99/4 USERS OF AMERICA

5028 MERIT DR.

FLINT, MI 48506

1-313-736 3774

MAY 1983 NEWSLETTER

TEXAS INSTRUMENTS: A RELAPSE OF REBATE FEVER!

Shake those moths out of your wallets and pay attention! TI announced
on May 9, 1983 that a new rebate of $50 was to be offered on the TI 99/4A computer
immediately, not starting on June 1, 1983 as previously stated! This may get
the retail price below the magical $100 mark and keep it there. Now if
that isn't enough to make you reach for your favorite antacid, get an ear full
of this! The speech synthesizer program went back into effect on the same
date, not on August 1, 1983 as previously announced. The same rules apply:
any six solid state modules or any two software albums. You may not mix
modules with albums!

I know that some of you are groaning about how much you paid for such
commodities as a console or a synthesizer, but maybe you paid less than I did.
I shelled out $865 for my very first console and $145 for my faithful speech
synthesizer! I don't regret it either, as just think of all the fun I would
have missed if I had waited an additional three years. I have cut my computing
teeth on the former 99/4 and the newer 99/4A, and I give my compliments to
the dentist. I have survived the trials, frustrations, and anxieties of
lack of software availability, the Extended Basix crisis of 1981, the neurotic
keyboard of the first 99/4A, and an exploding PES! I may be somewhat warped
in the upper story, but I have to admit that I have loved every nerve split'in
second of it!

While I am on the subject of super prices, it is time for the kicker.
We will be "giving" away the Peripheral Expansion Cabinet until June 1, 1983.
No, that wasn't a misprint and your eyes are not failing you either! If
you purchase any three of the following you can have the PES for $5 shipping:
Disk Controller Card, Internal Disk Drive, Expansion RAM Card, RS/232
Card, P Code Card, TI Writer, or Micro Soft Multi Plan. If all of this
isn't enough to convince you that it is a good computer, then go buy one
of those misrepresented things made overseas by funny people who don't live
in America.

SUMMER PROGRAMMING CONTEST: WHEN IT'S HOT IT'S HOT!

Our programming contest is open only to members and will run from June
1, 1983 until August 31, 1983. Entries must either be original or legally
translated, may be in "any" language, and on any subject. They must be
submitted on either cassette tape or on magnetic disk, no hard copies! The
top three entries will receive the following awards: First-PES Cabinet with
Disk Controller Card and Internal Drive, Second-P Code System, including all
related software, Third-Choice of any module or combination of modules not
to exceed $100 retail. Winners will be notified by certified mail no later
than September 30, 1983. Authors retain ownership of their work and accept
full responsibility for the contents of their entries! You may enter as many
programs as you wish. Get busy and sweat troops!

SPECIAL USER GROUP RATES: A DOLLAR SAVED IS A PERIPHERAL EARNED!

We are now offering special rates to individual user groups across the country. Each of your members may become a part of us at a reduced fee and still enjoy all of our services. Here is the fee schedule: 50 members or less-$14.50 per person per year, 100 members or less-$12.50 per person per year, and over 100 members-$10 per person per year. All members will receive our newsletter, program directory, and so forth. We do ask that you select one person to be responsible for product orders! This person will order for all members and we will ship on an individual basis. It is a great way for your group to save some dollars!

CHALLENGE POKER: YOU'VE GOT TO KNOW WHEN TO HOLD THEM

I am a professional magician and I am always interested in some new twist on an old playing card routine. Pewterware has done an excellent job of adding some heavy breathing to the ageless game of poker, and they did it in Basic. Several players can participate, as it is always more fun to lose your shirt among friends! The clever computer is the dealer and he does play fairly!
The board is five by five with a wild card spot square in the middle of row #3. The computer deals one card and you must decide where you want to put it on your board. The position is indicated by row and column numerical coordinates. Each player has his, or her, own board. You try to make legal poker hands horizontally, diagonally, or vertically. A card can not be moved once it is placed! The computer will only deal 24 cards out of a possible 52, so some cards may not show up!
The various poker hands all are worth specific points, the better the hand the greater the score. Your point total is calculated by the computer and shown on the screen. The first player to attain one hundred points is declared the winner. It is very cleanly done with nice graphics and exceptional logic by the computer. You need good concentration, advance planning, and some blind luck to do well. It is definitely fun and far cheaper than the famous old Saturday night poker game! I suppose that I should tell you that it is five card straight poker with just one wild pasteboard. You can't draw and you have to play them like you've got them! I played the game with a conservative friend of mine, and relieved him of his grocery money! It was wonderful fun! I think that you will like this one and it is priced right. Your cost on cassette is $8.50 in TI Basic. This price will change on June 1, 1983 to $12.50! Take a chance on this one, as it will bring out the gambler in you.

BASICALLY SPEAKING

Want to delete a disk program without having to slide the Disk Manager into the old GROM port? Just type: DELETE"DSK1.PROGRAM NAME" and enter. The drive hums a tune and the program is no more! No, it won't work with the RUN"DSK1.PROGRAM NAME" statement! That is X/Basic only.

MINI-MEMORY: A LITTLE RAM GOES A LONG WAYS

By, Barry Goodall

The Mini-Memory module-(MM henceforth)-is quite a nice addition to the 99/4A and is a very powerful tool for use in program development. It adds 4096 bytes of memory that you can use for TI basic programs or files, as well as for assembly language programs. It also adds 10,240 bytes of ROM/GROM memory which contains the programs that control the module, and subroutines that are added to TI basic.

The added subroutines include: INIT, LINK, LOAD, PEEK'S, and POKE'S. They make TI basic more powerful than Extended Basic! The MM can also be used to save basic files in either the 4K RAM of the module or in the Expansion RAM peripheral. All file handling is done faster than is possible on disk and much faster than on a cassette. Virtually in an instant! If this is not enough, the module actually remembers the programs, or data loaded into it, even when the console is powered down or the module is removed from the GROM port.

You machine code enthusiasts will like the fact that the MM contains an "Easy Bug Debugger". This allows you to modify CPU or VDP RAM, display GROM memory locations, modify CRU bits for input/output functions, execute your programs from starting address, or to save and load the MM from a cassette. It should be mentioned here that any serious attempt to program in assembler requires the Editor/Assembler manual! It is not supplied with the MM and is available from the group for $13.25. This manual tells it all "?", and more.

Included with the MM is a cassette with a line by line assembler and a nice demonstration program called "LINES". The MM and line by line assembler are more than just a little bit different to use than the Editor/Assembler in development of assembler programs. The Editor/Assembler source code-(listing of the program in mnemonic form)-is completely formed up via the editor and saved to disk. The assembler is then loaded and it reads the source code file from disk and compiles it into the object code which the CPU can then run. The line by line assembler uses the source code in mnemonic form, which you type in, and it is converted to object code as you key in the desired program. While the editing features of this mini-assembler are somewhat limited, it is still possible to create some dazzling little programs!

The next consideration we have is the amount of space available to create an assembler program. This applies after the cassette has been loaded into the MM. You enter the edit code by typing "NEW" and the screen will show the starting address of 7D00 and the current contents of that memory location. Out of the 4K byte range of addresses from 7000 to 7FFF, starting at 7D00, gives about 750 bytes of usable space. A lot can be done with 750 bytes and through imaginative programming and wise cassette usage the full 4K can be exploited.

There are three types of memory devices and addressing ranges to consider when working with assembly code. At first these can be most confusing! CPU memory is the portion of memory controlled and/or accessed directly by the TMS9900 CPU; and includes the console ROM, scratch pad memory, module ROM's, MM RAM, and Expansion RAM. VDP memory is the 16K memory in the console that is used for TI basic. VDP memory is not directly accessible by the TMS9900 CPU and assembly programs can not be executed from there. VDP memory is

controlled and accessed "only" by the TMS9918A Video Display Processor. The final memory type is GROM memory, which stands for graphics read only memory. GROM's are located in the console, and in command modules, and generally are accessed by the graphics programming language interpreter. The thing that adds to the confusion factor is that these memory types sometimes have the same range of addressing. Consider this: CPU memory range is from 0000 to FFFF, VDP memory range is from 0000 to 37FF, and GROM's are from 0000 to 17FF, 2000 to 37FF, and etc. You can see that the address may be the same, but the zip code is different!

HIGH SCORE ROUTINE: A HOW TO PROJECT

By, Bud Shapiro

Here is a subroutine for all you keyboard pounders and joystick jogglers that can be added to any game that has need for a score display. It will keep track of the score for up to five players, as well as video print the top five scores and players names. Here is how the subroutine goes in TI Basic:
10 CALL CLEAR 20 INPUT"YOUR NAME, PLEASE:":N$ 30 INPUT"SCORE":SC 40 GO SUB 5000
5000 CALL CLEAR 5010 PRINT :TAB(9);"BEST GAMES"::: 5020 FOR X=1 TO 5
5030 IF SC>THS(X) THEN 5060 5040 NEXT X 5050 GO TO 5120 5060 FOR Y=5 TO
X+1 STEP -1 5070 HS(Y)=HS(Y-1) 5080 BN$(Y)=BN$(Y-1) 5090 NEXT Y
5100 HS(X)=SC 5110 BN$(X)=N$ 5120 FOR J=1 TO 5 5130 IF HS(J)=0 THEN 5170
5140 PRINT J;BN$(J); 5150 PRINT TAB(20);HS(j) 5160 NEXT J 5170 PRINT
::::::: 5180 INPUT"PRESS ENTER WHEN READY":X$ 5190 RETURN
Here is the X/Basic version for those of you who desire it:
5000 CALL CLEAR 5010 DISPLAY AT(6,9):"BEST GAMES" 5020 FOR X=1 TO 5::
IF SC>THS(X) THEN 5040 5030 NEXT X:: GO TO 5050 5040 FOR Y=5 TO X+1 STEP -1::
HS(Y)=HS(Y-1):: BN$(Y)=BN$(Y-1):: NEXT Y:: HS(X)=SC:: BN$(X)=N$
5050 FOR J=1 TO 5:: IF HS(J)=0 THEN RETURN 5060 DISPLAY AT(J+7,2):
BN$(J):: DISPLAY AT(J+7,19):HS(J) 5070 NEXT J:: RETURN

Please note that lines 10-40 are used to check the program operation. When you add the routine to your program you may position the input statement of line 20 and the go sub of line 40 where you desire them. Have fun!

SPECTRAVISION JOYSTICK CONVERSION

By, Roger Harrison Jr.

Here is a clever way to modify the Spectravision Joystick 318-101 for use by your TI 99/4A. 1. Clip the wires from the TI joystick component board 2. Pull off the attached wires on the Spectravision joystick, the ones with crimped clips 3. Pass your TI joystick wire through the opening in the Spectravision container 4. Solder the wires to the Spectravison printed circuit board as shown below.

Green

Blue

white

Purple

Orange

black
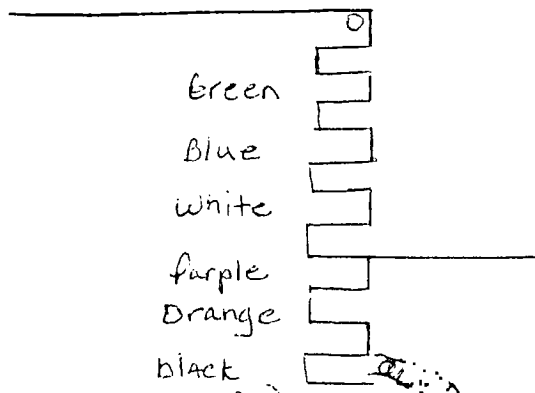
ATTENTION MI MEMBERS: IT'S MEETING TIME!

Our last meeting before the Summer break will be held on Sunday May 22, 1983 at 2:00 P.M. EDT at the Flint campus of the University of Michigan. It is in the Mott Memorial Bldg. in rooms 2005 and 2007.

I must apologize to those of you in attendance of the April meeting for my absence. My problem was not my appendix as feared, but a pulled groin muscle. My special thanks to Gary Teachout for handling things at the last moment! His task was not an easy one, but what are friends for!

Keith Moore will be holding his TI Basic instructional class, I will be giving a brief tutorial on Pascal, and we will be devoting a full hour to your questions. We also plan to demonstrate some new assembly language software, the Micro Soft Multi Plan, and perhaps the CC/40. If you haven't made it to a meeting this year, drag yourself out of that overstuffed chair and get with it! Our meetings won't resume until September, so if you miss this one...Hope to see you there!

VIRAL VENDETTA: SOMETIMES EVEN A DISEASE CAN BE FUN!

Here is a second effort by Robert Dickerson and Futura Software that merits your undivided attention! It is written in assembly code and has a minimum configuration of: Disk Controller, Disk Memory Drive, X /RAM, and either the Editor/Assembler or X/Basic modules. It is played with the keyboard and requires some "fast" finger actions.

You are a healthy antibody in the screen center and have the ability to shoot bursts of Interferon. On the left is a vertical column of healthy cells, all white and smiling. Well, one of them is wearing a black frown because he is already ill. On the right is the carrier cell with his deadly protein coated DNA virus . You have three antibodies for the game and you must do one of three things: heal your infected cells by hitting them with a shot of Interferon, block the shots of DNA the carrier cells fire at you and the healthy cells, or destroy the carrier cell by striking it with some potent Interferon. Sound easy? HA!!!

If you do destroy the carrier cell, you will get an extra antibody to play with, provided that all of your cells are healthy! You will lose your extra antibodies if all of the cells you are trying to protect become infected! You can select from difficulty levels from 0-9, with zero being the easiest. As the difficulty level increases the frequency of DNA being fired increases, the rate of mutated cell reproduction quickens, and the speed of the carrier multiplies.You use the arrow keys to move and any key on the right half of the keyboard to fire. Once you start moving left or right, you continue to move in that direction until you alter the motion!

The graphics are nice, although not spectacular, and the sound routines are very good. Most importantly, the play action is excellent! It is quite difficult, and a true test of being able to do three things at once! How did I do...I warmed up on level zero and then leaped confidently to the most difficult level. I limbered up my fingers, took a deep breath, and had at it. I managed a score of 4485 and my sighted compatriot waltzed in with a high score of 10! I think he hates me! My fingers were half dead on my left hand from keyboard fatigue and I shook for twenty minutes after the game! Exciting? If you like slow paced games stay away from this one, as it definitely honks! We gave it *** The retail price is $24.95 on diskette and your cost is $22.50. Nice documentation too! We think that you will like this one alot, we sure did. Can you beat my high score?

LIST SPEECH: IT AIN'T IN ANY MANUAL!

We discovered this unknown command on October 25, 1981 and promptly reported it to Texas Instruments the following day. It has appeared in only one place that I know of, and that was their January 1982 newsletter. I wrote the article so I recall it well! It is true that TI invented the command, although they didn't know it at the time. Is there some sort of shame in publishing it even though it was discovered by some one outside of Texas Instruments? I wonder...

You must have a Speech synthesizer and Terminal Emulator #2 to use the command. Suppose that you have some lines keyed into the console in TI Basic and wish to have them read back aloud. Simply type: LIST"SPEECH" and hit the enter key. The computer responds by reading all of the program lines one at a time. If you want to vary the lines being spoken, try the following: LIST"SPEECH":100 or LIST"SPEECH":100-200 or LIST"SPEECH":100-

It is a most beneficial tool for those who can not read a CRT, as it allows them to perform edit routines as well as study program lines. I am somewhat mystified by TI's lack of concern, as they have a ripe market out there! This computer is affordable to the handicapped and that is a major selling point for the corporate genious's to ponder. It is past time that TI printed some of the excellent routines developed by users, we all know their manuals could use them!

THE DRAGON GAME: THEY DON'T CALL HIM HOT LIPS FOR NOTH'IN

This game is a new release by Futura Software and is authored by Robert Dickerson. It is in assembly code and requires: Disk Controller, Disk Memory Drive, Expansion RAM, Editor/Assembler, and Joysticks.

The white dragon is flying over scenery that is two shades of green with a pretty blue sky overhead. You see a hot air balloon rising heavenward and position the dragon above it. Move the joystick left and drop an egg on the balloon to burst it. Sometimes a magic vial will appear and start to fall earthward, if so you have very little time to touch it with the dragon before it vanishes! Evil spells flash across the screen and those dragon eggs have no effect on them! Press the fire button and vaporize them with a two colored burst of red fire from the formidable dragon's mouth! Now if you get bumped by a balloon or hit by an evil spell, your immortal dragon becomes mortal and goes to that great place in the sky! Rest easy, as you get three of these dragons to play with.

Time and magic are both shown on the screen, and both are limited! You must have magical power to shoot flames and move to the right, otherwise it is just eggs for defense. You must touch a magic vial to increase your magic and must fly through a time tunnel to increase playing time. Once in a while a black time tunnel will wink onto the screen and you must try to navigate your dragon through it. Watch out for those evil spells, as they protect the entrance to a time tunnel! You must also avoid the walls of the tunnel as you try to fly through it. It is fast, exciting, very colorful, and difficult! Graphics are "INTELEVISION" quality! You score one point for each balloon your egg smashes to death and twenty-five points for each evil curse you rid the world of. SUPER FUN!!! It retails for $24.95 and your cost is $22.50 on diskette. Our compliments to Futura and R.H. Dickerson! We rated it ****

GETCHA!: WHAT DO YOU MEAN I'M OUT OF AMMO?

Here is perhaps the best game we have come across in X/Basic yet! It is written by Ron Binkowski and is by Futura Software. It requires X/Basic, a cassette recorder, and optional joysticks.

You are the starship Enterprise-(the program does not give the ship a name, but the graphics leave no doubt what craft it is)-caught in the middle of ten Getcha bases. Not only are you out numbered, but you also have no weapons to defend yourself with! Talk about a cozy mess! One of the Getcha bases will fire a sapien seeking missile at you and you have got to figure out how to out smart it. I suppose that I should mention that these missiles automatically track you down! Friendly!

There are portals on the left and right side of the screen which you can escape through, if you maneuver carefully! Touch the screen boundry or hit the portal wrong and you go up in space vapors! The portals perform a screen wrap. The last hope is to try to trick the missile into hitting a Getcha base instead of your space craft. If you can do this you will earn a point. The game is generous, as it gives you nine chances to score and if the tenth try fails...

We noted that the more bases you do destroy, the faster the missiles will pursue you! The game screen is gray and the myriads of stars are white. The Getcha's are red, missiles are a light red, the Enterprise is white, and the border is magenta. Very colorful with excellent graphics!!! You can use joystick #1 or the console keyboard for play. These missiles definitely think as they track you across the screen and getting away from them is no small feat! Some very tight maneuvers are needed if you are to survive at all. It is one of the most logical games we have seen yet and plays very well. Ever heard an alien missile laugh? I think I did when I played this game! I was just another nameless soul who was a casuality in deep space. We gave this one **** The retail price is $19.95 and your member price is $17.50 on cassette. If this game leaves you wanting, you are more than hard to please. My compliments to Ron Binkowski for this astronomical effort!

NEW HARDWARE NOT ON YOUR PRICE LIST!

1. Panasonic Impact Printer: Model KX-P1090 (parallel) It offers such features as: 9 pin dot matrix impact, 96 characters per second in standard print mode, print pitch from 6 cpi to 16.5 cpi, graphics capability, bidirectional, weight of 11 pounds, Centronics style 8 bit parallel, fully Epson compatable, with a price of $435.
2. Signalman Mark #3 Modem: features include direct connect, built-in interface cable and connector, internal 9V battery-or optional AC adapter, audio carrier detect signal, automatic originate/answer mode selection, data/voice switch, Bell 103 compatible, and low battery indicator. Your cost is a mere $98.50!
3. Microtek Computer Products: 64K RAM Peripheral Card for Texas Instruments 99/4A. No details released yet, but these guys built the boards for Apple and Radio Shack. Retail is $299.95 and your cost will be $220! They also are building an RS/232 peripheral for the 99/4A, no price or details yet.

PRINT FONT FUN: PICK A PITCH, ANY PITCH

Here is a little program that allows you to experiment with different print fonts without having to key in several test programs. It is useful for those times when you just can't make up your mind which print style looks best! It is shown here in TI Basic, but X/Basic works just as well.
10 CALL CLEAR 20 PRINT TAB(4);"WHAT IS THE BAUD RATE?"::: 30 INPUT BAUD
40 OPEN#1:"RS232.BA=BAUD" 50 PRINT TAB(3);"WHAT IS THE ESCAPE CODE?":::
60 INPUT ESC 70 PRINT TAB(4);"FIRST CHARACTER CODE?"::: 80 INPUT CHR
90 PRINT TAB(4);"SECOND CHARACTER CODE?"::: 100 INPUT CHR2 110 PRINT
TAB(5);"ENTER THE TEST TEXT!"::: 120 INPUT TEXT$ 130 PRINT#1:CHR$(ESC);
CHR$(CHR);CHR$(ESC);CHR$(CHR2) 130 PRINT#1:TEXT$ 140 FOR SPACE=1 TO 3
150 PRINT#1:" " 160 NEXT SPACE 170 CALL CLEAR 180 GO TO 50

NEW DESCRIPTIVE PRICE LIST IS PRICELESS!

Our new thirty-eight page price list is available for a cost of $3.50 per copy. It contains all of the TI hardware/software, as well as Third Party hardware/software. Better yet, there are descriptions of system requirements, product rating, and performance descriptions for most products. The cost of printing and mailing this document make it impossible for us to give it away, so reach deep for a few bucks and get yourself a copy. It will be money well spent!

DOES MERGE MOSTLY MESS YOUR MIND UP?

It appears that the merge command tends to confuse users, so we will take a brief glance at it here in the hopes of removing some of the anxiety.
Here is a sample program to key into the computer in X/Basic.
10 CALL CLEAR:: FOR A=1 TO 16:: CALL SCREEN(A) 20 FOR B=1 TO 200::
NEXT B:: NEXT A Now save this to disk as follows: SAVE DSK1.TEST,MERGE
Next clear the memory by typing "NEW" and hit the enter key. Here is the
second program to be keyed in. · 30 FOR C=200 TO 400 STEP 10::
CALL SOUND(100,C,1):: NEXT C Now we are going to combine both programs
into a single program. Type the following: MERGE DSK1.TEST and hit the
enter key. If you list the program you will see both programs combined into
one. You must now save the program in memory to diskette or it will be
lost! Remember that if you use identical line numbers in the programs, such
as both programs have a line 10, one line will be destroyed! Merge is an
X/Basic command and will not operate in basic!

COMPUTER MATH GAMES #6: SOME BRAT TEASERS!

This is an Addison-Wesley module and is great for children from grades four through nine. It combines colorful graphics with enjoyable math games to grind home the old drill and practice routines. It contains four different games that can be played by one or more youngsters. I personally recommend two players, as the motivational curve seems higher. Simply put, the little yucks compete against each other!
Math Baseball, for instance, pits the blue team against the green team. The child has to solve the problem shown, the larger the answer the greater the hit! A correct answer can yield: an out, a single, a double, a three bagger, or a home run. A wrong answer is just another strike out! Naturally, three outs and you go to the showers! If you do get a hit the base runners leap into animation and streak around the bases. The game may be played from

one to five innings. High score wins the root beer and dogs! Mother supplies
the food, not the module.

You could play Around The School Yard, if sports bore you. The
screen shows a school house in the center and around it are various points
of interest: sand box, hop scotch court, and etc. The child tries to deduce
the answer to a math problem and enter the right response. If, and only if,
the correct answer is shown in the next area he can move to, he advances! The
first player to make it to the swing set is declared the winner.

The problems offer practice with addition, subtraction, multiplication,
and division and use whole numbers, integers, and decimals. Nice colorful
graphic displays, good sound, and plenty of stimuli to hold a child's
attention. I was impressed by it and gave it **** Your cost is $31.50

SUPER SPECIAL FOR THE MONTH

We have a brand new External Disk Memory Drive and a brand new Disk
Controller Peripheral for sale to the first lucky person who drops us a
valid piece of paper! The retail on these items is $799.90! Your price for
this package is $400!!! This is the "old style" Disk Controller and does
not require the new Peripheral Expansion Cabinet! An incredible buy!

MAGIC MODULE DRAWING WINNER!

We fired our trusty computer up, loaded the random number generator
program in, typed "RUN" and waited. When the smoke cleared Brad Dawson
of Arizona came up on the screen! Brad, you just won yourself a free copy
of Hustle! Let us know if you want the module or the wholesale value in
cash! Our congratulations Brad!!!

BE HONEST, HAVE YOU CONTRIBUTED LATELY?

We would like to hear from you with your tips, techniques, and articles.
We are looking for knowable persons to write on such subjects as Assembly
Language, Pascal, Forth, and etc. If you have anything that you think is
helpful to other users, send it to us! Get off your butt and put a few
but's in the newsletter.

CLOSED CIRCUIT FOR OUR FELLOW USER GROUPS!

We have observed that some of you are reprinting our newsletter "without"
our permission. Notably the Valley 99'ers and the Cincinatti/Dayton Area
user group. It is not ethical to borrow articles without giving credit to
the source and the author! Our publication is copyrighted and we do not
mind reprints if permission is obtained, so please ask.

HAVE A GREAT SUMMER!

Duane B. Fischer, President
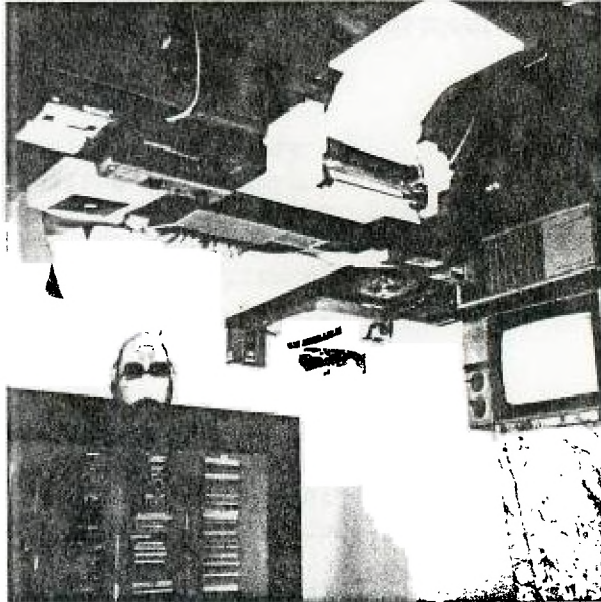
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DUANE B. FISCHER, PRESIDENT
5028 MERIT DR.
FLINT, MI 48506

EDMONTON USERS GROUP
P.O. BOX 11983
EDMONTON,
ALBERTA CANADA T5J 3L1