

# PORT FE

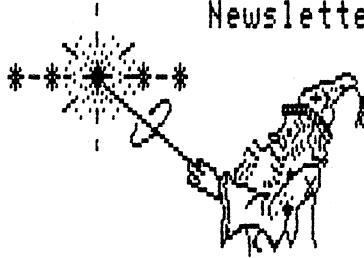
SORCERERS USERS' GROUP

(Toronto)

P.O. Box 1173 Sta. 'B'  
Downsview, Ontario,  
Canada. M3H 5V6

S O R C E R E R

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.

July 1981 ISSUE

## TABLE OF CONTENTS

1. - The WP PAC tells the PRINTER By S.N. Afriat

### CP/M SECTION:

2. - CP/M 2.2 CBIOS Revisions By W. Blady
4. - CP/M USERS GROUP LIBRARY REVIEW
5. TIDBYTES
  - Program Reviews
  - The Mouse Cheese Contest (Basic game)

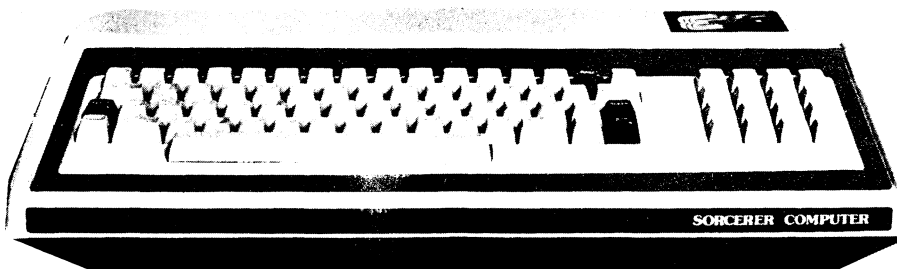
### SORCERER TECHNICAL TIPS

7. - Ultimate Joystick Flexibility
9. - MEMBERSHIP APPLICATION FORM

## 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 programmable 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 BC reg
02 CD 08 00    call send        ;= norm or cntrl, initially norm
03 C1          pop BC           ;get it back
04 F1          pop AF           ;get it back
05 C9          ret              ;regs restored and return
06 FE 40      norm             cp @          ;is it @ ? (change this char '@')
07 A2 70 DE    jmp nz printer;no, then send it to printer
08 01 15 00    ld BC cntrl      ;yes, then change send
09 ED 43 03 00 chnge          ld (adrs),BC ;from norm to cntrl
10 C9          ret
11 01 09 00    cntrl           ld BC,norm    ;change send
12 CD 10 00    call chnge      ;from cntrl back to norm
13 D6 40       sub 40          ;obtain cntrl char
14 C3 70 DE    jmp printer     ;send it

```

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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 SECTION

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.

```
~ MOVCPM43 <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 C8 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 B1 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 20 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 "^S" 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. Biady

## CP/M USERS LIBRARY REVIEW 'VOLUME 40'

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

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### 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

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### 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:GOTO 25
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$+C$(L):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$=O$:INPUT"copy";A$
2050 IF A$<>O$ 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

```

## The MOST CONTROL for the LEAST

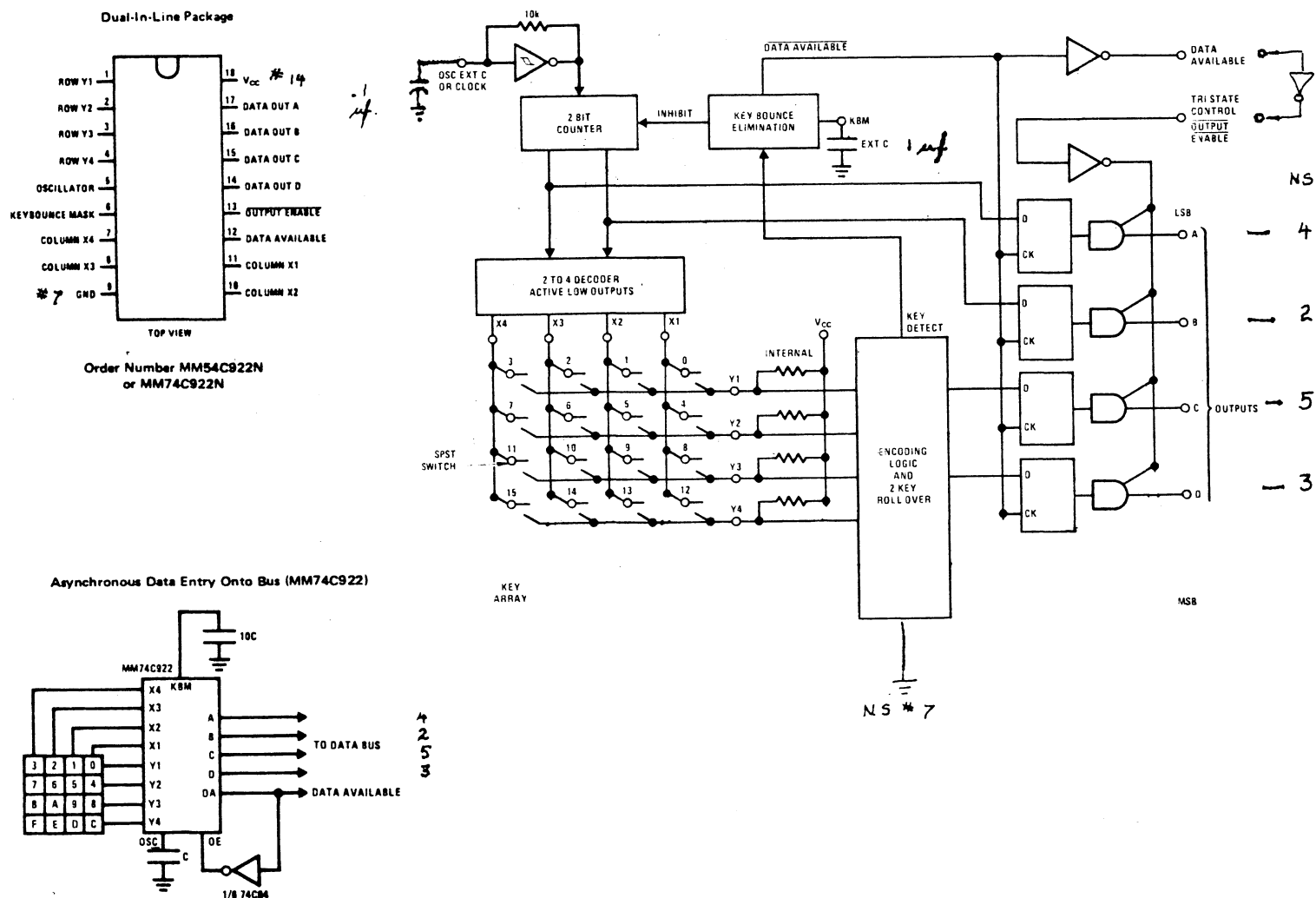
Joystick input is becoming more and more popular for game control variations. The only comments that I have ever had regarding this type of input (joystick) is that in some ways it lacks flexibility. The joystick input adopted by most of the Sorcerer Users groups and software supply houses (ref. March 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



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)

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..... S100... Graph board.....  
Disk system - Micropolis..... Discus..... Exidy..... other... Size.....  
Other Equipment .....

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

# NORTHAMERICAN SOFTWARE

## EXIDY DATA PRODUCTS

### SORCERER COMPUTERS

DP 1000-2 16K RAM Sorcerer computer  
DP 1000-3 32K RAM Sorcerer computer  
DP 1000-4 48K RAM Sorcerer computer

The Sorcerer Computer is a completely assembled and tested computer system. Standard configuration includes 65-key typewriter-style keyboard and 16-key numeric pad, Z80 processor, dual cassette I/O with remote computer control at 300 or 1200 baud data rates, RS232 serial I/O for data communications, parallel port for direct hard copy printer attachment, 4K ROM operating system, composite video of 64 char/line, 30 line/screen, 128 upper/lower case ASCII character set and 128 user defined graphic symbols, personal computing manual, BASIC manual, cassette and video cables and connection to S100 bus expansion.

### SORCERER COMPUTER EXPANSION

DP 1001 16K Memory Expansion Kit

Component parts and instructions to add-on memory within the Sorcerer computer enclosure. Maximum RAM expansion internally is restricted to 48K.

DP 1004 S100 Expansion Unit

A completely self-contained 6-slot chassis styled in the Sorcerer fashion with S100 translation logic, interconnect cable and internal power supply.

### SORCERER COMPUTER ATTACHMENTS

DP 1005 12" Video Display Unit

A twelve inch professional CRT display with 20 MHz bandwidth for high resolution and P31 phosphor screen for minimum eye fatigue. Connects directly to the Sorcerer computer with the video cable supplied.

DP 6300 Display/Disk Unit

Dual floppy disk drives with 614K bytes of formatted data storage on five and a quarter inch diskettes. A twelve inch CRT display with 20 MHz bandwidth and P31 phosphor all housed in a swivel-based enclosure that connects directly to the Sorcerer computer keyboard enclosure. CP/M operating system, Z80 assembler, Text Editor, Linking Loader and Microsoft Extended Disk BASIC (DP 7200) are included.

DP 6400 Floppy Disk Subsystem

308K bytes per disk, independent interface logic expandable to two drives, uses five and a quarter inch diskettes, plugs directly into Sorcerer's 50-pin edge connector. Includes CP/M and BASIC package (DP 7200).

DP 6401 Floppy Disk Add-On

308k bytes per disk, uses five and a quarter inch diskettes, Daisy chains to Floppy Disk Subsystem with cables included.

DP 6110 Dot Matrix Impact Printer

125 characters per second, 45 lines per minute, 9x7 dot matrix, bi-directional printing with 100% duty cycle, 2-way paper entry with variable forms width, 96 ASCII print characters, Parallel interface.

DP 6120 Daisy Wheel Printer

25 characters per second, 136 (Pica Pitch) printable columns, bi-directional print capability (software selectable with Word Processor ROM Pac and Disk Drive Interface Routine DP 2004 and DP 7220). 96 ASCII print characters, letter print quality up to three copies, Parallel interface.

DP 6130 Daisy Wheel Printer (Fall 1980)

45 characters per second, 136 (Pica Pitch) printable columns, bi-directional print capability (software selectable with Word Processor ROM Pac and Disk Drive Interface Routine DP 2004 and DP 7220). 96 ASCII print characters, letter print quality up to three copies, Parallel interface.

## **SORCERER COMPUTER ACCESSORIES**

### **DP 5001 Guided Tour of Personal Computing**

A simple, easy to understand booklet introducing you to your Sorcerer. Contents include: Introduction, hook-up instructions, description of system components, introduction to programming, detailed operation, keyboard description, user-defined graphics, serial & parallel ports, cassette I/O, video I/O, S100 bus and much more. Included with Sorcerer computer.

### **DP 5002 Sorcerer Standard Basic Manual**

A tutorial manual for the beginning BASIC programmer. Describes conventions and definitions, 2-key commands, special features of Sorcerer, editing and correcting programs, I/O loops and branches, numerical expressions and operations, numerical arrays, logic, numerical functions, strings, subroutines, graphics, tips on debugging and much more. Included with Sorcerer computer.

### **DP 5008 Sorcerer Software Manual**

For the more advanced programmer. Includes introduction to Z80 Micro-processor, Sorcerer architecture, Exidy Standard Basic, Power-on monitor and monitor listings.

### **DP 5009 CP/M Operating System Manual**

A must for understanding Sorcerer's disk operating system. Includes a functional description of CP/M, its general command structure, file references, switching, disks, forms of built-in commands, line editing and output control, transient commands, BDOS error messages, operation of CP/M on Intel's MDS microcomputer development system. Also includes: CP/M Interface Guide that describes 1st and 2nd level system regeneration, diskette organization, BIOS entry points, sample "cold start" loader and more; ED: A context editor User's Manual; CP/M Dynamic Tool (DDT) User's Guide; CP/M Assembler, (ASM) User's Guide; Exidy's CBIOS User's Guide. Included when ordering DP 7200 software for DP 6300 Display/Disk or DP 6400 Floppy Disk.

### **DP 5010 Z80 Development Manual**

Explains the use of EXASM a Z80 relocating assembler and set of pseudo-ops, and EXLINK a relocating loader. Included when purchasing CP/M software DP 7200.

### **DP 5011 Extended BASIC Reference Manual**

Tutorial in nature, this manual describes general information, commands and statements, functions, new features, Disk I/O, assembly language subroutines, EXBASIX with CP/M, converting programs to EXBASIC, summary of error codes and messages, math functions, and ASCII character codes. Included when purchasing CP/M software DP 7200.

### **DP 5012 BASCNVRT Disk Utility Manual**

User's Guide explaining how utility program BASCNVRT is used to copy Exidy standard BASIC programs stored on cassette to CP/M compatible diskette in any CP/M disk format. Included when ordering CP/M software DP 7200.

### **DP 5013 Disk Utility Package Manual**

A tutorial describing DSKCNVRT Format Disk Utility and Copy Disk Utility with example runs and error messages.

### **DP 5014 CPMINT Manual**

A manual that describes Exidy's CPMINT programs that transfer files or interface two or more incompatible systems.

### **DP 5006 Development Pac User's Manual**

A personal guide to writing Z80 machine language programs with minimum effort by explaining the use and the structure of the Development ROMPac (DP 2003) and its five main modules - DDT80, Designer's Debugging Tool; Assembler; Loader, and SOCERIO.

### **DP 5007 Word Processing Manual**

A guide to assist you in becoming familiar with the Word Processor's text editing features. It describes how to: enter and edit text, save and load text, and print the text. Also describes: special features, printing options, dynamic printer controls, print drives, and I/O specifications, using the mail-merge macro and the disk drive option.

### **DP 5003 Sorcerer Technical Manual**

Although some of the information is of general use to each SORCERER owner, this manual is intended for the skilled technician or engineer. It is not intended as a service manual, yet includes technical information such as: software, memory addressing and allocation, power-on monitor, and relocating the monitor stack, hardware, designations, modifications, performance, tests, cassette interface logic, cassette I/O troubleshooting hints, interface connectors and specs, data cables, logic board, tape interface board, timing diagrams, schematics and parts list.

**DP 5004 S-100 Expansion Manual**

Technical in nature this manual is intended for the experienced technician or engineer, but should not be used as a service manual. It describes the mechanical layout, 110V-220V conversion, Sorcerer 50-pin edge connector pinout table, connection of the ribbon cable, S-100 bus signals, theory of operation, schematic, performance tests, diagnostic tests and programs, and waveform diagrams for diagnostic programs.

**DP 5005 Video Display Service Manual**

This manual provides general information on the installation and use of the Video Display Unit (DP 1005). It describes installation and safety procedures, selected parts list and monitor schematic.

**DP 5015 Display Disk Operators Manual**

A tutorial manual that describes unpacking and inspecting procedures, installation and safety procedures, set-up instructions, CP/M operating system, diskettes, loading and unloading diskettes, copying diskettes, troubleshooting and specifications. Included with Display Disk Unit (DP 6300).

**DP 5016 Floppy Disk Subsystem Manual**

This manual provides a physical and functional description and specification, checkout, diskette handling, instructions and trouble-shooting guidelines. It is not a service manual.

**DP 5017 Books of Sorcery**

Limited edition, 5 volume set containing 105 BASIC programs covering areas of small business, education and science, games, and home economics. Ideal way for first time users to better understand BASIC.

**DP 3003 Sorcery Cassette Programs**

Limited edition of best eight programs from BASIC programs listed in the 5 volume Books of Sorcery.

**DP 4003 Parallel Data Cable**

This cable connects the Sorcerer's parallel interface to the input of a Centronics compatible dot matrix or daisy wheel printer.

**DP 4005 Serial/Cassette Data Cable**

This cable assembly connects the Sorcerer's serial interface to one or two cassette recorders or to an RS232 device such as a Bell 103A compatible modem or a serial interface daisy wheel printer.

**DP 4006 S100 Expansion Daisy Chain Cable**

50-pin flat ribbon cable with two card edge connectors and one female socket transition connector. Interfaces the Sorcerer computer to a Floppy Disk and an S100 Expansion Unit.

**DP 4007 Floppy Disk Add-on Cable Assembly**

34-pin flat ribbon cable and 4-wire power cable interfaces the Floppy Add-on (DP 6401) to the Floppy Disk Unit (DP 6400).

**SORCERER COMPUTER SOFTWARE CARTRIDGES**

**DP 2001 EPROM Pac**

Provides the user with the capability of using his own executable machine code application software as turnkey firmware. Up to 16K EPROM memory. Accepts four 2717 EPROMS. Can be modified to accept 2708, 2732 or 2764 EPROMS.

**DP 2002 Standard Basic Pac**

Provides a turnkey interpretive Microsoft BASIC. 8K ROMPac includes all ANSI standard BASIC commands plus CSAVE, CLOAD, PEKE, POKE, INP, OUT and WAIT. Special USR(x) function allows BASIC programs to call machine language subroutines.

**DP 2003 Development Pac**

Z80 software development system. Includes Z80 assembler, relocating linking loader, line editor, I/O routines and DDT80 operating system debugger.

**DP 2004 Word Processor Pac**

A powerful text editing and formatting system for business or personal applications. Features include: text editing, automatic wrap-around, global search and replace. One key commands include: end-to-end cursor line SCAN, INDENT, TAB, SOFT HYPHEN, DELETE and four-direction cursor control. Output formatting includes dynamic print

control, indentation, right justification, line width and line-to-line spacing, proportional letterspacing, boldface printing, subscripting and superscripting. Also includes higher level macros for mail-merge letter typing, multiple column printing and automatic multiple form entry.

#### PROGRAMMING LANGUAGES

##### DP 7310 Extended Disk BASIC/Conversion

This enhanced version of Microsoft's BASIC V5.03 utilizes the graphics capability of the Sorcerer. It features chaining, program tracing, editing, appending, renumbering, auto lining, 16-digit precision, formatted output, error trapping, random access files, program overlays and more. Requires 32K Sorcerer minimum.

##### DP 7320 Fortran

Microsoft's ANSI compiler that operates under CP/M (DP 7200) and a 48K Sorcerer computer with disk drives.

##### DP 7330 Cobol

Microsoft's ANSI interpreter release 3.0. A full level 1 COBOL with many of the features of level 2. Operates under CP/M (DP 7200) and a 48K Sorcerer computer with disk drives.

#### SYSTEM SOFTWARE AND UTILITIES

##### DP 7200 Exidy CP/M Software Package

One diskette and documentation manual that contains the CP/M operating system; disk utilities such as: an editor, 8080 assembler, loader, file copy, debugger, etc. It also contains Exidy disk utilities, such as disk copy, format and conversion routines; Exidy relocating Z80 assembler, Exidy relocating linking loader, Exidy/Microsoft Disk Extended BASIC, BASIC ROM Pac disk conversion routine, Development ROM Pac disk conversion routine, and Word Processor ROM Pac disk interface routine. Included with Disk Drive Systems (DP 6300 & DP 6400).

##### DP 7260 Exidy Z80 Development System

One diskette and documentation manual that contains; EXASM, a relocating Z80 assembler that supports Zilog assembly mnemonics plus a powerful set of pseudo-operations; program EXLINK, a relocating linking loader that is used to create CP/M command programs from output of EXASM; and DEVCNVRT, Exidy Development Pac Disk Conversion Routines (DP 7210). Included with purchase of CP/M Software Package (DP 7200).

##### DP 7240 Exidy CP/M Operating System

One diskette and documentation manual that contains the CP/M disk operating system, CP/M disk utilities and Exidy disk utilities. Product also used as "upgrade kit" for users who have Lifeboat Associates' format CP/M for Micropolis Mod II and Mod I disk drives and want to run Exidy software.

##### DP 7250 Exidy CP/M to CP/M Conversion

One diskette and documentation manual that contains a generalized set of utilities such as HMS77, HMS40 and HMM1 to convert disk files from any CP/M format to Exidy's format, and vice-versa.

##### DP 7210 Exidy Dev Pac Conversion Routine

Program DEVCNVRT which allows upward compatibility conversion of Development Pac Z80 source and hex object cassette files to disk files; to be used with Exidy's disk editors, assemblers and linker, but does not use the ROM Pac in its operation. Included with CP/M software package (DP 7200).

##### DP 7220 Exidy Word Pro Pac Interface

Program DISKDRIV allows the Word Processor ROM pac to communicate with disk as well as cassette tape for file and macro storage. Uses the ROM Pac in its operation. Included with CP/M software package (DP 7200).

##### DP 7270 Exidy BASIC Conversion Routines

Program BASCNVRT allows upward compatible conversion of BASIC ROM Pac program cassette tape files to disk files. Used with Exidy's Disk Extended BASIC but does not use the BASIC ROM Pac in its operation. Included with CP/M software package (DP 7200).

#### APPLICATIONS SOFTWARE

##### DP 7000 Micro Biz

Disk based business applications software packaged to be used primarily with Exidy 80 Series Systems. Highly interactive, tutorial or menu-driven and intended for the first time small business user. This package includes the following modules: General Ledger, Accounts Payable, Accounts Receivable, Inventory Control and Personnel/Payroll.

**DP 7100 •Micro Home•**

Cassette Basic home/hobbyist utility package containing applications software for such tasks as: maintaining an appointment calendar, managing a family budget, filing receipts and doing metric conversions.

**DP 3002 •Dumb Terminal Routines•**

This cassette based program allows the user to use the serial RS232 telecommunications capabilities of the Sorcerer at 300 or 1200 baud in the half or full duplex mode.

**EXIDY DATA SYSTEMS**

Exidy, the price performance leader in Z80 microcomputer and disk based systems introduces the Series 80 Systems. With the appropriate software and peripherals available from Exidy, the user has the flexibility and modularity for the most demanding requirements. System 80 (DP 8000) is the entry level system priced under \$6200.00 and with a wide selection of peripherals and software, the user can create and build a customized personal system. System 80/1 (DP 8100) is the Small Business System intended primarily for the first time small business user. System 80/2 (DP 8200) is the Word Processing System intended for the Electronic Office, Law Firms, Insurance Companies, or wherever large volumes of text must be generated. The following is a product configuration for each system, hardware/software options and the system price. Please note that each product has been previously described.

**DP 8000 Exidy System 80**

DP 1000-4 Sorcerer Computer  
DP 6300 Display/Disk System  
DP 7200 CP/M Software Package

**DP 8100 Exidy Small Business System 80/1**

DP 1000-4 Sorcerer Computer  
DP 6300 Display/Disk System  
DP 7200 CP/M Software Package  
DP 6110 Dot Matrix Printer  
DP 4003 Parallel Data Cable  
DP 7000 Micro Biz Software Package

**DP 8200 Exidy Word Processing System 80/2**

DP 1000-4 Sorcerer Computer  
DP 6300 Display/Disk System  
DP 7200 CP/M Software Package  
DP 6120 Daisy Wheel Printer  
DP 4003 Parallel Data Cable  
DP 2004 Word Processor ROM Pac

This price list is subject to change without notice.

# NEW RELEASES FROM EXIDY NORTHAMERICAN SOFTWARE

ALL EXIDY PROGRAMS NOW AVAILABLE THROUGH NORTHAMERICAN

## New CP/M Software

US FUNDS

Auto Boot PROM PAC for Exidy CP/M DP 2005 \$ 99.00  
systems. allows full use of your  
available memory.

EXBAS Full disk extended basic c/w single  
keystroke entry. (MBASIC 5.03 equiv) DF 7310 325.00

FORTRAN DP 7320 750.00  
COBOL DP 7330 1000.00

CP/M Complete Systems Package DP 7200 650.00  
CP/M Standard package DP 7240 200.00  
CP/M Conversions (Lifeboat to Exidy CP/M) DP 7250 99.00  
280 Disk Development System DP 7260 125.00  
Exidy CP/M full screen editor DP 7280 99.00  
Exidy precision PRINT driver routines DP 7221 125.00  
Cassette version PRINT driver routines DP 7222 99.00  
Development PAC to disk conversions DP 7210 99.00  
WPP PAC to disk conversions DP 7220 99.00  
Exidy ROM PAC BASIC to Extended 19k BASIC DP 7272 49.00  
Exidy 19k BASIC to EXBAS disk BASIC DP 7271 99.00

General Ledger DP 7001 350.00  
Accounts Payable DP 7002 350.00  
Accounts Receivable DP 7003 350.00  
Inventory Control DP 7004 350.00  
Payroll & Personnel (U.S. only) DP 7005 350.00  
Order Entry DP 7010 350.00

Microhome programs DP 7100 30.00  
Dumb Terminal DP 3002 30.00  
Sorcery Cassette Programs DP 3003 50.00  
SPELLBINDER (Word Processor) ----- 400.00

Sorcerer Toolkit for ROM PAC BASIC ----- 69.95  
SWORD (Sorcerer Word Processor 4K ML) ----- 44.95  
Super Graphic Scratch Pad Ver. 2.2 ----- 24.95  
Know Your Sorcerer 1,2,3 (for beginners) ----- 24.95

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# NORTHAMERICAN SOFTWARE PRODUCT DESCRIPTION

Exidy Systems, Inc. January 31, 1981

## SORCERER COMPUTERS

Hardware	Description	Model Number
16K RAM	The Sorcerer Computer is a completely assembled and tested computer system. Standard configuration includes 63-key typewriter-style key-board and 16-key numeric pad, 2.1 MHz Z80 processor, dual cassette I/O with remote computer control at 300 and 1200 baud data rates, RS232 serial I/O for data communications or serial printing, parallel cassette I/O with remote computer control at 300 and 1200 baud data rates, RS232 serial I/O for data communications or serial printing, parallel port for direct hard copy printer attachment, 4K ROM monitor program, composite video of 64 char/line, 30 line/screen, 128 upper/lower case ASCII character set and 128 user defined graphic symbols. Personal Computing manual (DP 5001), cassette and video cables, connection for S-100 bus expansion included.	DP 1000-2
32K RAM		DP 1000-3
48K RAM		DP 1000-4

## SORCERER COMPUTER EXPANSION

16K Memory Expansion Kit	Component parts and instructions to add-on memory within the Sorcerer computer enclosure. Maximum RAM expansion internally is 48K bytes.	DP 1001
S-100 Expansion Unit	A completely self-contained 6-slot chassis styled in the Sorcerer fashion with S-100 translation logic, interconnect cable and S-100 Manual (DP 5004).	DP 1004
Display/S-100 Unit	A 12" professional CRT with 20MHz bandwidth. For high resolution and P31 phosphor. A self-contained 5-slot S-100 expansion unit containing power supply, mother board and translation logic.	DP 6200

## SORCERER COMPUTER ATTACHMENTS

12" Video Display	A 12" professional CRT with 20MHz bandwidth for high resolution and P31 phosphor styled in the Sorcerer fashion. Connects directly to Sorcerer computer with video cable supplied. Includes Video Display Manual (DP 5005).	DP 1005
Dot Matrix Printer	125 cps, 63 lpm, 9x7 dot matrix, bi-directional 40, 66, 80, 132 column printing. 2-way paper entry with variable forms width. 96 ASCII print characters. Parallel interface cable (DP 4003) not included.	DP 6110
Daisy Wheel Printer	25 cps, 136 (Pica Pitch) printable columns, bi-directional print capability with Word Processor ROM PAC and Precision Print Option DP 2004 and DP 7221/DP 7272 (not included). 96 ASCII print characters, letter print quality up to 3 copies. Parallel interface cable (DP 4003) not included. Full horizontal (1/120")/vertical (1/48") proportional spacing capability.	DP 6120
Daisy Wheel Printer	45 cps, 136 (Pica Pitch) printable columns, bi-directional print capability with Word Processor ROM PAC (DP 2004) and Precision Print Option (DP 7221/DP 7272 not included) only. 96 ASCII print characters, letter print quality up to 3 copies. Parallel interface cable (DP 4003) not included. Full horizontal (1/120")/vertical (1/133") proportional spacing capability.	DP 6130
Graphic Printer	80cps, 46LPM for 80 character line, 9 x 9 dot matrix bi-directional 40,66,80, 132 column printing. Adjustable tractor-type pin feed 4" to 10". 96 ASCII characters. Parallel interface cable DP 4003 not included.	DP 6105
Tractor for Daisy Wheel Printer	Form Tractor for Daisy Wheel Printer both 25 CPS and 45 CPS.	DP 6135
Display/Disk Unit	Dual floppy disk with 616K bytes (Quad Density) of formatted data storage on 5-1/4" diskettes. A 12" CRT display with 20MHz bandwidth and P31 phosphor all housed in a swivel-based enclosure that connects directly to the Sorcerer computer keyboard enclosure. Includes CP/M disk operating system and manuals (DP 7240). Supplied with Operator's manual (DP 5015).	DP 6300
Floppy Disk Subsystem	308K formatted bytes (Quad Density) per disk. Independent interface logic expandable to two drives uses 5-1/4" floppy disks, plugs directly into Sorcerer's 50 pin edge connector. Includes CP/M disk operating system and manuals (DP 7240). Supplied with Operator's Manual (DP 5016).	DP 6400
Floppy Disk Add-On	308K formatted Bytes (Quad Density) per disk, uses 5-1/4" floppy disks. Daisy chains to Floppy Disk Subsystem with cables included (DP 4007).	DP 6401
8" Floppy Disk Subsystem	1.2 million formatted bytes (quad density) double-sided disk. Controller electronics can support up to four drives in combination which means on-line storage capability ranging to 5 million bytes.	DP 6500
8" Floppy Disk Add-On	1.2 million formatted bytes (quad density) per drive, uses 8" floppy diskettes. Daisy chains to DP 6500 subsystem with chassis included.	DP 6501
10 Megabyte Winchester Disk Subsystem	A complete mass storage subsystem consisting of three main components. A Winchester type hard disk drive with a formatted storage capacity of 10 million bytes. Universal power supply and S-100 controller P.C.B. Cables, cabinet and CP/M 2.2 included.	DP 6600
20 Megabyte Winchester Subsystem	A complete mass storage subsystem consisting of three main components. A Winchester type hard disk drive with a formatted storage capacity of 20 million bytes, universal power supply and S-100 controller P.C.B. Cables, cabinet, and CP/M 2.2 included.	DP 6700



## SORCERER COMPUTER ACCESSORIES

### Cables

<b>Parallel Data Cable</b>	This 25-pin connector connects Sorcerer's parallel interface to the input of a Centronics plug compatible dot matrix or daisy wheel printer, or Exidy's printers DP 6110, DP 6120, or DP 6130. Not included when ordering printers.	DP 4003
<b>Serial/Cassette Data Cable</b>	This 25-pin connector cable connects the Sorcerer's serial interface to up to two cassette recorders and to an RS232 device such as Bell 103A compatible modem or a serial interface printer, for example. Not included when ordering Sorcerer computers.	DP 4005
<b>S-100 Expansion Bus Daisy Chain Cable</b>	50-pin flat ribbon cable with two card edge connectors and one female socket transition connector. Interfaces the Sorcerer computer to a Floppy or Display Disk (DP 6400 or DP 6300) and the S-100 Expansion Unit (DP 1004) in a daisy chain manner. Not included with any of these products.	DP 4006
<b>Floppy Drive Add-on Cable Assembly</b>	34-pin flat ribbon cable interfacing the Floppy Add-on (DP 6401) to the Floppy Disk (DP 6400) and 4-wire power cable interfacing Floppy Add-on to Floppy Disk Drive. Included when ordering Floppy Add-on (DP 6401).	DP 4007

## SORCERER COMPUTER SOFTWARE

NOTE: All Exidy disk based software run only under the Exidy CP/M Disk Operating System (DP 7200 or DP 7240). Owners of other CP/M's can upgrade to Exidy CP/M with the CP/M Upgrade Kit (see DP 7240).

### ROM PAC™ Cartridge Software

#### Product

<b>EPROM Pac</b>	Provides the user with the capability of using his own Z80 executable machine code application software as turnkey firmware. Up to 16K EPROM memory. Accepts 4 each 2716 EPROMS. Can be modified to accept 2708, or 2732 EPROMS. Includes instruction booklet.	DP 2001
<b>Standard BASIC Pac</b>	Provides a turnkey interpretive cassette-based Micro-soft BASIC. 8K ROM PAC includes all ANSI standard BASIC commands plus CSAVE, CLOAD, PEKE, POKE, INP, OUT, and WAIT. SpecialUSR (x) function allows BASIC programs to call machine language subroutines. Includes BASIC Manual (DP 5002).	DP 2002
<b>Development Pac</b>	Cassette-based Z80 software development system. Includes Z80 assembler, relocating linking loader, line editor, I/O routines, and DDT80 operating system debugger. Includes User's Manual (DP 5006).	DP 2003
<b>Word Processor Pac</b>	A powerful text editing, word processing and formatting system for business or personal applications. Features include: text editing, automatic word wrap-around, global search and replace commands, one-key commands include end-to-end cursor line SCAN, INDENT, TAB, soft HYPHEN, and four-directional cursor control. Output formatting includes dynamic print control, indentation, right justification, line width and line-to-line spacing. Also includes higher level macros for mail-merge letter typing, multiple column printing, and automatic multiple form entry. Includes Word Processing manual (DP 5007). Cassette-based but can be upgraded to use disk with the Word Processor Pac Disk Interface (DP 7220) and to perform precision printing functions with the Precision Printing Option (DP 7221/2).	DP 2004
<b>Auto Program Load ROM Pac</b>	Automatically loads and initializes CP/M operating system on Sorcerer power up or reset. Used for Display/ disk or Floppy disk (DP 6300 or DP 6400).	DP 2005
<b>Terminal Pac</b>	Transforms the Sorcerer keyboard computer into a glass teletype unit. This turnkey communications software powers-on with a menu of selections including parity, stop bits, 300/1200 baud and full or half duplex.	DP 2006

## PROGRAMMING LANGUAGES

<b>Extended Cassette Basic and Conversion Routines</b>	Enhanced version of Microsoft's Extended Cassette BASIC V5.11/2 utilizes the graphics capability of the Sorcerer. It supports all features of the top-of-the line disk BASIC DP 7310, except disk functions. Includes edit mode, renumber, double precision, WHILE/WEND. Exidy enhancements include graphics, parallel/serial printing and video cursor positioning. Requires minimum 32K Sorcerer. Includes EXBASIC reference manual (DP 5011) and ROM2EXT BASIC conversion routine (DP 7272).	DP 7300
<b>Extended Disk BASIC and Conversion Routines</b>	This enhanced version of Microsoft's top of the line disk BASIC V5.03/2 utilizes the graphics capability of Sorcerer. It features chaining, program tracing, editing, appending, renumbering, auto lining, 16-digit precision, formatted output, error trapping, random access files, program overlays and more. Exidy enhancements include graphics, parallel/serial printing and cursor positioning. Requires minimum 48K Sorcerer, DP 1000-4 and CP/M (DP7200/ DP 7240). Included when purchasing CP/M Operating System (DP 7200). Includes EXBASIC Reference Manual (DP 5011) and ROM2DSK/EXT2DSK BASIC conversion routines (DP 7271).	DP 7310
<b>FORTRAN</b>	Microsoft's ANSI FORTRAN compiler that operates under CP/M (DP 7200/DP 7240) and the 48K SORCERER. (DP 1000-4). Includes Reference Manual.	DP 7320
<b>COBOL</b>	Microsoft's ANSI COBOL interpreter/compiler release 4.0. A full level 1 COBOL with many of the features of level 2, including full screen video capability such as forms, tabs, inverse video, and more. Operates under CP/M (DP 7200/DP 7240) and the 48K SORCERER (DP 1000-4). Includes Reference Manual.	DP 7330

## SYSTEM SOFTWARE AND UTILITIES

<b>Exidy CP/M Disk Software Package</b>	One diskette that contains the CP/M operating system; disk utilities such as: a line editor, 8080 assembler, loader, file copy, debugger, etc.; Exidy disk utilities, such as disk copy and format and conversion routines; Exidy relocating Z80 assembler, EXASM. Exidy relocating linking loader EXLINK. Exidy/Microsoft Disk Extended EXBASIC, BASIC disk conversion routines, ROM2DSK and EXT2DSK Development ROM Pac disk conversion routine DEVCNVRT and Word Processor ROM Pac disk interface routine DISKDRIV. Includes CP/M Operating System Manuals (DP 5009). EXBASIC manual (DP 5011). Z80 Development Manual (DP 5010).	DP 7200
<b>Exidy Development Pac Disk Conversion Routine</b>	Program DEVCNVRT which allows upward compatible conversion of Development Pac Z80 source and hex object cassette tape files to disk files; to be used with Exidy's disk editors, assemblers and linker. It does not use the ROM Pac in its operation. Included with purchase of CP/M operating system (DP 7200). Includes Z80 Development Manual (DP 5010).	DP 7210
<b>Exidy Word Processor Pac/Disk Interface Routine</b>	Program DISKDRIV allows the Word Processor ROM Pac (DP 2004) to communicate with disk as well as cassette tape for text file and macro storage. Uses the ROM Pac in its operation. Included with purchase of CP/M operating system (DP 7200). Described in Word Processor Manual (DP 5007). Includes Option Manual (DP 5019).	DP 7220
<b>Exidy WP PAC Precision Print Option</b>	This option software PPRINT allows the Word Processor ROM PAC to perform precision printing options such as proportional printing, bi-directional printing at high speed (1200 baud serial), superscripting, subscripting and more. Supplied on cassette (DP 7222) or on disk with the WP Disk interface included (DP 7221). Includes Option Manual (DP 5019). Word Processor ROM PAC required but not included.	DP 7221 DP 7222
<b>Exidy CP/M (only)</b>	Single diskette containing CP/M disk operating system. CP/M disk utilities and Exidy disk utilities. Product also used as "upgrade kit" for users who have Lifeboat Associates' format CP/M for Micropolis Mod II (HQ) and Mod I (HD) disk drives and want to run on Exidy disk software products. Includes CP/M Operating System Manuals (DP 5009).	DP 7240
<b>Exidy CP/M to CP/M Conversion Utilities</b>	Single diskette containing the CPMINT package, a generalized set of utilities to convert disk files from any CP/M format to any of Exidy's CP/M formats, and vice-versa. Includes CPMINT Manual (DP 5014). Requires DP 4006 Daisy Chain Cable.	DP 7250
<b>Exidy Z80 Development System</b>	Single diskette containing: EXASM, a relocating Z80 assembler that supports Zilog assembly mnemonics plus a powerful set of pseudo-operations; program EXLINK, a relocating linking loader that create CP/M command programs from output of EXASM; and DEVCNVRT, Exidy Development Pac Disk Conversion Routine (DP 7210). Included with purchase of CP/M operating system (DP 7210). Includes Z80 Development Manual (DP 5410).	DP 7260
<b>Exidy Disk BASIC Conversion Routines</b>	ROM2DSK converts BASIC ROM Pac program tape files to disk files usable by Exidy disk EXBASIC. EXT2DSK does the same for Extended Cassette BASIC program tape files. Both are supplied on disk and are supplied with CP/M software package (DP 7200) and Exidy DISK extended BASIC (DP 7310). Includes BASIC manual (DP 5011).	DP 7271
<b>Exidy Extended Cassette BASIC Conversion Routine</b>	ROM2EXT converts ROM BASIC program tape files to program tape files useable by Exidy Extended Cassette BASIC (DP 7300). Supplied on cassette tape. Included with DP 7300 extended Cassette BASIC. Includes EXBASIC manual (DP 5011).	DP 7272
<b>Exidy DISK Full Screen Video Editor</b>	EXEDIT is a CP/M disk based full screen text editor allowing convenient creation and modification of disk text files such as BASIC, FORTRAN, COBOL, Z80 programs. This is not a line-at-a-time editor such as "ED" supplied with CP/M but a 2-dimensional screen oriented editor. About 30 commands are available. Includes Manual (DP 5018).	DP 7280
<b>Winchester Back-up Routine</b>	A single diskette utility program that allows for program or data back-up of the DP 6600 or DP 6700 Winchester subsystems. 1.2 million bytes capacity per 8" disk.	DP 7290

## APPLICATION SOFTWARE

<b>Accounting Packages</b>	Accounting Packages software is used primarily with Exidy System Series Systems. The 8000 series system utilizes 5 1/4" diskette drives which can store up to 616 thousand characters of information. Using the business system software, your 8000 series system, can maintain up to 600 customers for tracking accounts receivable, up to 100 items for analyzing inventory and up to 120 employees for storing payroll. Accounting packages is highly interactive, turnkey, tutorial or menu-driven and intended for the first time small business user. Requires 48K Sorcerer and two disk drives (Display/disk or Floppy Disk with Add-on). Includes manual.	DP 8000
<b>General Ledger System</b>	G/L performs the essential duties of dual entry bookkeeping and the matching of revenues and expenses. You may have up to 884 accounts. This data includes: <ul style="list-style-type: none"> <li>• Chart of Accounts</li> <li>• Audit Trail</li> <li>• Balance Sheet</li> <li>• Updates your Journal</li> <li>• Profit and Loss Statement</li> </ul>	DP 7001

## APPLICATION SOFTWARE (Cont.)

	Includes Reference Manual and Source Code. Requires 48K Sorcerer and two disk drives. (Display/Disk or Floppy/Disk with add on).	
<b>Accounts Payable</b>	<p>A/P consists of a series of computer programs that carries out the Accounts Payable functions for a small business. Accounts Payable is designed to provide an essentially simplified sequence of operations that can be easily executed on a microcomputer by a person who has only the basic familiarity with such a system. Data includes:</p> <ul style="list-style-type: none"> <li>• Vendor name</li> <li>• Description, quantity invoiced</li> <li>• Voucher number</li> <li>• Purchase order number</li> <li>• Ledger account number to be debited</li> <li>• Ledger account number to be credited</li> <li>• Street address and city-state-zip of vendor</li> <li>• Invoice number</li> <li>• Receiving date</li> <li>• Quantity received</li> <li>• Quantity ordered</li> </ul> <p>Includes Reference Manual and Source Code. Requires 48K Sorcerer and two disk drives. (Display/Disk or Floppy/Disk with add on).</p>	DP 7002
<b>Accounts Receivable</b>	<p>A/R the Accounts Receivable counterpart package quite similar to the the A/P system. The data includes:</p> <ul style="list-style-type: none"> <li>• Customer name and address</li> <li>• Invoice number</li> <li>• Amount</li> <li>• Quantity invoiced</li> <li>• Ledger account number to debit</li> <li>• Ledger account number to credit</li> <li>• Purchase order number</li> <li>• Invoice date</li> <li>• Description</li> <li>• Waybill number</li> </ul> <p>Includes Reference Manual and Source Code. Requires 48K Sorcerer and two disk drives. (Display/Disk or Floppy/Disk with add on).</p>	DP 7003
<b>Inventory Control System</b>	<p>I/C is a series of computer programs that carry out the INVENTORY CONTROL functions for a small business. There is an inventory transactions file and a master file. The data employed are the following:</p> <ul style="list-style-type: none"> <li>• Item number and description</li> <li>• Quantity on order and delivery date</li> <li>• Unit price and name of units used</li> <li>• Lead time, Reorder point and Safety stock</li> <li>• ABC class describing frequency of usage</li> <li>• Job allocation</li> <li>• Quantity of hand</li> <li>• Vendor name</li> </ul> <p>Includes Reference Manual and Source Code. Requires 48K Sorcerer and two disk drives. (Display/Disk or Floppy/Disk with add on).</p>	DP 7004
<b>Payroll/Personnel</b>	<p>In the P/P package, you get two systems for the price of one: a complete payroll system and a personnel management system. Data includes:</p> <ul style="list-style-type: none"> <li>• Name and address, telephone, social security number</li> <li>• Married or single status</li> <li>• Position</li> <li>• Date of action</li> <li>• Action (like hire, raise, fire, etc.)</li> <li>• Salaried or hourly category, rate</li> <li>• Job or work codes</li> <li>• Miscellaneous deductions</li> <li>• Number of exemptions</li> </ul> <p>Includes Reference Manual and Source Code. Requires 48K Sorcerer and two disk drives. (Display/Disk or Floppy/Disk with add on).</p>	DP 7005
<b>Order Entry</b>	<p>A Purchase Order and Sales Order Management System Entry will handle Purchase Order, Sales Order/Invoice functions using program which can:</p> <ul style="list-style-type: none"> <li>• Generate and print Purchase Orders, Sales Orders and invoices in mailable form</li> <li>• Compute Tax on Taxable Purchase Orders, Sales Orders</li> <li>• Organize Purchase Orders, Sales Orders by record number and/or by vendor or customer</li> <li>• Interacts with Accounts Payable and Accounts Receivable to up date its record</li> <li>• Prints new copies of Purchase Orders, Invoices, Outstanding Purchase Orders and Sales Orders</li> <li>• Provides Purchase Order, Sales Order history reports for individual vendors, customers or for all vendors/customers</li> </ul> <p>Includes Reference Manual and Source Code. Requires 48K Sorcerer and two disk drives. (Display/Disk or Floppy/Disk with add on).</p>	DP 7010
<b>Extended Disk Word Processing</b>	<p>A powerful text editing, word processing and formatting system for business or personal applications. Features include: full screen video editor, function keys, global search and replace, automatic word wrap, insert/delete, horizontal scrolling, full block capability, full hyphenation, proportional spacing, pagination, nestable scripts, cue sorting, forms creation and more.</p>	DP 7020
<b>Micro Home</b>	<p>Cassette BASIC home hobbyist utility package containing applications software for such tasks as: maintaining an appointment calendar, managing the family budget, file receipts, computing ingredients and calculating calories, and converting weight, volume, temperature, length and area. Includes User's Manual. Uses ROM BASIC.</p>	DP 7100
<b>Dumb Terminal Program</b>	<p>This cassette based program allows the user to use the serial RS-232C telecommunications capabilities of the SORCERER at 300 or 1200 baud in the half or full duplex mode. With full control over all communication parameters such as number of stop bits, parity etc. Includes reference guide.</p>	DP 3002
<b>SORCERY Cassette Programs</b>	<p>Limited edition of best eight programs from BASIC programs from the 5 volume set, Book of SORCERY.</p>	DP 3003

## MANUALS

<b>Guided Tour of Personal Computing</b>	A simple, easy to understand booklet introducing you to your SORCERER. Contents include: Introduction, hook-up instructions, description of system components, introduction to programming, detailed operation, keyboard description, user-defined graphics, serial parallel ports, cassette I/O, Video I/O, S-100 bus connection, and much more. No charge when buying any Sorcerer	DP 5001
<b>SORCERER Standard BASIC Manual</b>	A tutorial manual for the beginning BASIC programmer. Describes conventions and definitions, 1-key commands, special features of SORCERER, editing and correcting programs, I/O loops and branches, numerical expressions and operations, numerical arrays, logic, numerical functions, strings, subroutines, graphics, tips on debugging, and much more. No charge when buying any SORCERER computer.	DP 5002
<b>SORCERER Technical Manual</b>	Although some of the information is of general use to each Sorcerer owner, this manual is intended for the skilled technicians or engineers. It is not intended as a service manual, yet includes technical information such as: Software, memory addressing and allocation, power-on monitor, and relocating the monitor stack; hardware, designations, modifications, performance, tests cassette interface logic, cassette I/O troubleshooting hints interface connectors and specs., data cables, logic board, tape interface board, timing diagrams, schematics and parts lists. Not included with Sorcerer computers.	DP 5003
<b>S-100 Expansion Unit Manual</b>	Technical in nature this manual is intended for the experienced technician or engineers, but should not be used as a service manual. It describes the mechanical layout, 110V-220V conversion, Sorcerer 50-pin edge connector pinout table, attaching the ribbon cable, S-100 bus signals, theory of operation, schematic, performance tests, diagnostic tests and programs, and waveform diagrams for diagnostic programs. Included when ordering S-100 Expansion Unit (DP 1004).	DP 5004
<b>Disk Utility Package Manual</b>	A tutorial manual describing DSKCNVRT Format Disk Utility and Copy Disk Utility with example runs and error messages for Hard Sected Drives. Included when ordering CP/M Software (DP 7200 or DP 7240) for Hard Sected Drives.	DP 5013
<b>CPMINT Manual</b>	A manual that describes Exidy's CPMINT programs that transfer files or interface two or more incompatible CP/M systems. Included when ordering CP/M interface software (DP 7250)	DP 5014
<b>Display Disk Operator's Manual</b>	A tutorial manual that describes unpacking and inspecting procedures, installation and safety procedures, set-up instructions, CP/M operating system, diskettes, loading, and unloading diskettes, copying master program diskettes; troubleshooting; and specifications. Included with Display/Disk Unit, DP 6300 and CP/M operating system, DP 7200/DP 7240.	DP 5015
<b>Floppy Disk Subsystem Operator's Manual</b>	This manual provides a physical and functional description and specification, checkout, diskette operational instructions, and trouble-shooting guide-lines. It is not a service manual. Included with Floppy Disk (DP 6400) and CP/M Operating System (DP 7200/DP 7240).	DP 5016
<b>Book of SORCERY</b>	Limited edition, 5 volume set containing 105 BASIC programs covering areas of Small Business, Education and Science, Fun and Games, and Home and Economics. Ideal way for first time user to better understand BASIC.	DP 5017
<b>Video Editor Manual</b>	A Manual that describes the Exidy full screen editor EXEDIT allowing convenient creation and modifications of disk text files such as BASIC, FORTRAN, COBOL, Z80 programs. Included when ordering Full Screen Video Editor (DP 7280).	DP 5018
<b>Options Manual for Word Processor Pac</b>	A manual describing the disk drive option (DISKDRIV) and precision print option (PPRINT) to the word processing system. Explains writing to and reading from diskettes, and precision printing, its capabilities table settings, print control characters and the proportional space table. Included with the WP Disk Interface Option (DP 7220) or the Precision Printing Option (DP 7221 - DP 7222).	DP 5019
<b>Video Display Service</b>	This manual provides general information on the installation and use of the Video Display Unit (DP 1005). It describes installation and safety procedures, selected parts list, and monitor schematic. Included when ordering Video Display Unit (DP 1005).	DP 5005
<b>Development Pac User's Manual</b>	A personal guide to writing Z80 machine language programs with minimum effort by explaining the use and structure of the Development ROM Pac (DP 2003) and its five main modules-DDT80, (Designer's Debugging Tool) Editor, Assembler, Loader, and Sorcerer I/O. Included when ordering Development Pac (DP 7003).	DP 5006
<b>Word Processing Manual</b>	A guide to assist you in Word Processing text editing features. It describes how to: enter and edit text, save text, unload text from cassette recorders, and print text. Also describes special features, printing options, dynamic print controls, printer specifications, and includes macro commands for form letter mailings and 2-column right justify printing. Included with Word Processor ROM PAC (DP 7004). See associated Option Manual (DP 5019).	DP 5007
<b>SORCERER Software Manual</b>	For the more advanced programmer. Includes introduction to the Z80 Microcomputer, SORCERER architecture, Exidy Standard BASIC, Power-on Monitor, and Monitor listing.	DP 5008
<b>CP/M Operating System Manual</b>	A must for understanding SORCERER's Disk operating system. Includes a functional description of CP/M, its general commands structure, file references, switching, disks, forms of built-in commands, line editing and output control, transient commands, BDOS error messages. Also includes: CP/M Interface Guide that describes 1st and 2nd levels system regeneration, diskette organization, BIOS entry points, sample "cold start" loader, and more; ED: A context editor User's Manual; CP/M Dynamic Debugging Tool (DDT)	DP 5009

## MANUALS (Cont.)

	User's Guide; CP/M 8080 Assembler (ASM) User's Guide; Exidy's CBIOS User's Guide. Included when ordering: DP 7200 software or DP 7240 or DP 6300 Display/Disk or DP 6400 Floppy Disk	
<b>Z80 Development System</b>	Explains the uses of EXASM (TM) a Z80 relocating assembler and EXLINK (TM) a relocating linking loader. Includes description of DEVCNVRT, Development Pac Disk Conversion routine. Included when purchasing CP/M software DP 7200.	DP 5010
<b>Extended Disk and Cassette BASIC Reference Manual</b>	Tutorial in nature, this manual describes general information commands and statements, functions, new features, Disk I/O assembly language subroutines. Products described are extended cassette BASIC and Disk EXBASIC with CP/M converting programs to EXBASIC (programs ROM2DSK, EXT2DSK, ROM2EXT) summary of error codes and messages, math functions, and ASCII character codes. Included when purchasing CP/M software DP 7200. Extended Disk BASIC (DP 7310).	DP 5011

## EXIDY SYSTEMS 80

Exidy, the price/performance leader in Z80 microcomputer and disk based systems introduces the System 80. With the appropriate software and peripherals available from Exidy, the user has the flexibility and modularity for the most demanding requirements. System 80 (DP 8000) is the entry level system priced under \$5000 and with a wide selection of peripherals and software, the user can create and build his personal system for the most demanding application.

	Model Number
<b>Exidy System 80</b>	DP 8000
Computer, 48K RAM	DP 1000-4
Display/Disk	DP 6300
CP/M software package	DP 7240
System Price	

## Hardware/Software Options

S-100 Expansion Unit	DP 1004
Word Processor PAC	DP 2004
Auto Program Load Rom Pac	DP 2005
Parallel Data Cable	DP 4003
Serial Cassette Cable	DP 4005
S-100/Disk Drives Daisy Cable	DP 4006
Printer, Dot Matrix	DP 6110
Printer, Daisy Wheel (25 cps)	DP 6120
Printer Daisy Wheel (45 cps)	DP 6130
General Ledger System	DP 7001
Accounts Payable	DP 7002
Accounts Receivable	DP 7003
Inventory Control	DP 7004
Payroll/Personnel	DP 7005
Order Entry	DP 7010
WP Disk Interface	DP 7220
WP PAC Precision Print Option	DP 7221
Extended Disk BASIC & Conversion Routine	DP 7310
FORTRAN	DP 7320
COBOL	DP 7330