ROCKY MOUNTAIN 99ERS

TI99- 4A

USERS GROUP

DENVER, COLORADO

FEBRUARY 1988

MONTHLY MEETINGS WITH DEMOS

MONTHLY NEWSLETTERS

PROGRAMMING SUPPORT

SPECIAL SIG GROUPS

HARDWARE AND SOFTWARE SUPPORT

LARGE PROGRAM LIBRARY

24 HOUR BBS WITH LOTS OF DOWNLOADS

PLUS MANY MEMBERS WILLING TO HELP

color monitor
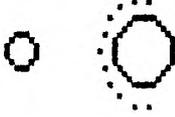
THE TI99- 4A IS GOING TO

HAVE ITS BEST YEAR YET ! !

THANKS TO THOSE WHO CARE

TABLE OF CONTENTS:

ARTICLE SUBMISSIONS:

Articles for the newsletter are always accepted with an open heart. Please help support your newsletter. Send articles to:

Mark Payne
8248 Pearl Street
Thornton, Colo. 80229

Articles covering all aspects of the TI-99/4A are accepted. **BE A CONTRIBUTOR!**

The Rocky Mountain 99er's meet the second Tuesday of every month. They meet at 2005 South Milwaukee, in Denver Colorado, at 7:00 p.m.

For more info contact: (303)289-7667, ask for Mark.
24 hour BBS number:(303)288-3692
over 2400 sectors of downloads. PCP Area!

==

APPLICATION FOR MEMBERSHIP OR RENEWAL

Below you will find an application for membership to the RM99er's Users Group. Active membership entitles you to Tic-Talk, up and download on TIK BBS, attendance and voting rights at regular club meetings, access to the RM99er's Library of Programs, special club activities, and special guest speakers for one year. Subscribing members will receive the Newsletter only. BBS members will receive priveleges on the Bulletin Board only. Make check or money order payable to Rocky Mountain 99er's. Send completed application to:

ROCKY MOUNTAIN 99ER'S USERS GROUP
8248 PEARL STREET
THORNTON, COLORADO

,,

Check one:

Active Member: $24   ____

Subscribing Member: $7.50   ____

BBS Member: $12   ____

Name:_____Today's Date:_____

Address:_____Apt#:_____

City:_____State:_____Zip:_____

Phone:(_____)_____-_____Renewal: Yes or No
(circle one)

,,

C
O
R
N
E
R

Are you running out of disk space? Do you have files that you don't seem to ever look at, but you don't want to throw away or load something on top of the file on the disk?

If you have used Barry Traver's ARCHIVER II, ver 2.11 utility program, (or other earlier versions), you know that you can save a few sectors here and there, but it seems as though you are always at least 1 to three sectors short of having enough to put that program you want on the disk you want.

Barry Boone has revised the ARCHIVER II program, written by Barry Traver, and also added a "squeezer" utility to the program to come up with something that you might find very handy. He calls it ARCHIVER 2.3. It is written in straight assembly, not compiled, and has an Extended Basic loader and has a very short document file.

I had a disk with 13 files on it, 353 sectors, Dis/Var 80, Dis/Fix 80, and program files. By using the Archiver portion of the program I reduced the sectors to 340. When I "sqeezed" the files with the utility, I reduced the sectors to 185. I thought that was quite impressive. You might say that with a little work you can have the equivilent of a DDSD disk on a SSSD disk, and have the capability of reaching all of the files on a SSSD disk. A word of caution though, It does take a small amount of time to manipulate the files with this utility.

Barry Boone has indicated that version 3.0 will be out very shortly. However, I don't think that I would wait for the latest version. I will be using version 2.3 and when the new one comes out then I'll get that too.

Mr Boone is asking $ 10.00 to $ 15.00 for the program.

Funds maybe sent to the following address;

Barry Boone
P.O. Box 1233
Sand Springs OK 74063

This program is well worth the requested amount, and should be in every ones personal library.

NOTE: This is not the total answer though. In my travels around the download sections of Bulletin Boards I have found that some "squeesed" programs have been done with a FORTRAN utility. However, most (about 98%) of the files that I have seen can be used with this program

Currently a movement is on to standardize the coding of Archived and/or squeezed files. More on this at a future time as it evolves.

Until next time Have fun !! Ed Howard

EDITOR COMMENTARY

STOP   STOP

This month's newsletter has a little for all. It seems that a lot of good things come around this time of year. People must not do much in the way of winter sports. They just seem to create new goodies for this little orphan. This is one orphan that got a good place in life. Unlike some of the other orphans of the world, this machine is catered to,spoiled,let have the run of the house, and has made many a spouse wonder when is this little guy going to pass on to the beyond. Believe me they never thought they would become foster parents to the 99/4A. They say most people do not stop playing with toys, but they just get bigger ones that cost more. Some spouses just cannot understand why we show so much affection for it. I dearly believe they are plotting against us. Some how some where they are having private meetings, planning ways to have our friends, buddies, etc. to try and convince us users that we would be better off buying a "IBM","APPLE","CLONE","ATARI", "ETC". They feel if they get us to sell the 99/4A ,and buy one of those other machines, that we will not be able to afford software for it and hence, spend less time doing what we do. This is kind of like telling your best friend to amscray and invite your mother-in- law to move in. Kind of gives you an uneasy feeling huh? Well look at the bright side of it, the 99/4A can not cook! I do feel that some of these people were convinced and now need our help. If you run across an ex-TI 99/4A user, do not look down on him. I'm sure he is the victim of TOCS,(the other computer syndrome). Please treat this fellow with all respect, as he does not understand what he has lost. Only with extensive counseling may he be brought back into reality. It is all up to you. Do we continue to loose good users to this TOCS or do we band together to fight it. Those of you out there who are still developing new software and hardware please keep it up!!!!! It is the best form of therapy you can give.

The above comments are those of the Editor, and do not reflect how the rest of the group feels. But it does give one something to think about.

. We will have a great meeting this month and I do hope all can attend. We will conduct a very short business meeting and then go directly into DEMOS. We have something good instore for you.

See you all at the meeting!!!!!!!

Mark Payne President RM99ERS

STOP   **The March Demo will**   STOP

STOP   **be on PRBase.**   STOP

Creation Mode

```
                       FUNNELWEB V4.0     MENU FLOW CHART
                FCTN 7 (AID) from any of these meinus gives a disk directory.

           <------------------1 TI-Writer : A ..
           ¦                 <-2 Edit/Assm : B ..
           ¦                 ¦  3 XB-Return : C ..
           ¦                 ¦  4 ..        : D ..
           ¦                 ¦  5 MYARC DM  : E ..
           ¦                 ¦  6 TI-FORTH  : F ..
           ¦                 ¦  7 ..        : G ..
           ¦                 ¦  8 ..        : H ..
           ¦                 ¦  9 ..        : I CONFIGURE (needs CONFIG)
           ¦                 ¦  (XB first menu USER LIST. This boots from DSK1.LOAD.
           ¦                 ¦  Items 4-I can be customized with CONFIG to load any
           ¦                 ¦  XB, PROGRAM Image. or D/F80 software.)
           ¦                 >----------------->
           ¦                                   ¦
           v                                   ¦
   1 EDITOR    (needs files ED/EE)     1 EDITOR      (needs files ED/EE)
   2 FORMATTER (needs files FO/FP)     2 ASSEMBLER   (needs files AS/AT)
   3 DM1000    (needs files MG/MH)    _3 LOADERS
   4 MODEM     (loads user file MD)   ¦ 4 c-Compiler (needs file CO and
   5 DATABASE  (loads user file DB)   ¦    renamed c99 files)
   6 UTILITY   (customized with CONFIG. ¦ 5 DISK PATCH (needs file DP)
      boots any assembly language file) ¦ 6 UTILITY     (customized with CONFIG.
  _7 USER LIST (needs file UL)         ¦    boots any assembly language file)
  ¦ (TI-Writer CENTRAL MENU. This boots ¦ 7 RESET/QUIT
  ¦ directly after loading file UTIL1.) ¦ (Edit/Assm CENTRAL MENU; alternates
  v                                    ¦ with TI-Writer CENTRAL MENU with the
  1 ..                                 ¦ press of any non-number key.)
  2 ..                                 ¦
  3 ..                                 ¦
  4 ..                                 ¦
  5 MYARC DM                           ¦
  6 NEXT UL   (needs UM, a recustomized ¦
              renamed duplicate of UL)  ¦
  7 CASSETTE (loads an EA PROGRAM file  ¦
              from CS1)                 ¦
  8 CONFIGURE (needs CONFIG)            ¦
  9 CARTRIDGE ROM                       ¦
  (User List CENTRAL MENU. Loads from   ¦
   #7 of TI-Writer CENTRAL MENU. Items  ¦
   1-8 can be customized with CONFIG to ¦
   boot any PROGRAM Image or D/F80 files.)¦
                                         ¦
  ----------------------------------------v
  v
  1 TEXT MODE (TWr) (loads PROGRAM files normally loaded from TWr #3)
  2 GPL ENVIRONMENT (loads PROGRAM files that otherwise use E/A #5)
  3 PROGRAM (E/A)   (loads PROGRAM files that are images of E/A #3 object code)
  4 LOAD/RUN (E/A)  (loads D/F80 object files that otherwise use #3 of EA module)
  5 SCRIPTLOADER    (loads predefined sequence of D/F80 files, needs file SL)
  6 LOW-MEM LOADER  (loads D/F80 object files into low memory, needs file LL)
  7 L&R ALL-MEM     (loads autostarting D/F80 object files into memory anywhere)
  8 (Not shown on screen. Cancels autostart of autostarting D/F80 object files)
  (LOADER menu. Loads from #3 of Edit/Assm central menu and requires file EA)
```

FUNNELWEB V4.0   CONFIGURE FLOW CHART


```
__1 Continue Normally  (Use this the first time you run CONFIG.)
--+-2 Redo User Lists    (Use to alter and/or add to already configured XB
 | |                      and/or central menu User Lists.)
 | | 3 Redo Configuration
 | | 4 Back to FWB Vn 4.0
 | | (First and last CONFIG menu)
 |  \
 |  v
 | "Boot drive tracking on? (Y/N)"
 | __Y.. FWb expects all its own files and the user files accessed directly
 |  |       from central menus to be in the boot drive or in DSK1.
 |  | N.. Overrides boot drive tracking, allows specifying specific drives
 |  |  |     for TIW and Edit/Assm central menu files. Particularly useful
 |  |  |     with ramdisks or with multiple floppy drives.
 |  |  v
 |  | "Fixed drive # (TI-Wr) DSK_"   Enter a single digit drive number.
 |  \ "Fixed drive # (Ed-As) DSK_"   Enter a single digit drive number. This
 |   | |                                is the SECONDARY DRIVE number.
 |   v v
 | "Utility drive default? DSK_.UTIL!" Enter a single digit number that will be
 |   |       the default number displayed when LF/SF is first used in the editor.
 |   |
 |   v
 | "Editor printer device"  Enter PIO, or whatever your printer name is.
 | "Format printer device"  Enter your printer name followed by ".LF" or, for
 |   |                       some printers by ".CR".
 |   v
 | "Workfile name default"  If you enter something here, the name will appear
 |   | after "DSKx." the first time you LF or SF from the editor after booting
 |   | FWb. If you leave this blank, as I do, then you can exit FWb, do
 |   | something else with the computer, then reboot FWb and usually find the
 |   | old file name still in the mail box.
 |   v
 | "Edit Utility Choice #6"   Type in the screen display name of an assembly
 | "Edit Opt #6 filename"     language PROGRAM user file you want to be able
 |   | to boot from a central menu. Then enter a 2 character name for this file.
 |   | Repeat the process for the other central menu. These user files must
 |   | be on the same disk as the other files accessed by the displayed TI-Wr
 |   | or Ed-As central menu.
 |   v
 | "Color choice selection" Colors and their hex values are displayed. Ten
 |  ^ foreground/background combinations are shown with the first being the
 |  | combination showing at powerup. The other 9 can be cycled through by
 |  | pressing zero from most FWb menus. Edit the color combinations, or press
 |  | ENTER to cycle though all ten without editing. You then get this
 |  | menu:
 |  |   |
 |  | 1 Cycle Colors (Press 1 repeatedly to see each color combination)
 |  |_2 Select Again (Re-edit the colors you just entered)
 |  |_3 Original Set (Re-edit the colors originally present on the FWb disk)
 |  |  4 Next Screen
 |  |   |
 v  v
GOTO NEXT
  PAGE
    v
```

```
        !
        v
"Do you wish to edit the central menu screen UL before saving UTIL1? Y/N"
   Y..You get a display of screen and file data for the first 8 items in the
   ^      central menu User List. Press N(ext) and B(ack) to cycle through
   !      these 8 items. Press E(dit) to enter data or change data of the
   !      displayed UL item. Editing screen prompts are identical to those
   !      shown below for XB User List editing beginning with "Edit file name
   !      for loader." When you have finished editing all the items you wish to
   !      edit, press S(ave).
   !        !
   !      "Save data to DSKx.UL" Enter a drive number and change "UL" to UM, UN,
   !             etc. if you are CONFIGuring more than one User List. Then press
   !<----------ENTER. If you wish to CONFIGure more user lists, answer Y to
                option to (again) edit the central menu UL. Otherwise answer N
                and continue with the XB User List part of CONFIG.


   N..(You don't want to CONFIGure any more central menu user lists.)
   v
"Do you wish to edit the XB LOAD program UList before saving UTIL1? Y/N"
   Y..Follow screen prompt and load LOAD. You then see the XB User List first
          menu with the cursor on choice #4.
          v
     ---->Choices 4 through I must be cycled through before leaving XB UL con-
     !    figuring portion of CONFIG. Type in what you want the menu to display
     !    for each item, then press ENTER. Or, to rapidly cycle through the SB
     !    UL menu, just press ENTER if you like what you see displayed. ENTER
     !    can be used instead of any called for screen prompt in XB UL config-
     !    uration. Not finished with cycle:          Finished with Cycle:__
     !         .         !                                                    !
     !    1 XBasic Program----v(User file is XBasic.)                         !
     !    2 Assembly Loaders->!(For assembly language user file.)             !
     !<--3 Return to XBasic  v(Causes this XB UL item, when pressed, to im-   !
     !                       !mediately return to XBasic, as does UL item #3) !
     !                       !(Returns you to the XB first menu UL display so !
     !                       !you can edit the next UL item.)                 !
     !                       !                                                !
     !<--4 Leave Unaltered   !(Returns you to the XB first menu UL display so !
     !                       !you can edit the next UL item.)                 !
     !                       v                                                !
     !       "Edit file name for loader" Enter a file name including a drive  !
     !         !              v           number in the form DSKx.FILENAME.   !
     !<------If XB program:  If assembly file:                                !
     !                       !                                                !
     !          ___1 Memory Image Program (Assembly language file that lists as !
     !          !            PROGRAM in a disk directory)                     !
     !          ! 2 Tagged Object Code_  (A single D/F80 assembly file)       !
     !          ! 3 Script Load File   ! (A sequence of D/F80 files)          !
     !          !   ------------------!                                       !
     !          !   !                                                         !
     !          !  _1 No special conditions (This is what you usually choose) !
     !      !-+--+-2 Load low memory first                                    !
     ^      v v !_3 Autostart - E/A LFMH                                      !
   FROM    GOTO !_4 Intercept autostart                             GOTO
   LAST    NEXT                                                     NEXT
   PAGE    PAGE                                                     PAGE
```

```
    GOTO      | |____
 PREVIOUS     |       v
   PAGE       |       _1 Text Mode (TI-Wr)   (Usually loads from #3 of TIW
     ^        |       |                           module.)
     |        |       |-2 GPL Environment    (The usual choice for most EA5 files)
     |        |       |-3 E/A Program file
     |        v       v
     |      "Boot tracking off (Y/N)" Y prevents the boot drive number from
     |             | overwriting the drive number you specified as part of the
     |             | file name.
     |             v
     |      "Secondary Disk (Y/N)" This is the drive # specified near the
     |             | beginning of CONFIG for the Ed-As central menu if you turned
     |             | off boot drive tracking. If this number is different than
     |             | the boot drive nember and if you answer Y to this question
     |             | then FWb will look for the user file in the secondary drive.
     |             v
     |        "Provide reminder (Y/N)" If the user file is not on the same disk
     |             as the rest of your FWb files then answer Y. FWb will stop
     |             when the user file is selected from a User List and the
     |             message "Insert Utility Disk in Drive x" will be displayed.
     |<----------The x is the secondary drive number.


   N..(You don't want to edit XB User List)
     |
     v
   __"Select F'WB File Name" (Press 1 or 2 for the correct name
   |   1 UTIL1               of the reboot file. FWb originally
   |   2 RELOAD              comes configured as UTIL1.)
   |
   |        ---------------------------------------------------------v
   v        v
"Save file to drive #?" Select a single digit number and/or press ENTER.
         v
"Press 1 to save configuration" You may also redo your configuration by
         |                       pressing 2 or 3, or return to FWb with 4.
         v
"Configuration saved" You are now returned to the first CONFIG menu at the
                      start of this flow chart.
```

THE MULTIPLE DRIVE CONNECTION

by: Bud Wright

This project is for anyone interested in adding more than the maximum drives of 4 to your TI-99/4A. If you have never built any electronic projects before, please get some help first. I will not be responsible for any problem that encures from trying this project. What I'am saying is: "if you whuff your disk controller and/or system, don't blame me!". Make sure you have all the schematics for the disk controller and console before continuing, and double check all connections before applying power to any part of this project. If you have doubts, get some help!!!

I am running this project on my BBS, it allows access to six ds/dd drives or what I call "sub boards". To see it in action call: TIABS 614-442-1852 3/12/2400 baud 8-1-N 24hrs a day, seven days a week.

PARTS NEEDED:
1ea.	1N4004 diode or equiv.
1ea.	DPDT 12V Relay
1ea.	9 pin connector female (cassette port)
1ea.	12V power supply (I use 12V from external drives).

NOTE: You can use a 5V relay in place of the 12V relay, but make sure your power supply is 5V also! The relay can be a small pc mount type (very low current is being used through the relay contacts).

Below is a schematic drawing that has to be wired up to your system and disk controller cabling. I recommend mounting the relay on perf board and enclosing the board in some type of box. Keep all connections isolated from touching any part of the computer or any other connection!

```
   cassette port
   --------------                  +------+
                                    relay
   1  ->---------------------o--o       o--o---- 12 volt supply
   2  ->-+
                               +------+
   3  ->-+
                                     \
       jumper pins       +---- >---+
       2 and 3                /

                         diode
   pin 3 system ground
```

```
disk controller port
     (external)                          o----line 6 bank1
-------------------                     /
                                       /
 6 ->-drive select 4----------o   o----line 6 bank2

                             contact #1


                             o----line 14 bank1
                            /
                           /
14 ->-drive select 3----------o   o----line 14 bank2
```
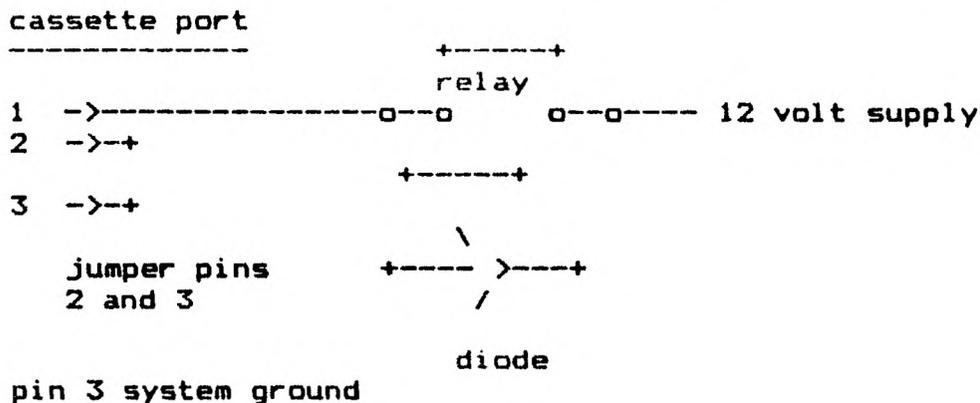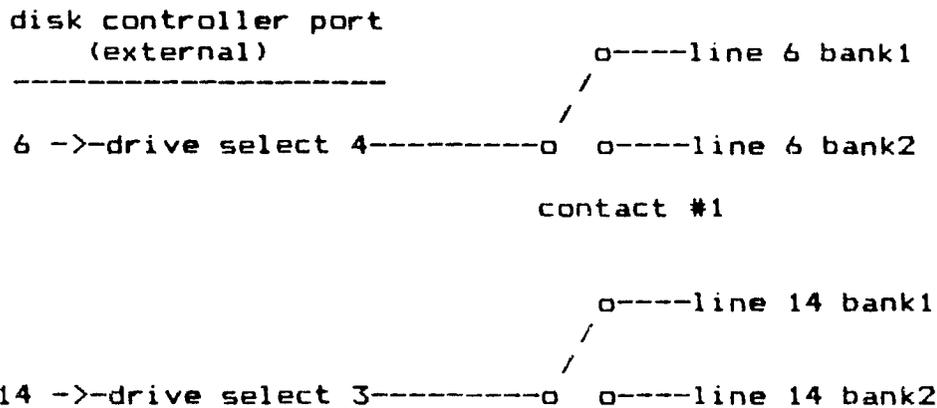
    First, we will go over the cassette connections. By looking at the console
schematics you will see that pin 1 of the cassette port is the collector of a
NPN transistor and pin 2 is the emitter of the same transistor. By jumpering
pin 2 to 3, you are making the emitter ground potential. IMPORTANT.. if you use
a separate power supply other than the external +12v from the disk drives, the
grounds must be common with each other. Solder a wire from your power supply
ground to pin 3 of the cassette port! This will provide a common ground for the
console and your external power supply. If you use the external drive +12v, then
ground will be provided thru the drive cables and you don't have to solder
ground to pin 3.

    The default operation of the relay will be energised. Resetting to the
title screen turns the NPN transistor on, which in turn energises the 12v
relay. To operate the relay through software you will need this small routine
in assembly. I use a CALL LINK from Basic, routine below:

```
MREG    BSS 32
        DEF BANK1
BANK1   LWPI MREG
        CLR R12
        SBO 22
OVER    LWPI >83E0
        B >006A

        DEF BANK2
BANK2   LWPI MREG
        CLR R12
        SBZ 22
        B OVER
```

    By doing the link the relay will stay in that state until it is turn on/off
with the sister routine. This is the only way (I know of) you can access the
cassette motor drive circuit in the console.

    Ok now let's look at the connections to the drive cables. Break line 6 and
14 off of the cable coming out of the external drive port. Make sure there is
no connection between these lines and the drives. Take the end closest to the
drive controller port and attach these two wires to the common poles of the
DPDT relay. Next open the lines (6 and 14) going to the two sets of drives 3
and 4. Make sure there is no connection between lines 6 and 14, there will be
four breaks you will have to make, two on each drive bank set. Connect wires
closest to drives to the normally open and normally closed contacts on the
relay. Well that's it, if I explained everything that needs to be explained,
you should now have six functional drives!

LET'S TALK RAM DISKS PART III
BY JOHN F. WILLFORTH

LAST MONTH I TALKED ABOUT THE HORIZON RAM DISK (HRD), AND IT MAKES SENSE THAT WE CONTINUE THIS MONTH WITH THE MAJOR ENHANCEMENTS OF THIS UNIT, THE 256K (976 SECTOR) VERSION BY EDWARD A. HALLET, AND THE 1-MEG. (4088 SECTORS) VERSION BY MIKE A. BALLMANN AND MARKETED BY BUD MILLS SERVICES AS A KIT IN VARIOUS SIZES. SEE DETAILS BELOW.

THE 256K. ENHANCEMENT DESIGNED BY EDWARD A. HALLET, ADDED 64K. OF 8K STATIC RAM TO THE EXISTING DSSD HRD FROM HORIZON. THIS WAS EQUAL TO 256 SECTORS FOR A 35.5 % ADD-ITION. AT THE TIME THIS WAS A WELCOME IMPROVEMENT BECAUSE THE FULL BLOWN HRD WAS PRE-CISELY THE SAME AS THE MAJORITY OF THE DISK CONFIGURATIONS IN PEB UNITS. THIS MEANT THAT YOU COULD STORE AN ENTIRE DSSD (720K.) DISKETTE (THE MAX. FOR THE TI CONTROLLER), ON A SINGLE DSSD HRD. THIS WAS FINE AS LONG AS YOU WERE NOT USING THE HRD AS A MEDIA TO DO MULTIPLE COPIES OF A DSSD DISKETTE, OR WHEN ALL THE UTILITIES AND YOUR "PET" PROGRAMS WERE JUST TOO LARGE FOR THE HRD. THE ADDITIONAL MEMORY WAS NEARLY THE SIZE OF A STANDARD 90K. DRIVE AND THEREFORE WAS A VERY WELCOME ENHANCEMENT. SOME OF THE MORE COMMON PROGRAMS THAT WOULD OCCUPY THIS SPACE, WERE THE MENU, BY JOHN A. JOHNSON, DM-1000, AND MANY MORE, THESE WHEN ON THE HRD ENHANCED, WOULD STILL ALLOW THE SPACE TO MOVE AN ENTIRE DSSD DISKETTE TO AND FROM THE HRD AND NOT DISTURB THESE PROGRAMS.

THE INFORMATION ON THIS UPGRADE IS AVAILABLE FROM EDWARD A. HALLET, 5600 S. COUNTRY-CLUB #64, TUCSON, AZ 85706 [(602) 889-6930], OR AS A KIT W/INSTRUCTIONS FROM BUD MILLS SERVICES, 166 DARTMOUTH DRIVE, TOLEDO, OH 43614 FOR $30. (UPGRADE ONLY). BE SURE TO SEND EDWARD SOMETHING FOR HIS TROUBLE AND POSTAGE.

THE HRD, HRD ENHANCED, AND HRD+ CONSTITUTE PROBABLY THE LARGEST RANGE OF VARIOUS DISK SIZES IN THE ENTIRE MICRO-COMPUTER INDUSTRY. THERE ARE NOW "EIGHT" DIFFERENT SIZES TO CHOOSE FROM, AND IF YOU COUNT USING THE VER. 4 FROM HORIZON AND THE ROS FROM MIKE BALLMANN AND JOHN JOHNSON, THERE ARE ACTUALLY "ELEVEN" DIFFERENT SIZES. THE SMALLEST IS 90K (360 SECTORS) ALL THE WAY UP TO THE 1-MEG. HRD+, AND NEARLY EVERY USEABLE SIZE BE-TWEEN (180K, 250K, 360K, 512K, 800K, 800K + BOOT DISK).AS YOU MIGHT EXPECT, A SPECIAL FORMATTER IS NEEDED TO HANDLE ALL THE VARIOUS SIZES AND INITIALIZE THEM RELIABLY, AND THIS IS AVAILABLE IN THE CONFIGURE PROGRAM BY JOHN JOHNSON, WHICH ALLOWS INITIALIZING ALL OR ANY PARTS OF THE ABOVE HRDS. MORE ON THIS AND THE MENU PROGRAM AT ANOTHER TIME AND IN ANOTHER ARTICLE. THESE ARE OFFERED AS PUBLIC DOMAIN PROGRAMS.

ON 1/16/88 BUD MILLS SERVICES COMPLETED THE PURCHASE OF THE HORIZON RAM DISK FROM RON GRIES AND DAVE ROMER. I'M NOT SURE OF THEIR CURRENT ARRANGEMENTS, BUT IT WOULD AP-PEAR THAT ORDERS FOR THE BARE BOARD AND I RECOMMEND MOST IF NOT ALL THE PARTS, CONTACT BUD MILLS SERVICES AT THE ADDRESS ABOVE. THE 90K DRIVE KIT SELLS FOR $140. AND THE ONE MEG. KIT SELLS FOR $435. (INC. S/H). OTHERS ARE PROPORTIONATELY PRICED.

ALL HRD'S ARE CONSTRUCTED ON THE HORIZON RAM DISK BOARD USING 62256LP'S(OR EQUIV.) AS OF THIS DATE. THE 6264'S (8K CHIPS) ARE NO LONGER USED. THE COST PER KILOBYTE OF RAM HAS BEEN REDUCED, AS WELL AS THE PHYSICAL CHIP COUNT AND THUS CAPACITY OF THE BOARD IMPROVED.

THE ROS (OPERATING SYSTEM) ALLOWS A SINGLE RAM DISK AT A CRU ADDRESS (SAY >1000) TO BE DEVIDED INTO TEN LOGICAL DRIVES IF DESIRED, OR INTO AS LITTLE A ONE WITH A SIZE FROM AS LITTLE AS AROUND 30 SECTORS UP TO 4088 SECTORS ON THE 1-MEG. VERSION IF YOU CAN FIND ENOUGH LARGE FILES TO USE IT ALL. TWO OF THESE CAN BE CALLED DSKN.(1-9)AND ANY OF THE REMAINING WILL RESPOND TO DSK(NAME)., THE DISK NUMBER CAN BE CHANGED WITH A CALL FROM BASIC. THE FLEXABILITY IN THIS AREA EXCEEDS THE SPACE I CAN TAKE HERE, BUT BRIEFLY YOU CAN WRITE PROTECT DRIVES, AUTO-ON A CALL AUTOMATICALLY ON POWER-UP, TOGGLE DISKS INTO THE SECOND LOGICAL DRIVES LOCATION, EVEN FROM ANOTHER RAM DISK. YOU CAN FILL UP ANY PEB WITH THE HRD+ AND USE ALL OF THEM. THERE ARE 9 CALLS AND 15 MENU SELECTIONS AVAILABLE IN MENU VER. 7.3, WHICH WILL ADD EVEN A LOT MORE EXPANSION CAPABILITIES IN THESE AREAS.

CONSTRUCTION IS THE HARDEST PART FOR MOST PEOPLE, AFTER ALL NO MATTER WHAT ERRORS ARE MADE (OPERATOR TYPE), SOMEONE WILL BE ABLE TO ASSIST YOU ON THE PHONE, BUT IF YOU DESTROY THE BOARD, OR A COMPONENT, OR HAVE WIRED IT INCORRECTLY, VERY FEW CAN HELP A NOVICE REPAIR IT OVER THE PHONE. THE INSTRUCTIONS HAVE ALL THE INFORMATION THERE TO BUILD THE BOARD, BUT YOU MUST BE BETTER THAN AVERAGE AT FOLLOWING INSTRUCTIONS, AND AT ELECTRONICS KIT CONSTRUCTION, OR YOU BETTER FIND SOMEONE WHO IS ! IT CAN BE DONE, I DID IT THE FIRST TIME RIGHT. HEY A LITTLE LUCK CAN'T HURT EITHER. WANT A RUMOR, THE PRINT SPOOLER IS JUST A FEW WEEKS AWAY FOR THE HRD'S! WAS I WRONG ABOUT THE 1-MEG. RAM DISK?

How many times while working on a special project have you had the whole thing come to a screeching halt, with the computer crashing, or the printer stopping or the modem outputting unintelligent garbage or even worse smoke curling ominously out of a piece of equipment?

Times like these are very frustrating and usually after a few choice words about the 'bug' that caused our particular problem, we start all over again.

Some anonymous member of the computer community has finally identified these various 'bugs' and we are happy to share this information with our readers. While knowing what 'bug' caused our problem will not solve our problem we might find satisfaction in knowing which 'bug' to blame.

Below are pictures showing the various 'bugs' along with their names and how they affect our equipment.

KNOW YOUR BUGS.
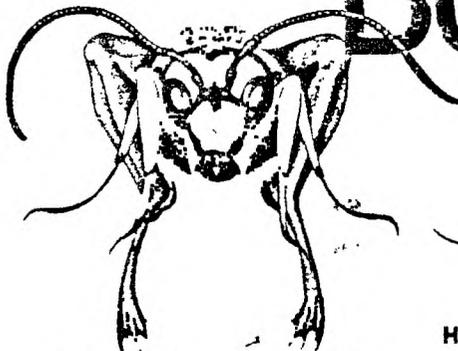
PYGMY JUMPING SPIKE FLY
(rapiditis bombus)
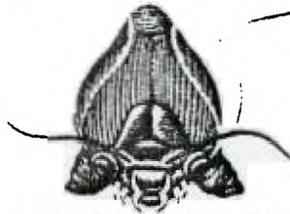
HUMPBACK SURGE BUG
(destructus abruptus)
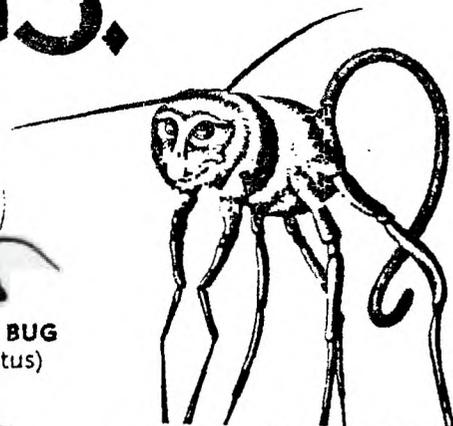
DANCING VOLTAGE MONKEY ROACH
(disci dumpi)

CREEPING BROWNOUT FUNGUS LOUSE
(systemii interruptii)

SNOUTSUCKING SAG WORM
(datis obliteratis)

TRANSIENT STINK FLEA
(printii garbagelli)
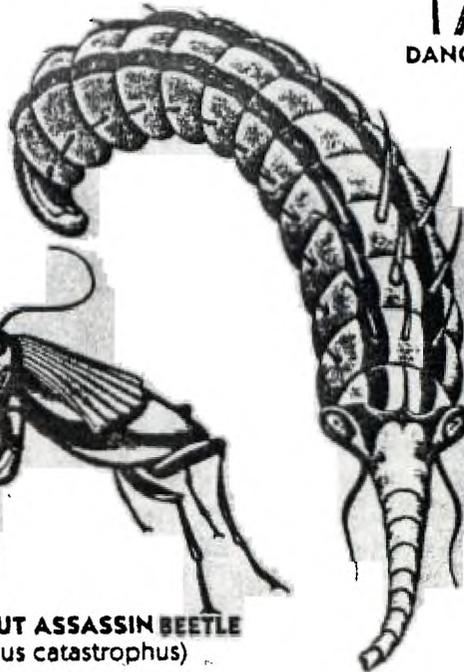
GIANT BLACKOUT ASSASSIN BEETLE
(monstrositus catastrophus)
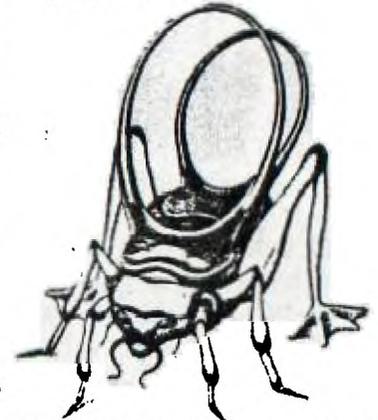
RINGED-ANTENNA LINEHOPPER
(signallus distorti)

THE GENERAL STORE PAGE

SOFTWARE UPDATE

TI TAX: New features, new forms, see MICROpendium 2- 88

CERTIFICATE 99   Certificate and poster maker   From TEX- COMP

THE PRINTSHOP 99   Desktop Publishing system   From TEX- COMP

4A TALK and DISK MASTER I   For the Geneve   Available soon from DataBioTics

Disk Utilities Version 4 0   From John Birdwell

CALENDAR MAKER   NEW!   From Asguard SoftWare

Plus lots of good stuff in MICROpendium this month   You should read it

Plus do not forget our 24HOUR BBS. It has great downloads. New ones coming!

HARDWARE UPDATE

The Horizon Ramdisk! !   You can get it up to one- meg now!

A new P. E. box coming soon!   Look for more info next month right here! ! !

New Memory Enhancement card from Rave 99. Will allow up to 2MEG of memory! ! !

Put your speech synthesizer in the P. E box. Card available from Rave 99

Ram Disk from DataBioTics.   up to 512k. They call it the Grand RAM

Would you like to be able to have more than 4 drives on your system.

Well now you can. See the article right here, inside this issue! ! ! !

LOCAL STUFF FOR SALE

New Software and Hardware: Creative Ideas. 303- 770- 4136

Myarc Geneve, Myart Mouse, and supporting software.   Bill Myers 303- 777- 3353

New and Used Hardware and software. Lowest Prices in town! Bill Webb 973- 6390

Televidio word- processor, used, works fine, rs232 output. 100. 00 303- 777- 3353

Myarc Extended Basic II Cart. Works fine with manual. 50. 00 303- 777- 3353

Myarc 512k Card. Works fine. 200. 00 303- 777- 3353

2 SSSD Drives. Work fine.   20. 00 each. 303- 289- 7667

1 black console, 1 tan console, both work fine. 20. 00 and 30. 00 303- 289- 7667

COMREX CR- IV 36CPS DAISY WHEEL PRINTER. NEW OVER 1000. 00 SELL 400. 00 289- 7667

NEW 300- 1200 BAUD MODEM.   With cable! 80 00 303- 289- 7667

If you have something to sell please call the editor so we can get it in for

you here next month It pays to advertize. No cost to members

FIRST CLASS MAIL

:   :
:Please check the expiration   :
:date on your label. This is   :
:the date your membership will   :
:expire. Renew today so you   :
:do not miss a single issue of   :
:TIC TALK !!!!!   :
:....................................:

EDMONTON 99ER COMPUTER U.G
P.O. BOX 11983
EDMONTON,ALBERTA
CANADA T5J3L1