the International 99/4 USERS GROUP, INC. of Bethany OK. Mmmmmm.

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PART III

"The GORILLA-GUIDE to TELECOMMUNICATIONS"
(or, How to get on/line without making a monkey of yourself!)
****
by Barry T. Boland, [71366,542], <TI4439>   July 6th 1984

    The very last choice on the set-up screen is marked "AUTO LOG-ON" and
followed by "FILE=LOGON". This is for a file on disk which we will
discuss in a later article (maybe), and is best left alone until you
are comfortable using the TE II module without this feature.   Just
press "ENTER" for now. The screen should clear, the disk drive will
spin (the little red light on the disk drive should come on) while the
system looks for a disk file named DSK1.LOGON, and then you should hear
a "BEEP" when everything is ready.This should take about 3 or 4
seconds.   If you don't have a disk drive, no problem, it should beep
right away!
    You say the computer didn't beep? It reset to the nice TITLE SCREEN
with the color bars! You forgot to turn on the RS232 UNIT, or P-E BOX
then, or maybe you turned them on AFTER you turned on the console.
Just turn off the console, turn on the RS232 unit, turn on the console
again and start over. While we're at it, let's just make sure the
MODEM is turned on.   If not, just turn it on. No need to turn
everything else off and start over for that. It is on? OK.
           %%%
           % NOW FOR THE BIG STEP - WE'RE READY TO DIAL THE PHONE! %
           %%%
    {CHAPTER 6 - calling a local BBS}
000000000000000000000000000000000000000000000000000000000000000000000000
    Read this section all the way through BEFORE you actually try doing
it.   I will explain things as we go along from time to time, and you
don't want to tie up your phone (or the BBS system) while you read a
paragraph of explanation before you can go on and do the next step.
000000000000000000000000000000000000000000000000000000000000000000000000
    Pick up your phone, dial 322-3999.   This is the DELAWARE VALLEY
USER'S GROUP Club BBS. You are quite likely to get a busy signal.   If
so, you can either wait and try again later, or move on to the next
example.
    The phone may ring anywhere from 1 to 4 times before the MODEM on the
other end answers.   YES, I said the MODEM answers - What you are
calling is a system equipped with one of the $200 and up modems with
all the 'Bells Whistles' like auto/answer and auto/dial. Most of the
time there will not be a person sitting at the other end of your call,
the program and modem of the 'HOST SYSTEM' are set up to answer the
phone and start the session AUTOMATICALLY. You will hear the phone
taken 'off-hook' at the other end, but no one will say "HELLO?".
Instead, you will hear a high-pitched, steady TONE.   This is the
carrier tone! Once you have that, Put the phone handset into the cups
of your acoustic modem, or flip the switch on your direct-connect
modem.   (If you use a direct-connect modem, you should now be able to
hang up the phone). You should be able to tell if you are 'connected'
or not by looking at the modem. Most modems have what is called a
"Carrier Detect" light. This should now be lit, and stay lit until you
end your session and disconnect.

PART III (Continued.)

"The GORILLA-GUIDE to TELECOMMUNICATIONS"
(or, How to get on/line without making a monkey of yourself!)
****
by Barry T. Boland, [71366,542], <TI4439>

     What's that? You called, got the carrier, did everything else — and
the system on the other end HUNG-UP after about 30 seconds! OK, You
either took too long a time to get your modem on, or you set your modem
to ANSWER instead of ORIGINATE. The 'auto/answer' feature of the modem
on the other end will generally wait 30 seconds to receive the
ORIGINATE tone from your modem. If it does not get this tone within
that time, it will automatically hang up and reset the program of it's
system. If you flipped the ORIGINATE/ANSWER switch on your modem to
ANSWER by mistake, you're sending the wrong tone and the other modem
behaves exactly the same as if you had not answered it time (or at
all).
     OK! Now, if we've done everything right, we are 'ON/LINE'! Most BBS's
will start sending you something right away. Wait a few seconds to see
if this is the case. Otherwise, some systems require you to hit the
"ENTER" key once or twice to let them know that you are there.   Our
system is a combination of both these schemes: it will clear your
screen and print something like the following at the top right-hand
corner of your screen:
     TIBBS-(tm) (C) 1984 Ralph Fowler
     07/06/84 48.3.1 Press Enter to Start
     Press "ENTER" to start the program and wait. Our system will then
clear your screen again, and begin by filling your screen with the
program TITLE or 'Welcome' PAGE which identifies our Bulletin Board by
name and some other information of note. Then, at the bottom of the
screen,the printing will stop and you will see a line which reads:
     Please enter your User Number
     (H for Help):
     Either enter your assigned 'User Number' or press "ENTER" to be given
a 'User Number' if you do not yet have one.
     ** NOTE ** If you are using a TV, and you find that the first 1 or 2
letters of each line are being printed too far to the left on your
screen so that you can't read them, Hang-up and start over. This time
when you get to the line of the TE II set-up menu which asks you for
"COLUMN WIDTH",choose 38 or 36 to correct this. Then proceed as above.

HOW TO PACK YOUR TI99/4A
by Daniel W. Farrow IV)

You may have read how the TI99/4A is more "accurate" than some other computers. The TI can handle up to 13 digits per number, where the APPLE can only handle about 8. You may have said to yourself, "Big Deal, how often will I need 13 digits in a calculation?" Well I am going to tell you a way to put this extra accuracy to work for you.

When writing a program it is often necessary to store information on disk. Let's say you are creating an inventory system, and you have data, such as: ITEM, DESCRIPTION, SIZE, QUANTITY-ON-HAND, PRICE, and QUANTITY-TO-ORDER. And let's say that ITEM and DESCRIPTION are text and are limited to 20 characters each and the other 4 data items are all numbers, which take up 9 bytes each. Each record in your inventory system will require 76 bytes of disk storage. This may not seem like a lot but each little byte hurts, especially when the TI is limited to about 90K per floppy disk.

One way to save on disk space and internal storage is to combine several small numbers into one big number (called "packing"). Let's say SIZE can range from 1 to 64, QUANTITY-ON-HAND and QUANTITY-TO-ORDER can be from 0 to 75 and PRICE can be as high as $5,000.00. That is a total of 13 digits and it would would require 36 bytes of storage to save all of these values as individual numbers.

However, if we were to "pack" them into one number we could save 75% of this total. Let's make one number, call it BUFFER and set it equal to (PRICE * 100) * 1,000,000 + QUANTITY-TO-ORDER * 10,000 + QUANTITY-ON-HAND * 100 + SIZE. (With an item like PRICE you must first multiply by 100 to make it an integer (no decimal part) before packing it in this routine.) We can then store BUFFER instead of 4 separate numbers, thus saving 27 bytes per record. The more numbers per record that you have the more disk space you can save with this method. Just remember to multiply each number by a power of 10 that is big enough to hold the previous data. If a number can range from 0 to 50 you must multiply the next entry by 100 to allow 2 bytes for this number. Also be careful not to exceed our limit of 13 digits per number, any more and you will start to lose data.

To unscramble the buffer when you read it in just do this:

```
PRICE = INT(BUFFER/1000000)
QUANTITY_TO_ORDER = INT
((BUFFER -
PRICE00000)/10000)
QUANTITY_ON_HAND = INT
((BUFFER - PRICE00000-
QUANTITY_TO_ORDER000)/100)
SIZE = BUFFER - PRICE00000-
QUANTITY_TO_ORDER000-
QUANTITY_ON_HAND0
PRICE = PRICE/100
```

This last line is needed to restore the decimal (cents) part to the dollar value item.

NEW CORCOMP 9900 MICRO-EXPANSION SYSTEM
(by Tom August)

As many of you know, are club is planning to raffle off a new Corcomp 9900 Micro-expansion System. I would like to explain what it is and some of the things it can do.

1. It is about the size of two speech synthesizers (approximately 5 inches wide x 5.5 inches long x 2.8 inches high) and it plugs into the right hand side of your computer.

2. It can be purchased with either one or two RS-232 serial interface ports (ours will have both). The RS-232 port is normally used to connect your computer to peripheral devices like modems, plotters and printers.

3. It also has a parallel port for connecting to printers with a parallel interface. You can buy printers with either a serial or a parallel interface. Generally speaking, printers with parallel interfaces are cheaper than printers with serial interfaces and parallel printers are usually a little easier to use.

4. The Micro-Expansion System can be purchased with a 32K RAM/Disk Controller option (ours will have this option installed).

5. The 32K RAM will allow your computer to run larger and more powerful Extended Basic programs. With the addition of a floppy disk drive you can run TI FORTH, TI WRITER, PLATO, MULT-PLAN and ASSEM. LANG. programs.

6. The Disk Controller can control up to four floppy disk drives. It can control any combination of full or half height drives with either single-density or double-density and with either single-sided or double-sided drives.

7. The Disk Controller also has several PEEK and POKE commands that can be used with BASIC. It even has the ability to load and run ASSEMBLY LANGUAGE programs without using the EDITOR/ASSEMBLER cartridge .

Well folks, that's a quick summary of the CORCOMP 9900 MICRO-EXPANSION SYSTEM and the 32K RAM/DISK CONTROLLER option. As you can see it packs a lot of power in a small package. It is not only compatible with the T.I. Computer equipment, but actually enhances it.

PACKING (cont.from Page 4.)
by *Daniel N. Farrow IV*

I have used this method for a program I wrote to do baseball statistics. Data included at-bats, doubles, homeruns, hits, walks , stolen bases, etc. (13 in all). Most items will not go above 100(no one hits 100 homers in a season) so I combined them into 4 buffers. Instead of taking 13*9=117 bytes for statistics , I use only 36 bytes, Not only does this require lessdisk space, it also makes reading and writing the disk faster.

The one problem that I have discovered with this method is that it is not as easy to save negative numbers. If you know a number will be negative then just add some arbitrary amount to it to make it positive. Say you have an item that can range from -9 to +9. Add 10 to it before putting it in the buffer and subtract 10 after taking it out. You must remember that after you add 10 the number now ranges from 1 to 19 so you must allow 2 digits for it in the buffer.

If you have any questions on this method for packing data, or if you would like a listing of my baseball statistics program to see how it is done, just catch me at any Delaware Valley Users Group meeting or call me at (302)328-8497 7-9 weeknights or (215)237-7915 8-4 weekdays.

QUARTZ MILL COMPUTER

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We need someone to survey amoung members good and bad third
party hardware and software dealers that they have dealt with
and can write an article for the newsletter. This article can
be in the form of a chart.

Also we would like to have an article on software programs
that members hav gought and felt they were not worth the money
or even software programs that are fantastic. If you are
interested in doing this please let Jack Thorpe know.

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CREATING THE D.V.U.G. CATALOG   *(Cont. from June 84 issue)*
             * * * * * * * * * * *
                      by *Jack Shattuck*

We couldn't use upper-case letters for (C$); a similar problem
would arise. With a switch to lower-case letters, since no item in
the titles (N$) had lower-case letters, an appropriate match could be
made. (That's why there are two reminders in the program to release
the Alpha Lock.)

To allow you to see the titles available, instead of needing a
printed list in front of you, the user can call the titles, making a
zero ("0") input, before seeking to make a match. To avoid waste of
memory by retyping the titles, this routine also used a READ routine,
after a RESTORE statement to start at the beginning. See lines 7000-
for the procedure. Just remember to let 7110 list the first program
name, and 7035 list the last.

As a convenience, a Printer option was included to keep track of
desired items (Lines 361-369). Note carefully the preceding lines,
310-360, which also have a Call Key option. If line 361 had used key
121 ("y" for yes), then holding your finger down too long with a yes
response for line 310 would have triggered a Printer attempt before
you had a chance to think. Thus the affirmative reply for a printout
was changed to "p", instead. (A prior "no" would have branched else-
where.)

The heart of this program is found in lines 180-360 and 370-420.
The only other feature not discussed above is a flag (M) to determine
what action should come next if no match is found.

I've altered the basics for this program to keep track of items
from 99'er magazine, help a labor department specialist with matches
of jobs and employee applicants, and other purposes. Be creative —
add options (like the printer, why not speech?); run it in XBasic or
let it work for the needs which you have. While there are other
methods of "writing to files", i.e., data storage within programs, we
found this sample program most effective for a variety of beginner
uses.

If you find good programs and want to share applications you've
developed, please tell your User Group: That's why we're here!

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Fans of Steve Davis' PROGRAMS FOR THE TI HOME COMPUTER (which
has the Basic Keyword program used as the basis for the "LIBRARY1"
program described above), and the associated publication by Ralph
Molesworth, INTRODUCTION TO ASSEMBLY LANGUAGE FOR THE TI HOME COM-
PUTER, should be aware of several corrections which need to be made
to early editions of those works.

The corrections are to Davis' MAILWRITER, NUMEROLOGY and TAROT
READER programs, and to page 112 and the "PBASIC" routine on pages
115 and 121 of Molesworth.

If interested, you may contact Jack Shattuck at home by phone,
or by modem via our TIBBS message board. A copy of these revisions
will be available at the Sept. 27 User Group meeting.

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RULES OF RAFFLE DRAWING

1. Drawing will be at the Delwawre Valley Users' Group meeting on October 25, 1984.

2. You don't have to be there to win.

3. the number of tickets sold will be limited to 200.

4. Executive members and their family or members of the same household may not participate.

5. Any attempt to forge tickets or to defraud in anyway will be prosecuted to the fullest extent of the law.

6. Any descrepancies will be decided by the Executive Committee

7. Manufacturer Warrany included with product.

8. By participating you release the Delaware Valley Users' Group or individual entities from all liability with respect to warranty, representation or guarantee.

The Delaware Valley Users' Group is a non-profit organization.

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