

Saving Our CLASSIC Heath 8-Bit Machines!

SETHO JOURNAL

Volume IV, Number 11

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Have you MOVED recently?
And Don't Get The JOURNAL Any More?!
You Can't Blame Us
If You Didn't
Send Us Your NEW ADDRESS....
(And The Post Office Likes To Know Also!)

SEBHC JOURNAL

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Our "ASK RICK" Feature

Conducted by Rick Swenton
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Hi, Rick--

This is to bring you up to date on my drive hook-ups and how they work differently.

The hard-sector drive is in its' normal internal location and runs with the H88-1 disc I/O card. The 48tpi-96tpi soft-sector drives are outboard, assigned as zero (0) and one (1), and connect to the H37 disc I/O board via J4 in back. The hard-sector drive I've designated as [drive] three (3).

What seems rather strange to me is that with the two soft-sector drives whichever one I boot up on becomes "A:", the other one "B:" and the hard-sector internal drive is always "D:". Here's a chart of how the above drives look to my CDR system at bootup (Note--"*" indicates a booted drive):

	Physical Drive Number/Letter	Notes:
Logical =	0 1 2 3	Drive zero is 8"
	*	Drive one is 8"
Drive =	A: B: C: D:	Drive 3 is 5.25"
	*	Drive 2=Imaginary
Designations =	D: A: B: C:	Drive 3 is either
	*	hard or soft sec-
	C: D: A: B:	tor if booted as
	*	E:(3) or A:(3).

I don't know why, but it works! I haven't had time to try your suggestion about the hard-sector drive yet, but I'll bet the solution is hidden in the above chart--it oughtta work.

Right now I'm swamped with other work and the computer is sitting idle except for the occasional letter or two. We have to go up to Oregon about June eighth with our camping club and will be there for about two weeks. Then I'll have to get out my July camping club newsletter; after that I hope to get in some computerizing [sic]. Until June I've a dozen things to do to put our truck and trailer into traveling condition. That takes up all the day, and by nightfall I'm ready for the sack, and so can't get up much interest in computers.

BUT!!! I've a list about a yard long of what to do to and on them when I finally get the time. For instance, I've tried without success to get ZSDOS installed on the CP/M'04 machine. It proceeds up to a point, then dies on me. Guess it's something I'm doing wrong. Then I have to get WordStar going on both machines. I've looked at it on number two but no time to do much [with it]. The main problem's I can't get #2 to drive the printers! I called Pete [Shkabara] about it, but he couldn't remember if anything had been changed (he hadn't built that machine). So that's the first thing I have to bug out. I did try changing the serial I/O boards but to no avail, it seems now it might be the board to rear-panel cables are damaged or wired incorrectly (yes, I DID re-

configur the BIOS to match my printer).

Secondly, I've ordered the software and host adaptor for another hard-disk setup from Henry Fale [of Qickstore, Inc.] to put onto #2. (Incidentally, XEBEC S1410 boards are again available from COMPUTER SURPLUS.) So that must be assembled and made to work. I've been using ZDE as I told you in my last letter, and the more I use it the more I like it! It's great for doing work I want to print out using my BRADFORD printing program (which, for the money, is OK). The ZDE installation's quite lengthy and complicated but it can be done.

Thirdly, I've got to get "Rick's method for defeating MAKEBIOS" going on version 2.2.03. So there's plenty computer work to do, not to mention that I'd promised myself to spend at least one day a week working on my genealogy which has been sadly neglected of late and that's what I originally got the computer for!

So, again thanks for all your help and encouragement. Between you and Pete I seem to be learning a bit more about these pieces of "junk" here....[Do] have an enjoyable summer, Rick. It's a pleasure to correspond with you.

/s/BOB, K6MAC [no return address given]

Hey, Bob,

Thanks for your rundown on numbers one and 2! You've probably had a chance to read last month's column and should have seen that you essentially duplicated my chart of how CP/M re-assigns logical (as opposed to physical) drive names or number designations.

And I hope by now you probably have gotten your WordStar installed and running properly on one of your two systems. I'm sure that you'll eventually get your printer communicating with your '89s--you seem to be a very determined guy!

Do keep us informed on your progress with all those "pending" jobs in that yard-long list. When you get ready to work on installing ZSDOS again give us a holler if you need help.

RICK

[Well, Rick's done it again! Now here's something Rick might work on: How does one make over an WH47 (8-inch) version of CP/M to run on a hard-sector or soft-sector 5-1/4" system? A H47 and H8 controller card we borrowed from subscriber Chuck Liss wouldn't run in our Z80-CPU-equipped H8--darned thing don't boot the 8-inch distribution disc. Then Tom Rittenhouse brought in a spare WH-47 disc I/O card and stuck it in our backup Z90. After many hours of heroic effort, Tom finally got this lashup working and the '47 disc booted ok. Now that we've produced an authentic H37/H47 boot disc, the next task is to produce an H17/H37 boot disc. But to do this one must run MAKEBIOS all over again. For reasons unknown we keep getting this weird and cryptic error message: "MAKEBIOS FAILURE"! Tom took the weekend off, and I tried everything I could think of (including reading the instructions!) but have NOT yet produced an H17/H37 or plain H17 CP/M system! -- ed]

WHAT'S "NEW" THIS MONTH?!

FROM THE JOURNAL'S KEYBOARD
by Yer Ed. It. Err.

We've recently been re-arranging our computer room contents to gain more workspace. During this randomised activity we stumbled onto a disc (submitted by one of our subscribers) containing an excellent H/Z-oriented COBOL programming example. (We presently have nearly 200 uncatalogued 5-1/4" discs we're trying to sort through--not counting those 45 to 60 discs sent us by former A*SQR*HUGger Bill Hall for our H120.) We didn't receive any correspondence from you subscribers, which left room to print the COBOL item in this edition. We've sold several copies of Heath's Continuing Education "PROGRAMMING IN COBOL" and we think this article should be of use to you folks who bought the course. (Only five copies of "PROGRAMING IN COBOL" and a few more COBOL program packages remain in stock--hint, hint!)

"Why the sudden interest in COBOL?" you say. Well Charles Liss--who loaned us that H47 and controller--is now working for "an un-named government agency" and is programming in COBOL (for MONEY!) on an ibm main frame. He says the version he's working with runs unbelievably faster than compiled MBASIC programs do on our 8-bit machines. And our son-in-law has been programming Domino Pizza's mainframe and satellite computers in COBOL for several years now. Also, several "Manpower"-type firms in & around Ann Arbor have been looking for competent COBOL programmers. (They've also been looking for operators familiar with WordStar V5 and Word Perfect, but that's another story....) The demand for COBOL expertise has not yet died out! (Again, hint, hint!)

We called a couple local "bodies-for-hire" outfits, asking if they objected to using with people with COBOL experience on other-than-ibm aye-tee, eks-tee, or peesee-like computers. Their response was, "If they can run ANY kind of computer and know COBOL--any version is ok--we can place them!" (Very b-r-o-a-d hint!)

Please note that our order blank is located on the last (inner) page of this edition. Use it Right Away, TODAY!

We now have Heather (our D-G Electronics Super89 CPU-board equipped H89) and the H120 sitting side-by-side in the computer room. Hachibanko (our H8) now runs on the basement work bench where the temperature is a bit cooler than in the computer room. She still helps out when Heather is being used by one of our offspring, and is invaluable in providing programs and other tested stuff for resurrected H/Z89s & 90s.

Moving Hachibanko downstairs freed our 3x6-foot main desk top for "paperwork" generated in putting together the SEBHC JOURNAL every month. It also helped lower the computer room

temperature by about ten degrees! (Our H120 and external 8-inch drive equals A Red-Glowing-Hot Pot-Bellied Stove!) Also the Cannon NC155 copier puts out lots of heat, but we're not yet finished making a place for it below stairs--besides, our whole-house air-conditioning is presently doing a fairly good job with just two computers to cool. But we did pick up some floor space when we put the H125 printer to work for Hachibanko downstairs. Now two adults can work without stepping on each other's toes upstairs. Eventually, We'll Get This Place Into Some Kind of Real Working Order!

We're not doing too well with the SJ-BBS project! Our AL-SPA ACI-1 now has a sick Siemens 8-inch drive--monitor talks to the terminal but drive won't boot! But we did find a pair of double-sided 1/2-height Mitsubishi 8-inch drives in seemingly perfect condition for a total price of \$49! We expect they'll be in the Alspa's case Real Soon Now--after we have puzzled out their I/O rules, that is. Once that's accomplished, we'll get that system into Test Phase One with that donated MBASIC RBBS software, and you SEBHCers can then start logging on every weekend. Won't that be neat?!

Recently one of our revitalised Z90s was snapped up by a specialities machine shop across and down river in the Windsor, Canada area. (Somebody at HUG headquarters tuned them in on us--THANKS!) Their programmer has modified HDOS 2.0 so that it's kicked out after bootup and replaced by a very special Numerical Control machine language operating system and programmes. We had fixed this Z90 up with two internal half-height drives so that their computer operator has just ONE box to schlep out onto the production floor. (Their original '90 has an external WH37/77 drive setup--and you know how cantankerous that very ponderous lashup gets.) Now he just jacks an interface module between the Z90 and the NC unit's CPU and the Z90 pours their latest production cutting routines into the NC unit's memory. This proves that What We Always KNEW Was RIGHT: Our H/Z89s and 90s Are Just Too Good And Too Useful To Throw Away! (Also, used H/Z Z80-CPU'ed machines are far, FAR cheaper than delicate ibms, ate-ees, eks-tees and clones thereof....)

We accidentally stumbled onto a very interesting and useful fact while working with that H47 CP/U problem mentioned on page one. Despite the fact that H47 drives are one-sided, and discs for them also have the index hole offset from two-sided discs, we can read them with our H120's Siemen's 8-inch, 2-sided drive! But we can't format single-sided-type discs in the H120's 8-inch drive. Seems to us that if you can READ 'em, you should be able to FORMAT 'em. AWRRRRRRRrr!

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COBOL IS WORTH TRYING!

by

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Some time back I ran across a letter in "READER'S MAILBOX" from a subscriber who was looking for a copy of MICROSOFT COBOL for HDOS. Unfortunately, I haven't heard of that kind of animal although somebody else may have. If so, please let all of us 8-bit users know about it, Right Away!

I use Microsoft's COBOL-80 at home on my '90 for various important tasks. Of necessity, I write my own programs, and here's one which I hope other readers of the SEBHC JOURNAL may find useful. The program name is 'ADDRBOOK' and is written in Microsoft COBOL-80. It's essentially a name-and-address data base; we use it for records of many relatives, friends, and important business contacts or sources.

For those readers who have never used COBOL its' structure somewhat resembles MBASIC, but the command language is much different, and most commands are completely different from BASIC's. But if you can program in any BASIC dialect you shouldn't have trouble learning how to work with COBOL, especially if you have completed Heath's Continuing Education "Programming in COBOL" course (I believe it's still available from the JOURNAL).

COBOL is a compiler rather than an interpreter which BASIC is. (BASIC programs must be run through a separate compiler--such as BASCOM, etc. before becoming stand-alone '.COM or .ABS files.) That means you must write your COBOL program with an editor or word processor which will put line numbers into the list (see ADDRBOOK listing below). I originally wrote this one with WordStar, but PIE also works very well.

Compiled programs are similar to machine language and run much faster than interpreted programs (interpreters read EVERY command line before operating on it). But unlike BASIC you must debug your program by editing the original text and then re-compile it. For some folks this may be a turnoff but very fast loading and execution speed more than makes up for that little peculiarity.

My program has six options, listed below:

Option 1 - ADD, CHANGE OR DELETE ENTRIES.

This option allows you to add new names/addresses to your address book, change addresses previously added, or delete address records.

The file key is last name, which is the first piece of information you are asked to enter if you select option 1. It is best if last name is entered in upper case, for the sake of consistency. The sequence should always be 00 (zero zero). The program will allow for 10 duplicate last name entries by automatically incrementing the sequence, which is used as a tie breaker.

The XMAS flag causes option 4 to print labels suitable for use in mailing christmas cards. The flag needs to be a 'Y' to trigger a label.

Option 2 - SEARCH FOR NAME.

This option allows you to search for a specific name in your address book. You can enter a specific name and go directly to that name or enter the first name on file and browse the entire file.

Option 3 - PRINT 3X5 CARDS.

This option prints the entire address book file on one-up 3" x 5" index cards.

Option 4 - PRINT CHRISTMAS LABELS.

This option will print all name/address labels which were flagged with a "Y" in XMAS FLAG. This option is designed to print on one-up labels which are 1-1/2 inches long.

Option 5 - PRINT RETURN ADDRESS LABELS.

This option will print up to four lines on a 1-inch long label. The option asks you to enter four lines of information and the number of labels you wish to print.

Option 6 - EXIT PROGRAM.

Exit to operating system.

Your editor (Lenny) informs me that he'll give you a FREE copy of this program on either hard- or soft-sector disc when you buy Heath's Continuing Education "Programming in COBOL" combined with CP/M COBOL-80 (see Catalogue Page for prices). This offer is too good to ignore! I strongly urge you to take Lenny up on it--he says there are only five (that's 5!) copies of COBOL and Programming in COBOL left in stock!

You have COBOL-80 and want only the program disc? Just send your name, address, and check or money order made out to L Geisler (\$8.00 for a hard-sector disc or \$7.50 for soft-sector), to him at 895 Starwick Drive, Ann Arbor, MI 48105. Your order will come promptly by return mail.

There's a sample name and address file on this disc for testing the program's various options. The file name is NAMASTER.DTA and is set up to default to the B: drive. The first thing the program asks for is the name of your file or to accept the default. If a file is not present under the name you enter, the program will ask you to verify that you are starting a new file. You have the option at that point to respond yes or no. Another sample file--NAMASTER.KEY--illustrates makeup of 3x5-inch file cards.

----<<[[8]]>>----

COBOL PROGRAM LISTING--START

NALIST COB

31-Oct-82

Line Number Source Line Microsoft MS-COBOL Version 4.65

```

1 000100 IDENTIFICATION DIVISION.
2 000200 PROGRAM-ID. NALIST.
3 000300*
4 000400* THIS PROGRAM PROVIDES A LIST OF NAMES AND AD-
5 000400* DRESSES, ABILITY TO PRINT LABELS, AND PROVIDE
6 000500* INDEX CARDS.
7 000600*
8 000700 ENVIRONMENT DIVISION.
9 000800 INPUT-OUTPUT SECTION.
10 000900 FILE-CONTROL.
11 001000 SELECT NAMSTR ASSIGN TO DISK
12 001100 FILE STATUS IS NA-STAT-M
13 001200 ACCESS MODE IS DYNAMIC
14 001300 ORGANIZATION IS INDEXED
15 001400 RECORD KEY IS NA-KEY.
16 001500*
17 001600 SELECT NAPRNT ASSIGN TO PRINTER
18 001700 ACCESS MODE IS SEQUENTIAL.
19 001800*
20 001900 DATA DIVISION.
21 002000 FILE SECTION.
22 002100*
23 002200 FD NAMSTR
24 002300 LABEL RECORDS ARE STANDARD
25 002400 VALUE OF FILE-ID NA-FILE-NAME
26 002500 DATA RECORD IS NA-RECORD
27 002600 RECORD CONTAINS 254 CHARACTERS.
28 002700*
29 002800 01 NA-RECORD.
30 002900 05 NA-KEY.
31 003000 10 LAST-NAME PIC X(30).
32 003100 10 SEQUENCE-NO PIC XX.
33 003200 05 PHONE-NUMBER PIC X(14).
34 003300 05 FIRST-NAME-1 PIC X(15).
35 003400 05 FIRST-NAME-2 PIC X(15).
36 003500 05 XMAS-LIST-FLAG PIC X.
37 003600 05 FILLER PIC X(17).
38 003700 05 NAME-ADDRESS OCCURS 4 TIMES INDXD BY N-L-CTR
39 003800 10 N-A-LINE PIC X(40).
40 003900*
41 004000 FD NAPRNT
42 004100 LABEL RECORDS ARE OMITTED; DATA RECORD IS
43 004200 NA-PRINT-REC; RECORD CONTAINS 50 CHARACTERS;
44 004300 LINAGE IS LINES-PER-PAGE;
45 004400 LINES AT TOP LINES-AT-TOP
46 004500*
47 004600 01 NA-PRINT-REC PIC X(50).
48 004700*
49 004800 WORKING-STORAGE SECTION.
50 004900*
51 005000 01 SAVE-FC PIC X VALUE SPACE.

```

```

52 005100 01 MENU-OPTION PIC 9 VALUE ZERO.
53 005200 01 NA-STAT-M PIC XX VALUE " ".
54 005300 01 MENU-OPTION-SELECTED PIC X VALUE " ".
55 005400 01 MENU-FC-SELECTED PIC X VALUE " ".
56 005500 01 ANS-OPT-SAVE PIC X VALUE " ".
57 005600 01 EOF-SWT PIC X VALUE " ".
58 005700 01 IP9-FC PIC X VALUE " ".
59 005700 01 FIRST-TIME-SWT PIC X VALUE " ".
60 005800 01 LINES-PER-PAGE PIC 99 VALUE 0.
61 005900 01 LINES-AT-TOP PIC 99 VALUE 0.
62 006000 01 X PIC 99 COMP VALUE +0.
63 006100 01 LBL-COUNT PIC 999 COMP-3 VALUE +0.
64 006105 01 TIME-CNTR PIC 9(7) COMP-3 VALUE +0.
65 006200 01 IP4-LN PIC X(30).
66 006205 01 NA-FILE-NAME.
67 006210 05 NA-DRIVE PIC X VALUE "B".
68 006215 05 NA-COLEN PIC X VALUE ":".
69 006220 05 NA-FILE PIC X(8) VALUE "NAMASTER".
70 006225 05 NA-DOT PIC X VALUE ".".
71 006230 05 NA-FILE-EXT PIC X(3) VALUE "DTA".
72 006235 01 DEFAULT-FILE-NAME.
73 006240 05 FILLER PIC X(10) VALUE "B:NAMASTER".
74 006245 05 FILLER PIC X VALUE " ".
75 006250 05 FILLER PIC X(3) VALUE "DTA".
76 006300 01 IP5-MSG.
77 006400 05 IP5-MSG-CODE PIC XX.
78 006500 05 FILLER PIC X.
79 006600 05 IP5-MSG-DESC PIC X(17).
80 006700 01 IP2-INFO.
81 006800 05 IP2-LN PIC X(30).
82 006900 05 IP2-SQ PIC XX.
83 007000 05 IP2-PN PIC X(14).
84 007100 05 IP2-FN1 PIC X(15).
85 007200 05 IP2-FN2 PIC X(15).
86 007300 05 IP2-XF PIC X.
87 007400 05 IP2-NA1 PIC X(40).
88 007500 05 IP2-NA2 PIC X(40).
89 007600 05 IP2-NA3 PIC X(40).
90 007700 05 IP2-NA4 PIC X(40).
91 007800*
92 007900 01 IP11-INFO.
93 008000 05 IP11-NA1 PIC X(40).
94 008100 05 IP11-NA2 PIC X(40).
95 008200 05 IP11-NA3 PIC X(40).
96 008300 05 IP11-NA4 PIC X(40).
97 008400 05 IP11-NUMB-LBLS PIC 999.
98 008500*
99 008600 01 FILE-SQ-CODES.
100 008700 05 FILLER PIC XX VALUE "00".
101 008800 05 FILLER PIC XX VALUE "01".
102 008900 05 FILLER PIC XX VALUE "02".
103 009000 05 FILLER PIC XX VALUE "03".
104 009100 05 FILLER PIC XX VALUE "04".
105 009200 05 FILLER PIC XX VALUE "05".
106 009300 05 FILLER PIC XX VALUE "06".

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COBOL LISTING part two

```
107 009400 05 FILLER PIC XX VALUE "07".
108 009500 05 FILLER PIC XX VALUE "08".
109 009600 05 FILLER PIC XX VALUE "09".
110 009700 05 FILLER PIC XX VALUE "10".
111 009800 01 FILE-SQ-CODES-R REDEFINES FILE-SQ-CODES.
112 009900 05 FILE-SQ-TBL OCCURS 11 TIMES INDEXED BY
FILE-SQ-CTR.
113 010000 10 FILE-SQ-ENTRY PIC XX.
114 010100*
115 010200 01 P-LINE PIC X(50).
116 010300*
117 010400 01 PL-1 REDEFINES P-LINE.
118 010500 05 P-LN PIC X(30).
119 010600 05 FILLER PIC X(10).
120 010700 05 P-XF PIC X.
121 010800 05 FILLER PIC X(9).
122 010900*
123 011000 01 PL-2 REDEFINES P-LINE.
124 011100 05 P-PH PIC X(14).
125 011200 05 FILLER PIC X(36).
126 011300*
127 011400 01 PL-3 REDEFINES P-LINE.
128 011500 05 P-FM PIC X(15).
129 011600 05 FILLER PIC X(35).
130 011700*
131 011800 01 PL-4 REDEFINES P-LINE.
132 011900 05 P-ADR PIC X(40).
133 012000 05 FILLER PIC X(10).
134 012100*
135 012200 SCREEN SECTION.
136 012300*
137 012400 01 BLANK-SCREEN.
138 012500 05 BLANK SCREEN.
139 012600*
140 012605 01 I-D-SCREEN-0.
141 012610 05 BLANK SCREEN.
142 012615 05 LINE 3 COLUMN 10 BLINK
143 012620 VALUE "*****".
144 012625 05 LINE 4 COLUMN 10 BLINK
145 012630 VALUE "*" *".
146 012635 05 LINE 5 COLUMN 10 BLINK
147 012640 VALUE "*" *".
148 012645 05 LINE 6 COLUMN 10 BLINK
149 012650 VALUE "*" ADDRESS BOOK *".
150 012655 05 LINE 7 COLUMN 10 BLINK
151 012660 VALUE "*" *".
152 012665 05 LINE 8 COLUMN 10 BLINK
153 012670 VALUE "*" *".
154 012675 05 LINE 9 COLUMN 10 BLINK
155 012680 VALUE "*****".
156 012685 05 LINE 12 COLUMN 10 BLINK
157 012690 VALUE "ENTER FILE NAME & DRIVE DESIGNATION".
158 012695 05 LINE 13 COLUMN 10 BLINK
159 012700 VALUE "OR RETURN TO ACCEPT DEFAULT." ".
160 012705 05 LINE 15 COLUMN 10 BLINK
161 012710 VALUE "ENTER DRIVE & FILE NAME - ".
162 012730 05 OPT PIC X(14) USING NA-FILE-NAME.
163 012731*
164 012735 01 I-D-SCREEN-1.
165 012800 05 BLANK SCREEN.
166 012900 05 LINE 3 COLUMN 20 BLINK
167 013000 VALUE " **** NAME & ADDRESS LIST MENU **** ".
168 013100 05 LINE 6 COLUMN 10 BLINK
169 013200 VALUE " 1 - ADD, CHANGE OR DELETE ENTRIES ".
170 013300 05 LINE 8 COLUMN 10 BLINK
171 013400 VALUE " 2 - SEARCH FOR NAME ".
172 013500 05 LINE 10 COLUMN 10 BLINK
173 013600 VALUE " 3 - PRINT 3X5 CARDS ".
174 013700 05 LINE 12 COLUMN 10 BLINK
175 013800 VALUE " 4 - PRINT XMAS LABELS ".
176 013900 05 LINE 14 COLUMN 10 BLINK
177 014000 VALUE " 5 - PRINT RETURN ADDRESS LABELS ".
178 014100 05 LINE 16 COLUMN 10 BLINK
179 014200 VALUE " 6 - END OF RUN ".
180 014300 05 LINE 18 COLUMN 10
181 014400 VALUE "ENTER OPTION - ".
182 014500 05 OPT PIC X USING MENU-OPTION-SELECTED AUTO.
183 014600*
184 014700 01 I-D-SCREEN-2.
185 014800 05 BLANK SCREEN.
186 014900 05 LINE 6 COLUMN 20 BLINK
187 015000 VALUE " A - ADD ".
188 015100 05 LINE 8 COLUMN 20 BLINK
189 015200 VALUE " C - CHANGE ".
190 015300 05 LINE 10 COLUMN 20 BLINK
191 015400 VALUE " D - DELETE ".
192 015500 05 LINE 12 COLUMN 20 BLINK
193 015600 VALUE " ENTER OPTION - ".
194 015700 05 OPT PIC X USING MENU-FC-SELECTED AUTO.
195 015800*
196 015900 01 I-D-SCREEN-3.
197 016000 05 BLANK SCREEN.
198 016100 05 LINE 3 COLUMN 20 BLINK
199 016200 VALUE " INPUT SCREEN ".
200 016300 05 LINE 7 COLUMN 10 BLINK
201 016400 VALUE "LAST NAME ".
202 016500 05 IS2-LN PIC X(30) USING IP2-LN AUTO.
203 016600 05 LINE 8 COLUMN 10 BLINK
204 016700 VALUE "SEQUENCE ".
205 016800 05 IS2-SQ PIC XX USING IP2-SQ AUTO.
206 016900 05 LINE 9 COLUMN 10 BLINK
207 017000 VALUE "PHONE NUMBER ".
208 017100 05 IS2-PN PIC X(14) USING IP2-PN AUTO.
209 017200 05 LINE 10 COLUMN 10 BLINK
210 017300 VALUE "FIRST NAME 1 ".
211 017400 05 IS2-FN1 PIC X(15) USING IP2-FN1 AUTO.
212 017500 05 LINE 11 COLUMN 10 BLINK
213 017600 VALUE "FIRST NAME 2 ".
214 017700 05 IS2-FN2 PIC X(15) USING IP2-FN2 AUTO.
215 017800 05 LINE 12 COLUMN 10 BLINK
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COBOL LISTING part three

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216 017900 VALUE "XMAS LIST FLAG      ".
217 018000 05      IS2-XF PIC X USING IP2-XF AUTO.
218 018100 05      LINE 13 COLUMN 10 BLINK
219 018200 VALUE "N/A LINE 1          ".
220 018300 05      IS2-NA1 PIC X(40) USING IP2-NA1 AUTO.
221 018400 05      LINE 14 COLUMN 10 BLINK
222 018500 VALUE "N/A LINE 2          ".
223 018600 05      IS2-NA2 PIC X(40) USING IP2-NA2 AUTO.
224 018700 05      LINE 15 COLUMN 10 BLINK
225 018800 VALUE "N/A LINE 3          ".
226 018900 05      IS2-NA3 PIC X(40) USING IP2-NA3 AUTO.
227 019000 05      LINE 16 COLUMN 10 BLINK
228 019100 VALUE "N/A LINE 4          ".
229 019200 05      IS2-NA4 PIC X(40) USING IP2-NA4 AUTO.
230 019300*
231 019400 01      I-O-SCREEN-4.
232 019500 05      BLANK SCREEN.
233 019600 05      LINE 3 COLUMN 20 BLINK
234 019700 VALUE "*** SEARCH SCREEN ***".
235 019800 05      LINE 6 COLUMN 10 BLINK
236 019900 VALUE "LAST NAME".
237 020000 05      IS4-LN PIC X(30) USING IP4-LN AUTO.
238 020100*
239 020200 01      I-O-SCREEN-5.
240 020300 05      LINE 24 COLUMN 5 BLANK LINE BLINK.
241 020400 05      IS5-MSG PIC X(20) USING IP5-MSG.
242 020500*
243 020600 01      I-O-SCREEN-6.
244 020700 05      LINE 24 COLUMN 5 BLANK LINE BLINK
245 020800 VALUE "DESIRED RECORD - Y OR N".
246 020900 05      ANS-OPT PIC X USING ANS-OPT-SAVE AUTO.
247 021000*
248 021100 01      I-O-SCREEN-7.
249 021200 05      LINE 24 COLUMN 5 BLANK LINE BLINK
250 021300 VALUE "READY FOR UPDATE  ".
251 021400*
252 021500 01      I-O-SCREEN-8.
253 021600 05      LINE 24 COLUMN 5 BLANK LINE BLINK
254 021700 VALUE "DELETE THIS REC - Y OR N".
255 021800 05      ANS-OPT-8 PIC X USING ANS-OPT-SAVE AUTO.
256 021900*
257 022000 01      I-O-SCREEN-9.
258 022100 05      LINE 24 COLUMN 5 BLANK LINE BLINK
259 022200 VALUE "ENTER 'E' TO END ADD FUNCTION - ".
260 022300 05      IS9-FC PIC X USING IP9-FC AUTO.
261 022400*
262 022500 01      I-O-SCREEN-10.
263 022600 05      LINE 24 COLUMN 5 BLANK LINE BLINK
264 022700 VALUE
      "ENTER UP TO 4 LINES OF N/A INFO + NUMB OF LBLs".
265 022800*
266 022900 01      I-O-SCREEN-11.
267 023000 05      BLANK SCREEN.
268 023100 05      LINE 6 COLUMN 20 BLINK
269 023200 VALUE "LABEL LINE 1      ".
270 023300 05      IS11-NA1 PIC X(40) USING IP11-NA1 AUTO.
271 023400 05      LINE 7 COLUMN 20 BLINK
272 023500 VALUE "LABEL LINE 2      ".
273 023600 05      IS11-NA2 PIC X(40) USING IP11-NA2 AUTO.
274 023700 05      LINE 8 COLUMN 20 BLINK
275 023800 VALUE "LABEL LINE 3      ".
276 023900 05      IS11-NA3 PIC X(40) USING IP11-NA3 AUTO.
277 024000 05      LINE 9 COLUMN 20 BLINK
278 024100 VALUE "LABEL LINE 4      ".
279 024200 05      IS11-NA4 PIC X(40) USING IP11-NA4 AUTO.
280 024300 05      LINE 11 COLUMN 20 BLINK
281 024400 VALUE "NUMB OF LABELS TO PRINT  - ".
282 024500 05
      IS11-NUMB-LBLS PIC 999 USING IP11-NUMB-LBLS AUTO.
283 024600*
284 024700 01      I-O-SCREEN-12.
285 024800 05      LINE 24 COLUMN 5 BLANK LINE BLINK
286 024900 VALUE "ENTER 'E' TO END SEARCH FUNCTION - ".
287 025000 05      IS12-FC PIC X USING IP9-FC AUTO.
288 025100*
289 025200 01      I-O-SCREEN-13.
290 025300 05      LINE 24 COLUMN 5 BLANK LINE BLINK
291 025400 VALUE
      "ENTER 'E' TO END CHANGE/DELETE FUNCTION - ".
292 025500 05      IS13-FC PIC X USING IP9-FC AUTO.
293 025600*
294 025605 01      I-O-SCREEN-14.
295 025610 05      LINE 24 COLUMN 5 BLANK LINE BLINK
296 025615 VALUE "FOUND END-OF-FILE!".
297 025620*
298 025625 01      I-O-SCREEN-15.
299 025630 05      LINE 24 COLUMN 5 BLANK LINE BLINK
300 025635 VALUE "INVALID FILE NAME - REENTER".
301 025640*
302 025645 01      I-O-SCREEN-16.
303 025650 05      LINE 24 COLUMN 5 BLANK LINE BLINK
304 025655 VALUE "NEW FILE - YES OR NO - ".
305 025660 05      IS16-FC PIC X USING IP9-FC AUTO.
306 025665*
307 025700 PROCEDURE DIVISION.
308 025800 INITIAL-MSG.
309 025805 MOVE DEFAULT-FILE-NAME TO NA-FILE-NAME.
310 025810 DISPLAY I-O-SCREEN-0.
311 025815 ACCEPT I-O-SCREEN-0.
312 025820 IF NA-DRIVE =
      "A" OR "B" OR "C" OR "D" OR "E" OR "F"
313 025825 AND NA-COLEN = ":" AND NA-DOT = "."
314 025830 GO TO BEGIN
315 025835 ELSE
316 025840 DISPLAY I-O-SCREEN-15
317 025845 PERFORM TIME-LOOP THRU TIME-LOOP-XIT
318 025850 GO TO INITIAL-MSG.
319 025855 BEGIN.
320 025900 MOVE SPACE TO MENU-OPTION-SELECTED.
321 026000 DISPLAY I-O-SCREEN-1.

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322	026100	ACCEPT I-O-SCREEN-1.	377	030800	MOVE IP2-NA1 TO NAME-ADDRESS (N-L-CTR).
323	026200	IF MENU-OPTION-SELECTED < "1" OR > "6"	378	030900	SET N-L-CTR UP BY 1.
324	026300	GO TO BEGIN.	379	031000	MOVE IP2-NA2 TO NAME-ADDRESS (N-L-CTR).
325	026400	MOVE MENU-OPTION-SELECTED TO MENU-OPTION.	380	031100	SET N-L-CTR UP BY 1.
326	026500	GO TO OPTION-1, OPTION-2, OPTION-3,	381	031200	MOVE IP2-NA3 TO NAME-ADDRESS (N-L-CTR).
327	026600	OPTION-4, OPTION-5, OPTION-6	382	031300	SET N-L-CTR UP BY 1.
328	026700	DEPENDING ON MENU-OPTION.	383	031400	MOVE IP2-NA4 TO NAME-ADDRESS (N-L-CTR).
329	026800	*****	384	031500	OPTION-1-A1.
330	026900*	*	385	031600	WRITE NA-RECORD
331	027000*	ADD CHANGE OR DELETE RECORDS - OPTION 1. *	386	031700	INVALID KEY GO TO OPTION-1-A2.
332	027100*	*	387	031800	GO TO OPTION-1-A.
333	027200	*****	388	031900	OPTION-1-A2.
334	027300	OPTION-1.	389	032000	IF NA-STAT-M = "22"
335	027305	MOVE SPACE TO MENU-FC-SELECTED.	390	032100	GO TO OPTION-1-A3.
336	027400	DISPLAY I-O-SCREEN-2.	391	032200	MOVE "FILE ADD ERROR " TO IP5-MSG-DESC.
337	027500	ACCEPT I-O-SCREEN-2.	392	032300	MOVE NA-STAT-M TO IP5-MSG-CODE.
338	027505	MOVE "Y" TO FIRST-TIME-SWT.	393	032400	DISPLAY I-O-SCREEN-5.
339	027600	IF MENU-FC-SELECTED =	394	032500	GO TO ERROR-EQJ.
340	027700	"a" OR "A" OR "c" OR "C" OR "d" OR "D"	395	032600	OPTION-1-A3.
341	027800	MOVE MENU-FC-SELECTED TO SAVE-FC	396	032700	SET FILE-SQ-CTR UP BY 1.
342	027900	GO TO OPTION-1-1.	397	032800	MOVE FILE-SQ-ENTRY (FILE-SQ-CTR)
343	028000	DISPLAY BLANK-SCREEN.			TO SEQUENCE-NO.
344	028100	DISPLAY "FUNCTION CODE ERROR - REENTER"	398	032900	GO TO OPTION-1-A1.
345	028200	GO TO OPTION-1.	399	033000*	
346	028300	OPTION-1-1.	400	033100	OPTION-1-C.
347	028400	PERFORM OPEN-MASTER THRU OPEN-MASTER-XIT.	401	033105	IF FIRST-TIME-SWT = "Y"
348	028500	IF SAVE-FC = "A" OR "a"	402	033110	MOVE "N" TO FIRST-TIME-SWT
349	028600	GO TO OPTION-1-A.	403	033115	GO TO OPTION-1-C0.
350	028700	IF SAVE-FC = "C" OR "c" OR "	404	033200	MOVE SPACE TO IP9-FC.
351	028800	GO TO OPTION-1-C.	405	033300	DISPLAY I-O-SCREEN-13.
352	028900*		406	033400	ACCEPT I-O-SCREEN-13.
353	029000	OPTION-1-A.	407	033500	IF IP9-FC = "E" OR "e"
354	029005	IF FIRST-TIME-SWT = "Y"	408	033600	GO TO OPTION-1-CLOSE.
355	029010	MOVE "N" TO FIRST-TIME-SWT	409	033605	OPTION-1-C0.
356	029015	GO TO OPTION-1-A0.	410	033700	MOVE SPACES TO IP4-LN.
357	029100	MOVE SPACE TO IP9-FC.	411	033800	DISPLAY I-O-SCREEN-4.
358	029200	DISPLAY I-O-SCREEN-9.	412	033900	ACCEPT I-O-SCREEN-4.
359	029300	ACCEPT I-O-SCREEN-9.	413	034200	MOVE IP4-LN TO LAST-NAME.
360	029400	IF IP9-FC = "E" OR "e"	414	034300	MOVE "00" TO SEQUENCE-NO.
361	029500	GO TO OPTION-1-CLOSE.	415	034400	START NAMSTR KEY IS EQUAL TO NA-KEY
362	029505	OPTION-1-A0.	416	034500	INVALID KEY GO TO OPTION-1-C5.
363	029600	SET FILE-SQ-CTR TO 1.	417	034600	READ NAMSTR RECORD
364	029700	MOVE SPACES TO IP2-INFO.	418	034700	INVALID KEY GO TO OPTION-1-C6.
365	029800	DISPLAY I-O-SCREEN-3.	419	034800	OPTION-1-C1.
366	029900	ACCEPT I-O-SCREEN-3.	420	034900	PERFORM MOVE-REC-TO-WORK
367	029910	IF IP2-LN = SPACES			THRU MOVE-REC-TO-WORK-XIT.
368	029920	GO TO OPTION-1-A.	421	035000	DISPLAY I-O-SCREEN-3.
369	030000	MOVE SPACES TO NA-RECORD.	422	035100	MOVE SPACE TO ANS-OPT-SAVE.
370	030100	MOVE IP2-LN TO LAST-NAME.	423	035200	DISPLAY I-O-SCREEN-6.
371	030200	MOVE "00" TO SEQUENCE-NO.	424	035300	ACCEPT I-O-SCREEN-6.
372	030300	MOVE IP2-PN TO PHONE-NUMBER.	425	035400	IF ANS-OPT-SAVE = "Y" OR "y"
373	030400	MOVE IP2-FN1 TO FIRST-NAME-1.	426	035500	GO TO OPTION-1-C2.
374	030500	MOVE IP2-FN2 TO FIRST-NAME-2.	427	035600	OPTION-1-C1A.
375	030600	MOVE IP2-XF TO XMAS-LIST-FLAG.	428	035700	PERFORM READ-NEXT-REC
376	030700	SET N-L-CTR TO 1.			THRU READ-NEXT-REC-XIT.

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429 035705 IF EOF-SWT = "Y"
430 035710 DISPLAY I-O-SCREEN-14
431 035715 PERFORM TIME-LOOP THRU TIME-LOOP-XIT
432 035720 GO TO OPTION-1-C.
433 035800 GO TO OPTION-1-C1.
434 035900*
435 036000 OPTION-1-C2.
436 036100 IF SAVE-FC = "D" OR "d"
437 036200 GO TO OPTION-1-D1.
438 036300 DISPLAY I-O-SCREEN-7.
439 036400 ACCEPT I-O-SCREEN-3.
440 036500 PERFORM MOVE-WORK-TO-REC
THRU MOVE-WORK-TO-REC-XIT.
441 036600 REWRITE NA-RECORD
442 036700 INVALID KEY GO TO OPTION-1-C7.
443 036800 GO TO OPTION-1-C.
444 036900*
445 037000 OPTION-1-C5.
446 037100 IF NA-STAT-M = "23"
447 037200 MOVE "SEARCH-NO REC FND" TO IP5-MSG-DESC
448 037300 MOVE SPACES TO IP5-MSG-CODE
449 037400 DISPLAY I-O-SCREEN-5
450 037500 GO TO OPTION-1-C
451 037600 ELSE
452 037700 MOVE "SEARCH ERROR " TO IP5-MSG-DESC
453 037800 MOVE NA-STAT-M TO IP5-MSG-CODE
454 037900 DISPLAY I-O-SCREEN-5
455 038000 GO TO ERROR-EQJ.
456 038100*
457 038200 OPTION-1-C6.
458 038300 IF NA-STAT-M = "20"
459 038400 MOVE "END OF FILE FND " TO IP5-MSG-DESC
460 038500 MOVE SPACES TO IP5-MSG-CODE
461 038600 DISPLAY I-O-SCREEN-5
462 038700 GO TO OPTION-1-C
463 038800 ELSE
464 038900 MOVE "READ ERROR " TO IP5-MSG-DESC
465 039000 MOVE NA-STAT-M TO IP5-MSG-CODE
466 039100 DISPLAY I-O-SCREEN-5
467 039200 GO TO ERROR-EQJ.
468 039300*
469 039400 OPTION-1-C7.
470 039500 MOVE "REWRITE ERROR " TO IP5-MSG-DESC.
471 039600 MOVE NA-STAT-M TO IP5-MSG-CODE.
472 039700 DISPLAY I-O-SCREEN-5.
473 039800 GO TO ERROR-EQJ.
474 039900*
475 040000 OPTION-1-C8.
476 040100 MOVE "DELETE ERROR " TO IP5-MSG-DESC.
477 040200 MOVE NA-STAT-M TO IP5-MSG-CODE.
478 040300 DISPLAY I-O-SCREEN-5.
479 040400 GO TO ERROR-EQJ.
480 040500*
481 040600 OPTION-1-D1.
482 040700 MOVE SPACE TO ANS-OPT-SAVE.
483 040800 DISPLAY I-O-SCREEN-8.
484 040900 ACCEPT I-O-SCREEN-8.
485 041000 IF ANS-OPT-SAVE = "N" OR "n"
486 041100 GO TO OPTION-1-C1A.
487 041200 DELETE NAMSTR RECORD
488 041300 INVALID KEY GO TO OPTION-1-C8.
489 041400 GO TO OPTION-1-C.
490 041500*
491 041600 OPTION-1-CLOSE.
492 041700 CLOSE NAMSTR.
493 041800 GO TO BEGIN.
494 041900*****
495 042000*
496 042100* SEARCH FOR SPICIFIC RECORDS - OPTION 2.
497 042200*
498 042300*****
499 042400 OPTION-2.
500 042500 PERFORM OPEN-MASTER THRU OPEN-MASTER-XIT.
501 042600 OPTION-2-1.
502 042700 MOVE SPACES TO IP4-LN.
503 042800 DISPLAY I-O-SCREEN-4.
504 042900 ACCEPT I-O-SCREEN-4.
505 043000 IF IP4-LN = SPACES
506 043100 GO TO OPTION-2-CLOSE.
507 043200 MOVE IP4-LN TO LAST-NAME.
508 043300 MOVE "00" TO SEQUENCE-NO.
509 043400 START NAMSTR KEY IS EQUAL TO NA-KEY
510 043500 INVALID KEY GO TO OPTION-2-5.
511 043600 READ NAMSTR RECORD
512 043700 INVALID KEY GO TO OPTION-2-6.
513 043800 OPTION-2-2.
514 043900 PERFORM MOVE-REC-TO-WORK THRU
MOVE-REC-TO-WORK-XIT.
515 044000 DISPLAY I-O-SCREEN-3.
516 044100 MOVE SPACE TO ANS-OPT-SAVE.
517 044200 DISPLAY I-O-SCREEN-6.
518 044300 ACCEPT I-O-SCREEN-6.
519 044400 IF ANS-OPT-SAVE = "Y" OR "y"
520 044500 GO TO OPTION-2-3.
521 044600 PERFORM READ-NEXT-REC THRU
READ-NEXT-REC-XIT.
522 044605 IF EOF-SWT = "Y"
523 044610 DISPLAY I-O-SCREEN-14
524 044615 PERFORM TIME-LOOP THRU TIME-LOOP-XIT
525 044620 GO TO OPTION-2-3.
526 044700 GO TO OPTION-2-2.
527 044800 OPTION-2-3.
528 044900 MOVE SPACE TO IP9-FC.
529 045000 DISPLAY I-O-SCREEN-12.
530 045100 ACCEPT I-O-SCREEN-12.
531 045200 IF IP9-FC = "E" OR "e"
532 045300 GO TO OPTION-2-CLOSE.
533 045400 GO TO OPTION-2-1.
534 045500 OPTION-2-CLOSE.
535 045600 CLOSE NAMSTR.

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536 045700      GO TO BEGIN.
537 045800*
538 045900 OPTION-2-5.
539 046000      IF NA-STAT-M = "23"
540 046100      MOVE "SEARCH-NO REC FND" TO IP5-MSG-DESC
541 046200      MOVE SPACES TO IP5-MSG-CODE
542 046300      DISPLAY I-O-SCREEN-5
543 046400      GO TO OPTION-2-1
544 046500      ELSE
545 046600      MOVE "SEARCH ERROR      " TO IP5-MSG-DESC
546 046700      MOVE NA-STAT-M TO IP5-MSG-CODE
547 046800      DISPLAY I-O-SCREEN-5
548 046900      GO TO ERROR-EQJ.
549 047000*
550 047100 OPTION-2-6.
551 047200      IF NA-STAT-M = "20"
552 047300      MOVE "END OF FILE FND  " TO IP5-MSG-DESC
553 047400      MOVE SPACES TO IP5-MSG-CODE
554 047500      DISPLAY I-O-SCREEN-5
555 047600      GO TO OPTION-2-1
556 047700      ELSE
557 047800      MOVE "READ ERROR      " TO IP5-MSG-DESC
558 047900      MOVE NA-STAT-M TO IP5-MSG-CODE
559 048000      DISPLAY I-O-SCREEN-5
560 048100      GO TO ERROR-EQJ.
561 048200*****
562 048300*
563 048400* PRINT 3 X 5 CARDS ALL RECORDS - OPTION 3.
564 048500*
565 048600*****
566 048700 OPTION-3.
567 048800      MOVE 15 TO LINES-PER-PAGE.
568 048900      MOVE 3 TO LINES-AT-TOP.
569 049000      OPEN INPUT NAMSTR.
570 049100      OPEN OUTPUT NAPRNT.
571 049200 OPTION-3-1.
572 049300      READ NAMSTR NEXT
573 049400      AT END GO TO OPTION-3-CLOSE.
574 049500      MOVE SPACES TO P-LINE.
575 049600      MOVE LAST-NAME TO P-LN.
576 049700      MOVE XMAS-LIST-FLAG TO P-XF.
577 049800      WRITE NA-PRINT-REC FROM P-LINE
                                AFTER ADVANCING PAGE.
578 049900      MOVE SPACES TO P-LINE.
579 050000      MOVE PHONE-NUMBER TO P-PH.
580 050100      WRITE NA-PRINT-REC FROM P-LINE
                                AFTER ADVANCING 3 LINES.
581 050200      MOVE SPACES TO P-LINE.
582 050300      MOVE FIRST-NAME-1 TO P-FN.
583 050400      WRITE NA-PRINT-REC FROM P-LINE
                                AFTER ADVANCING 2 LINES.
584 050500      MOVE SPACES TO P-LINE.
585 050600      MOVE FIRST-NAME-2 TO P-FN.
586 050700      WRITE NA-PRINT-REC FROM P-LINE AFTER
                                ADVANCING 1 LINE.
587 050800 OPTION-3-2.
588 050900      SET N-L-CTR TO 1.
589 051000      MOVE 1 TO X.
590 051100      MOVE SPACES TO P-LINE.
591 051200      WRITE NA-PRINT-REC FROM P-LINE
                                AFTER ADVANCING 3 LINES.
592 051300 OPTION-3-3.
593 051400      MOVE SPACES TO P-LINE.
594 051500      MOVE N-A-LINE (N-L-CTR) TO      P-ADR.
595 051600      WRITE NA-PRINT-REC FROM P-LINE
                                AFTER ADVANCING 1 LINE.
596 051700      SET N-L-CTR UP BY 1.
597 051800      ADD 1 TO X.
598 051900      IF X < 5
599 052000      GO TO OPTION-3-3.
600 052100      GO TO OPTION-3-1.
601 052200*
602 052300 OPTION-3-CLOSE.
603 052400      DISPLAY NA-STAT-M.
604 052500      CLOSE NAMSTR, NAPRNT.
605 052600      GO TO BEGIN.
606 052700*****
607 052800*
608 052900* PRINT XMAS LABELS ALL RECORDS FLAGGED - OPTN 4.
609 053000*
610 053100*****
611 053200 OPTION-4.
612 053300      OPEN INPUT NAMSTR.
613 053400      OPEN OUTPUT NAPRNT.
614 053500      MOVE 7 TO LINES-PER-PAGE.
615 053600      MOVE 2 TO LINES-AT-TOP.
616 053700 OPTION-4-1.
617 053800      READ NAMSTR NEXT
618 053900      AT END GO TO OPTION-4-CLOSE.
619 054000      IF XMAS-LIST-FLAG NOT = "Y"
620 054100      GO TO OPTION-4-1.
621 054200      SET N-L-CTR TO 1.
622 054300      MOVE 1 TO X.
623 054400      MOVE SPACES TO P-LINE.
624 054500      WRITE NA-PRINT-REC FROM P-LINE
                                AFTER ADVANCING PAGE.
625 054600 OPTION-4-2.
626 054700      MOVE SPACES TO P-LINE.
627 054800      MOVE N-A-LINE (N-L-CTR) TO P-ADR.
628 054900      WRITE NA-PRINT-REC FROM P-LINE.
629 055000      SET N-L-CTR UP BY 1.
630 055100      ADD 1 TO X.
631 055200      IF X < 5
632 055300      GO TO OPTION-4-2.
633 055400      GO TO OPTION-4-1.
634 055500 OPTION-4-CLOSE.
635 055600      CLOSE NAMSTR, NAPRNT
636 055700      GO TO BEGIN.
637 055800*****
638 055900*
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639 056000* PRINT RETURN ADDRESS LABELS - OPTION 5.
640 056100*
641 056200*****
642 056300 OPTION-5.
643 056400 OPEN OUTPUT NAPRNT.
644 056500 MOVE 5 TO LINES-PER-PAGE.
645 056600 MOVE 1 TO LINES-AT-TOP.
646 056700 MOVE SPACES TO IP11-INFO.
647 056800 MOVE 000 TO IP11-NUMB-LBLS.
648 056900 DISPLAY I-O-SCREEN-10.
649 057000 DISPLAY I-O-SCREEN-11.
650 057100 ACCEPT I-O-SCREEN-11.
651 057200 IF IP11-NUMB-LBLS NUMERIC
652 057300 MOVE IP11-NUMB-LBLS TO LBL-COUNT
653 057400 ELSE
654 057500 MOVE 1 TO LBL-COUNT.
655 057600 OPTION-5-1.
656 057700 MOVE SPACES TO P-LINE.
657 057800 WRITE NA-PRINT-REC FROM P-LINE
                                AFTER ADVANCING PAGE.
658 057900 MOVE IP11-NA1 TO P-ADR.
659 058000 WRITE NA-PRINT-REC FROM P-LINE.
660 058100 MOVE IP11-NA2 TO P-ADR.
661 058200 WRITE NA-PRINT-REC FROM P-LINE.
662 058300 MOVE IP11-NA3 TO P-ADR.
663 058400 WRITE NA-PRINT-REC FROM P-LINE.
664 058500 MOVE IP11-NA4 TO P-ADR.
665 058600 WRITE NA-PRINT-REC FROM P-LINE.
666 058700 SUBTRACT 1 FROM LBL-COUNT.
667 058800 IF LBL-COUNT > THAN 0
668 058900 GO TO OPTION-5-1.
669 059000 CLOSE NAPRNT.
670 059100 GO TO BEGIN.
671 059200*****
672 059300*
673 059400* END OF JOB - OPTION 6.
674 059500*
675 059600*****
676 059700 OPTION-6.
677 059800 ERROR-EQJ.
678 059900 CLOSE NAMSTR.
679 060000 STOP RUN.
680 060100*****
681 060200*
682 060300* PERFORMED SUB-ROUTINES SECTION.
683 060400*
684 060500*****
685 060600 MOVE-REC-TO-WORK.
686 060700 MOVE LAST-NAME TO IP2-LN.
687 060800 MOVE SEQUENCE-NO TO IP2-SQ.
688 060900 MOVE PHONE-NUMBER TO IP2-PN.
689 061000 MOVE FIRST-NAME-1 TO IP2-FN1.
690 061100 MOVE FIRST-NAME-2 TO IP2-FN2.
691 061200 MOVE XMAS-LIST-FLAG TO IP2-XF.
692 061300 SET N-L-CTR TO 1.
693 061400 MOVE N-A-LINE (N-L-CTR) TO IP2-NA1.
694 061500 SET N-L-CTR UP BY 1.
695 061600 MOVE N-A-LINE (N-L-CTR) TO IP2-NA2.
696 061700 SET N-L-CTR UP BY 1.
697 061800 MOVE N-A-LINE (N-L-CTR) TO IP2-NA3.
698 061900 SET N-L-CTR UP BY 1.
699 062000 MOVE N-A-LINE (N-L-CTR) TO IP2-NA4.
700 062100 MOVE-REC-TO-WORK-XIT.
701 062200 EXIT.
702 062300*
703 062400 MOVE-WORK-TO-REC.
704 062500 MOVE SPACES TO NA-RECORD.
705 062600 MOVE IP2-LN TO LAST-NAME.
706 062700 MOVE IP2-SQ TO SEQUENCE-NO.
707 062800 MOVE IP2-PN TO PHONE-NUMBER.
708 062900 MOVE IP2-FN1 TO FIRST-NAME-1.
709 063000 MOVE IP2-FN2 TO FIRST-NAME-2.
710 063100 MOVE IP2-XF TO XMAS-LIST-FLAG.
711 063200 SET N-L-CTR TO 1.
712 063300 MOVE IP2-NA1 TO NAME-ADDRESS (N-L-CTR).
713 063400 SET N-L-CTR UP BY 1.
714 063500 MOVE IP2-NA2 TO NAME-ADDRESS (N-L-CTR).
715 063600 SET N-L-CTR UP BY 1.
716 063700 MOVE IP2-NA3 TO NAME-ADDRESS (N-L-CTR).
717 063800 SET N-L-CTR UP BY 1.
718 063900 MOVE IP2-NA4 TO NAME-ADDRESS (N-L-CTR).
719 064000 MOVE-WORK-TO-REC-XIT.
720 064100 EXIT.
721 064200*
722 064300 READ-NEXT-REC.
723 064305 MOVE SPACE TO EOF-SWT.
724 064400 READ NAMSTR NEXT RECORD
725 064500 AT END MOVE "Y" TO EOF-SWT.
726 064600 READ-NEXT-REC-XIT.
727 064700 EXIT.
728 064800*
729 064900 OPEN-MASTER.
730 065000 OPEN I-O NAMSTR.
731 065100 IF NA-STAT-M = "00"
732 065200 GO TO OPEN-MASTER-XIT.
733 065205 IF NA-STAT-M = "30"
734 065206 MOVE SPACE TO IP9-FC
735 065210 DISPLAY I-O-SCREEN-16
736 065215 ACCEPT I-O-SCREEN-16
737 065220 IF IP9-FC = "Y"
738 065225 OPEN OUTPUT NAMSTR
739 065230 GO TO OPEN-MASTER-XIT
740 065235 ELSE
741 065240 GO TO ERROR-EQJ.
742 065300 MOVE "FILE OPEN ERROR " TO IP5-MSG-DESC.
743 065400 MOVE NA-STAT-M TO IP5-MSG-CODE.
744 065500 DISPLAY I-O-SCREEN-5.
745 065600 GO TO ERROR-EQJ.
746 065700 OPEN-MASTER-XIT.
747 065800 EXIT.

```

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COBOL LIST END & The READER'S MAILBOX

```
748 065900*
749 066000 TIME-LOOP.
750 066100     MOVE 500 TO TIME-CNTR.
751 066200 TIME-LOOP-1.
752 066300     SUBTRACT 1 FROM TIME-CNTR.
753 066400     IF TIME-CNTR > 0
754 066500     GO TO TIME-LOOP-1.
755 066600 TIME-LOOP-XIT.
756 066700     EXIT.
```

Figure 1 -- Contents of NAMASTER.DTA Example Data File
FREEMAN 00(708) 438-0513JARED MARILYN Y
Mr & Mrs Jared Freeman 600 Ginger Trail
Lake Zurich, Illinois 60047

Notes (by the editorial staff):

- 1- Program is intended to be run with .DTA and .KEY files on drive B:.
- 2- .DTA and .KEY files cannot be flagged R/O, otherwise the program bombs out.
- 3- All menus and prompts appear in reverse video onscreen.
- 4- Program is reasonably "user friendly" and worked just as the author described it on page four.
- 5- To modify program you must patch the above listing with an editor, re-compile it with COBOL-80, then make trial runs until it works as you desired.
- 6- The compiled program takes up 35k space on a 40trk single-sided extended density disc. It does not appear to occupy any additional space in memory while running.

[Thanks to contributing author Jared Freeman for submitting such an excellent example of How-2 Program in COBOL! If this doesn't start our perhaps "obsolete" subscribers experimenting with this "obsolete" language on our "obsolete" computers, nothing, but NOTHING ever will! We're specially interested in find if our subscribers liked this article and whether they have any "gee, I'd like to see..." ideas for us to pass along to Jared. We're quite sure most authors like that type of reader response, so please whip out your writing sticks and clay tablets, Real Soon Now, y'all hear?! (And Jared, do check your mailing label expiration date.) -- ed]

What's coming next month? Our duffer's review of the "new" HDOS 3.02 and how it works--or don't work--with older HDOS 2.0 software and various H/Z 8-bit machines (H8, H?Z88, '89, '90, '89 w/D-G Electronic's Super89 CPU, etc.. Don't miss it!

The READER'S MAILBOX (Short Form)

Dear Mr Geisler,

I'm an old Heath computer user (an H88 converted to H89 and a Z90) who has subscribed to your excellent magazine

for some time now. I always look forward to the articles, letters and great bargains with considerable interest.

I have a problem I'm hoping one of your readers can help me out with. Some time ago I purchased a disc drive at a swap meet. The drive seems to be in pretty good shape but I didn't get any documentation with it. The drive is a Tandon TM100-4. I believe this is an 80tpi dual-sided drive and would really like to install it in one of my computers.

My problem is that the programming jumper and termination resistor sockets are not [clearly] marked. On the board they are marked 1E and 2F; I believe that 2F is the termination [resistor pack] socket. If anyone can help me out [identifying] the programming jumper locations I shall be forever in their debt.

Keep up the great work [Lenny]. I not only enjoy your newsletter for the information content but also for keeping active my sense of excitement for [those] computers which caught my interest in the first place.

STEVEN D HOLLE, 3843 Emerson Avenue North, Minneapolis, MN 55412

[Hey, Steve! I'm pretty sure that your drive is an 80-track, double-sided device (but you'll find out when you try formatting a disc in it for sure). The socket designated 2F is for the terminating resistor pack, and the other socket is for either a programming plug (which I don't like) or a plug-in dip-switch pack (which can be changed--without cutting programming plug straps as Heath recommends...ugh!). Be sure to plug those parts into their sockets with pin one matching pin one, else you may get unexpected results. Good luck! -- ed]

Dear Len,

Just got a call from Richard Musgrave and we discussed a lot of stuff including the problem you have in booting HDOS 3.02 on your D-G Super89 CPU board. He told me that 3.0 was developed on a Super89 [-equipped machine], but [HDOS 3.02] WILL NOT boot with the D-G 430 ROM installed. Apparently the D-G 430 ROM prevents HDOS 3.0 from re-mapping memory properly, hence the hang-up. Richard recommends using the D-G 420 chip [instead].

I don't know what you may gain or lose from this chip swap but since you can boot it on your H8 you may decide not to. But you now know what to do at "second hand" from the horse's mouth. Bruce Denton's phone number is 214-463-5120 at D-G Electronics.

KIRK L THOMPSON, Editor, The Staunch 8/89er, PO Box 548, West Branch, IA 52358

[Yoh Kirk! Thanks for the hint. I'll try HDOS 3.02 on another H-89 which has a D-G Super89 CPU with the 420 ROM in it (saves a lot of strain that way) & report back to you in our July edition. Also note that Hachibanko (our H8) Really Does Like HDOS 3.02! -- ed]

Ad Rerun By Popular Demand

This Product Not Available In Stores (Offer Void Where Prohibited)!

H D O S 3 . 0 2 R E A D Y T O S H I P

The System and On-Disk Manual are Now Available

An upgrade to HDOS 3.0, as distributed by William G. Parrott Jr. for some years, is now available to the H-8 and H/Z-89/90 user. The system was prepared by Richard Musgrave (MIGHTY-SOFT, Kansas City, MO) and the voluminous documentation was written and edited by Daniel N. Jerome (Burnsville, MN) who keyed and updated the HDOS 2.0 manual for The Staunch 8/89'er.

The system will boot on virtually all '89/90's. The H-8 must be capable of remapping memory as when booting CP/M. Hence, the latter requires a Z-80 CPU ("ORG-0") card and front-panel ROM such as XCON8. (PAM-8 will not work!) Like ver. 3.0, 3.02 remaps memory and loads the entire system at the bottom of memory. There are no overlays. Moreover, most software written for HDOS 2.0 will run without modification under 3.02. Exceptions include those programs which directly access the MTR or H-17 ROMs (those addresses are now used for other purposes), Steve Robbins' EDIT19 (but a patched version is available from Staunch), and Softshop's UD.DVD. In most cases, commercial or public domain substitutes are available for these programs. Contact Staunch for further information.

Device drivers for all common media types (H-17, H-37, and H-47) are included. Drivers for other types may be obtained from the HDOS 3.0 seven-disk set. Almost any generic terminal may also be used (even the H-9!) because the terminal driver is separate from the system core. However, a number of the utilities on the distribution disks require the H/Z-19/89. If you are not using the latter, include this information when ordering.

If you are presently running HDOS 2.0, you should be able to move your printer device driver to 3.02 without any problem. The one known exception is Softshop's UD.DVD; it will lock up any 3.0 system! If you need a printer driver, contact Staunch; it has a library of them for many off-makes and -models, including a replacement for UD.DVD by Rick Streeter. Suitable drivers are also available from commercial sources, such as Lindley Systems.

Enhancements beyond those provided by HDOS 3.0 include: MEGAPIP, a DOS shell; many new BATCH commands; HALT, which will execute SHUTDOWN.ABS or .BAT before exiting the system; and 8 user areas, similar to CP/M's USER or MSDOS's subdirectories. As in 3.0, HDOS 2.0 and earlier's FLAGS.ABS has been integrated into PIP.

The documentation for this immediate release is on-disk; when printed on standard 9-1/2 x 11 fanfold, it is 3 inches thick! The package includes a 3-inch, D-ring binder and section dividers for the 14 chapters. A printed manual is in preparation and if you order the system with the latter, the system will be promptly shipped with adequate documentation to get you started. The printed manual will be shipped as soon as it becomes available at no additional cost.

The price of the package, no matter which manual version you order, is \$60, including U.P.S. shipping. When ordering, clearly indicate the manual (on-disk or commercially printed) you want and the media (standard or double-sided hard-sector; single- or double-sided soft-sector; or eight-inch) you need. All 5-1/4 disks are formatted at 40-track (48-tpi). Send your order to:

Kirk L. Thompson
Editor, The Staunch 8/89'er
P.O. Box 548
#6 West Branch Mob Hom Vil
West Branch, IA 52358
Home phone: 319-643-7136

SEBHC JOURNAL

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The JOURNAL'S CATALOGUE Page

Discontinued ("Vintage") H/Z Eight-bit CP/M software in Original Factory-Sealed Packages. Warranties WILL BE HONORED by Heath. All "Demo" software runs EXACTLY AS WARRANTIED PACKAGES DO, but updates aren't available (usually won't matter). Continuing Education (EC) packages are complete w/lectures on cassette & final (college-acceptable credits) examination.

Item	H/Z cat #	Description	Price
----	-----	-----	-----
SJ-XTRA	CP/M-80 for WH47, re-formatted onto either hard or soft sector 5.25" discs (please specify)		29.95
SJ-1	EC-1101	Programming in FORTRAN	* 39.95
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SJ-5	EC-1110	Programming in Microsoft BASIC	* 29.95
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SJ-7	HMS 817-1	CP/M MBASIC-80, hardsector "	* 39.95
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SJ-23	173-62-1	Clark INVENTORY (PT equal)	21.95
SJ-24	173-70-1	DATASTAR (w/warranty)	21.95
SJ-27	SF9110	MYCHESS w/wty, manual (1 only)	19.95

1 - Prices include shipping inside continental U.S.A. only.
2 - We WILL NOT accept opened returns.
3 - All "Demo" software packages work EXACTLY as warrantied versions except manual pages are red over-stamped. (They're easy to read through red cellophane.)

4 - Some CP/M programs may not work on non-Heath machines, but usually can be patched with DDT (or equal) to run ok.

5 - If requested we'll convert between hard- and soft-sector formats, between H/Z 5.25" and 8" formats (KAYPRO ss, sd 5.25" discs on special order) at \$5 each 5.25" target disc. Original distribution disc(s) will be included with converted discs. (Caveat: Some Heath Terminal escape codes aren't Kaypro 8-bit-machine compatible.)

Contact Gus Bakalis at D:KUG.DOC, 313-755-2060, or L Geisler at SEBHC JOURNAL, 313-662-0750 if you need more information. Note: Profits from any software sales made thru D:KUG.DOC go toward D:KUG.DOC's operating expenses.

NOTE: "*" means 10% off both packages if ordered as a pair w/matching course--example: MBASIC & Programming in MBASIC, COBOL & Programming in COBOL, etc.

(Most CP/M-80 software runs on Z100 under CP/M-85!)

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The SEBHC JOURNAL's Back Page



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