

PORT FE
SORCERERS USERS' GROUP

(Toronto)

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SORCERER

Newsletter



The Toronto Sorcerer Users' Group was founded in the Spring of 1979, a handful of willing and eager to learn members.

This newsletter shall at all times keep in mind the goal at its conception. To spread the seeds of knowledge.

Articles printed in this newsletter shall be free for all Sorcerer Users' groups to reprint or comment on as they see fit.

Articles submitted for this newsletter must be in no later than the beginning of the 1st of every month.

NOVEMBER 1981 ISSUE

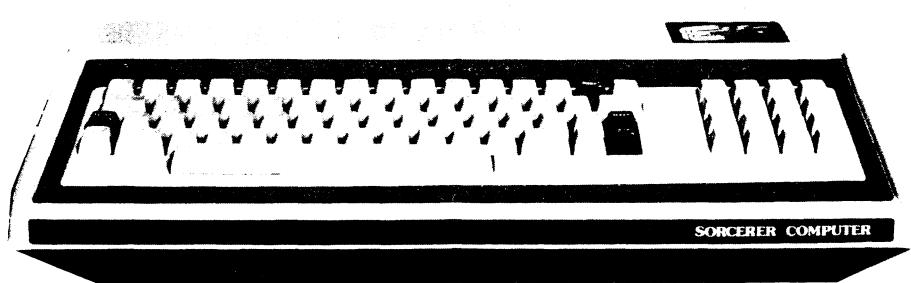
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MEETING PLACE

Location : Bathurst Heights Library - Date: Wed. Nov. 18 - 7:00 PM
3170 Bathurst St.

One block north of Lawrence on the west side of Bathurst.



Our last meeting in October went quite well from what I can gather. There were a few number of members present, not totally unexpected, though I might add. Nominations for the new executive was the main point of the meeting, and of course most of the members not wishing to actively engage in some work, stayed home.

Most of the 82 season executive posts received nominations regardless of the physical absence of some of the members. We are still looking for nominations for Assistant Editor for PORT FE and any others that might wish to assist with club related activities please make yourself known at the next meeting.

We had a presentation of some of the newer software available thru
Northamerican Software.

GROTNIK WARS (with joystick & sound)	By: Ross Williams
TOUCH-TYPE TUTOR (with sound)	By: Roy Mercer
GALAXIANS (with sound & joystick)	By: Martin Sevoir
MACHINE CODE TUTORIAL PACKAGE	By: Richard Swannell
SUPER ASTEROIDS	By: Apollo

Grotnik Wars was Excellent (hard though); with the joystick implemented it was super good.

Touch-Type Tutor is an excellent training aid to learn how to type. Not just pick and poke. Maybe sometime I might even learn to type !!!

Now Galaxians with SOUND EFFECTS is something you have to hear. It really brings this favourite into the arcade class.

Machine Code Tutorial Package - Explains what you should know about machine language. It's an excellent teaching aid.

Now Graphicaly we're getting someplace with the NEW SUPER ASTEROIDS. This is as close as you could get in a graphics demonstration or for that matter the game as a whole. The graphic movement is superb. The first thing I did was to switch the input routines to the joystick. Result - par excellence. This game far outdoes the Atari Asteroids. in comparison, the Atari graphics look like "Sxxx". The only thing I can say is "It's like the arcade game" simple but true.

S.U.G.T. - PORT FE - SUBSCRIPTION RENEWAL

Membership in S.U.G.T. runs from January to December in each calendar year. With the close of 1981 fast approaching, you will find the 1982 application form at the end of this month's newsletter. Postal increases effective January 1982 have given rise to a moderate increase in subscription rates. These are: Canadian \$20 includ. postage./ U.S. & Foreign \$25 U.S. Funds, including postage. Please complete and forward your renewal form in good time for inclusion in the 1982 mailing list. Members whose subscriptions are overdue will be deleted from the mail list and you will not be receiving your newsletter. A nominal amount of \$1.50 will be charged for the labour involved to re-enter your name on the list. This may seem to be a hard line and we apologize to any of you who are offended by it. The reason for imposing this measure is that S.U.G.T. is now quite a substantial size and mundane tasks like entering, deleting and then re-entering names would take up time during the week that could be spent much more productively. Please ensure that your subscriptions are in by the end of 1981 to ensure that your membership stays current. We look forward to your continued support in the coming year.

Here are some previews of topics upcoming in the 1982 season of PORT FE.

- | | |
|--------------------------|----------------------------|
| 1 PL1 up and running. | 2 COBOL up and running. |
| 3 CP/M-NET NEWS updates. | 4 XMODEM ~ SMODEM updates. |
| 5 SPELLBINDER updates. | 6 Program reviews |

By: Michael J. Karas

Any number of special applications exist for custom hardware I/O routines for use under the CP/M operating system to input data or to send output data to physical devices that are not supported by the users CP/M Basic I/O System (BIOS). The possibilities range from simple immediate one shot special requirements to those where I/O must be implemented on a system where the source code for the BIOS is not available. Digital Research has provided an easy to implement custom I/O module capability within the PIP.COM utility. With this capability input to a special device may be referenced with the INP: physical device name. Likewise, output may be sent to a custom physical device with reference to the OUT: physical device name.

A typical application for such a procedure came to my attention last weekend in a discussion with a friend over a beer. The problem, simply stated, was how to get the default standard public domain MODEM program up and running on a new OSBORNE computer. Note that the 5 1/4 inch diskette media is not known to be compatible with other systems. Also another machine with the software up and running was not available. The obvious "not so desirable" solution was to type in the MODEM.ASM source code. That could take a long time. I suggested hooking the RS-232 port of the OSBORNE to an RS-232 port on a machine that had the source for MODEM available. Assuming that the hardware connection problem is not an insurmountable hurdle, then the "immediate" mode patching of PIP.COM on the OSBORNE with DDT.COM could make the loading of MODEM into the OSBORNE with a simple command like:

A>PIP MODEM.ASM=INP:[B](cr)

The [B] being used to buffer the source in memory to alleviate the need to perform hardware handshaking between the computers...

I do not know if my friend implemented the idea described above, but after noting his amazement that the INP: and OUT: capability existed within PIP.COM, I decided to present an example implementation of the capability. The application here interfaces the 8251A USART on a Monolithic Systems MSC-8009A multibus Z-80 board with the INP: and OUT: references. The example is presented purely as an example and should not limit your imagination as to how you may get a special interface working on your machine.

A quick look at PIP.COM with DDT as shown below illustrates the patch area and INP: and OUT: interface scheme:

```
A>ddt pip.com(cr)
DDT VERS 2.2
NEXT PC
1E00 0100
-d100,23F(cr)
0100 C3 CE 04 C9 00 00 C9 00 00 1A 00 00 00 00 00 00 .....
0110 28 49 4E 50 3A 2F 4F 55 54 3A 53 50 41 43 45 29 (INP:/OUT:SPACE)
0120 28 49 4E 50 3A 2F 4F 55 54 3A 53 50 41 43 45 29 (INP:/OUT:SPACE)
```

.... AND SO ON AND SO ON ...

(Note that all of space from 010AH to 01FFH
is available for patch area.)

```
01D0 28 49 4E 50 3A 2F 4F 55 54 3A 53 50 41 43 45 29 (INP:/OUT:SPACE)
01E0 28 49 4E 50 3A 2F 4F 55 54 3A 53 50 41 43 45 29 (INP:/OUT:SPACE)
01F0 28 49 4E 50 3A 2F 4F 55 54 3A 53 50 41 43 45 29 (INP:/OUT:SPACE)
0200 20 20 20 43 4F 50 59 52 49 47 48 54 20 28 43 29
```

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0210 20 31 39 37 39 2C 20 44 49 47 49 54 41 4C 20 52 1979. DIGITAL R
 0220 45 53 45 41 52 43 48 2C 20 20 50 49 50 20 56 45 ESEARCH. PIP VE
 0230 52 53 20 31 2E 35 03 01 06 01 00 24 24 24 20 20 RS 1.5....\$99
 -1100(cr)
 0100 JMP 04CE <==== Make note of this address and
 0103 RET <== set equate "pipentry" in the
 0104 NOP \ patch file to this value.
 0105 NOP \ ===== PIP call point for INP:
 0106 RET <==\
 0107 NOP \
 0108 NOP \ ===== PIP call point for OUT:
 0109 LDAX D <===== PIP expects INP: characters
 010A NOP here with parity stripped.
 010B NOP
 010C NOP

The procedure for making a patched PIP.COM would be as follows. In the example, lower case characters are generally those typed by the operator and (cr) indicates depression of the carriage return.

```
B>ddt pip.com(cr)
DDT VERS 2.2
NEXT PC
1E00 0100
-ipippat.hex(cr)
-r(cr)
NEXT PC
1E00 0000 <== Note ending PIP address so to SAVE
-d100,17f(cr) 01EH - 1 or 30 pages after patching.
<== Dump to see installed patch.
```

```
0100 C3 0A 01 C3 37 01 C3 48 01 1A CD 10 01 C3 00 00 ...7..H.....
0110 21 A0 01 3E 76 D3 DF 7D D3 DD 7C D3 DD 06 14 AF !...>v...!.....
0120 D3 CF 05 C2 20 01 3E 40 D3 CF 3E 4E D3 CF 3E 37 ... .>@..>N..>7.
0130 D3 CF DB CE DB CE C9 DB CF E6 02 FE 02 C2 37 01 .....7.
0140 DB CE E6 7F 32 09 01 C9 DB CF E6 01 FE 01 C2 48 ...2.....H
0150 01 79 D3 CE C9 2F 4F 55 54 3A 53 50 41 43 45 29 .y.../OUT:SPACE)
0160 28 49 4E 50 3A 2F 4F 55 54 3A 53 50 41 43 45 29 (INP:/OUT:SPACE)
0170 28 49 4E 50 3A 2F 4F 55 54 3A 53 50 41 43 45 29 (INP:/OUT:SPACE)
```

```
-^c <== Exit DDT to system
B>save 30 pippat.com(cr) <== save off patched PIP.COM
```

The patched PIP is now ready to use. For initial debugging, the PRN file listing of the patch assembly may be used in conjunction with DDT to DDT to test the new drivers.

Next month we shall include the ASM listing file for PIP I/O modification.
 Editor : PORT FE

=====
 "SORCERER MK I to 48K MODIFICATION" - A complete and assembled memory expansion board (that mounts on top of the existing cassette interface) comprising an assembled PC card with sockets and 16K chips, a 74LS10, bypasses, and rainbow cable. The detailed installation instructions are included.

Price is \$100 (AUS) including p. & p.

Available from Peter Lion at	SPEEDY COMPUTER SERVICES
	6 Welwyn Ave.
	E. Brighton, VIC. 3187
	Australia.

Patch to make ZSID.COM the same Dump Display as DDT and SID
By: Bob Fisher - De Paul University

```

A>ZSID ZSID.COM(cr) <--- Load ZSID into memory with ZSID
ZSID VERS 1.4
NEXT PC END
2900 0100 A9FF
#S125F(cr)
125F 5F AF(cr) <--- Put in XOR A
1260 ?? .(cr) <--- End substitution
#S12C0(cr)
12C0 CD 18(cr) <--- Put in a relative jump
12C1 ?? 01(cr)
12C2 ?? 00(cr)
12C3 06(cr) <--- No change, here
12C4 06 01(cr)
12C5 ?? .(cr) <--- End substitution
#S12E1(cr)
12E1 CD 18(cr) <--- Another relative jump
12E2 ?? 04(cr)
12E3 ?? 00(cr)
12E4 CD 18(cr) <--- Yet another relative jump
12E5 ?? '01(cr)
12E6 ?? .(cr) <--- End substitution
#G0(cr) (or Control-C(cr)) <---Exit ZSID, return to CP/M
A>SAVE 40 ZSID-FIX.COM(cr) <---Save fixed version of ZSID

```

When ZSID relocates itself, an offset is added to bytes 12C2, 12E3, and 12E6 hex.

VMAP - Variable Mapper for BASIC from CP/M users Library

VMAP maps variables used in Basic source file and prints the output listing either on the CRT terminal or to the line printer depending on the terminator selected. Variables are listed in alphabetical order with associate statement number where they appear. Multi-source files or segmented single file or any combination of both can be processed in a batch (unattended mode).if you think you can trust the system you're running on.

The pre-requisites to use VMAP is to save all files you are mapping in ASCII (i.e.,SAVE"filename.BAS",drive number,A(cr)). Only ASCII Basic source file can be used, since all source is saved in machine code.

Once the file(s) is saved in ASCII, run VMAP. Supply the answer to the prompt for file name, terminator (see appendix A), lower bound of the statement number to map, and the upper bound of the statement number to map. When the terminator is supplied as "END", the program begins to map all variables for all programs until completed (or when the program runs out of memory space).

This program is very easily modifiable depending on what else you want it to process, logging different properties of a Basic source file. To modify a Basic program without documentation, you'll find this program would help you more than anything else!

On the following pages are listings for the above. You may encounter certain differences and even possible errors coming up when putting it through its paces. We have not been able to test it on different programs, a large variety of programing parameters should be tested and also if anyone has any changes please let us know and pass them on to the CP/M users Group.

APPENDIX A

Terminators used in this program are:

END - end variable map program after processing the current file.
C - continue with the next line of specifications.
X - kill the source file after processing.
and continue with the next file specification.

```
10 'VMAP.BAS VERSION 1.0
11 '
12 '
13 '
14 -----
20 'BATCH BUILD SEGMENT. 07/26/81, JWC
30 '
40 '
50 CL$=CHR$(12)'CLEAR SCREEN CODE FOR ADDS VIEWPOINT TERMINAL
60 FF$=CHR$(12)'FORMFEED CODE FOR CENTRONICS PRINTERS
70 '
80 '
90 PRINT CL$  
100 INPUT "PROCESS LAST SETUP (Y/N) ";TI$:IF TI$="Y" THEN GOTO 170
105 PRINT
110 OPEN "O",#1,"A:VARDAT"
120 INPUT"FILE NAME, TERMINATOR, LOWER BOUND, UPPER BOUND ";PN$,TI$,LB!,UB!
130 PRINT#1,CHR$(34);PN$;CHR$(34);CHR$(34);TI$;CHR$(34);LB!,UB!
140 IF TI$="END" THEN GOTO 160
150 GOTO 120
160 CLOSE 1
161 '
162 '
163 -----
170 'MAPPING SEGMENT FOR BASIC FILES. 07/27/81, JWC
171 '
172 '
180 PRINT CL$:WIDTH 80:LC=0:DR%=0
190 OPEN"1",2,"A:VARDAT"
200 PRINT:PRINT:PRINT"ONE MOMENT FOR SETUP PLEASE.....":PRINT
210 INPUT"DO YOU WANT A PRINT OUT (Y/N) ";PO$  
220 IF PO$="Y" THEN PT$="P" ELSE PT$="N"
230 NX=80' MAX NUMBER OF VARIABLE CAPACITY
240 DIM VS(NX),NL%(NX),LL%(NX,NX-30),PA%(NX)
250 FOR I=1 TO NX:PA%(I)=I:NEXT I
260 READ NK:DIM K$(NK):DEF FN$(A)=MID$(STR$(A),2)
270 FOR I=1 TO NK:READ K$(I):NEXT I
280 INPUT#2,PN$,I1$,LB!,UB!
290 PN$="A:"+PN$+".BAS"
300 OPEN"1",1,PN$  
310 PRINT:PRINT"*** LINES BEING PROCESSED:"  
320 IF EOF(1) THEN 360
330 S=0:H=0:O=0:IN%=0:Q=0:LINE INPUT#1,L$  
340 GOSUB 740
350 IF N+32767<UB! GOTO 320
360 PRINT:PRINT:PRINT"SORTING VARIABLES....."  
370 GOSUB 1160
380 IF PT$="P" THEN GOTO 530 ELSE PRINT:PRINT:  
INPUT"HIT RETURN WHEN READY FOR LISTING ON CRT ";I$  
390 PRINT:PRINT:PRINT"LIST OF VARIABLES FOR PROGRAM ";PN$:PRINT
```

```

400 FOR I=1 TO NF
410 PRINT V$(I):TAB(15);"-";
420 FOR J=0 TO NL%(PA%(1))-1:IF J>0 THEN PRINT", ";
430 PRINT FNA$(LL%(PA%(I),J)+32767!);
440 NEXT J
450 PRINT:PRINT:NEXT I
460 GOTO 630
470 CLOSE 1
480 IF I1$="K" THEN PRINT"KILL ";PN$;";";DR%:KILL PN$,DR%
490 IF I1$="P" THEN 530
500 IF I1$="C" THEN 180
510 IF I1$<>"END" THEN RUN
520 CLOSE 2:PRINT:PRINT"*** END OF VARIABLE MAP PROGRAM ***":END
530 GOSUB 1250:LPRINT TAB(50);"LINES";NL+32767!;"TO";N+32767!;LPRINT:LC=LC+2
540 FOR I=1 TO NF:LPRINT STR$(I);".":TAB(6):V$(I):TAB(15);"-":C=0
550 FOR J=0 TO NL%(PA%(I))-1:IF C THEN LPRINT", ";:ELSE C=-1
560 IF JMOD3=12 THEN LPRINT:LC=LC+1:LPRINT TAB(15);"-";
570 LPRINT FNA$(LL%(PA%(I),J)+32767!);
580 NEXT J
590 LPRINT:LPRINT:LC=LC+2
600 IF LC>60 THEN GOSUB 1240:GOSUB 1250:LPRINT:LC=LC+1
610 NEXT I
620 IF LC>50 THEN GOSUB 1240:GOSUB 1250:LPRINT:LC=LC+1
630 IF PT$="P" THEN LPRINT:LPRINT"EQUIVALENT VARIABLES":LC=LC+3
640 V$="$(!#(%"
650 FOR I=0 TO NF-1:FOR J=I+1 TO NF-1
660 IF LEFT$(V$(I),2)<> LEFT$(V$(J),2) OR LEFT$(V$(I),2)="FN"THEN 700
670 ON ERROR GOTO 1390
680 IF (INSTR(V$,RIGHT$(V$(I),2))<> INSTR(V$,RIGHT$(V$(J),2)))
    OR (INSTR(V$(RIGHT$(V$(I),1))<> INSTR(V$(RIGHT$(V$(J),1)))
    THEN 700
690 IF PT$="P" THEN GOSUB 990:LPRINT V$(I);";";V$(J)
    ELSE LPRINT V$(I);";";V$(J):LC=LC+1:EF%=-1
700 NEXT J:NEXT I
710 IF NOTEF% THEN IF PT$="P" THEN LPRINT"** NONE FOUND **":LC=LC+1
720 IF PT$="P" THEN GOSUB 1240
730 GOTO 470
731
734 -----
735 'VARIABLE SEARCH SUBROUTINE
736 '
737 '
740 R=0:V=0:X=INSTR(L$," "):N=VAL(LEFT$(L$,X))-32767!:S$=MID$(L$,X+1)
750 IF N+32767!>UB! THEN RETURN
760 IF N+32767!<LB! THEN RETURN ELSE PRINT:PRINT L$:
    PRINT TAB(5):IF NOT XN% THEN XN%=-1:NL=N
770 IF LEFT$(S$,1)=" " THEN S$=MID$(S$,2):GOTO 770
780 IF INSTR(S$,"DATA")=1 THEN RETURN
790 FOR I=1 TO LEN(S$)
800 X$=MID$(S$,I,1):X=ASC(X$)
810 IF NOT S THEN 860
820 IF H THEN IF (X>=48 AND X<=57) OR (X>=65 AND X<=70) THEN 950 :GOTO 860
830 IF O THEN IF (X>=48 AND X<=57) THEN 950 ELSE O=0:S=0:GOTO 860
840 IF X=72 AND NOT H THEN H=-1:GOTO 950
850 IF X=79 AND NOT O THEN O=-1:GOTO 950 ELSE S=0:H=0:O=0
860 IF X=34 THEN IF O THEN O=0:V$="":GOTO 950 ELSE O=-1:GOTO 950
870 IF G THEN 950
880 IF X=39 THEN RETURN 'REMARK
890 IF X=38 THEN S=-1:GOTO 950
900 IF (X>=48 AND X<=57) OR (X>=65 AND X<=90) OR (X=35 OR X=33 OR X=36
    OR X=37) THEN IF V THEN V$=V$+X$:GOTO 950 ELSE V$=X$:V=-1:GOTO 950
910 IF X=40 AND V THEN V$=V$+X$
920 IF NOT V THEN 950

```

```

930 GOSUB 960:V=0
940 IF R THEN RETURN
950 NEXT I:IF NOT V THEN RETURN
951 '
954 -----
955 'KEYWORD COMPARE SUBROUTINE
957 '
960 IF V$="REM" OR V$="DATA" THEN R=-1:RETURN:REM 'SUB ---- 2000
970 IF VAL(V$)<>0 OR LEFT$(V$,1)="0" THEN V$=MIDS(V$,2):GOTO 970
980 FOR J=1 TO NK:Y=INSTR(V$,K$(J)):IF Y=0 THEN 1030
990 IF V$=K$(J) THEN RETURN : 'KEY WORD
1000 IF LEFT$(V$,LEN (K$(J)))=K$(J) THEN V$=MIDS(V$,LEN(K$(J))+1):GOTO 960
1010 IF RIGHTS(V$,LEN (K$(J)))=K$(J) THEN V$=MIDS(V$,1,LEN(V$)-LEN(K$(J))):GOTO 960
1020 VH$=MID$(V$,Y+LEN(K$(J))):V$=LEFT$(V$,Y-1):GOSUB 960:
1030 IF R THEN RETURN ELSE V$=VH$:GOTO 960
1040 NEXT J
1040 IF V$="(" OR V$=")" OR V$="!" OR V$="%" OR V$="#" THEN RETURN
1050 IF IN% THEN PRINT";";:ELSE IN%=-1
1060 IF NF=0 THEN 1130
1070 FOR J=0 TO NF
1080 IF V$<>V$(J) THEN 1110
1090 IF LL%(J,NL%(J)-1)=N THEN RETURN
1100 IF NL%(J)<80 THEN LL%(J,NL%(J))=N:NL%(J)=NL%(J)+1:
1110 PRINT V$;".";FNA$(NL%(J));">":RETURN
1110 NEXT J
1120 IF NF=NX-1 THEN PRINT:PRINT"OUT OF ROOM FOR VARIABLES,
1120 CONTINUE NEXT RUN...":GOTO 360
1130 PRINT V$;"[";FNA$(NF+1);"]";
1140 V$(NF)=V$;LL%(NF,NL%(NF))=N:NL%(NF)=NL%(NF)+1:NF=NF+1
1150 RETURN
1151 '
1154 -----
1155 'SORT SUBROUTINE
1157 '
1160 DIM H(9):H(1)=1:H(2)=4:H(3)=13:T=1
1170 IF H(T+2)<5000 THEN T=T+1:H(T+2)=3*H(T+1)+1:GOTO 1170
1180 IF NF=0 THEN RETURN ELSE FOR T=1 TO 6:IF H(T+2)<NF THEN NEXT T
1190 FOR S=T TO 1 STEP-1:H=H(S):FOR JJ=H TO NF
1200 V$=V$(JJ):PA%=PA%(JJ):FOR II=JJ-H TO 0 STEP-H
1210 IF V$<V$(II) THEN V$(II+H)=V$(II):PA%(II+H)=PA%(II):NEXT
1220 V$(II+H)=V$:PA%(II+H)=PA%:NEXT JJ,S
1230 RETURN
1240 FOR IK=LC TO 65:LPRINT:NEXT IK:LC=0:RETURN
1250 LPRINT FF$:LPRINT:LPRINT:LPRINT"LIST OF VARIABLES FOR PROGRAM ";PNS;:
1250 LC=LC+3:RETURN
1260 DATA 116
1270 DATA CONSOLE,RESTORE,SPACE$,UNLOAD
1280 DATA LPRINT,DEFDBL,DEFINT,DEFSNG,DEFSTR,DELETE,RESUME,RETURN,RIGHT$,
1290 DATA PRINT,LLIST,INPUT,CLEAR,CLOAD,CLOSE,CSAVE,DSK1$,DSK0$,ERASE
1300 DATA ERROR,FIELD,FILES,GOSUB,INSTR,LEFT$,MERGE,MOUNT,TROFF,USING
1310 DATA TRON,CDBL,CHR$,CINT,CONT,CSNG,DSKF,EDIT,ELSE,GOTO,KILL,LINE
1320 DATA LIST,LOAD,LPOS,LSET,MID$,MKD$,MK1$,MKS$,NAME,NEXT,NULL,OPEN
1330 DATA PEEK,POKE,READ,RSET,SAVE,SPC,(,STEP,STOP,STR$,SWAP,TAB(),THEN,WAIT
1340 DATA ABS,AND,ASC,ATN,COS,CVD,CVI,CVS,DEF,DIM,END,EOF,ERL,ERR,EXP,FOR
1350 DATA FRE,GET,INP,INT,LEN,LET,LOC,LOF,LOG,MOD,NEW,NOT,OUT,POS,PUT,RND
1360 DATA RUN,SGN,SIN,SQR,TAN,USR,BAL
1370 DATA AS,IF,TO,ON,OR
1380 DATA WIDTH,TAB
1390 IF ERR=13 THEN PRINT:PRINT:PRINT"**** NO VARIABLES FOUND ****":
1390 PRINT:GOTO 470
1400 PRINT"ERROR CODE IS ";ERR;" ON LINE NUMBER ";ERL;:PRINT:END
1500 END

```

Diskette Drive Cleaner Information 08/81

About a year ago, diskette head cleaners began appearing on the market. Coming from a large computer environment, I immediately got some of these thinking I would use them once or twice a week at all locations where I have micro-computers installed. The operators at those locations are not computer hobbyists or technicians; I could not see myself asking them to scrub the heads with a lllloooooonnnnnngggggg Q-TIP and some alcohol.

I thought they would be more likely to do it if it were a simple operation.

I was notified that both diskette drive manufacturers of the drives we were using screamed in pain and issued statements that users were NOT to use those abrasive devils in their products because of possible damage to the heads!

The producer of the cleaning diskettes said "no problem". He would not agree to replace any heads found to wear out prematurely, however. I figured that the lawyers at the manufacturers were protecting their clients from warranty expense, etc. by forbidding the use of the cleaners, but who knows???

We stopped using the head-cleaning diskettes, and let the oxide build, and build, and build. Is it better to have clean, worn heads?or dirty "unworn-so-much" heads?

Yesterday, my dealer informed me that he has made some progress. His understanding is that Tandon will permit the use of 3M and ICP cleaners of recent vintage. The story is that those companies reduced the head-damaging characteristics of products they produced prior to spring of this year.

If this turns out to be the case, then non-technical users will get a break. Certainly, the drive manufacturers did not provide access to the heads (even in bare drives in some cases) for cleaning. This has been one more maintenance weakness of micros swept under the rug until now.

It would be nice for the end user if 3M and Tandon or MPI would agree that the cleaners should or should not be used. Sorry I don't have an answer, but I just wanted to notify you that there has been a problem, and that there is some movement toward resolving it.

While we're talking about head wear, let me warn you about using SOME "single sided" diskettes in your double sided drives. Seems that some 8" diskettes labeled "single sided" are not even burnished on the second side! Ouch!! Those of us with double sided drives figure we can jam anything into them and read OK. NOT ALWAYS TRUE! We may be grinding down the second-side head in some cases.

Ya'all better check your media. I'd suggest you order only diskettes which CAN be safely inserted into double sided drives, even if you have only single sided drives now. You may upgrade, or use a friend's system. No sense using your drive to do the burnishing job!

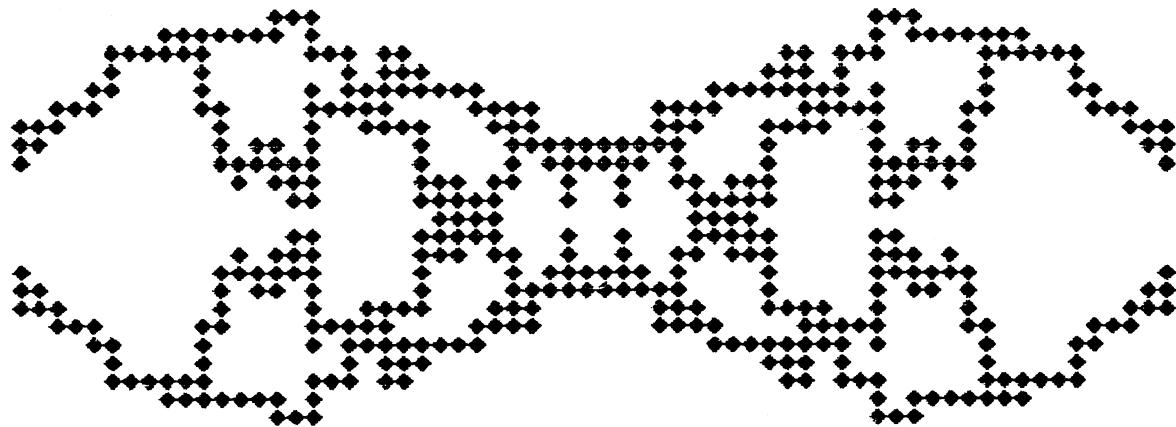
Regards. Tom McCormick Houston, Tx.

We thank one of the local CBBS Bulletin boards for some of the information that has been made available to us.

```

10 DIM A(200)
20 PRINT CHR$(12)
30 PRINT TAB(22)"R O R S C H A C H"
40 PRINT TAB(72)"BER BARENDEGT, VEYRIER, SWITZERLAND"
50 PRINT TAB(255)""
60 REM THIS PROGRAM CREATES RANDOM RORSCHACH PICTURES
70 REM FOR THE EXIDY SORCERER COMPUTER.
80 REM CHARACTER-TYPE IS INPUT. CHANGE LINE 340 TO 'GOTO 100'
90 REM TO REQUEST CHARACTER FOR EACH PASS.
100 FOR S=127 TO 194
110 PRINT S"="CHR$(S),
120 NEXT S
130 PRINT
140 PRINT "TYPE VALUE OF CHARACTER TO BE USED",
150 INPUT Z
160 IF Z<0 OR Z>255 GOTO140
170 PRINT CHR$(12)
180 X=0: Y=13
190 C=150
200 FOR B=1 TO C
210 A(B)=1+INT(3*RND(3))
220 NEXT B
230 FOR B=1 TO C
240 ON (A(B)) GOTO 350, 370, 390
250 IF (Y<1)+(Y>29) THEN 310
260 POKE -3968+X+64*Y,Z
270 POKE -3968+63-X+64*Y,Z
280 POKE -3968+X+64*(30-Y),Z
290 POKE -3968+63-X+64*(30-Y),Z
300 NEXT B
310 FOR U=1 TO 2500
320 NEXT U
330 PRINT CHR$(12)
340 GOTO 180
350 X=X+1
360 GOTO 250
370 Y=Y+1
380 GOTO 250
390 Y=Y-1
400 GOTO 250
410 END
READY

```




```

10 REM      DO NOT CHANGE LINES 10 THROUGH 90
20 REM THESE CONTAIN MACHINE LANGUAGE SUBROUTINES TO
30 REM PRINT HEXADECIMAL ADDRESS AND DATA. CONTENT IS :
40 DATA 205,208,199,205,232,225,201,205,144,210,205,237,225,201
50 FOR I=0 TO 13 : READ J : POKE I,J : NEXT
60 REM
70 REM * * * * * HEX DUMP (COPYRIGHT) * * * * *
80 REM WRITTEN BY : BER BARENDEGRT , CHEMIN DE PASSE-LOUP 3
90 REM           CH-1255 VEYRIER/GENEVE , SWITZERLAND
280 PRINTCHR$(12)
300 CLEAR100:DIM BYTE(15)
320 HI=PEEK(-4096)+PEEK(-4095)*256:REM GET HIGH MEMORY
340 IFHI>32767THENHI=HI-65536:REM ADJUST IF > 32767
360 OH=HI-46:OL=HI-47:REM OUTPUT VECTOR HIGH/LOW
380 REM *****ADDRESSES SHOULD BE IN HEX. NOTATION
400 PRINT"The addresses should be in HEX. notation"
420 PRINT:INPUT"Give START-address for HEX-DUMP":AS$
440 INPUT"Give END-address for HEX-DUMP":AE$
460 PRINT:INPUT"Print hardcopy (Y/N)":A$
480 IFA$="N"ORA$="n"THEN560
500 IFA$(<>"Y"ANDA$(<>"y"THENPRINT"Invalid response":GOTO460
520 INPUT"Which title to be printed":T$
540 POKEOH,233:POKEOL,147:PRINTT$
560 AS$=LEFT$(AS$,4):AE$=LEFT$(AE$,4)
580 AS$=LEFT$(AS$,LEN(AS$)-1)+"0"
600 H$=AS$:GOSUB1460:AS=D0
620 H$=AE$:GOSUB1460:AE=D0
640 REM *****MAIN LOOP*****
660 FORA=ASTOAESTEP16:L$=""
680 IFA>32767THENA1=INT(A-65536+.5):GOTO720
700 A1=INT(A+.5)
720 IFA1>32767THENA1=INT(A1-65536+.5):GOTO720
740 IFF=0THENGOSUB1380
760 REM *****
780 REM *****READ 16 MEMORY-LOCATIONS AND STORE IN BYTE(X)
800 FORX=0TO15:BYTE(X)=PEEK(INT(A1+X)):NEXTX
820 REM *****
840 REM *****PRINT ADDRESS
860 POKE260,0:POKE261,0:HEX=USR(A1):PRINT"  ";
880 REM *****
900 REM *****PRINT 8 MEMORY-LOCATIONS IN HEX
920 POKE260,7:POKE261,0:FORX=0TO7
940 HEX=USR(BYTE(X)):IFX=3THENPRINT"  ";
960 NEXTX:PRINT"  ";
980 REM *****
1000 REM *****PRINT NEXT 8 MEMORY-LOCATIONS IN HEX
1020 FORX=8TO15
1040 HEX=USR(BYTE(X)):IFX=11THENPRINT"  ";
1060 NEXTX:PRINT"  ";
1080 REM *****
1100 REM *****PRINT PRINTABLE CHARACTERS (32-127). OTHERS ARE
1120 REM ***** SHOWN AS A '.' FOR 16 MEMORY-LOCATIONS
1140 FORX=0TO15
1160 IFBYTE(X)<32ORBYTE(X)>127THENL$=L$+"."":GOTO1200
1180 L$=L$+CHR$(BYTE(X))
1200 IFX=7THENL$=L$+" "
1220 NEXTX:PRINTL$:P=P+1:IFF=>16THENP=0
1240 NEXTA
1260 REM *****END OF MAIN LOOP*****
1280 REM *****
1300 PRINT:POKEOH,224:POKEOL,27
1320 PRINT:INPUT"CONTINUE Y/N":H$:IFH$="N"ORH$="n"GOTO1600
1340 P=0:GOTO420
1360 REM *****
1380 REM *****PRINT HEADING LINE
1400 PRINT:PRINT"ADDR 0 1 2 3 4 5 6 7 8 9 A B C D E F"
1420 PRINT:RETURN
1440 REM *****
1460 REM *****CONVERSION HEX>DEC : H$>D0
1480 D0=0:FORI=LEN(H$)TO1STEP -1
1500 T$=MID$(H$,I,1):V=ASC(T$):IFV<65THEN1540
1520 V=V-55:D0=D0+16^(LEN(H$)-I)*V:GOTO1560
1540 V=V-48:D0=D0+16^(LEN(H$)-I)*V
1560 NEXTI:RETURN
1580 REM
1600 END
READY

```

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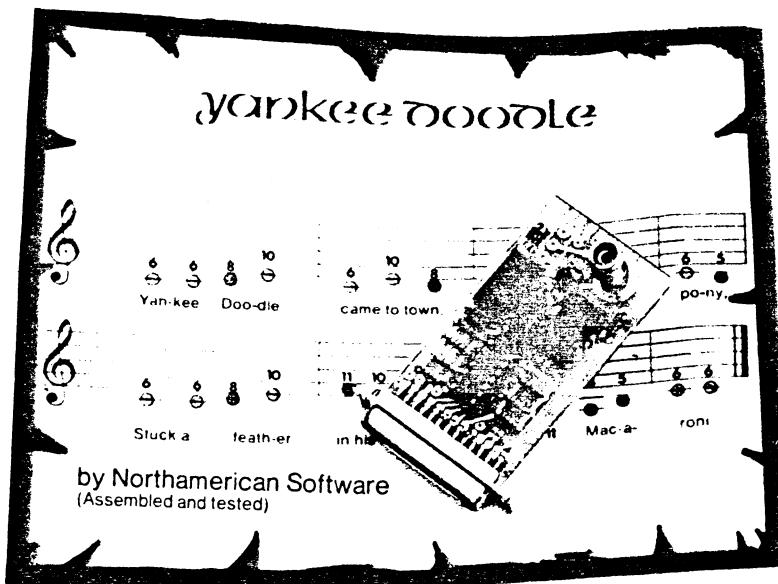
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The object is to guide a small space ship across the screen avoiding but shooting asteroids as they glide past. When an asteroid is hit, it will break up into many smaller pieces. By repeatedly hitting the pieces they will soon disintegrate and disappear. If you crash your ship into an asteroid it will break into pieces and splinter across the screen in a shower of sparks! However, if you manage to stay in one piece, chances are you'll soon be pursued by a flying saucer that shoots balls of fire! Best that you treat him with care, else you may make his friends VERY aggressive.

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