

PORT FE

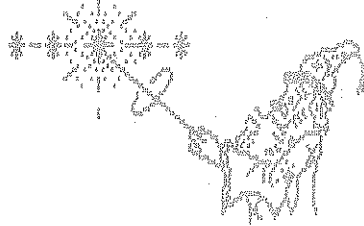
SORCERERS USERS' GROUP

(Toronto)

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Downsview, Ontario,
Canada. M3H 5V6

SORCERER

Newsletter



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

This newsletter shall at all times keep in mind the goal of 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 month of every month.

July 1981 ISSUE

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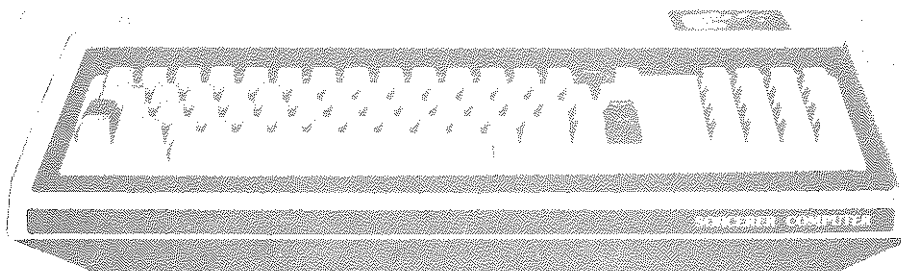
- 7. - Ultimate Joystick Flexibility
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** HEXADECIMAL KEYPAD
INPUT TO REPLACE
JOYSTICK*

MEETING PLACE

Location : Bathurst Heights Library - Date: Thurs July 16 - 7:00 PM
3170 Bathurst St.

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



The WP PAC tells the PRINTER

by: S.N. Afriat

The Exidy Sorcerer with the WP PAC cartridge that makes it into a dedicated word processor is a versatile instrument for preparing text. One of the problems has been the facility to be able to control the more advanced types of printers. Here is a device for that problem.

Choose a character, conveniently located and not likely to be needed for any other purpose, whose sending can signal that the next character to be sent is intended as a control character. The @ can serve as an example. Then sending a sequence @X should amount to sending control -X, or ASCII code of X less 64, instead of just X.

The on-board printer driver with the Word Processor is at address DE70, so if register A is loaded with a character and a call to this address is made and the character is sent to the printer. If another driver is to be used, the address where it is loaded should be entered at 7E7, 7E8 so there will be a jump to it instead. While control characters cannot be made part of the text, and so sent along with the text when it goes to the printer, a sequence such as @X can at least be made part of the text. Then a program is needed that will process characters so that when a character @ arrives nothing will be sent, but the next character X is converted into control-X by subtraction of 64 before it is sent.

By altering the jump address in 07E7 and 07E8, a printer driver at any location can be used. Just as well, a program could be inserted that will do additional processing before the jump to the printer. Now the movable jump address is part of the program and is loaded at location 3, instead of being at address 7E7 used by the word processor. The start of the program, 0 in the listing, should be loaded at 07E7 and 07E8 in advance, and it stays there.

With this method it is possible to control most operations of the programable type printers with the WP PAC. Your own interpretations for the control characters required by your printer are all that is necessary to complete this function. The nice thing about this routine is that it will work with any printer.

SEND #3 by: S.N. Afriat copyright (C) 1980 OTTAWA

```

00 F5          push AF          ;(A contains char) save regs
01 C5          push BC          ;save EC reg
02 CD 08 00    call send          ;= norm or cntrl, initially norm
05 C1          pop BC           ;get it back
06 F1          pop AF           ;get it back
07 C9          ret              ;regs restored and return
08 FE 40      norm             op @              ;is it @ ? (change this char '@')
0A C2 70 DE    jmp nz printer;no, then send it to printer
0D 01 15 00    ld BC cntrl      ;yes, then change send
10 ED 43 03 00 chnge          ld (addr),BC ;from norm to cntrl
14 C9          ret
15 01 09 00    cntrl           ld BC,norm      ;change send
18 CD 10 00    call chnge          ;from cntrl back to norm
1A D6 40      sub 40           ;obtain cntrl char
1D C3 70 DE    jmp printer        ;send it

```

With the advent of more and more sophistication, printers of the future will no doubt be harder and harder to control. Programming must keep up with these trends. This program will no doubt be of the type that will be implemented, without being directly dedicated to any type of printer.

CP/M 2.2 CBIOS Revisions to a 48K system
By: W. Blady

If you're presently operating with Lifeboat's CP/M 2.2 configured with EXIDY-BIOS, then you're painfully aware of the slow CRT display speed.

The problem stems directly from the console status check routine in the BIOS region of CP/M. Before each character is sent to the CRT, the CONSTAT is polled to see if the user wants in. The Exidy Keyboard routine is used for that check. This routine contains a lot of unnecessary code to do a rather simple job and invariably slows the CRT output down. The solution is to replace the console input, output and status routines with something more suitable. The patch is listed below along with other minor improvements. You'll find the difference quite dramatic.

All aside. Since I'm on the topic of keyboard routines, I want to lay down a challenge to the hardware oriented members. In my opinion, a substantial improvement could be made to the Sorcerer if the keyboard were hardware encoded. This would not only improve the speed of the CRT display, but also eliminate picture scintillation that is quite noticeable on large areas of reverse video. With hardware, a DR bit could be quickly polled for more efficient results. I realize that there are graphics and possibly other problems to contend with, but what's in a challenge if the solution is simple. Any takers?

Before you attempt any changes to the BIOS make a memory image of your CP/M and store it as a file. In the following sequence of commands "~" indicates what you are to type, and ">" indicates what is returned on your monitor. A <C/R> indicates a carriage return.

```
~ MOVCPM * <C/R>
> CONSTRUCTING xxK CP/M VER 2.2 etc.
~ SAVE 44 CP/Mxx.XDY <C/R>
```

You now have a memory image of CP/M constructed to the maximum size of your system. If you want a smaller CP/M, consult your manuals for the proper command.

Now using DDT, load your newly constructed CP/M into memory.

```
~ DDT CP/Mxx.XDY <C/R>
> DDT Ver.x.x etc.
> *
```

Since the new code is Z80, and DDT only accepts 8080 opcodes, you can't use the dynamic assembler feature "A". Instead, use the "S" command to enter the new HEX code one byte at a time. You may also exit to the monitor and enter it in the following manner.

```
> *
~ GE003 <C/R>
)
~ EN 2A35 <C/R> mover routine
>2A35 06 80 1A 77 13 23 10 FA C9/<C/R>

~ EN 2A3E <C/R> console status check routine
>2A3E C5 06 0F 78 D3 FE DB FE E6 1F FE 1F 20 02 10 F3
>2A4E C1 3E 00 CB 3E FF C9/<C/R>

~ EN 2A55 <C/R> console output routine
>2A55 79 C3 0C E0/<C/R>

~ EN 2A59 <C/R> console input routine
>2A59 CD 09 E0 28 FB FE 0C CA E1 E9 C9 00 00/<C/R>
```

The following changes should be made to the I/O jump vector table.

```
~EN 2AB8 <C/R> console input table
>2AB8 59 B6/<C/R>

~EN 2AC0 <C/R> console output table
>2AC0 55 B6/<C/R>
```

LIST DEVICE TABLE
MAKE THIS CHANGE IF REPLACING THE
DIABLO DRIVER WITH YOUR OWN

Page #3

2AC8 54B6 F8B6 0CB7 0CB7
 AAAA AAAA

CHANGE THE JUMP VECTOR (both) TO YOUR DRIVER ROUTINE

^EN 2AE0 <C/R> console status table
>2AE0 3E B6/<C/R>

^EN 2AE8 <C/R> reader device status
>2AE8 3E B6/<C/R>

END OF MODIFICATIONS THIS PART

The following modifications are made to the region of CP/M above the BIOS. These changes have no bearing on the operation of the console routines just entered.

This version of CP/M states that control "H" provides a true backspace-delete with no characters echoed to the CRT. It doesn't work. There seems to be some code conflict that causes the system to crash after entering a carriage return. The following modifications will provide a delete/backspace using the Sorcerer's RUB key. The control "H" also works, but as a delete/echo function.

^EN 1B02 <C/R> delete/backspace routine
>1B02 FE 7F 2D 11 78 B7 28 E5 3E 08 05 2B
1B0E C5 E5 4F CD 0C B3 C3 AF A7/<C/R>

^EN 1B17 <C/R> delete/echo routine
>1B17 FE 08 20 0B 78 B7 CA EF A6 7E 05 2B C3 A9 A7/<C/R>

^EN 1A33 <C/R> this changes run/stop function from "AS" to "ESC"
>1A33 FE 1B/<C/R>

^EN 1A4F <C/R> this eliminates a constat check after each character
and speeds up display by 20%
>1A4F 00 00 00 00 00/<C/R>

^EN 1AF4 <C/R> this change allows Sorcerer graphic
characters to be output while in CP/M
>1AF4 E6 FF/<C/R>

For those of you who would like to add a small printer driver or other I/O routine without reassembling the BIOS, substitute code could replace the Diablo driver at 2B03 HEX (I don't know any-home brew computerist who can afford a Diablo) There are 31 bytes available. the I/O jump vector table should be modified to reflect any change.

Once you have completed all the modifications, save the NEW CP/M using the following commands...

^AC
>A)
^SAVE 44 CPM48.XDY <C/R>

To put your new CP/M on a disk use the SYSGEN command in conjunction with the NEW operating system...

^SYSGEN CPM48.XDY <C/R>

and follow directions from SYSGEN

These modifications should make your CP/M a little more pleasant to use.

by: W. Blady

Most of you are probably aware of this library, but I would like to bring to your attention this particular volume because of it's content. This is probably one of the more interesting disks because it is full of CP/M utilities that are compatible with our machines.

I've had the unfortunate opportunity to say these few but relevant words "wonder how I ever did without it" sadly true however. My misfortune began when one day I was doubting the validity of programs that were being transferred from one disk drive to another. Sure enough, errors were being generated somewhere. They were even getting past the disk command to verify "[v]" on PIP transfers.

This brought my attention to searching the CP/M users library for a more thorough checking program, which I had spotted some months earlier. As luck was with me there it was 'COMPARE.COM'. Sure enough, this confirmed my suspicions, the data was being changed just ever so slightly. But if it was a program then of course this was disaster with a capital 'D'. After five hours of tracing down and checking various hardware possibilities, bad ram was located in the Sorcerer, around the 32K position.

Well since this had been possibly going on for some time, I had to check out programs that were transferred months previously. I've some 40 - 8" disks in my library, so the job was monumental to say the least. The program 'COMPARE.COM' grew on me you might say. I can spell it frontways, backwards and even sideways.

Now that I've told you the troubles I went through let me recommend this program as a must for anyone that wishes to remain sane.

There is one unfortunate thing with the CP/M users library though, they send all the disks out only in 8" format. So if you know someone with an 8" drive that can read single density you might be all right. This program is so convenient and FAST we are going to include it on our next library tape. Below, please find outlined some of the more relevant programs that are on VOLUME 40.

/.COM	Quickie submit
ALLOC.COM	Prints bit map of disk usage.
COMPARE.COM	See if two files match exactly.
CAT.COM	Master cataloging system.
CV.COM	Split screen VDM 2 file compare.
D.COM	Shows what files are different from previous time
DI.COM	Directory listing program.
DU.COM	Disk utility:scan,patch,modify etc...
EJECT.COM	"EJECT n" pages on CP/M list device.
FMAP.COM	File map (stand alone, and part of cataloging system.)

Most of these programs can be transferred to the 5 1/4" CP/M systems via tape so you should not encounter any problems once you have located a source for them.

by: H.A. Lautenbach

PIRANHA WINNER

The winner of the Northamerican Software Joystick & Audio interface card is Rick Carlsen from Kingston, ONT. with a splendid score of over 500,000 points. Our most hearty congratulations go out to him.

TOTAL number of contestants --- 1 (one)

This looks like we had a large number of interested participants in our first contest. And he was worried about being beaten?!!!!#!%@@@ All he had to do was write in, never mind about a score at all.

Hopefully in our next contest you guys will provide just a little competition for him. He thinks you'r all heart.

The Editor who mumbles.

Program Reviews

GALAXIANS

This seems to be one of the best type of arcade games that I've seen for some time. It is very challenging and requires quick reflexes. Yes the enemy fighters come down after you just like in the real quarter eaters. Maybe not as colourfully but just as quick if not quicker. The game sports no player level of difficulty and you get only three chances to down the fleet or fleets, as the case may be. Each time you can successfully destroy the enemy fighters, the program automatically sets the game to a higher level of play.

As one becomes more and more aggressive also the enemy becomes more and more evasive. This then leads to a faster game and more cunning an opponent. The most that I've been able to score up to now has been 7250 which has led me into the fourth round of play, alas this was difficult.

Now then for those of you who have the game already you might have wondered if you could 'change the fire key' to the numeric pad. Yes one most certainly can. The way to do it is, change address 9EB hex from '01' to '0E' hex. This will now make the '5' key on the numeric pad fire. Hope that you have as much fun with it as I've had.

ASTEROIDS

This program again is like the ones in the arcade places, only the graphics I think are somewhat lacking. All the asteroids are identical in shape and size!! Now then, the game is played by shooting these asteroids and their fragments. Once in a while, a saucer appears to make things difficult for you. The scoring is calculated on the number of asteroids you are able to destroy. One of course has multiple lives so as not to end the game too quickly.

From my brief exposure to this game, I managed to rack up a very powerful score of more than 200,000 several times. Of course this was with the aid of a lead weight resting on the space bar, and I might add it did a splendid job for me while I was having my dinner.

Here's a challenge for those of you with this game. See if you can find the blind spots on the screen and if any of you can get rid of the (ever repeating) same pattern that the asteroids appear on the screen during the third play.

As one can surmise, this one needs to have some 'bugs' removed.

By: The Critical Editor

THE MOUSE CHEESE CONTEST

Here is a program that started something like "Mouse in a Maze" in Donald Spencer's Game Playing with Basic (Hayden Book Company 1977) and has gone through changes to arrive haphazardly in the shape we have now. It gave a good share of entertainment and then got buried - after all, everyone is about a year older now. Here it is unburied and tidied up a bit.

You choose the size of the house and will find out that it takes an awful length of time for a mouse to find the cheese, if the house is large. The default size is 6 x 6, and about twice those dimensions would do also. Then you decide if you want footprints, left by mice as they go here and there in their search. The next option is whether the entrants, such as all those coming to a birthday party, have their names typed in advance in DATA statements, starting at line 3000. That cuts out typing in the midst of general confusion and the contest can get started immediately. The names are printed out, with the numbers of mice being backed. There is the option at this point of printing a copy of the list of who backs whom, if you have a printer. Alternatively, names can be typed in without the advance preparation, by input statements. Then the mice start running in turn, and when each finds the cheese the time it took is printed. After a short delay the next mouse enters the house and starts its search. There is excitement to know how long it will take in relation to the others that have already run, the computer, having kept note of everything, does a calculation to know who has won, and then declares the name of the winner and awards a prize. The program allows a souvenir copy of the screen to be issued at this point, assuming you have a screen dump program for the printer loaded at address 0000 Hex, or jump address to the routine. This is called by an `USR` call.

```

0 REM      MOUSE
1 REM      (C) 1979 SN Afriat
2 CLEAR 1000
3 H$=" M O U S E Cheese Contest "
4 GOSUB 6000:GOTO 5000
5 REM ENTER '0' FOR 'NO' & '1' FOR 'YES'
8 T=1:REM ----- the contest
9 PRINT CL$,HH$,CQ$
13 PRINT"Mouse no. ";T
15 GOSUB 600:A=46:IF F THEN A=136
25 I=2:J=N:GOSUB 500:POKE L,159:I=N-1:J=1:GOSUB 500:Q=L
30 POKE L-1,62:S=0
100 R=RND(1):S=S+1:K=INT(4*R+1):P=Q
130 ON K GOTO 210,220,230,240
210 I=I-1:IF I<>0 THEN 300
215 I=I+1:GOTO 100
220 J=J+1:IF J<>N+1 THEN 300
225 J=J-1:GOTO 100
230 I=I+1:IF I<>N+1 THEN 300
235 I=I-1:GOTO 100
240 J=J-1:IF J<>0 THEN 300
245 J=J+1:GOTO 100
300 GOSUB 500:Q=L:POKE P,A:POKE Q,132
320 IF I<>2 OR J<>N THEN 100
325 POKE L,132:PRINT"time";S:C(T)=S:T=T+1
332 IF T>T0 THEN 700
335 PRINT"Mouse no. ";T
340 FOR D=0 TO 1000:NEXT D:GOTO 25
499 REM ----- scrn loc
500 L=E+64*I+2*J:RETURN
599 REM ----- the house
600 FOR I=1 TO N:FOR J=1 TO N
610 GOSUB 500:POKE L,46:NEXT:NEXT:RETURN
699 REM ----- the winner
700 V=C(1):V$=C$(1)
705 PRINT CQ$:FOR L=1 TO N+8:PRINT:NEXT
706 FOR L=1 TO 16:T$=T$+C$$:NEXT
710 FOR T=1 TO T0:IF V>C(T) THEN V=C(T):V$=C$(T)
1010 NEXT:PRINT T$,"Lucky ";V$;"!"
1020 PRINT T$;" your prize *** * * ";C$;C$;C$;C$;C$;C$
1030 PRINT:PRINT T$;"A record for the occasion";:INPUT F0
1040 IF F0 THEN GOSUB 4000
1050 PRINT T$;"Another contest";:INPUT F1:IF F1 THEN RUN
1055 END
1999 REM ----- read old entrants
2000 READ T0:DIM C$(T0),C(T0):PRINT
2010 FOR T=1 TO T0:READ C$(T):PRINT
2020 PRINT"Mouse no. ";T;" - ";C$(T)
2030 NEXT:PRINT:PRINT
2040 INPUT"Everyone ready";A$
2045 A$=0$:INPUT"copy";A$
2050 IF A$<>0$ THEN GOSUB 4000
2060 GOTO 8
2990 REM ----- number & names
2999 DATA 7
3000 DATA Ken Wood,Tubbs Davies
3010 DATA Carlo Lombardi,Geoff Hall
3020 DATA Ralph Mackintosh,Cristobal Silva
3030 DATA Alexander Afriat
3999 REM ----- printer
4000 POKE 260,0:261,0:DUMMY=USR(0):RETURN
4999 REM ----- input new entrants
5000 PRINT CL$,HH$:PRINT:PRINT
5010 INPUT"Size of house";N:INPUT"Footprints";F
5020 INPUT"New entries";E0:IF 1-E0 THEN 2000
5030 INPUT"Number of mice entering";T0:DIM C(T0),C$(T0)
5040 PRINT:PRINT,"Who backs Who.":PRINT
5050 FOR T=1 TO T0:PRINT"Mouse no. ";T;
5060 INPUT C$(T):NEXT:PRINT
5070 INPUT"A number for chance";R:R=RND(-R)
5080 GOTO 8
5999 REM ----- init
6000 CL$=CHR$(12):CQ$=CHR$(17):CS$=CHR$(19)
6010 C$=CHR$(158)+" ":REM --- the cheese
6020 HH$=" "+C$+H$+C$
6030 R=1:N=6:E=-3695
6100 RETURN

```

TO ALL MEMBERS

Due to Canada having a long mail strike, this explains the delay in you receiving your copy of PORT FI
We should all get MODEMS!!!!

Tony Bagshaw

SORCERER TECHNICAL TIPS

The MOST CONTROL for the LEAST

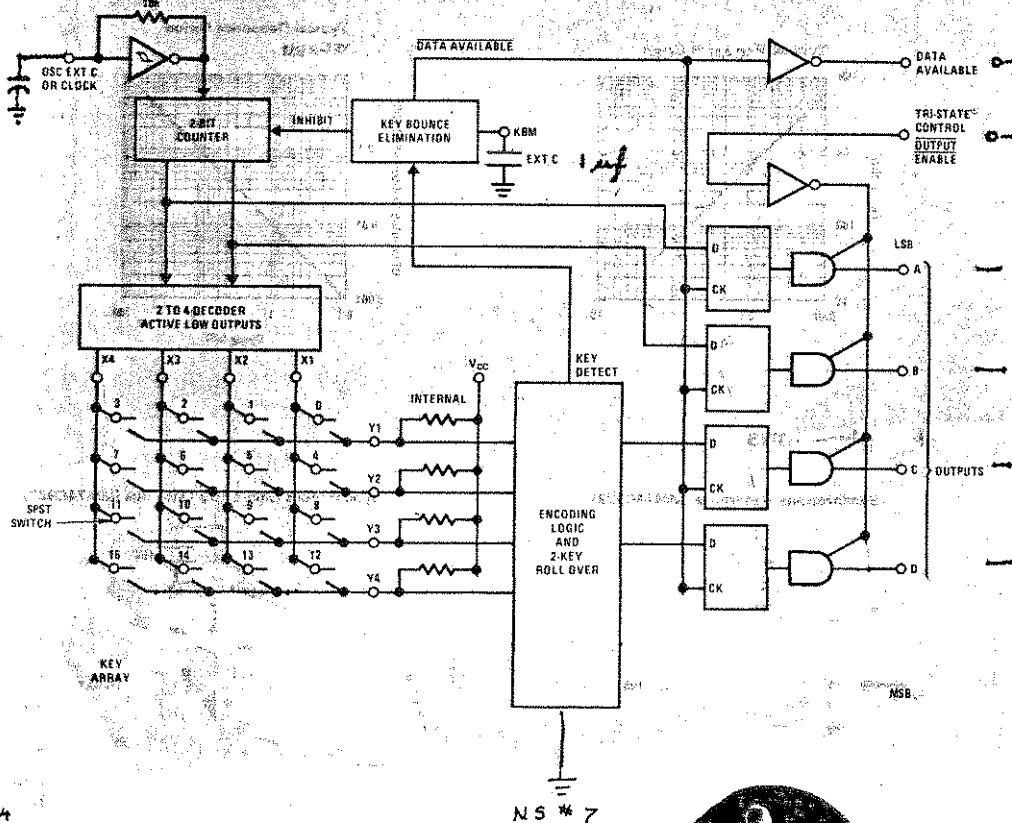
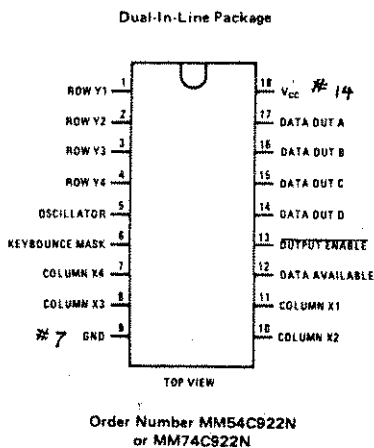
Joystick input is becoming more and more popular for game control variations. The only comments that I have ever had regarding this type of input (joystick) is that in some ways it lacks flexibility. The joystick input adopted by most of the Sorcerer Users groups and software supply houses (ref. March Issue PORT FE). Utilizing the Atari type controllers is limited to the joystick itself and the fire button. This I feel is not enough.

The following method that I have adopted will allow for far greater flexibility for each player than most controllers for games on any type of system running today. The number of additional control commands in addition to the joystick number (12), yes twelve additional game control commands for each player. Just think of the flexibility this can have on more complex games.

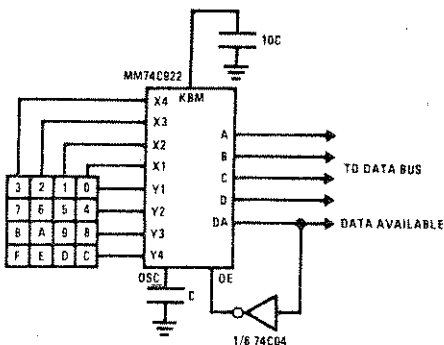
The heart of this scheme is the keypad decoder chip 74C922, fully compatible with the Sorcerer. This chip sells for around \$5.00 and a keypad can be purchased for around \$14.00, some ribbon cable, a box, a little work and you have something that you can be proud of. This with a 3 x 4 keypad and four buttons (or joystick), buttons are easier to come by and will give one the ultimate flexibility for games. I believe the Intelelevision game controllers use this method for their units, most effectively. I must add. Any of the 12 additional command codes can be interpreted for a variety of game functions. The rest I leave to your imagination.

The pinouts shown are for the Northamerican Software Joystick/Audio interface card.

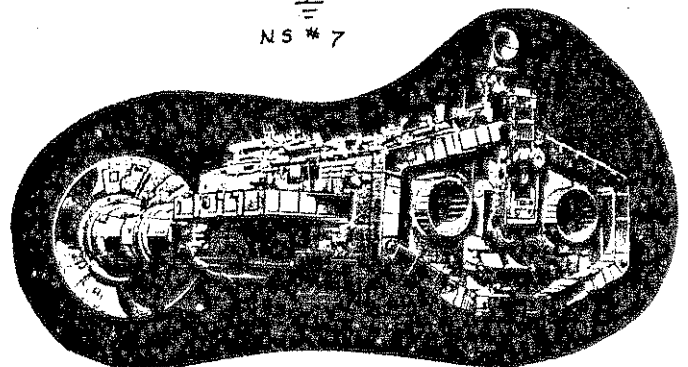
block diagram



Asynchronous Data Entry Onto Bus (MM74C922)



Outputs are in TRI-STATE until key is pressed, then data is placed on bus. When key is released, outputs return to TRI-STATE.



SORCERER USERS' GROUP (TORONTO)

Membership Application Form

Covering Jan. to Dec. 1981

Membership to the group is not restricted to the TORONTO area. All persons willing to participate are invited to join.

As a member of the Sorcerer Users' Group (Toronto), I enclose the annual membership fee and agree to the following Terms.

1. That I will not, without the authorization of the board of directors, represent myself or take any action as agent, or representative or become spokesperson of the group.

2. That I will not use any software obtained from the SUCT library for any commercial purpose or financial gain. The library shall be available to me should I wish to obtain programs donated by other members. These programs shall not be distributed without the owners consent and/or the consent of the board of directors.

3. That I have the right to vote for the officers and directors of the organization at the annual general meeting.

4. That any breach of the above conditions and any other restrictions that the board of directors may invoke in the future on my part may result in suspension or termination of my membership without refund.

Annual Membership Rates : (Jan - Dec): Effective May 1981

Canadian - \$15.00 Cdn - U.S. & Foreign \$15.00 (U.S Funds) PLUS \$8.00 Postage

Payable to - SORCERER USERS' GROUP (TORONTO) - by Cheque or Money Orders.

The SUCT program library is available to all members in the following manner.

You may send \$6.00 for each volume as they become available and we shall supply the cassette/s. Program cassettes shall be sent via Air Mail.

All issues of PORT FE shall be mailed first class, in the case of non local issues, they are mailed via Air Mail. Past issues of PORT FE are only available for the current calendar year. Contact the editor, he will advise the amount of payment for previous issues.

NAME(print):
ADDRESS:
CITY:
POSTAL CODE:
TELEPHONE: Res. Bus.

Payments enclosed (membership): Library tape/s.

Signature:

Please list the type of equipment you are using etc.
Sorcerer size: 8, 16, 32, 48, other, \$100, Graph board,
Disk system - Micropolis, Discus, Exidy, other, Size,
Other Equipment

If you belong to any other Sorcerer Users' Group please list it below.