SO. CAL.
SORCERER
USER'S
GROUP

Cary E. Stewart
529 So. Beachwood Dr.
Burbank, CA 91506
213/843-1101
June 5, 1983

Dear Sorcerer User,

The next meeting of the S.C.S.U.G. on Thursday, June 9, will be held as is our custom, in the Community Room of Allstate Savings and Loan, located at 8809 So. Sepulveda Blvd. in Westchester. The nearest cross street is LaTijera, from which you enter the building. The door will open about 7:00 p.m. for conversation and equipment set-up. The more-or-less formal meeting begins about 8:00 P.M. The S.C.S.U.G. meets on the second Thursday of each month.

My appologies for not getting a news letter out for May. My assignments at work have been extremely heavy and require considerably more than 40 hours per week to complete. In spite of the lack of a reminder, many came to chat. A minimal formal meeting was held. A couple of fellows that have not attended for some time appeared and it was good to chat with them over the hubbub of many conversations. I think I gave them my name and address, however, I have not heard from them yet.

At this meeting I would like to get some feedback on an idea that has been proposed to liven up future meetings. The idea is this. Get as many members as possible to contribute whatever they can about a specific subject. Subjects could be about specific pieces of hardware, a language, communication (MODEM), programs, CP/M, etc. Discussion could be held in a round-table fashion with verbal and written (hand outs) inputs. Hopefully specific questions of the what, when, where, how, why gender could be answered. The topic of the evening would have to be pre-determined, probably at least two months in advance so that everyone could prepare. Your experiences, no matter how trivial they may seem to you, may be just the answer someone else is looking for. As a side benefit, through the act of preparing and then presenting in the group, your communication skills will improve. These skills can be directly applied to your vocation no matter what it is. A case in point is that my writing skills have improved since I began putting this news letter together eighteen months ago. By the way, the idea came from Walt Hendrickson during a telephone conversation about a week ago, and the more I thought about it, the more deserving it became for consideration.

I had a tele-con with Jim Carroll of Challenge Systems the other day. He stated that he and another fellow were working Saturdays to sort, inventory and catalogue the remaining Exidy material on hand. Progress is being made and he hopes to have a new list of items available as soon as the work is completed.

In response to my "P.S." in the April letter, I receiveda letter from Bill Margolis regarding the program quickie that appeared in the S.A. Vol. 5, No 1. Bill's comments follow along with the program fixes and some additional information I received from a fellow worker at Litton.

(Ed) The following discussion is intended to pique your interest a little, as it did mine, but in no way represents more than the cover of the large book of philosophy. Bill wrote the corrected program using EXBASIC but it entered and ran with the ROM PAC.

This is a traditional I CHING Sequence . . . . .

Shao Yung, 2nd great master of Sung Confucianism (960-1127 AD), was, wrote Hellmut Wilhelm in CHANGE: Eight Lectures on the I Ching, "a speculative genius, and his philosophical deductions from the fundamental concepts of the I Ching are so concise and charged with meaning that it is virtually a sensuous pleasure to follow them .... Shao Yung's mathematical exactitude let him to work out a different I Ching table, in which he arranges the hexagrams in a natural system."

He starts with the two primary lines, the light and the dark, then adds to each again a light and a dark line, thus obtaining four two-line complexes .... Above each of these a light line and again, alternatly, a dark line is added, so that the eight trigrams stand in..(See program output). Continuing in the same way, he obtains first complexes of four, then five, and finally six lines, that is, the hexagram (as shown in the programs 6th line). This so-called natural-order can be arranged in a sequence, one hexagram after the other, or in a square of eight times wight hexagrams ...."

"Shao Yung's scheme has led to one of the most extraordinary episodes in the history of the human mind, and to this day it has never been satisfactorily cleared up. More than six hundred years after its origin, Shao's diagram fell into the hands of Leibniz and he recognized in it a system that had previously sprung from his own mathematical genius. To facilitate the solution of certain mathematical problems, Leibniz had thought out the so-called binary, or dyadic, numerical system, which makes use of two numbers only, instead of ten, but otherwise follows the same principle as the decimal system. The two figures, 0 and 1. The numerical sequence of the binary system would look as follows: 1,10,11,100,101,110,111,1000, etc."

"In the sequence of Earlier Heaven, Leibniz now rediscovered his own dyadic system, though he had to begin with zero for the correspondence to emerge. He took the broken line (yin) for a zero and the unbroken for a one. Thus the hexagram Po was 1, if zeros preceding 1 are disregarded, and stood in the first place in his system; the next, Pi, was 10, that is, our 2; and so on. Leibniz placed the zero (=K'un) at the beginning of the sequence, and so Shao Yung's system corresponded point for point with the binary system right up to the last hexagram, Ch'ien, which for Leibniz was 111111, or 63. The only difference is that this correspondence is not a direct one but an inverted one, that is, in order to obtain it, one must begin at the end of the series, which serves to emphasize once more the fact that parallel cultural phenomena in East and West are as mirror images to each other! Non the less, the correspondence arrived at by these two great minds independently, each having started from a completely different basis, is truly an astonishing phenomena. To Leibniz, the key to the problems before him was number; to Shao Yung, it was the hexagram. And the intellectual means by which these two kindred spirits tackled their problems, took on the same form in both. For a long time Leibniz had been trying to validate spiritual truths in mathematical terms, thus making them, as he thought, irrefutable. It is easy to imagine the enthusiasm aroused in him by the discovery of this correspondence."

Notes: _ _ = Light (Yin) ≃ 0   ____ = Dark (Yang) ≃ 1

Baron Gottfried Wilhelm Von Leibniz (1646-1716) was a German philosopher and a contemproary of Isacc Newton. He was a master of all the sciences of his day. According to Bertrand Russell, Leibniz was "one of the supreme intellects of all time". He has been one of the least understood of modern philosophers, partly because his thought is so orininal and technical, partly because so much of it remained buried in unpublished letters and papers.

THE SHAO YUNG SEQUENCE OF HEXAGRAMS AS PRODUCED BY THE PROGRAM

Shao Yung	2	23	8	20	16	35
Binary	000000	000001	000010	000011	000100	000101
Decimal	0	1	2	3	4	5

Shao Yung	45	12	15	52	39	
Binary	000110	000111	001000	001001	001010	
Decimal	6	7	8	9	10	

CORRECTED PROGRAM LISTING

Program by S. N. Afriat

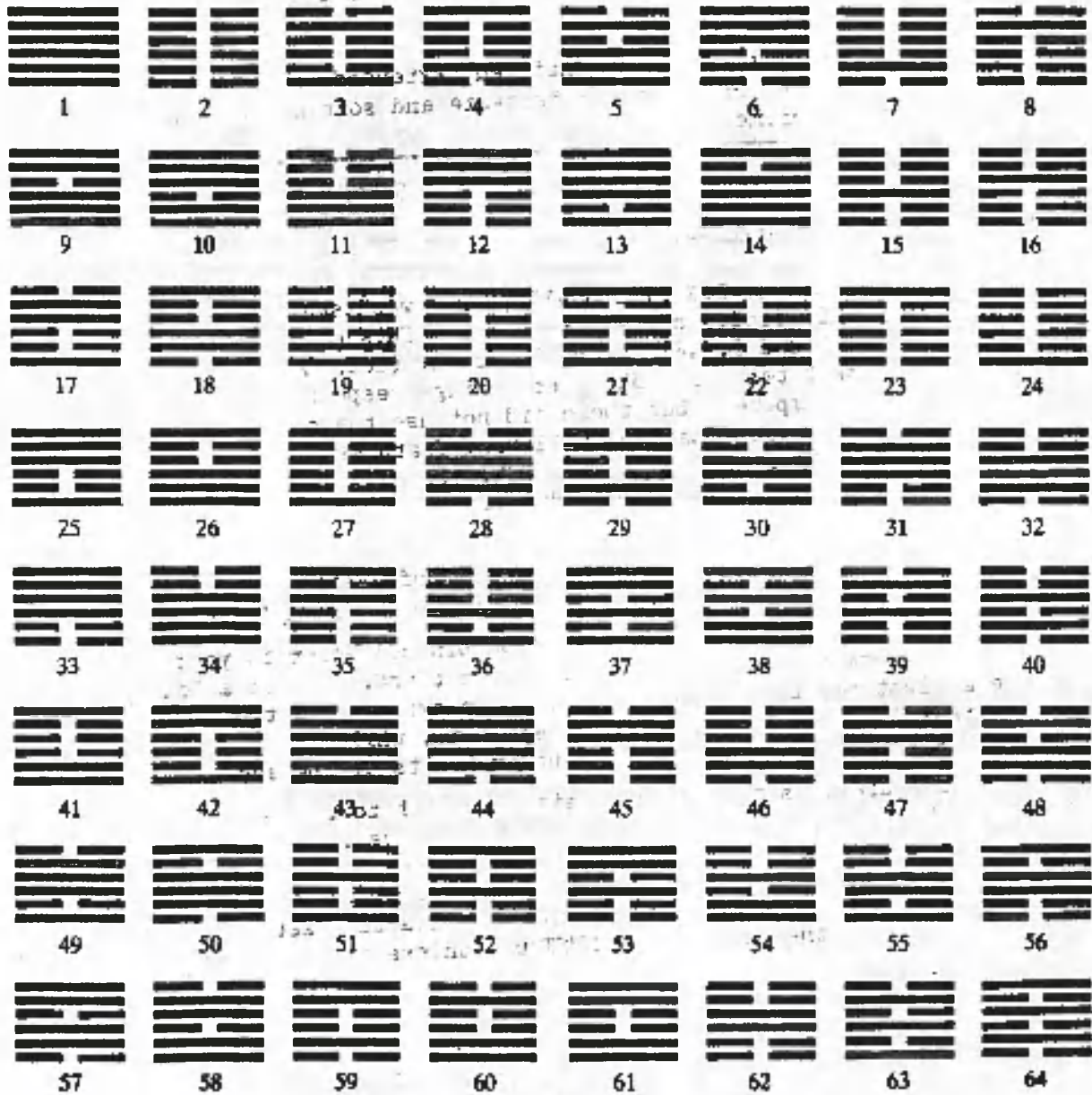Corrections by William J. Margolis

```
0 DATA The Sequence of Shao Yung
50 GOTO 1000
99 REM ---Generate graphic character bit-patterns
100 FOR k=1 to 6: REM Six rounds
110 FOR J=0 to K: B(J)=0: NEXT J: REM Init binary counter B
120 FOR I=0 TO 2*(K-1): FOR J=0 TO K-1: REM K Diagram lines
130 POKE G,51+12*B(J): G=G+1: REM Yin or Yang
140 NEXT J: G=G+8-K: J=0:   REM NeXt Character
150 B(J)=1-B(J): IF B(J)=0 THEN J=J+1: GOTO 150: REM incrmnt B
160 NEXT I,K: PRINT:PRINT: END
999 REM---Initialize
1000 CLEAR,,1000: READ H$,A,GO,T: DATA 128,-1024,20
1010 PRINT CHR$(12);TAB(T);H$:PRINT:PRINT:PRINT:PRINT
1019 REM---Form graphic strings and print
1020 FOR K=1 TO 6: S$="": FOR I=0 TO 2*(K-1): REM Length 2*K
1030 S$=S$+CHR$(A): A=A+1: NEXT I: REM Form it
1040 PRINT TAB(32-2*(K-1));S$: IF K=6 THEN 1070: REM Print it
1050 IF K<=1 THEN 1065
1060 FOR L=1 TO K-1: PRINT: NEXT L
1065 NEXT K
1069 REM---Clear graphics and Kill cursor
1070 PRINT CHR$(1);: FOR G=GO TO -1: POKE G,0: NEXT G
1080 G=GO: GOTO 100
```

The King Wen
Sequence of Hexagrams

The following arrangement of the sixty-four hexagrams is the oldest known and represents the sequence in which they appear in *The Book of Change*. Each odd numbered hexagram is followed by a hexagram that is either its opposite or its inverse (that is, stood on its head). There is some mystery surrounding the sequence of the odd numbered hexagrams. Scholars and mathematicians are unable to unlock the code which generates the order of these odd hexagrams. Perhaps the logic of their arrangement is approachable only on the intuitive level, that is, by considering the order of the hexagrams in terms of the human affairs they represent.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64

The news items came from David Harmon, one of our Micropolis users(no Sorcerer).
1. An excerpt from the June 6,1983 Infoworld article "Obsolute Computers," by Paul Freiberger and John C. Dvorak, IW staff.

"Novelist and poet William J. Margolis of Vinice, CA, doesn't want to bury his machine, a 32K Exidy Sorcerer Mod. I. He calls his system an "orphan."

To get repairs made, Margolis can still turn to his local Sorcerer users' group or consult THE SORCERERS APPRENTICE, an international users' newsletter, published in Detroit, Mich. The newsletter's publisher, Don Gottwald, says that the Sorcerer is still manufactured in Holland by Compudata and in the United States by Dynasty Corp,, adirect -marketing company in Dallas, texas."

2. From the "Of Interest" column of the June 1983 issue of Dr. Dobb's Journal by Michael Wiesenberg, and is titled "The Sorcerer Lives!"

I often think my computer system is unusual and incompatible with anyone else's. When I say I have a Sorcerer, most people say, "A what?" So I'm always pleased to find someone trying to keep this wonderful Z80 machine alive. In this case, it's ISIS (the International Sorcerer Information Service), a "not-for-profit" monthly newsletter to give Sorcerer owners a means of exchanging information. Membership is $15 in Canadian funds in Canada, and US dollars elsewhere. Contact ISIS, c/o Maurice Dow, 84 Camberley Cres., Brampton, Ontario, Canada L6V 3L4; or use the reader service card.

3. An article in Microsystems, May 1983 entitled "Extended Memory for the Exidy Sorcerer" by Thomas Ceska, which describes hardware and software that allows bank selecting in 64K memory increments.

CCP TECHNICAL TIP NO. 1   WALT HENDRICKSON   5/30/83

Addressing the Exidy Disk Controller Card

The Exidy disk controller, P/N 77-3352-15A, or B was used in Exidy's DDS and FDS systems with either Micropolis or Tandon drives. This combination gave Exidy a 35 track, (micropolis 1013-mod I, 48 tpi), or 77 track, (1015-mod II, 100 tpi), soft-sectored system with 173k bytes, or 315k bytes storage respectfully. Other disks were also sold with the Exidy computer, but these did not use the controller card under discussion. The Exidy controller had the following features: 1. I/O mapped data and status registers. 2. On-board 256 byte Boot ROM. 3. Power supply circuitry for the controller and disks. 4. Supports up to 3 disks. 5. Would operate single or double-sided drives.

In addition, the controller offered the feature of switch selecting both the I/O port address and BOOT ROM ADDRESS to almost ANYWHERE in the Exidy's memory map!

If you place the controller board with the 50 pin connector to your right, you will see two Dip switches in the upper center of the board. One is a four position switch, and one a eight position. The Four position switch sets the upper 4 bits of the I/O port address for the data and status registers, while the eight position switch sets the Boot TOM starting address using the upper 8 bits of the address map.

To set the I/O address, set the four position switch to the desired port address. Because only the upper 4 bits are used, addresses can range from 00h to F0H as follows, 00,10,20,30,40,50,60,70,80,90,A0,B0,C0,D0,E0,F0. Note that when the switch is 'off' the bit is high, ie a '1', and that switch 4 (leftmost switch) is the LSB! (only Exidy knows why the switches were put in upside-down). The standard setting is 20H for the I/O port address. This is the address you MUST use unless you have modified Exidy's BIOS for another address.
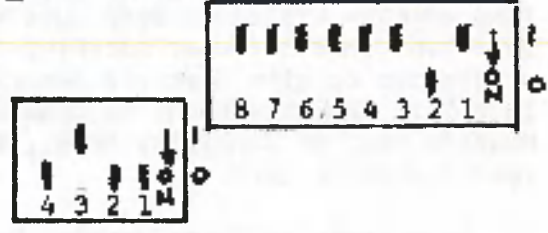
The Boot TOM address is set using the 8 position Dip switch. Again, switch 8 is the LSB and the settings can range from 0000H to FF00H. For you people trying to gain those last bytes of RAM in your 48k system, here is a way! Just set the Boot address for EF00H...That's right! The Boot ROM can even overlay the monitor ROM! The only practical place to put it is at EF00H unless you don't need the monitor at all. The code at EF00 is part of the table of Exidy's built-in graphics characters. If you first save this area on tape or disk, they can be loaded back into FC00-FCFF anytime they're needed for games, etc. Note that the 'normal setting for this switch is BF00H (all switches up except switch 2), but settings of 8000H to DF00H and EF00H can be used if desired. Do Not put the boot ROM at 0000H, as it will cover the storage used by CP/M, or at F0000-FFFF, as it will make displaying data on the video screen a challenge..

SAMPLE DDS/FDS CONTROL CARD SWITCH SETTINGS

I/O ADDRESS (SW2)		BOOT ROM ADDRESS(SW1)	
SWITCH POS.	I/O ADD.	SWITCH POS.	BOOT. ADD.
4 3 2 1		8 7 6 5 4 3 2 1	
0 0 0 0 =	00H	0 0 0 0 0 0 0 0 =	0000H
1 0 0 0 =	10H	1 0 0 0 0 0 0 0 =	0100H
0 1 0 0 =	20H 1/	0 1 0 0 0 0 0 0 =	0200H
1 1 0 0 =	30H	1 1 0 0 0 0 0 0 =	0300H
0 0 1 0 =	40H	1 1 1 1 1 1 0 0 =	3F00H
1 0 1 0 =	50H	1 1 1 1 1 1 1 0 =	7F00H
0 1 1 0 =	60H	0 0 0 0 0 1 0 1 =	A000H
1 1 1 0 =	70H	0 0 0 0 1 1 0 1 =	B000H
0 0 0 1 =	80H	0 0 0 0 0 0 1 1 =	C000H
1 0 0 1 =	90H	0 0 1 1 1 1 0 1 =	BC00H 2/
0 1 0 1 =	A0H	1 1 1 1 1 1 0 1 =	BF00H 1/
1 1 0 1 =	B0H	0 0 0 0 0 1 0 1 1 =	D000H
0 0 1 1 =	C0H	1 1 0 1 1 0 1 1 =	DC00H 3/
1 0 1 1 =	D0H	1 1 1 1 1 0 1 1 =	DF00H 4/
0 1 1 1 =	E0H	1 1 1 1 0 1 1 1 =	EF00H 5/
1 1 1 1 =	F0H	1 1 0 1 1 1 1 1 =	FC00H 6/

1/ Exidy DDS/FDS STD.
2/ Popular Micropolis 1053 II
3/ STD. Micropolis 1053 II
4/ 56K Sys.(RAM PAC/S100 RAM)
5/ Per CCP TECH. TIP NO. 1
6/ Mentzer mod for 56K/1053 II

Both switches are shown set for the Exidy DDS/FDS STD. settings.

NEW PRODUCTS FROM CCP

S-100 kits from CCS:

The following CCS S-100 boards are available in kit form from CCP. These are complete kits, including sockets for all IC's. Save 30 to 50% by assembling boards yourself!

CCS part #	Description	Kit cost
2065	64k dynamic ram card - uses 4116 ram chips...less rams	$125
2422B	Multimode disk controller-8" & 5 $\frac{1}{4}$" drives, 4 of each or mixed, runs SSSD,DSSD,SSDD,DSDD, up to 80 tracks.	$195
2710	4 port I/O card. 4 serial ports with full handshaking.	$200
2718	2 serial and 2 parallel ports. With handshaking, centronics parallel.	$195
2810	Z-80 CPU, 2k on-board boot rom, auto baud selection, 2 or 4 MHZ select, DMA, more..	$185

Exidy Products/systems:

Qty	Description	Cost Ea
1 ea	32k Exidy Model 1 computer, tested, complete with Basic pac	$300
3 ea	48k Exidy Model II computer, New keyboard, C4 revision, tested	$425
1 ea	48k Exidy upgrade board, complete, tested, with 1.1 monitor C2 board, upgraded to C4 revision.	$175
2 ea	Exidy Cases for model I,II, top half, replace your beat-up case for that new look..	$10
1 ea	DDS case, complete with all metalwork	$80
2 ea	Exidy EROM packs, complete, new	$45

Software/Firmware:

New Monitor 1.2 for you Exidy people using the CCS disk controller card..This monitor replaces the 'TEST' code with a new 'BOOT' command that will boot up your CCS system, either 8" or 5¼". Makes running CP/M standard 8" format disks a snap!... Must have CCS 2422B controller card to use..

Monitor 1.2 - CCS boot system $24.95

CREATIVE COMPUTER PRODUCTS

PRODUCT CATALOG

DISKETTES:

Control Data 5 1/4 inch, 16 hole hard sector floppy diskettes, single sided, double density, 40 track certified. Free hard plastic box included.

SERVICES:

CP/M User's Group programs - Choose from over 100 disks of programs from the CP/M User's Group catalog. We provide them on 5 1/4 inch Micropolis or Exidy format diskettes.

EPROM programming - Give us a prom and your software on tape or disk and we will do the programming (2716,2758,2708,2732,TMS 2516, or TMS 2716 proms only). Or, we will buy the prom (you pay cost + $1 service charge.)

Disk Format Conversion - We will convert the contents of your disks from/to any of the following formats: 8" single density soft sectored, 8" double density soft sectored, 5 1/2" Exidy soft sectored, 5 1/2" Micropolis hard sectored.

SOFTWARE:

Exidy Edit - An excellent screen oriented editor tailored especially for the Sorcerer. Extremely easy to learn and use; has a built in menu, special assembly language features, text formatting capabilities, and much more.

Bacteria World - A creative, screen oriented game based on Scientific American's game of "LIFE". Create bacteria worlds, see bacteria live and die, makes many interesting patterns.

Master/Slave - Two communications programs used with a modem to receive and send programs over any phone line. A must for any modem owner.

DD - A disk directory display program. It displays your directory in alphabetical order. It also shows the number of files on the disk, number of file control blocks, and amount of space remaining on the disk.

CPMINT - A program that converts your programs between various CP/M formats and disk sizes such as 5 1/4 inch to 8", single to double density, and many more.

Tapechk - A program that allows you to view and read tapes, even if they contain CRC errors. User selects viewing of input in ASCII, hex, or headers only, or you can load tape data into memory.

CREATIVE COMPUTER PRODUCTS

HARDWARE CATALOG

EXIDY COMPUTER POWER TRANSFORMER KITS......................$36.50

Each kit contains:

        1 Power transformer
        1 Line filter
        1 Power switch
        1 Fuse holder
        1 Bracket assembly
        1 3-wire, 6' line cords with strain relief
        1 Molex cable assembly

EXIDY MODEL II POWER SUPPLY KIT /without PC board(Kit-1).$25.00
                               /with PC board...(Kit-2).$27.00

Each kit contains:

        3 Filter capacitors
        3 IC regulators
        1 Heat sink
        7 Bypass capacitors
        1 5 ohm 10w resistor
        2 Molex connectors
        1 PC board (Kit-2)

EXIDY COMPONENTS:

        Custom computer power transformer.................$22.50
        Power supply heat sink............................$ 1.75
        5 ohm 10w power resistor..........................$ 1.00
        10 pin female Molex PC board connector............$ 1.00
        Short fuse holder.................................$ 2.50
        Power transformer bracket.........................$ 6.00
        Rom Pack Tunnel.(32K).............................$ 2.00
        EXIDY keyboards...................................$100.00
        Monitor 1.1 ROMs (2)..............................$18.50
        Character generator ROM...........................$ 8.50
        "BRUCE" ROM/S100 ROM..............................$14.50
        48K working and tested computer boards with 1.1 monitor
        with trade in.....................................$175.00
        with no trade in..................................$200.00
        Complete 32K and 48K computers...................inquire
        Other items???...............................ASK!!

FIRMWARE (New product !!!)

        ROMPAC DISK BASIC - This upgrade to the standard Exidy
        Basic ROMPAC maintains all of the current BASIC
        features, while adding two important NEW commands: The
        DSAVE command allows you to save basic programs directly
        to disk. The files can be read back in with the new
        DLOAD command. You also get an easy-to-use, full-screen
        Basic editor!!!

        ROMPAC DISK BASIC Upgrade ROM kit.................$39.95
        Complete new DISK BASIC ROMPAC...................$79.95

CREATIVE COMPUTER PRODUCTS

April 1983 ORDER FORM

Name_____Date_____

Address_____Phone_____

System size ____ 48K ____ 32K, S100 Box: Y N, Printer type _____

Disk system: Y N Micropolis FDS DDS other, MODEM Y N, PROM type _____

Item	Cost	Amount
Control Data diskettes (Box of 10)	$30.00	_____
CP/M User's Group disk (#_____) our disk	$9.00	_____
CP/M User's Group disk (#_____) your disk	$5.00	_____
EPROM programming (you supply prom)	$4.95	_____
EPROM programming (we supply prom)	$5.95+cost	_____
Format convert from _____ to _____	$10.00	_____
Master/Slave on disk	$34.95	_____
CPMINT on disk	$34.95	_____
DISK BASIC ROMPAC Upgrade (2 ROMS)	$39.95	_____
New DISK BASIC ROMPAC	$79.95	_____
48K board with trade-in	$175.00	_____
48K board with no trade-in	$200.00	_____
	subtotal #1	_____
	5% shipping and handling	_____
Exidy Edit on disk	$34.95	_____
Bacteria World on tape	$12.00	_____
Bacteria World on disk	$14.00	_____
DD on disk	$14.95	_____
CPMINT on disk	$34.95	_____
Tapechk on tape	$9.95	_____
Transformer kit	$36.50	_____
Power supply kit-1 (without PC board)	$25.00	_____
Power supply kit-2 (with PC board)	$27.00	_____

Other Hardware Items   Unit cost

_____   _____   _____

_____   _____   _____

	subtotal #2	_____
	10% shipping and handling	_____
subtotals #1 and #2 + all shipping and handling		_____
California residents only:	6 1/2 % CA tax	_____
	TOTAL	_____

MAKE CHECKS PAYABLE TO: ~~W. HENDRICKSON~~ CREATIVE COMPUTER PRODUCTS
Our address is: 2313 W. 181st ST. Torrance, Ca 90504

CP/M is a trademark of Digital Research