

WEST PENN 99ERS NEWS

Volume 11 Number 5

February 1996

A NEW TOY FOR MICKEY

On January 22nd I received a belated Christmas present via the US Mail from my husband, Mike.

This "extra" present was a TI CC40 computer, complete with all the "extras."

Mind you, this was not a surprise, as Mike and I had been talking about the possibility of buying one, an as any "good couple" can attest to, a decision like this must be given a lot of thought, especially along those financial lines.

But to make a long story short, I am now the proud owner of a new toy, a TI CC40 computer.

Fun, fun, fun!

What can I do with my new toy, you might ask...

Well, for starters, I can write this article on it.

Not only that, but I can edit this article as well, without being near my main TI-99/4A computer, or any electrical plugs, whatsoever!

In fact, I could be writing this article outside in the sunshine, provided of course, that there WAS any sunshine to be found.

Once finished with my article, I can hook my TI CC40 up to my serial printer that is connected to my main TI-99/4A computer, for a hardcopy printout, via my TI CC40 RS232 or I could transfer this article directly to my main TI-99/4A computer, via a special RS232 cable and the Funnelweb Editor.

Since this is only the third day that I have owned my TI CC40, I am still very much in the LEARNING PROCESS, but I have already read about half of my manuals and have successfully typed, saved, and printed one letter so far.

This is my SECOND letter, and already my fingers are getting used to the tiny keyboard and the special key presses.

My husband Mike may start to have second thoughts about this purchase when he finds out that I will be taking this computer with me EVERYWHERE!

Now that I own a TI CC40 I can appreciate Charlie Good's enthusiasm for it,

and understand why Gary Taylor purchased one years ago.

Lately I had been saying that I did NOT envy those with IBM systems, but I DID envy those with laptop computers (which just happened to be IBM computers).

Well, I DON'T have to be envious anymore, cause now I own a laptop TI CC40 computer which IS COMPATIBLE with my main TI-99/4A computer.

Like I said, fun, fun, fun!

I only hope that Mike doesn't feel as though he's created a MONSTER!

Thanks dear, for the wonderful present!

For those of you who may wish to know more about this computer, I have devoted much of this newsletter to a lengthy article that Charles Good wrote, about this fantastic little computer.

Additionally, I will be bringing my new TI CC40 to our next West Penn 99'er meeting on February 20th for demo purposes.

Who knows what I may be able to do with this little machine by then!

TI-99/4A'S FIND A GOOD HOME!

On February 3rd, my husband Mike and I took the first load of TI-99/4A hardware and software donations down to the Cheswick Christian Academy. Needless to say we were met with open arms and eager anticipation.

Once we unloaded our truck, we set up one system, then put the TI-99/4A to the test.

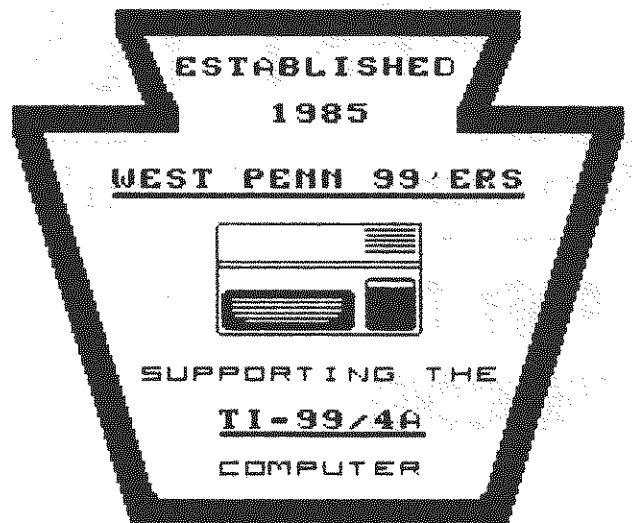
What were the results... Well, believe it or not, our TI-99/4A computers are now taking over as THE PRIMARY COMPUTERS in the grade school's classes!

INSIDE INFO

ITEM	PAGE
Club Information.....	2
For the Record.....	3
Updating the Membership.	4
From Our Mailbox.....	4
CC40.....	5
Membership Application.	10

WEST PENN 99'ERS CLUB INFO

Next Meeting Date: February 20, 1996
 Meeting Location: Penns Woods
 Civic Association
 Just off Route 30
 N. Huntingdon, Pa
 Time of Meeting: 7:00 P.M.



GENERAL ITINERARY OF OUR CLUB'S MEETING

6:45 P.M. Doors Open
 7:00 P.M. General Meeting
 7:45 P.M. Demos and New Info
 8:45 P.M. Questions and Answers
 8:45 P.M. One on One Help
 8:45 P.M. Socializing
 10:30 P.M. Doors Close

MEETING HIGHLIGHTS FOR THIS MONTH

Latest T.I. News - Software Discounts - And Show Reports
 Latest News Concerning Our West Penn 99'ers Disk Library
 Collection of Donations for Cheswick Christian Academy
 Demo - Halls of Lost Moria - Demo by Mickey Cendrowski
 Demo - Open Slot For Any Member Wishing To Demo A Program

LIST OF WEST PENN OFFICERS FOR 1996

President:	Mickey Cendrowski	412-265-5201
Vice-President:	Norm Rokke	614-264-6442
Treasurer:	Ed Mandich	412-824-5566
Recording Secretary:	Paul Brock	412-478-2754
Corresponding Secretary:	Paul Brock	412-478-2754
Librarian:	Open	- -
Newsletter Editor:	Mickey Cendrowski	412-265-5201
Assistant Editor:	Mike Cendrowski	412-265-5201

The West Penn 99'ers Users Group is a Non-Profit organization, dedicated to encouraging the continued use of the TI-99/4A home computer.

Our membership fee is:

- * \$15.00 per year for an INDIVIDUAL / FAMILY membership.
- * \$10.00 per year for a NEWSLETTER ONLY membership.

Those having FULL memberships are entitled to the many extra benefits our club has to offer.

Some of those benefits are:

- * Demos of the latest TI-99/4A software.
- * Free copying of our West Penn 99'ers Disk Library.
- * Latest T.I. news - Local - National - International.
- * One on one help / Problem Solving.
- * Participation in our Module Lending Library.
- * Participation in our Video Lending Library.
- * Ribbon re-inking - for just \$1.00 per ribbon.
- * Various computer supplies - at a substantial savings.
- * Participation in our Coke / Pepsi Wars.
- * And ... entertainment by one of the biggest TI-99/4A supporters around.

We meet the third Tuesday of each month at the Penns Woods Civic Association in North Huntingdon, Pennsylvania, at 7:00 P.M.

If you can't make it to our meetings ... at least become a NEWSLETTER member - and enjoy our NEW NEWSLETTER FORMAT - done ENTIRELY on a TI-99/4A computer.

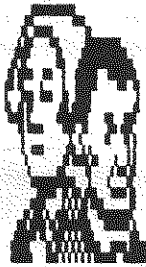
SEE PAGE 10 FOR OUR WEST PENN MEMBERSHIP APPLICATION.



FOR THE RECORD BY PAUL BROCK

JANUARY MINUTES

The weather cleared up and the snow was melting, the 15 members were getting all their information about their TI's when Mickey opened the meeting at approximately 7:13 P.M. No report from the Vice President at this time. Lynn was busy helping Ed with the treasurer's report which was very good. Ed was keeping busy collecting dues and making money! Well folks, it seems that we have to work without a Librarian for awhile. As we all know, organizing the Library is a time consuming job. We could not find a volunteer at this time to take over for John. Thanks go out to John Whelan for all the work that he has put into this job.



Our President would like to thank all of those members who called her last month to find out if there was a meeting. In appreciation, Mickey is giving everyone the 20th of February off, so that they can come to the meeting. Mickey gave a review of her printer report, hoping that it would be helpful to many in the TI community.

Bill Vorp gave a demo of his P-GRAM+ card. He showed how to put modules on the card. It was really neat folks! I didn't know that such a thing existed. Mickey also demoed Astro Mania, a slow-action arcade game. This was one of our raffle prizes. The other prize was Page Pro Titles. My wife, Evelyn Brock won that one. I was so excited for her that I didn't see who won Astro Mania.



Art had the store open and the Pepsi, Coke, and coffee were going fast. TI computers were brought in for Mickey to set up at the Cheswick Christian Academy. She got Jim Wiegand to volunteer to take the broken TI's home to try and fix them. Now, if only we could get John Willforth back, we could have fun with hardware. (Mickey forgot to mention just how many TI's she needed for the school).

Editors note: The Cheswick Christian Academy would like at least 10-12 complete TI-99/4A systems to set up in their computer lab room.

Continued from Page 4

(Yes, I know this is backwards!)

hardcopy printouts and your floppy disk to our next West Penn 99'ers meeting on February 20th for demo purposes.

As far as your Funnelweb question goes, I can't be of any help, personally, as I am still using Funnelweb Version 4.13, which does not support the all characters mode, however, I am confident that one of our many readers CAN answer this question for you.

Hopefully someone will forward the answer to me, so that I can publish it in an upcoming newsletter for the benefit of ALL of us in the TI community.

My address is:

Mickey Cendrowski
100 Pine Street
Russellton, PA 15076

Regarding your SCSI and Bud Mills question...

To the best of my knowledge the SCSI has only been completed for those owning a Geneve. The SCSI has not yet been officially released for the TI-99/4A.

Additionally, although Bud is a VERY HONEST man, he is SLOW in getting around to things.

Putting both of these items together is probably the reason why you have not yet heard from Bud.

As far as your membership renewal check goes...

I will make sure that our Treasurer, Ed Mandich, receives it at our next meeting on February 20th.

Now, my only problem will be in taking all the heat from those in the TI community who now know that I have not yet upgraded my Funnelweb disk!

Ha Ha Ha

Oh, well, my policy usually is...

If it ain't broke, don't fix it!

and my Funnelweb disk ain't broke!

Ha Ha Ha

Now I'll just hear about using the word "AIN'T" in the newsletter...

and running part 2 of this column on page 3, BEFORE I ran part 1 on page 4.

Such is life...

Mind you, I am really just filling up what little space I have left in this column!

REMEMBER...

USE YOUR TI FOR KICKS IN '96

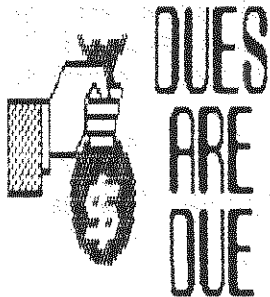
UPDATING THE MEMBERSHIP

The West Penn 99'ers would like to acknowledge the following members for renewing their memberships for the 1996 season...

- Emil Barca
- Craig Burkey
- Mickey Cendrowski
- John Cline
- Joe Ekl
- Ken Farr
- Oliver Hebert
- Dean King
- Lew King
- Ed Mandich
- Ralph Metz
- Jim Peters
- Norm Rokke
- Jim Wiegand

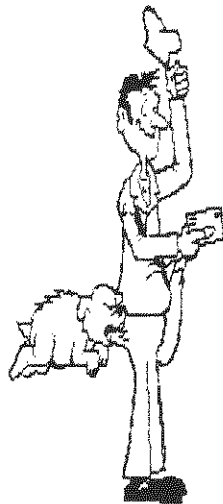
This brings our 1996 membership count up to 21 members.

Remember...



Please see Ed Mandich, our West Penn 99'ers Treasurer, to renew your membership.

If you can't make it to our meetings...at least become a NEWSLETTER member - and enjoy our NEW NEWSLETTER FORMAT - done ENTIRELY on a TI-99/4A computer. See page 10 for our application.



FROM OUR FRONT PORCH

This month I received a lot of mail from fellow TI-99/4A enthusiasts.

Unfortunately, due to a very lengthy CC40 article, space does not permit inclusion of all of our mail in this month's issue of our newsletter.

I will print as much as space permits this month, and include the remainder of all of our mail next month.

In the meantime, keep that TI-99/4A correspondence coming in. That's what helps to make this column, and our newsletter such a success!

Hi Mickey,

Just a few notes, I hope that I am not late for inclusion in our newsletter.

Regarding my printer, a Panasonic KX-P1695, I obtained an address from Audrey Bucher of the PUG, wrote to the company, and

obtained an instruction book.

Regarding any out-of-town members wanting an official membership receipt, please enclose a S.A.S.E. with your dues, otherwise your cancelled check will be your receipt and we will keep your official receipt in our files.

Thanks again,

Ed Mandich
West Penn 99'ers Treasurer

304 Chicora Street
East McKeesport, PA 15035

Hi Mickey,

After seeing your printer command chart in the January 1996 newsletter, and also a recent article in Micropendium, I decided to give the escape codes a try on the TI. As you can see from the letterhead and the enclosed sheet, they work quite well. So you don't think this is some kook fooling around with a fancy program on a (??), I have enclosed a DSSD disk with a few DV80 files on it, including this letter. You can get the codes right from the disk. They are for a Star NX-2420 Rainbow, in the Epson LQ 860 emulation mode.

Ok, now I need some help. As you can see from the file ASCIICHAR I had FW in the 8 bit all character mode. Didn't think all those odd characters would show up on the screen, but

they did, and printed out. I have no idea how FW got into that mode and worse yet, can't get FW to go back to it. HELP! Anybody know how to do it?

Has anyone heard from Bud Mills lately? Ordered a SCSI controller from him right after the first of the year, and don't have it yet. About 3 weeks ago he said the Disk Manager wasn't done yet. A couple more days. Hmm... Might have to get a HRD instead. If y'all hear anything, let me know. Bad enough working from floppies, but DSK1 died back before Christmas. That just leaves DSK2 and 3 of which 2 is a 3.5 inch. Hard to use two 5.25 inch disks on that configuration.

Please give the check to Ed Mandich at the next meeting for my 1996 dues. I keep hoping to make a meeting, but as long as I have to work Tuesday evenings, that won't happen.

Sincerely,

Lew King
P.O. Box 144
Industry, PA 15052

Dear Lew,

First let me thank you for sending me your printer codes, as well as your hardcopy printouts and your floppy disk.

I will be taking both your

Continued on Page 3

CC40

TI gave up too soon on this great little computer
by Charles Good

Reprinted from Micropendium - December 1984

The CC40 (which stands for "Compact Computer 40") was in early 1983 TI's first ever entry into the portable computer market. It is in many respects a little brother to the 99/4A, so much so that Funnelweb's senior author Tony McGovern calls the CC40 "Little Tex." This article, based on my own experience using the CC40 system, describes the CC40 computer and its tiny peripherals. Some of these are rare collector's items. The article also lists current sources of supply where you can purchase the CC40, its software, and important peripherals.

The CC40 computer is battery powered, very small, (smaller than most modern laptops), and it was offered with a host of small peripherals, most of which are also battery powered. Without the need to plug into an external power source, a CC40 system allows truly portable computing and printing anywhere. This little orphan is of interest to owners of 99/4A computers for two reasons:

1. The syntax of its built-in CC40 BASIC language is almost identical to the 99/4A's Extended BASIC.

2. TI intended the 99/2, the 99/8, the 99/4A, the CC40, and all of its tiny peripherals to be physically cabled to each other and to talk to each other using a proprietary bus connector called a "HexBus" that is found on all these machines except the 99/4A. To make HexBus devices work with the 99/4A, TI intended to sell a "HexBus interface," a peripheral that had a HexBus connector and that attached to the right side of a 99/4A console. The HexBus interface is pictured on the boxes that contained beige 99/4A consoles but it was never officially released. I own a HexBus interface and use it regularly as part of the 99/4A system on a little table next to my bed. The interface, when combined with tiny HexBus peripherals, permits an expanded 99/4A system to occupy very little surface area.

Although the CC40 is no longer manufactured by TI, the computer, cartridge-based software, and some of its tiny peripherals are still available from dealers such as those listed at the end of this article.

When it was introduced, the CC40 had a list price of \$250. Sales were not good in 1983 and 1984 because no mass storage device was made available by TI. The promised cheap Wafertape Digital Tape Drive turned out to be exactly

that, cheap. It was unreliable and thus never released, and at that time TI had no other inexpensive CC40-compatible mass storage device to offer the public. In 1984, production of this fantastic little computer ceased. In May 1990 I paid \$95 for my new CC40. New CC40s are available now for \$49 from Jim Leshar, and used computers are available from several of the dealers listed below. For an extra \$20-25 you can purchase an expanded memory CC40 or have dealer installation (by L.L. Conner Enterprise) of the necessary chips to bring the CC40's internal RAM to the maximum 18K, up from the 6K RAM found in the typical CC40. Conner will also sell you the RAM chips if you want to do the job yourself. This extra memory increases the CC40's internal buffer capacity to around five double-spaced pages of word processing text.

The CC40 measures about 9x6x1 inches, the size of a small textbook. It uses a 2.5 MHz TMS70C20 8-bit processor and has 34K of ROM and 6K (expandable to 18K internally) CMOS RAM. There is a "solid state cartridge" port, and the internal RAM can be further expanded with 8K or 16K memory expansion cartridges. Software cartridges, such as Memo Processor word processing cartridge, can also be inserted into the cartridge port. The ROM includes a very powerful and familiar-looking BASIC. Both upper- and true lowercase letters (not just small uppercase letters) are provided. Error and system messages can be displayed in either English or German.

I have no idea what the "40" in CC40 refers to, certainly not the CC40's display. The LCD display shows 31 characters of a single 80-character line. You need to move the display left/right to view the entire line. Four dedicated cursor keys allow you to scroll up/down to view other lines or left/right within a line of text or program code. The LCD display includes special indicators for such things as low-battery, the status of the shift function and control keys, uppercase lock, and special math functions. Some LCD display indicators are user-programmable. A control on the left side of the CC40 regulates the contrast (intensity) of the LCD display.

The CC40's keyboard consists of chicklet keys. Alpha numeric keys are arranged in a 44-key querty typewriter layout with number keys on the top row. It looks similar to the 99/4A keyboard arrangement. No, you can't easily touch type. The alpha keys are just too close together. One finger pecking is the usual method of laptop data entry while holding the CC40 steady with your other hand. It is not necessary to press two keys at once. For those features, such as one-time capital letters that require the use of the Space, FN (function), or CTL (control) keys, either

Continued on Page 6

Continued from Page 5

press both keys at once or press the special key first and see an indicator on the LCD display turn on. You then press the second key - for instance Shift and then D to display an uppercase "D," or FN and then tilde (`) for insert - and the special LCD display indicator turns off. A separate numeric keypad is to the right of the qwerty alphanumeric keys. The number keys on the top row of the qwerty layout are duplicated in this keypad. Special keys are included for cursor movement (four dedicated keys), Break, Run, On, Off, and reset.

A very important feature of the CC40 is that any BASIC program or any word processing document entered into the CC40's RAM stays there even after the computer is turned off. Four alkaline AA cells are said to provide enough power for 200 hours of operation. My experience shows that these batteries will last many months of "computer off" time. Compare this to the 2-4 hours most "modern" laptops will run using their batteries. The CC40 and all its small battery powered peripherals can also be powered with an AC adapter.

The BASIC that comes as standard equipment on the CC40 closely resembles TI Extended BASIC, but lacks most of the 99/4A's graphic, color, and sound features. There are no sprites and only one kind of programmable Beep. Multi-line statements up to 80 characters in length are supported, as are user defined subprograms with variables independent of the main program. Seven (ASCII 0-6), can be user defined with CALL CHAR on a 5x8 pixel grid. CALLs relating to assembly code include POKE, LOAD (an assembly subprogram from an external device), PEEK, and EXEC (starts an assembly language program). Two dimensional arrays are supported.

Typing BASIC code into the CC40 is made easy with automatic line numbers (NUM) as in Extended BASIC. Delete will delete one line number or a specified group of line numbers from the middle of a BASIC program. You can type the words for BASIC functions and commands with the alpha keys one letter at a time. However, many BASIC commands and functions can also be displayed on screen by pressing only one or two keys. A plastic keyboard overlay that comes with the CC40 shows these special keypresses, most of which involve pressing the CTRL or FN key followed by another key.

A particularly powerful feature you can access from command mode or from a running BASIC program is CALL DEBUG, which brings up a built-in assembly language monitor and memory manager. This is designed to be used with the CC40's Editor Assembler Module (never officially released), but

can also be used by itself. When in the DEBUG monitor you can display, modify, or copy any memory in hex. You can also change the microprocessor's program counter, stack pointer, and status register. You can set break points, single step through assembly code, start execution at a given address, and control paging in and out of system ROM and cartridge ROM. DEBUG is very powerful, and it is built into the CC40 for use whenever needed.

User defined hot keys can be set up, and remain in battery backed memory even after the CC40 is turned off. FN + 1-9 are the potential hot keys. These can, for example, be set up for commonly entered BASIC code, number sequences used in math calculations, or short text memos such as names and addresses.

No little calculator can do a better job than the CC40 for the display of chain number calculations. I routinely use the CC40 to balance my checkbook and to calculate student grades from a series of numerical student exam scores. You can type in up to 80 characters of mathematical numbers and symbols (such as $112.56+56.35-45-54.95+12$) and then scroll left/right to make sure that all your numbers are correctly entered before pressing Enter to display the answer. Pressing "play back" will redisplay the numbers of the chain calculation that gave you that answer. If your chain is greater than 80 characters, you can enter part of the chain and press Enter for an intermediate answer. Then, starting with the intermediate answer, enter the rest of the numbers of the chain and press Enter to get the complete mathematical answer to the entire chain calculation.

You can also use the CC40 as a scientific calculator by typing in your calculations directly, rather than writing a BASIC program to do the calculations. Calculation accuracy is 13 significant figures, with 10 significant figures usually showing on the CC40's display. Scientific notation is supported, allowing the CC40 to deal with numbers as small as $+/-1E-128$ or as large as $+/-9.999999999999999E+127$. PI, SQR, any other power or root, log (base 10, and base E), sine, cosine, tangent, arcsine, arccosine, and arctangent are all supported with special keypresses. Angles are calculated in either degrees, radians, or grads. A special indicator on the LCD display (DEG, RAD, or GRAD) shows which kind of angle is in effect. RAD is the powerup default. You could easily spend \$30 for a hand-held scientific calculator, and you would still not have a 31-column display or a scrolling 80-column data field. For a few more dollars you can have a CC40, which is a real programmable computer as well and not just a calculator.

Continued on Page 7

Continued from Page 6

For me the most practical use of the CC40 is as a portable word processor. When used as a word processing system, the following CC40 HexBus peripherals are important:

1. Memo Processor, a CC40 software cartridge; \$20 new with an extensive instruction book. Actually I prefer to use my own BASIC CC40 word processing program, which does not require a cartridge and which is more stable in the CC40's memory. Send me a self-addressed stamped envelope and I will send you a hard copy of this program.

2. The HexBus RS232; about \$30-\$50 used. This is a very important peripheral. You can use it to print to a regular parallel printer from the CC40 or to send word processing text or other data to another computer. To send word processing text from a CC40 to a 99/4A use a HexBus cable to connect the CC40 to a HexBus RS232 peripheral and run a serial cable from it to the RS232 port of your 99/4A. You can then send text directly into TI-Writer or the Funnelweb editor without using a terminal emulator program or null modem on the 99/4A. Here's how. From TI-Writer type "LF" (load file) and specify "RS232.CR" as the file name. Then, using either Memo Processor or my own CC40 BASIC word processing program, tell the CC40 to SEND its text. Text will flow out of the CC40 and into the TI-Writer edit buffer. When the computer lights stop flashing press FCTN/4 on the 99/4A and your text originally entered into the CC40 will be displayed on the 99/4A's monitor ready for further editing and saving to a TI disk. The HexBus RS232 is the only HexBus peripheral that is not battery powered. It needs an AC adapter.

3. The HexBus Printer 80; around \$100 new or used. This small (about 13x6x2 inches) 80-column thermal dot-matrix printer is powered by 4 "D" batteries or an AC adapter. It uses small ribbon cartridges to print on ordinary 8.5x11 inch typing paper, or you can print on rolls of 8.5 inch wide fax paper without the ribbon cartridge.

Thus, for an investment of \$125 (\$50 for the CC40 and \$75 for the Printer 80), you can have a totally portable, battery powered word processing system. For an extra \$70 (\$50 for the HexBus RS232 and \$20 for Memo Processor) you can have everything you need for a complete word processing package.

I am composing this article on my CC40. This paragraph is being written while sitting on a bench in the quadrangle of the O.S.U. Lima Campus enjoying the sun. Other paragraphs will be written later today sitting on my front porch at home and laying in my bed watching the evening news on TV. Then I will dump the text, via my HexBus

RS232, to the Funnelweb (TI-Writer) editor on my 99/4A and save it from there to a 99/4A disk that I will send to Micropendium. This is truly portable word processing! A CC40 system is absolutely the cheapest word processing system it is possible to purchase anywhere. Compare these prices to the cheapest laptop computer advertised in Computer Shopper or a non-battery powered dedicated word processor/printers with little flip up screens (Brother, Smith/Corona, and similar brands) sold in retail stores and in discount catalogs. Price-wise there is no comparison.

In addition to the peripherals described above, the following two HexBus peripherals are sometimes still available new or used from dealers. All HexBus peripherals should be purchased with a HexBus cable. Make sure you get one with each peripheral you purchase. You daisy chain the needed peripherals together with such cables and connect the first peripheral in the chain to the CC40. Most HexBus peripherals measure about 6x4.5x1.5 inches and are designed to neatly stack on top of each other.

HexBus Printer Plotter - This cute little printer prints on adding machine paper. There are four little ballpoint pens, each a different color. Replacement pens can still be purchased at Radio Shack stores. You can program the X-Y axis movement of each pen as you print multicolored graphs and drawings. Several different text sizes from teeny-tiny to about one inch tall are available. Text can be printed in any direction - vertically facing either left or right, horizontally, and even upside down. Although this printer does have some unique features, it is not really useful in printing documents. Also, it has some reliability problems. There is an internal plastic gear that has a history of breakig (Cecure has a metal replacement gear), and its alkaline battery is soldered in and cannot easily be replaced. If the battery fails to hold a charge you are out of luck even if you use the optional adapter.

HexBus Modem - This is a 300 baud direct connect modem with rear connections for two HexBus cables and two RJ11 phone cables. I am told that electronically it has properties that are identical to the 99/4A's acoustic "telephone coupler" modem. It works well, but today would probably be considered little more than a toy. It has been a long time since computer data crawled along phone lines at a speed of only 300 baud. Many information services and BBS systems do not support such a slow speed any more.

The following official TI software cartridges for the CC40 are available new for \$20 each from Cecure Electronics and

Continued on Page 8

Continued from Page 7

sometimes less from other dealers listed below. Each cartridge comes with a well-written user guide. They include: Learn Pascal, Memo Processor, Finance, Elementary Engineering, Statistics, Math and Games.

I have about 20 BASIC programs which I will be glad to send you either as hard copy listings or on a "quick disk." Some of these programs take advantage of the special features of various HexBus peripherals. Either send me a quick disk (see below) and a paid return mailer or send me \$2 for the hardcopy listings. Your cash pays for return postage and my copying costs.

Lack of mass storage options is why the CC40 failed commercially in 1984/85, and this is still a big problem for CC40 owners today. Since I use the CC40 mostly for word processing, I can usually get along without mass storage. Text I enter into my BASIC word processing program for the CC40 or into Memo Processor is conserved for weeks or months in the battery backed RAM of the computer until I can dump the text to my 99/4A system via the HexBus RS232. The following mass storage options are possible:

8K Memory Expansion - About \$30 used. Functionally this resembles the 99/4A's Mini-Memory cartridge. The 8K CC40 cartridge is battery backed and can be used either for program storage or as memory expansion, but not both. These 8K battery backed cartridges are not very common anymore, but some are still available from dealers listed below. You can purchase a bunch of these and store one BASIC program in each cartridge. Program storage only works if you have a 6K CC40. If you are using an enhanced 16K CC40, the 8K cartridge can only be used for memory expansion.

Combined use of the battery backed cartridge for program loading and the non-battery backed 16K cartridge for RAM expansion works very well with my BASIC word processing program. 16K cartridges are still commonly available for about \$30-\$40 from dealers. First I plug in an 8K cartridge that contains my word processing program and transfer that program to the RAM of my 6K CC40. I then unplug the 8K cartridge and plug in the 16K RAM expansion cartridge. Executing a CALL ADDMEM adds the 16K to the 6K already in the CC40, giving me 22K of RAM to store text (6-7 double-spaced pages) using my word processing program. You can't do this using the Memo Processor cartridge which must remain inserted in the CC40 while in use. This is one of the reasons I prefer my BASIC word processing program.

TI's PC Interface - \$60 new, sold directly by TI. This

small peripheral, known as the PCIF, plugs into a PC parallel or LPT port and allows BASIC programs and data files in a CC40 to be stored on or loaded from a floppy disk or the hard drive of an IBM-compatible computer. The IBM computer then becomes your mass storage. Sounds great doesn't it! Unfortunately, it is a bit tricky to hook the PCIF to the CC40. The PCIF was made for use with the TI74, which is a more modern and somewhat smaller version of the CC40. Although the PCIF is electrically compatible with the HexBus, the 10-pin holes arranged in one straight line on the PCIF's female connector will not directly plug into a HexBus or a HexBus cable. The HexBus has eight pins arranged in two rows of four. I cut common paper clips to make short wires that stick snugly into the holes in the end of a female connector on the PCIF, filling eight of the 10 PCIF connector holes. The remaining two PCIF connector holes are for power, six volts in and out. The CC40 has no way of delivering this needed power to the PCIF. You have to modify a Radio Shack black cube AC-to-6VDC power adapter so you can plug the adapter into the last two pins of the PCIF. Connecting my CC40 and power adapter as described here to the PCIF allows me to store CC40 software on PC disks.

Mechatronic QuickDisk peripheral - This small disk drive is the only HexBus peripheral I have ever heard of that is not made by TI. It was made by a German company specifically for the CC40. I find it to be very fast, reliable, and easy to use for data file and program mass storage. The peripheral is fairly small (7x5.5x3 inches), not battery powered, and uses 2.8 inch disks (not the common 3.5 inch disk size) to store up to 64K on each side of a floppy disk. In 1990 I paid \$110 for a new QuickDisk drive. The drive is now out of production and there apparently are no new QuickDisk drives gathering dust on dealer's shelves. If you can find a used, working QuickDisk drive then buy it! Used QuickDisk drives are hard to find.

Wafertape Digital Tape Drive - This was going to be TI's cheap, portable mass storage device. It ran on batteries or an AC adapter and used a small continuous-loop tape cartridge. Although data was stored serially, it had many of the characteristics of a random access device. For example, programs and data files can be loaded by file name from a wafertape that contains several different files. I own one of these rare devices (serial number 0000007) and several official TI wafer cartridges that have a TI logo on the label. My wafertape drive is not very reliable. Many times I have saved and verified data files or BASIC programs to wafertape only to find that later I can't load this information back into my CC40. Reliability problems are probably why TI never released this peripheral.

Continued on Page 9

Continued from Page 8

HexBus Floppy Disk Drive Controller - this also was never released by TI, probably because the CC40 and its peripherals were marketed as an inexpensive alternative to other 1983 computer systems, and the HexBus floppy drive was not inexpensive. This is the rarest and probably the most useful of the HexBus peripherals. The controller worked with IBM-compatible 360K drives and 5.25 inch disks, formatting DSDD at 16 256K sectors per track just like TI's never released DSDD disk controller for the 99/4A. I know of four working HexBus floppy controllers in the whole world. Its too bad one of them isn't mine, yet!

SOURCES OF SUPPLY

Cecure Electronics, P.O. Box 222, Muskego, WI 53150, phone 1-800-959-9640. This is the official TI service and exchange center for the CC40 and its peripherals. They don't sell the computer or peripherals but they do repair them on a flat fee exchange basis. They sell the following CC40 cartridges new: 16K expansion RAM (\$40), Memo Processor and other software cartridges listed above (\$20 each). They also have new "user guides" for those who have the computer but no book and a "Learn Basic" book published by McGraw Hill specifically for the CC40.

Jim Leshar, 722 Huntley, Dallas, TX 75214, phone 214-821-9274. A nice selection of used CC40s (\$50 for a 6K CC40), HexBus peripherals, and rare documentation. Write or call for a current product list. He is the only source I know of for 8K battery backed RAM cartridges. Jim also sells software cartridges and 16K expansion RAM cartridges and has the two books mentioned above.

L.L. Conner Enterprise, 1521 Ferry Street, Lafayette, IN, phone 317-742-8146, fax 317-423-4879. A source of used and occasionally new CC40 computers, HexBus peripherals, and cartridge software. Phone almost anytime for a list of what is currently in stock. Larry Conner will upgrade CC40s from 6K to 18K of internal RAM or sell you the chips to do it yourself. He will also make the serial cable to hook a HexBus RS232 to the 99/4A RS232.

Texas Instruments, phone 800-TI-CARES and have your credit card ready to order the PCIF, which is considered by TI-CARES representatives to be a TI74 or TI95 product. TI is the only source I know for this peripheral. It is part number 1065751-0001 and costs \$60, plus shipping and state sales tax. TI also sells an AC adapter you can use instead of batteries to power the CC40 and some of its peripherals this is called the AC9201, part number 1055601-8900, and costs \$18.95. TI now refers all inquiries about sales and repair of CC40 products and HexBus peripherals to Cecure.

Charles Good, P.O. Box 647, Venedocia, OH 55894, phone 419-667-3131. That's me, the author of this article. I will send you what I have in the way of CC40 BASIC software as described earlier in this article.

CC40 UPDATE INFORMATION

By Mickey Cendrowski
President - West Penn 99'ers
February 7, 1996

Two weeks after Christmas, my husband, Mike, said that I could order a CC40 as part of a belated Christmas present.

Not willing to give him a chance at changing his mind I immediately called Cecure Electronics.

To my surprise, an "older" lady answered the phone. At first she had no idea what a CC40 was, then she thought that they were out of them, but she said that she would take my name and address and send me a price list if they did have any CC40 items in stock.

After that disappointing phone call, I called Jim Leshar, however, he was not at home, but I did leave a message on his answering machine. The following day, he returned my call and spoke to my husband who relayed my request, since I was at work. However, after speaking with my husband when I got home from work, he suggested that I talk to Jim personally. Jim was very pleasant and very informative. He had ALL the CC40 stuff that I wanted at the prices that Charles Good mentioned in his article (or very close to it). At the end of our conversation I had ordered a pretty complete CC40 system (at least for doing what I wanted it for).

As far as service goes, I had my package within days of Jim's receipt of my money order.

Additionally, I sent \$2 off to Charles Good for his BASIC word processing program and whatever else he had in the way of CC40 software. In return he sent me 3 disks of CC40 information (2 disks of various documentation and 1 disk of software, especially for the CC40).

Next I had my brother make me up a "special" cable so that I could transfer data to my TI-99/4A computer.

All is going GREAT, and I am really enjoying this "NEW" computer. Just wait till our February 20th West Penn 99'er meeting to see this little baby in action!

WP MEMBERSHIP APPLICATION

Name _____
Address _____
City _____ State _____ Zip _____

Please Check One

Newsletter Membership
No Library Privileges
\$10.00 Per Year

Full Membership
Library Privileges
\$15.00 Per Year

Complete and Return To

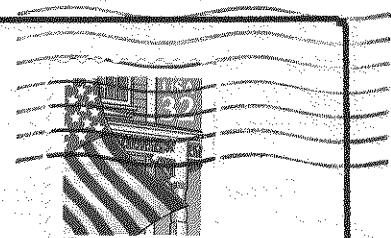
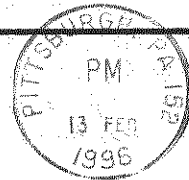
Ed Mandich, 304 Chicora St., East McKeesport, Pa 15035

THIS NEWSLETTER WAS COMPOSED IN IT'S ENTIRETY
USING A TEXAS INSTRUMENTS TI-99/4A COMPUTER

NEXT

MEETING FEBRUARY 20th 7:00 P.M.

WEST PENN 99'ERS
c/o Mickey Cendrowski
100 Pine Street
Russellton, Pa 15076



NEWSLETTER EDITORS
Please note new address
and update your mailing list

FIRST CLASS MAIL

MICKEY CENDROWSKI
100 PINE STREET
RUSSELLTON, PA 15076

EXPIRATION DATE 961231-F

FIRST CLASS MAIL