COCO-ADS

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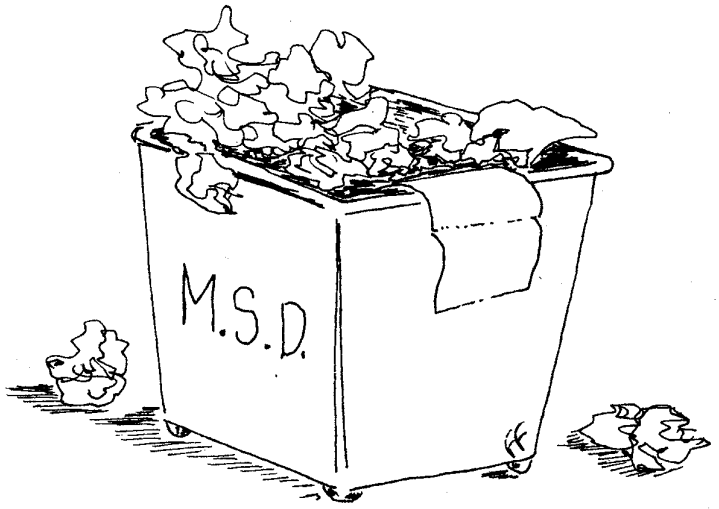

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PROGRAM OF THE MONTH

By Eric G. Robichaud

How many times have you sworn that you'd clean up your computer area, or straighten out your software library? I believe that there isn't really a computer user out there that hasn't been overcome, at one time or another, by a state of chaos that has gotten out of hand. A few weeks ago my personal insane asylum had reached it's chaotic best when I had no idea where anything was anymore.

It's just one of those things that creeps up totally unexpected; a diskette here, a book there, and soon my computer room looks like Oscar Madison's bedroom.

A few weeks ago I was looking for one of my programs, to show a friend, and searched in vain for it for what seemed to be an eternity. Fed up with not having any order to things, I decided to take drastic steps to organize my software library. Never again would I be caught not knowing where to find something!

Enter "DCAT"... (Dramatic music fades in). "DCAT" is a database program that will keep track of a software library (oh.. how convenient!). "DCAT" is fully menu driven, and allows total manipulation of the information in the quickest, easiest way possible. I've also included full error trapping, and "back doors" for the likes of myself who can easily trash valuable information. If there's a way to kill something, I'll find it!

"DCAT", incidentally, stands for "disk cataloger". "DCAT" is used to enter the titles of programs or full diskettes in your software library. I have numbered all of my diskettes, so I also include the number of the diskette, and any other quick, useful information.

"DCAT" will alphabetically sort out a file if requested to (file may be entered in another order, and left alone though), and will allow full editing of the file.

To get the program up and running, type in the listing for "DCAT.BAS" and save it on disk. Next, type in the program called "DCATTITL.BAS" and save it on disk also. Now RUN the second program ("DCATTITL.BAS") which will generate the title screen, saving it to disk as "TITLE/SCR". From now on you will only need to RUN"DCAT" to get the program up and running. Make sure, however, that if you copy "DCAT.BAS" to another disk that you also copy "TITLE/SCR" to the other disk, since it will be called by the main program.

When running the program you are presented with a text graphics title screen such as was discussed in last month's article. Pressing any key will prompt you for the current date. The date is not overly important, but is just used when making a hardcopy of a file, to label the printout. This helps keep track of the most current printout.

After entering the date you are given the main menu. The program is generally self-prompted and self-explanatory, and therefore should be quite easy to use. Option 1 from the main menu is used to enter a disk title. You may continue entering titles until you hit <ENTER> on a new line. This will return you to the main menu. If you accidentally hit <ENTER>, just select option 1 again, and continue inputting the titles. As a matter of fact, hitting <ENTER> at any prompt will return you to either the main menu or the Edit menu depending on what function you are doing. Therefore, if you make a mistake, or want to abort a funtion (unsure of the information), simply hit <ENTER> and no information at all will be altered, and you will be brought back to the current menu (now isn't that nifty?).

Once the information is entered, you may sort it alphabetically (option 9) or leave it in the order that you entered it.

To view the information, select option 4. Viewing is very nice because you may either sit back and watch the computer go through all of the titles (referred to as a record) one at a time with a slight pause between each, or you may hit the <SPACE BAR> to jump immediately to the next record. Hitting the <LEFT ARROW> key will bring you back to the previous record. Hitting "X" will abort the data display routine, and bring you immediately back to the main menu, and hitting "E" will put you into Edit mode on the current record. So, if you notice a spelling mistake, simply hit "E" and you'll be in edit mode on that record!

While displaying the file, you are updated as to the total number of records (titles) in the file, and which record you are currently viewing.

The edit selection (option 2 from main menu) has three sub-functions. You may select to either edit one record, edit all records, or delete one record. If you opt to edit all records, each record is presented one at a time for you to enter a new title. Selecting option 2 to edit one record will prompt you to enter the number of the record to edit. If you don't know the number, hit <ENTER> to abort, return to the main menu, and select option 4 (list file) to display the file on the screen.

Selecting option 3 from the edit menu will prompt you to enter the number of the item to delete. Upon entering the number that item will be deleted, and all of the items above it will be brought down, closing the gap left by the deleted file. The size of the file will, of course, be decremented by one. This means that if you want to delete items one and two, deleting number one will cause number two to be dropped into the hole left by number one (and three to drop to two, and so forth..), and therefore you would want to delete number ONE again.

Selecting option 5 from the main menu allows you to load in a file from disk. Never use an extension when saving or loading; "DAT" will automatically be issued. Stay, of course, within the eight character limit. (But never fear; it won't let you do more anyway!) The nice feature about loading files is that you may merge files together. If there is a file in memory and you try to load in another file, you will be asked whether to erase the current file and replace it with the one on disk, or to merge the two together.

To save a file, you may do something similar. Selecting option 6 from the main menu will ask you for a name to save the file under, and will do a straight save to disk. Selecting option 7, however, will allow you to save a PORTION of the file! Just answer the prompts that ask which section of the file to save. So you may merge multiple files together, or seperate one file into multiple ones! This gives added flexibility to keeping your database.

Option 8 is to erase a file, and just clears memory and allows you to start entering items again in a new file. It does verify that you want to proceed before it erases everything from memory.

The printer function (option 3) prompts you to enter a title. Simply enter a short word or two to label the printout, such as "GAME SORT" or "UTILITIES" so that you can identify the listing. The printout will be automatically formatted so that every page of the printout is numbered, titled, and dated at the top of each page. Perforations in the pages are skipped, and a margin is kept. The beginning of the program contains REM statements (apostrophes) that comment on how to configure the two control codes for your printer. I have the program set up to print the header on each page in elongated mode. Simply change the strings at the start of the program to set up the control codes for your printer. You may also set up the baud rate for your printer by entering the appropriate value withing the printer routine. That section is also well commented for ease of use.

To end execution of the program, simply hit "E" from the main menu.

Upper and lowercase input are generally recognized, to allow ease of use on the CoCo3. A WIDTH 32 command is placed at the beginning of the program make sure everything runs smoothly on the CoCo3. I programmed this in the 32 column mode so that CoCo1/2 users may use this program also. Simply remove the WIDTH 32 command on a CoCo1/2. A friend of mine used a program called "EZ BASE" to keep a catalog of his files. "EZ BASE" is a general database program, and therefore allows multiple fields. My program only allows one field per record, because I didn't deem it necessary to have more than one. "EZ BASE" is good for some purposes, but not for cataloging a software library. I have included a nice, quick little converter program to allow those of you who use "EZ BASE" to quickly and easily convert your files over to "DCAT" so that you don't have to re-enter them all by hand. Just type in the third program listing, called "EZREADIN.BAS", save it to disk, then run it. It will ask you for the filename to load in (the "EZ BASE" file), it will convert it, then it will ask you what to call the "DCAT" format file. It is best to select a different name for the new file, to make sure that the new file doesn't overwrite the old one; never destroy the old file until you are certain that your new one is perfect!

The advantage of "DCAT" is that is does more than "EZ BASE", it prints headers on every page, it allows quicker movement through a file while displaying the data ("EZ BASE" takes decades to get to the end of file!), and "DCAT" does a lot less disk accesses, and saves disk space.

The last two points I find very important. "EZ BASE" accesses the disk with every file it lists to the screen. Hundreds

of accesses every time you use the program; I find that to be unecessary wear and tear on the drives. Also, my friend had converted a 12 granule long "EZ BASE" file over to my format, and found that my format only used one granule!!!! At that rate, you can store an awful lot of data with "DCAT" as compared to "EZ BASE".

All of this, of course, is not to say that "EZ BASE" is not a good program, but IS to say that it isn't good for this purpose. So, if you do happen to use "EZ BASE", I've included a converter for you. If you use another program, let me know and I will see if I can write a quick and easy converter for you to use.

One note, however: Don't ever use commas in your titles! Those of you who program in BASIC will know that RS DOS uses commas to seperate files on a disk. If you use a comma in your title, it will think that IT put the comma there, and that it was intended to mark the seperation of files. I could have written a routine in the "EZ BASE" converter to search out and destroy all commas, but they are hardly ever used anyway (most people realize that it's a computer sin to use them), and the added routine would slow down the conversion process immensely.

Well, you now have a good program (yes, I'm biased) to catalog your full disks, and major programs. There is no excuse now for you not to be able to find any program in the snap of a finger, or to have a full list of everything to show to someone.

Currently I am working on a machine language program to read in and catalog individual programs from a disk directory, to do the same sort of thing with them. The directory sorts and the entire disk sorts (like "DCAT") are the only two types of sorts you should ever need.

If you use another program to do the same thing as "DCAT", try "DCAT" just the same; I find it very easy to use, and very quick, by comparison.

Now that I've extolled the virtues of my program, let's move onto a few broader, unrelated topics (Time for me to rant and rave on a potpourri of diverse information). I would like to note that if you are using a patched version of Telewriter-64 and begin experiencing problems with it such as the program locking up and your disk drive(s) going on indefinitely, your joysticks are the culprit. This has been mentioned before, but it is an often encountered phenomenon, and one often doesn't remember that little line of text. Simply center your joysticks (no need to totally unplug them) and the symptoms should disappear. It seems that if certain values are held in the joystick registers, the program will go spastic.

A relative of mine also claims that the joysticks influence the artifacted colors when booting up graphics on a CoCo1/2. I think it's safe to say that just about everyone has seen, at one time or another, the famous graphics boot-up screen asking to hit <RESET> if the colors are wrong, or else hit <ENTER> (or something along those lines). I had written a program to do this for my Uncle, which he incorporated in the boot up procedure for any program that used artifacted graphics. He claims, however, that with CoCoMax II and several other games, programs, etc. that centering the joysticks will allow consistent color arrangements every time the computer is powered up. My CoCo3 has obsoleted my "grey box" so I haven't verified this myself, but I felt it was worth mentioning as a possibility.

For those of you that have been waiting for good graphics on the CoCo3 to begin to proliferate, you may smile, now that Color Max 3 has been released. Color Max 3 is a graphics editor that was written by Greg Miller and Erik Gavriluk, and is being marketed by Computize, Inc. Color Max 3 works in a manner very similar to the ever popular CoCo Max and CoCo Max II programs. It is a "point-and-click", icon environment, with pull-down menus and the works.

I have downloaded two utility programs from Delphi, both written by Greg Miller. One of them is a utility to load and save hi-resolution graphics screens on the CoCo3, and the other is a program called "GALLERY.BIN". "GALLERY" works in a similar fashion to Erik Gavriluk's Apple Macintosh picture converter; "GALLERY" displays a list of all of the MGE format pictures on the screen, and allows you to "point-and-click" which picture to view. Using this utility, I have had the pleasure of seeing many of the first CoCo3 hi-res pictures to come out, and I am really looking forward to seeing Color Max 3, and the great graphics that are already beginning to abound. If you haven't seen these programs, they are "Freeware", and are definitely worth looking into.

Now I would like to quickly touch on telecommunications (...this guy really jumps around!). For those of you who are on Delphi, you may reach me under the username EGROBICHAUD. If you are a Delphi subscriber, drop a line to me and say hello; I check in there often.

I just recently received a xeroxed sheet from a friend of mine, advertising an E-Mail directory service. From what I've seen the introductory package is free. You are given a toll-free number (so there's not even a charge for the call), and you are asked to call and log in. From there, you are asked a series of questions (sort of like the logon procedure on Delphi), such as your name and address, but there are no questions of billing or payment; it seems to be free for a limited amount of usage. From my understanding, your name is put in a directory, then you may have upto 50 free searches through the directory looking for people. You are given a place to contact them also (such as on Delphi, or Compuserve). The phone number is 1-800-622-0505. Log on with either 300 or 1200 baud. Hit <enter> once at 1200 baud, or three times as 300 baud when first logging on. Use Even parity, 7 data bits, 1 stop bit. At the username prompt enter REGISTER. Resgistration if free.

I only found out about this recently, and was told, after registering, that I would receive conformation and further instructions via mail. Look into it if you're interested, and please let me know if you know anything about this. The line of questioning was short, brief, and very general information (nothing confidential, no credit card numbers, etc.)

When I first started this column, I hoped that by taking the time and trouble to completely list out all of the instructions for my programs, complete with details, it might catch on. It seems, though, that people are still sending in programs will scarce an instruction. What's the deal? We would all like to be able to run a program and have instructions so that we can understand it and not have to spend days trying to figure it out. Let's start seeing some good documentation here, or at least useful.

Again this month, I would like to mention my program package, "One Year of the Program of the Month", which contains all of the programs that have appeared in this column between it's debut in April of 1986, and March of 1987, inclusive. There are also a few extra "bonus" programs included that won't be printed anywhere, and a booklet containing printed documentation for all of the programs. The package is available for $15 postage paid from myself.

I am really pleased with this month's program, and I know that it is usefull (at least to me!) since I've been using it a great deal. I hope you share my enthusiasm. This month's program is available (as usual) for $5 post paid from me at 10 Stoneham Drive, Woonsocket, RI 02895. Many people think my closing statements (to write to me) are just a formality, but I mean it sincerely; I want to know what you are thinking. So, if you do have questions, comments, or just want to write for any other reason, feel free to do so.

In closing, I would like to hear from active CoCo users in the Albany, New York / "Capital District" area, since I plan to move to that area within the next few months. I will, of course, maintain my residence in "little Rhody" (as I am just attending a school in that area), and will continue to be reached via mail at my current residence. Writing this article has been fun, "But I have promises to keep, and miles to go before sleep, and miles to go before I sleep." so hang in there until next month...

```
1 '********************
2 '*    PROGRAM TO    *
3 '*   DRAW A TITLE   *
4 '*     FROM DATA    *
5 '*    COMPILED BY   *
6 '*  'TITLESAV' BY   *
7 '*  ERIC ROBICHAUD  *
8 '********************
9 '
10 FOR X=&H400 TO &H600
20 READ A:POKE X,A:NEXT:SAVEM"TI
TLE/SCR",&H400,&H600,&H400:END
30 DATA  160, 128, 128, 128, 128
, 128, 128, 128, 128, 128, 128,
128, 128, 128, 128, 128, 128, 12
8, 128, 128, 128, 128, 128, 128,
 128, 128, 128, 128, 128, 128, 1
28, 128
60 DATA  165, 172, 172, 172, 172
, 172, 162, 160, 128, 161, 172,
172, 172, 172, 169, 128, 128, 16
6, 172, 172, 172, 172, 162, 128,
 164, 172, 172, 172, 174, 172, 1
72, 172
90 DATA  165, 160, 128, 128, 128
, 160, 165, 160, 128, 170, 128,
160, 128, 128, 160, 128, 128, 17
0, 128, 128, 128, 128, 170, 128,
 128, 128, 128, 128, 170, 128, 1
28, 128
```

```
120 DATA  165, 160, 160, 160, 12
8, 160, 128, 170, 160, 170, 160,
 160, 176, 128, 128, 128, 128, 1
71, 163, 163, 163, 163, 170, 128
, 128, 128, 128, 128, 128, 170, 128,
128, 128
150 DATA  181, 176, 128, 128, 12
8, 128, 128, 186, 128, 186, 176,
 176, 176, 160, 128, 128, 181, 1
76, 160, 128, 128, 160, 181, 176
, 128, 128, 128, 128, 186, 128,
128, 128
180 DATA  181, 176, 176, 128, 17
6, 176, 177, 184, 176, 186, 176,
 128, 176, 176, 176, 160, 181, 1
76, 128, 128, 128, 128, 181, 176
, 128, 128, 128, 128, 186, 128,
128, 128
210 DATA  181, 179, 179, 179, 17
9, 179, 184, 176, 128, 180, 179,
 179, 179, 179, 182, 160, 181, 1
76, 128, 128, 128, 128, 181, 176
, 176, 128, 128, 128, 186, 128,
128, 128
240 DATA  128, 160, 128, 128, 12
8, 128, 128, 128, 128, 176, 128,
 128, 128, 128, 128, 128, 128, 1
28, 128, 128, 128, 128, 128, 128
, 128, 128, 128, 128, 128, 128,
128, 128
270 DATA  144, 147, 147, 147, 14
7, 147, 147, 147, 147, 147, 147,
 147, 147, 147, 147, 147, 147, 1
47, 147, 147, 147, 147, 147, 147
, 147, 147, 147, 147, 146, 128,
128, 128
300 DATA  128, 128, 128, 128, 12
8, 128, 128, 128, 128, 128, 128,
 128, 128, 128, 176, 128, 128, 1
28, 128, 128, 128, 128, 128, 128
, 128, 128, 128, 128, 128, 128,
128, 128
330 DATA  128, 128, 128, 128, 12
8, 128, 128, 128, 128, 128, 128,
 128, 128, 128, 128, 128, 128, 1
28, 128, 128, 128, 128, 128, 128
, 128, 128, 128, 128, 128, 128,
128, 128
360 DATA  128, 128, 128, 128, 12
8, 128, 128, 128, 128, 128, 128,
 128, 128, 128, 128, 128, 128, 1
28, 128, 128, 128, 128, 128, 128
, 128, 128, 128, 128, 128, 128,
128, 128
390 DATA  128, 128, 128, 128, 12
8, 128, 128, 128, 128, 128, 128,
 128, 128, 128, 128, 128, 128, 1
28, 128, 128, 128, 128, 128, 128
, 128, 128, 128, 128, 128, 128,
128, 128
420 DATA  128, 128, 128, 128, 12
8, 128, 128, 128, 128, 128, 128,
 128, 128, 128, 128, 128, 128, 1
28, 128, 128, 128, 128, 128, 128
, 128, 128, 128, 128, 128, 128,
128, 128
450 DATA  128, 128, 128, 128, 12
8, 128, 128, 128, 128, 128, 128,
 128, 128, 128, 128, 128, 128, 1
28, 128, 128, 128, 128, 128, 128
, 128, 128, 128, 128, 128, 128,
128, 128
480 DATA  128, 128, 128, 128, 12
8, 128, 128, 128, 128, 128, 128,
 128, 128, 128, 128, 128, 128, 1
28, 128, 128, 128, 128, 128, 128
, 128, 128, 128, 128, 128, 128,
128, 128
510 DATA  68, 67, 65, 84, 50, 32
, 32, 32, 66, 65, 83, 0, 0, 59,
0, 61, 0, 0, 0, 0, 0, 0, 0, 0, 0
, 0, 0, 0, 0, 0, 0, 0
```

```
10 '**************************
20 '*     EZ-BASE TO DCAT     *
30 '*  FILE FORMAT CONVERTER  *
40 '*  BY ERIC G. ROBICHAUD   *
50 '*    PARAGON SOFTWARE     *
60 '*    COPYRIGHT(C)  1987   *
70 '**************************
80 '
90 WIDTH 32'DELETE IF NOT A CC3
100 CLEAR 5000
110 DIM F$(400)
120 SOUND 125,1
130 CLS:PRINT@33,"ENTER THE NAME
 OF THE EZ-BASE   FILE TO BE REA
D IN:";:LINEINPUT N$
140 IF N$="" THEN SOUND 125,1:GO
TO 120
150 IF LEN(N$)>8 THEN SOUND 30,1
:GOTO 130
160 FOR X=1 TO LEN(N$):IF MID$(N
$,X,1)="/" OR MID$(N$,X,1)="." T
HEN SOUND 30,1:GOTO 130
170 OPEN"D",#1,N$
180 I=LOF(1)
190 FORX=2 TO LOF(1):GET#1,X
200 INPUT#1,F$(X)
210 GET#1,X:INPUT#1,F$(X)
220 NEXT X:CLOSE
230 FOR X=2 TO I
240 IF F$(X)="" THEN FORY=X TO (
I-1):F$(Y)=F$(Y+1):NEXT:I=I-1
250 NEXT
260 SOUND 125,1
```

```
270 CLS:PRINT@33,"INSERT PROPER
DISKETTE, AND     ENTER THE NAME
 TO SAVE THE NEW  DCAT FORMAT FI
LE UNDER:";:LINEINPUT N$
280 IF N$="" THEN SOUND 30,1:GOT
O 270
290 IF LEN(N$)>8 THEN SOUND 30,1
:GOTO 270
300 FOR X=1 TO LEN(N$):IF MID$(N
$,X,1)="/" OR MID$(N$,X,1)="." T
HEN SOUND 30,1:GOTO 270
310 OPEN"O",#1,N$
320 PRINT#1,(I-1):FOR Y=2 TO I:P
RINT#1,F$(Y)
330 NEXT Y
340 CLOSE
350 CLS:SOUND 125,1:PRINT @205,"
DONE":END



10 '****************************
20 '*           DCAT           *
30 '*   DISK TITLE CATALOGER   *
40 '*   BY ERIC G. ROBICHAUD   *
50 '*     PARAGON SOFTWARE     *
60 '*    COPYRIGHT(C)  1987    *
70 '*      PRINTED IN THE      *
80 '*  JUNE ISSUE OF COCO ADS  *
90 '****************************
100 WIDTH 32'delete if not coco3
110 CLS3
120 '----load login title scrn--
130 LOADM"TITLE.SCR"
140 A$=INKEY$:IFA$=""THEN 140
150 CLEAR 9000:DIM T$(400)
160 MAX=400:I=0:V=1'CHANGE TO -1
 IF YOU ARE USING CASSETTE
170 EL$=CHR$(27)+CHR$(87)+CHR$(4
9):'CHANGE TO CODES TO SET YOUR
PRINTER FOR ELONGATION MODE
180 NR$=CHR$(27)+CHR$(87)+CHR$(4
8):'CHNG TO CODES TO CANCEL ELON
GATION/RETURN TO NORMAL PRNT
190 CLS:PRINT@198,"WHAT IS TODAY
'S DATE";:PRINT@235,"(MM/DD/YY)"
;:PRINT@268,"";:LINEINPUT TD$
200 '----main menu & message---
210 M$=STRING$(31,32)+"*PARAGON
SOFTWARE*  PRESENTS THE DISK CAT
ALOGER WRITTEN BY ERIC G. ROBICH
AUD AND PRINTED IN THE JUNE 1987
 ISSUE OF COCO ADS"+STRING$(31,3
2)
220 M2$=STRING$(31,32)+"USE THIS
 PROGRAM TO CREATE A DATABASE OF
 ALL OF THE TITLES/TOPICS OF EAC
H DISK IN YOUR SOFTWARE LIBRARY.
  PLEASE SELECT AN ITEM FROM THE
 MAIN MENU..."+STRING$(31,32)
230 CLS3:PRINT@106,"*MAIN MENU*"
;
240 PRINT @ 168,"1) ENTER DATA
 ";:PRINT@200,"2) EDIT SUB-MENU"
;:PRINT@232,"3) PRINT FILE   ";:
PRINT@264,"4) LIST FILE    ";:PR
INT@296,"5) LOAD A FILE  ";
250 PRINT@328,"6) SAVE A FILE  "
;:PRINT@360,"7) % SAVE A FILE";:
PRINT@392,"8) ERASE FILE   ";:PR
INT@424,"9) ALPHA SORT   ";
260 PRINT@456,"E) END          "
;
270 FORX=1 TO (LEN(M$)-32)
280 PRINT@32,MID$(M$,X,32);:FORY
=1 TO 35
290 A$=INKEY$:IFA$<>"" THEN 340
ELSE NEXT Y,X
300 FOR X=1 TO (LEN(M2$)-32):PRI
NT@32,MID$(M2$,X,32);:FORY=1 TO
35
310 A$=INKEY$:IFA$<>""THEN 340 E
LSE NEXT Y,X
320 GOTO 270
330 '---main menu dispatch---
340 IF A$="E" OR A$="e" THEN 165
0
350 A=VAL(A$):ON A GOTO 370,450,
680,900,1060,1340,1450,1590,1760
360 SOUND 30,1:GOTO 270
370 '-------enter data-------
380 CLS
390 PRINT@0:PRINTSTRING$(32,45);
:PRINT USING " NUMBER OF RECORDS
 IN FILE: ###";I:PRINTSTRING$(32
,45)
400 I=I+1
410 IF I=MAX THEN 1740
420 PRINT @193,"TITLE #";I;":":P
RINT@257,STRING$(LEN(T$(I-1)),32
):PRINT@257," ";:LINEINPUT T$(I)
430 IF T$(I)="" THEN I=I-1:SOUND
 125,1:GOTO 230
440 GOTO 390
450 '------edit submenu-------
460 IF I=0 THEN 1690
```

```
470 CLS3:PRINT@106,"*EDIT MENU*"
;
480 PRINT@165,"1) EDIT A RECORD
    ";:PRINT@197,"2) EDIT ALL R
ECORDS   ";:PRINT@229,"3) DELETE
 A RECORD    ";:PRINT@261,"4) RE
TURN TO MAIN MENU";
490 A$=INKEY$:IFA$=""THEN 490
500 A=VAL(A$):ON A GOTO 520,580,
630,230
510 SOUND 30,1:GOTO 490
520 '------edit one record----
530 CLS:PRINT@193,"WHICH RECORD
WOULD YOU LIKE TO  EDIT:";:LINEI
NPUT A$:A=VAL(A$):IF A<0 THEN SO
UND 30,1:GOTO 530
540 IF A=0 THEN SOUND 30,1:GOTO
470
550 IF A>I OR A<>INT(A) THEN SOU
ND 30,1:GOTO 530
560 PRINT@12,"*EDITING*":PRINT@1
93,"CURRENT TITLE: ":PRINT" ";T$
(A):PRINT:PRINT" ENTER NEW TITLE
:":PRINT" ";:LINEINPUT A$:IFA$="
" THEN SOUND 30,1:GOTO 470
570 T$(A)=A$:SOUND 125,1:GOTO 47
0
580 '------edit all records---
590 CLS:A=0:PRINT@12,"*EDITING*"
```


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```
600 A=A+1:IF A>I THEN SOUND 125,
1:GOTO 470
610 PRINT@193,"RECORD ";A;" TITL
E:":PRINT" ";T$(A):PRINT@289,"EN
TER NEW TITLE:":PRINT@353,STRING
$(LEN(T$(A-1)),32):PRINT@353,"";
:LINEINPUT A$:IFA$="" THEN SOUND
 30,1:GOTO 470
620 T$(A)=A$:GOTO 600
630 '----delete a record------
640 CLS
650 PRINT@193,"WHICH RECORD WOUL
D YOU LIKE TO  DELETE:' ";:LINEIN
PUTA$:A=VAL(A$):IF A<0 OR A>I OR
 A<>INT(A) THEN SOUND 30,1:GOTO
640
660 IF A=0 THEN SOUND 30,1:GOTO
470
670 FOR X=A TO (I-1):T$(X)=T$(X+
1):NEXT X:I=I-1:SOUND 125,1:GOTO
 470
680 '------printout file------
690 IF I=0 THEN 1690
700 'POKE 150,1
710 'IF USING NON-DEFAULT BAUD
720 'RATE, POKE YOUR BAUD RATE
730 'BY REPLACING THE 1 WITH THE

740 'VALUE YOU NEED, THEN REMOVE

750 'THE APPOSTROPHE AT THE
760 'BEGINNING OF LINE 662
770 '(1=9600,41=1200,87=600)
780 CLS:PRINT@193,"PLEASE ENTER
A HEADING FOR THE  PRINTOUT:":PR
INT" ";:LINEINPUT TI$
790 IF LEN(TI$)>25 THEN CLS:SOUN
D 30,1:PRINT@32," TITLE SELECTIO
N TOO LONG...TRY  AGAIN PLEASE."
:FORY=1 TO 1500:NEXT:GOTO 780
800 CLS:PRINT@192,"READY PRINTER
 THEN PRESS <ENTER>"
810 A$=INKEY$:IF A$="" THEN 810
820 P=0:GOSUB 890
830 FOR X=1 TO I
840 PRINT#-2,T$(X)
850 Y=Y+1:IF Y=55 THEN GOSUB 880

860 NEXT X
870 SOUND 125,1:GOTO 230
880 FORZ=1 TO 6:PRINT#-2:NEXT
890 Y=0:P=P+1:PRINT#-2,EL$;TI$;T
AB(35)"PAGE ";P:PRINT#-2:PRINT#-
2,TAB(13)"AS OF ";TD$;NR$:PRINT#
-2:PRINT#-2:RETURN
900 '----list file on scrn----
910 IF I=0 THEN 1690
920 CLS
```

```
930 FORX=1 TO I:PRINT@0,STRING$(
32,45);:PRINTUSING" NUMBER OF RE
CORDS IN FILE: ###";I:PRINT USIN
G " NUMBER OF THIS RECORD: ###";
X:PRINTSTRING$(32,45)
940 PRINT@193,STRING$(LEN(T$(X-1
)),32):PRINT@193,T$(X)
950 FOR Y=1 TO 100
960 A$=INKEY$:IFA$=CHR$(32) THEN
 1020 ELSE IF A$="E" OR A$="e" T
HEN A=X:CLS:GOTO 560
970 IF A$="X" OR A$="x" THEN SOU
ND 125,1:GOTO 230
980 IF A$=CHR$(8) THEN 990 ELSE
1010
990 X=X-2:IFX<0 THEN X=0
1000 GOTO 1020
1010 NEXT Y
1020 SOUND 125,1:NEXT X
1030 PRINT@448," PLEASE HIT <ENT
ER> TO CONTINUE"
1040 A$=INKEY$:IF A$="" THEN 104
0
1050 GOTO 230
1060 '------read in file-------
1070 IF I<>0 THEN 1160
1080 CLS:PRINT@10,"*LOAD FILE*":
PRINT@193,"WHAT IS THE NAME OF T
HE FILE TO LOAD IN:";:LINEINPUT
A$
1090 IF A$="" THEN SOUND 30,1:GO
TO 230
1100 IF LEN(A$)>8 THEN SOUND 30,
1:GOTO 1080
1110 FORX=1 TO LEN(A$):IF MID$(A
$,X,1)="/" OR MID$(A$,X,1)="." T
HEN SOUND 30,1:GOTO 1080
1120 NEXT X:GOTO 1140
1130 SOUND 30,1:GOTO 1080
1140 OPEN"I",#V,A$:INPUT#V,I:FOR
X=1 TO I:INPUT#V,T$(X):NEXT:CLOS
E
1150 FOR Y=1 TO 800:NEXT:SOUND 1
25,1:GOTO 230
1160 '------merge files--------
1170 CLS:PRINT@10,"*LOAD FILE*":
PRINT@192,"THERE IS A FILE IN ME
MORY. WOULDYOU LIKE TO MERGE IT
WITH THE   FILE TO BE LOADED, OR
 REPLACE ITWITH THE LOADED FILE
(M/R):";:LINEINPUTA$
1180 IF A$="M" OR A$="m" THEN 12
30
1190 IF A$="R" OR A$="r" THEN 13
30
1200 IF A$="" THEN SOUND 30,1:GO
TO 230
1210 SOUND 30,1:GOTO 1170
1220 '----merge the two files---

1230 CLS:PRINT@10,"*LOAD FILE*":
PRINT@193,"WHAT IS THE NAME OF T
HE FILE TO LOAD IN:";:LINEINPUT
A$
1240 IF A$="" THEN SOUND 30,1:GO
TO 230
1250 IF LEN(A$)>8 THEN SOUND 30,
1:GOTO 1230
1260 FORX=1 TO LEN(A$):IF MID$(A
$,X,1)="/" OR MID$(A$,X,1)="." T
HEN SOUND 30,1:GOTO 1230
1270 NEXT X:GOTO 1290
1280 SOUND 30,1:GOTO 1230
1290 OPEN"I",#V,A$:INPUT#V,A:IF
(I+A)>MAX THEN 1720
1300 FOR X=(I+1) TO (I+A):INPUT#
V,T$(X):NEXT:CLOSE:I=I+A
1310 FOR Y=1 TO 800:NEXT:SOUND 1
25,1:GOTO 230
1320 '---go ahead and replace---

1330 I=0:GOTO 1080
1340 '-------save a file-------
1350 IF I=0 THEN 1690
1360 CLS:PRINT@12,"*SAVING*"
1370 PRINT@193,"WHAT FILENAME WO
ULD YOU LIKE TO SAVE THIS UNDER:
";:LINEINPUT A$:IF LEN(A$)>12 TH
EN SOUND 30,1:GOTO 1360
1380 IF A$="" THEN SOUND 30,1:GO
TO 230
```


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```
1390 IF LEN(A$)>8 THEN SOUND 30,
1:GOTO 1360
1400 FORX=1 TO LEN(A$):IF MID$(A
$,X,1)="/" OR MID$(A$,X,1)="." T
HEN SOUND 30,1:GOTO 1360
1410 NEXT X:GOTO 1430
1420 SOUND 30,1:GOTO 1360
1430 OPEN"O",#V,A$:PRINT#V,I:FOR
X=1 TO I:PRINT#V,T$(X):NEXT X:CL
OSE
1440 FOR Y=1 TO 800:NEXT Y:SOUND
 125,1:GOTO 230
1450 '-----partial save--------
1460 CLS:PRINT@10,"*PARTIAL SAVE
*":PRINT@193,"ENTER FIRST RECORD
 TO SAVE:";:LINEINPUTA$:A=VAL(A$
):IFA<0 OR A>I OR A<>INT(A) THEN
 SOUND 30,1:GOTO 1460
1470 IF A=0 THEN SOUND 30,1:GOTO
 230
1480 PRINT@225,"ENTER LAST RECOR
D TO SAVE:";:LINEINPUT A$:A2=VAL
(A$):IF A2<0 OR A2>I OR A2<>INT(
A2) THEN SOUND 30,1:GOTO 1460
1490 IF A=0 THEN SOUND 30,1:GOTO
 230
1500 IF A2<A THEN SOUND 30,1:GOT
O 1460
1510 CLS:PRINT@10,"*PARTIAL SAVE
*":PRINT@193,"WHAT FILENAME WOUL
D YOU LIKE TO SAVE THIS UNDER:";
:LINEINPUT A$:IF LEN(A$)>8 THEN
SOUND 30,1:GOTO 1510
1520 IF A$="" THEN SOUND30,1:GOT
O 230
1530 FORX=1 TO LEN(A$):IF MID$(A
$,X,1)="/" OR MID$(A$,X,1)="." T
HEN SOUND 30,1:GOTO 1510
1540 NEXT X:GOTO 1560
1550 SOUND 30,1:GOTO 1510
1560 I2=((A2-A)+1)
```


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```
1570 OPEN"O",#V,A$:PRINT#V,I2:FO
R X=A TO A2:PRINT#V,T$(X):NEXTX:
CLOSE
1580 FOR Y=1 TO 800:NEXT Y:SOUND
 125,1:GOTO 230
1590 '---erase file in mem.----
1600 CLS:PRINT@199,"ARE YOU SURE
 (Y/N)?"
1610 A$=INKEY$:IFA$=""THEN 1610
1620 IF A$="Y" OR A$="y" THEN I=
0:GOTO 230
1630 GOTO 230
1640 '----------end-----------
1650 CLS:PRINT@199,"ARE YOU SURE
 (Y/N)?"
1660 A$=INKEY$:IFA$=""THEN 1660
1670 IF A$="Y" OR A$="y" THEN CL
S:END
1680 GOTO 230
1690 '----error: no records----
1700 SOUND 30,1:CLS:PRINT@35,"SO
RRY, THERE ARE NO RECORDS":PRINT
@70,"IN MEMORY AT THIS TIME"
1710 FOR X=1 TO 2400:NEXT:GOTO 2
30
1720 '---error:too big a file--
1730 CLS:PRINT@33,"SORRY, MERGIN
G THESE TWO FILES   WILL CREATE
A NEW FILE THAT        IS TOO LA
RGE TO STORE":SOUND 30,1:FORY=1
TO 2200:NEXT Y:GOTO 230
1740 '----max limit reached---
1750 CLS:SOUND 30,1:PRINT@33,"SO
RRY THE FILE HAS REACHED THE
    MAXIMUM CAPACITY.":FORY=1 TO
 2200:NEXT:GOTO 230
1760 '-----alpha sort----------
1770 IF I=0 THEN 1690
1780 CLS:PRINT@11,"*SORTING*"
1790 FORX=I TO 2 STEP -1
1800 T$(0)=T$(1):F=1
1810 FOR X2=2 TO X
1820 IF T$(X2)>T$(0) THEN T$(0)=
T$(X2):F=X2
1830 NEXT:T$(F)=T$(X):T$(X)=T$(0
)
1840 NEXT X
1850 SOUND 125,1
1860 PRINT@449,"PLEASE HIT <ENTE
R> TO CONTINUE";
1870 A$=INKEY$:IFA$="" THEN 1870

1880 SOUND 125,1:GOTO 230
```

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TREK4    BAS  0 B 7
TREK5    BAS  0 B 6
TREK6    BAS  0 B 5
TREK7    BAS  0 B 7
TREK8    BAS  0 B 7
TREK9    BAS  0 B 6
TREK10   BAS  0 B 7
TREK11   BAS  0 B 5

TREK12   BAS  0 B 6
TREK13   BAS  0 B 7
TREK14   BAS  0 B 7
TREK15   BAS  0 B 7
TREK16   BAS  0 B 7
TREK17   BAS  0 B 5
TREK19   BAS  0 B 5
TREK120  BAS  0 B 6
TREK21   BAS  0 B 7
TREK22   BAS  0 B 7

BLAKHOLE BAS  0 B 7
EURYTHMC BAS  0 B 6
TIGER    BAS  0 B 6
SPACEGI  BAS  0 B 5
GERMLIN  BAS  0 B 7
```

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TELE-DIRECTORY

Computer Tele-Directory was written as an alternative to the regular old Telephone/Address Book. It can hold up to 150 names and phone numbers. It is a rather easy program to operate.

The Input function is for entering and adding names, addresses, and phone numbers, when you finish entering all of your names type "END" at the name prompt. When this is done the directory will automatically sort the names and phone numbers in alphabetical order. The search function along with the print-out directory functions are rather self-explanatory. The "transfer list to disk function" is used to save the list. The "read in list function" is used to read in a list. The "clear memory" function is used to clear all phone numbers out of memory. And last but not least, the "end program" function terminates the execution of the program.

I believe that you will find that My Computer-Tele-directory a very useful program. If you don't want to type in the program I can send you a disk with the program on it. If you have any questions you may write me at:
303 Choctaw Street
Enterprise, Al 36330.

```
4 CLEAR10500
5 O=150
10 'ARRAYS AND CLEAR STATEMENTS
15 DIMNA$(O),PH$(O),CS$(O),AD$(O
),TN$(O),TA$(O),TC$(O),TP$(O),N2
$(O),T2$(O)
20 GOTO500
100 'input subrts
105 CLS:GOSUB1100
110 A=A+1
120 LINEINPUT"FIRST NAME :";NA$(
A)
121 IFNA$(A)="END"THENA=A-1:K=A:
GOSUB1130:RETURN
122 LINEINPUT"LAST NAME  :";N2$(
A)
```

A R T I C L E S A R E W E L C O M E

ARTICLES ARE WELCOME and will be published if it is of interest to COCO owners. Please send it in on any ASCII word processor program tape or disk. They will be returned to you with a gift. If you don't have a word prodcessor program, just drop us a letter and ask for a REPORTER KIT. We will send you a program you can enter your report and return the data to us. We do need it saved ASCII to use on a special printer. SENT TO :

P D SOFTWARE DEPT R P.O. BOX 13256 HOUSTON, TX 77219

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COCO ADS & PD SOFTWARE are not responsible for typing errors

```
125 IFNA$(A)="END"THENA=A-1:K=A:
RETURN
130 LINEINPUT"ADDRESS    :";AD$(
A)
140 LINEINPUT"CITY, STATE:";CS$(
A)
150 LINEINPUT"PHONE      :";PH$(
A)
155 PRINT
160 GOTO110
199 RETURN
300 'SEARCH RTS
301 POKE65314,5
310 CLS
320 PRINT"WHAT IS THE PERSONS NA
ME?"
325 LINEINPUTP$
330 FORZ=1 TO A:IF NA$(Z)+" "+N2
$(Z)=P$ THEN370
340 NEXT
345 GOTO398
370 CLS:PRINT"NAME    :";NA$(Z)+
" "+N2$(Z)
372 PRINT"ADDRESS :";AD$(Z)
374 PRINT"         ";CS$(Z)
376 PRINT"PHONE   :";PH$(Z)
378 PRINT:PRINT:PRINT:INPUT"DO Y
OU WANT TO SEARCH FOR       ANOT
HER TELEPHONE NUMBER (Y/N)";A$:I
FA$="Y"THEN310 ELSERETURN
380 RETURN
398 PRINT"THAT NUMBER IS NOT IN
MY MEMORY!"
399 RETURN
400 RUN
500 POKE65314,8:CLS:PRINT@4,"COM
PUTER  TELE-DIRECTORY":PRINT"  (
C) 1987 CURTIS FRAZIER, JR.":PRI
NT:PRINT"iNPUT NAMES AND PHONE N
UMBERS":PRINT"sEARCH FOR A PHONE
 NUMBER":PRINT"pRINT OUT DIRECTO
RY":PRINT"tRANSFER LIST TO DISK"
:PRINT"rEAD IN LIST"
501 PRINT"cLEAR MEMORY":PRINT"eN
D PROGRAM"
510 A$=INKEY$:IF A$=""THEN510
512 POKE65314,5
515 IFA$="I"THENGOSUB100ELSEIFA$
="L"THENGOSUB300ELSEIFA$="S"THEN
GOSUB300ELSEIFA$="T"THENGOSUB600
ELSEIFA$="R"THENGOSUB650ELSEIFA$
="C"THENGOSUB400ELSEIFA$="P"THEN
GOSUB900ELSEIFA$="E"THENVERIFY O
FF:UNLOAD:END
517 INPUT"PRESS enter TO CONTINU
E";FF
520 GOTO500
600 'transfer list to disk
601 POKE65314,5
605 CLS:GOSUB1100
610 '
615 VERIFY ON
620 INPUT"NAME OF FILE";NA$:OPEN
"O",#1,NA$
622 WRITE#1,A
624 PRINT"WRITING FILE #:";
625 FORZ=1 TO A
627 PRINTZ;
629 WRITE#1,NA$(Z),N2$(Z),AD$(Z)
,CS$(Z),PH$(Z)
631 NEXT
633 CLOSE#1
```

```
635 PRINT"FILE FINISHED"
640 VERIFY OFF
649 RETURN
650 'read in list
651 POKE65314,5
655 CLS:GOSUB1100
660 '
665 INPUT"NAME OF FILE";NA$:PRIN
T"SEARCHING FOR ";NA$:OPEN"I",#1
,NA$
670 INPUT#1,A:PRINT"FOUND ";NA$
675 FORZ=1 TO A
677 INPUT#1,NA$(Z),N2$(Z),AD$(Z)
,CS$(Z),PH$(Z)
679 NEXT
681 CLOSE#1
683 RETURN
699 RETURN
900 CLS:PRINT"DO YOU WANT TO PRI
NT OUT TO"
910 INPUT"(p)RINTER OR (s)CREEN"
;A$:A$=LEFT$(A$,1):IFA$="P" THEN
 P=-2 ELSE IF A$="S" THEN P=0:GO
TO10000 ELSE CLS:GOTO900
1000 FORVV=1 TO 3:PRINT#P:NEXT:P
RINT#P,TAB(23)"COMPUTER TELEPHON
E DIRECTORY"
1010 PRINT#P
1020 FORX=1 TO A STEP 2
1030 PRINT#P,"NAME           :";
NA$(X)+" "+N2$(X);TAB(40);CHR$(1
24);"NAME           :";NA$(X+1)+
" "+N2$(X+1)
1040 PRINT#P,"ADDRESS        :";
AD$(X);TAB(40);CHR$(124);"ADDRES
S        :";AD$(X+1)
1050 PRINT#P,"CITY, STATE    :";
CS$(X);TAB(40);CHR$(124);"CITY,
STATE    :";CS$(X+1)
1060 PRINT#P,"PHONE NUMBER   :";
PH$(X);TAB(40);CHR$(124);"PHONE
NUMBER   :";PH$(X+1)
1065 IF P=0 THEN 1080
1070 PRINT#P,TAB(40);CHR$(124)
1080 NEXT
1090 RETURN
1100 'SUBRTS TO PRINT HEADINGS
1110 PRINT"   COMPUTER";CHR$(128
);CHR$(128);"TELE-DIRECTORY":RET
URN
1120 '
1130 PRINT:PRINT"SORTING...'
1140 N=A
1150 FORI=1 TO N-1
1160 FORJ=I+1 TO N
1170 IF N2$(I)>N2$(J) GOSUB 1220
 'SORT ROUTINE
1172 IF N2$(I)=N2$(J) AND NA$(I)
>NA$(J) GOSUB 1220
1180 NEXTJ,I
1190 PRINT"FINISHED.":PRINT
1200 RETURN
1210 '
1220 TN$(I)=NA$(I):T2$(I)=N2$(I)
:TA$(I)=AD$(I):TC$(I)=CS$(I):TP$
(I)=PH$(I)
1230 NA$(I)=NA$(J):N2$(I)=N2$(J)
:AD$(I)=AD$(J):CS$(I)=CS$(J):PH$
(I)=PH$(J)
1240 NA$(J)=TN$(I):N2$(J)=T2$(I)
:AD$(J)=TA$(I):CS$(J)=TC$(I):PH$
(J)=TP$(I)
1250 RETURN
10000 CLS:INPUT"INPUT THE PRINT
SPEED (1=FAST)  enter=DEFAULT SP
EED";CF:CF=CF*100
10001 PRINT:PRINT
10005 IF CF=0 THEN CF=1500
10010 FORX=1 TOA
10020 PRINTNA$(X)+" "+N2$(X):PRI
NTAD$(X):PRINTCS$(X):PRINTPH$(X)

10030 FORTI=1 TO CF:NEXT
10035 PRINT
10040 NEXTX
10050 RETURN
```

All the programs that appear in this issue of COCO ADS are available already typed in and runing. On cassette or on disk for only $4.00 sent first class mail. Just fill in the below coupon and mail in with payment.

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P D SOFTWARE P O BOX 13256 HOUSTON, TX 77219

512K UPGRADE FOR COCO III

READ ENTIRE FILE BEFORE ATTEMPTING THIS

******WARNING*******

OPENING THE CASE WILL VOID THE MANUFACTURER'S WARRANTY.IF YOU WOULD LIKE TO UPGRADE AND KEEP THE WARRANTY IN EFFECT, BRING THE COMPUTER INTO AN AUTHORIZED RADIO SHACK SERVICENTER.

Do not attempt this expansion unless you have some knowledge of electronics!

This upgrade is assuming you are using a Radio Shack 512K Board!

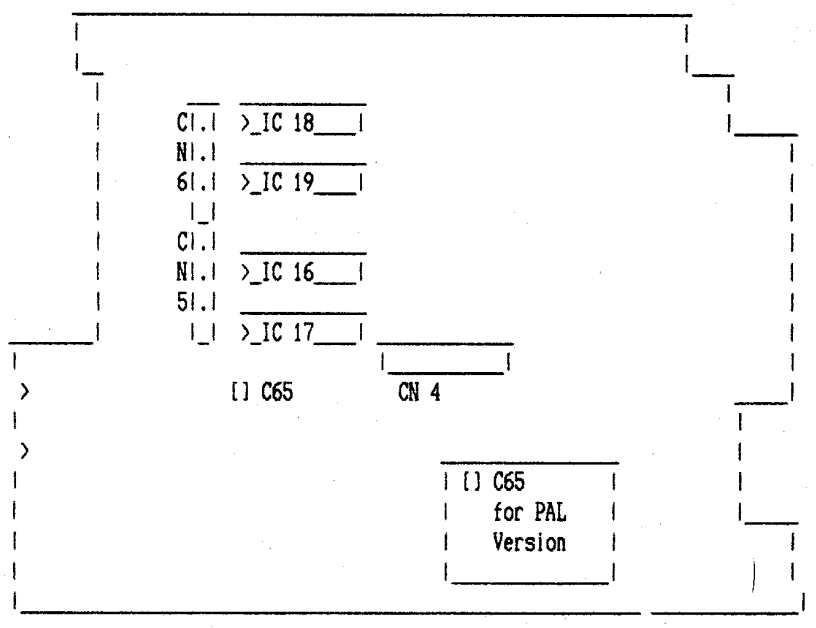
ALWAYS DISCONNECT ALL POWER BEFORE OPENING CASE!

1. Remove all power from unit.
2. Remove any cartridges from expansion slot.
3. Turn the computer over and place it on a soft surface thereby preventing damage to the keyboard and top cover.
4. Remove the 4 shorter screws towards the front of the computer, and the 2 longer screws towards the back of the computer.
5. Observe the orientation of the wire connector which is attached to the keyboard. Disconnect the keyboard connector at CN2 on the main PCB.
6. Observe the orientation of the power transformer connector. Disconnect the power transformer 3-pin connector at CN7 on the main PCB.
7. Remove the 2 shorter screws and the 2 longer screws holding the main PCB to the bottom case cover. If neccessary remove the shield from the PCB by removing the 16 rivets which attach it to the PCB.

This is a figure of the computer's main PCB:

8. Next, remove the (4) four IC's labeled (IC16 - IC19) from the IC sockets of the PCB (see figure), desolder capacitor C65 (82 pF ceramic) & remove it.
9. The upgrade comes with (3) three nylon standoffs which are inserted into (3) three corresponding holes of the RAM card to match (3) three corresponding holes in the PCB board.
10. Align the pin socket of the RAM card over CN4 through CN6, then slowly lower the board into the connectors.
11. Snap each stand-off into the corresponding hole on the computer PCB.
12. Connect the computer's AC cord and signal cables to a TV monitor and run the following program to verify proper operation of 512K:

```
10 WIDTH 40:PALETTE 0,0:PALETTE 7,63:CLS8
20 POKE&HFFD9,0
30 FOR A=&H00000 TO &H5FFFF STEP 512
40 D=RND(255)
50 LPOKE A,D
60 B=LPEEK(A)
70 LOCATE 10,1: PRINT"ADDRESS=";A
80 LOCATE 10,4: PRINT"DATA=";D
```



" > " indicates notches

```
90 IF B<>D THEN 130
100 NEXT A
110 LOCATE 10,10: PRINT "RAM TEST IS GOOD!"
120 POKE&HFFD8,0:END
130 LOCATE 10,6: PRINT"ERROR!"
140 POKE&HFFD8,0:END
```

If the above program prints "RAM TEST IS GOOD" then you're in business, you may reassemble the unit in the reverse order of disassembly. If you get an ERROR then recheck all of the above steps.

If you have followed the above procedures correctly and you still can't get a good result you may have purchased bad memory chips (it happens).

One other note it may be advisable to buy an upgrade with NEC memory chips as some of the other upgrades have been known to "heat up" during use.

If you are using a multi-pak interface it is advisable to upgrade it also, as you could have trouble with accessing the disk drive(s).

SLOTS

```
10 'SLOTS
20 'STEVE OSTROM
30 '12612 CEDAR LAKE ROAD
40 'MINNETONKA, MN  55343
50 PMODE1,1:PCLEAR2:PCLS:CLEAR70
:DIME(18),F(9),G(9),H(18),I(9),J
(9),K(18),L(9),M(9),N(18),P(9),Q
(9),R(18),S(9),T(9),U(18),V(9),W
(9),A(18),D(9),X(1),B(18),C(18)
60 GOSUB780:CLS:PRINT"PLEASE WAI
T....":COLOR7,5:LINE(54,14)-(90,
34),PSET,BF:DRAW"C5BM60,20D8R4U4
NL2U4L2BM70,28U8R4D4NL2D4BM80,28
U8R4D4L2D2F2"
70 CIRCLE(116,24),18,8:PAINT(116
,24),8,8:DRAW"C5BM114,20D8R4U8L2
":CIRCLE(160,24),12,7,1.5:PAINT(
160,24),7,7:DRAW"C5BM158,28U8R4D
4L2"
80 CIRCLE(160,68),18,6,.63:PAINT
(160,68),6,6:DRAW"C5BM158,64D8R4
"
```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```
90 DRAW"C6BM98,82R16ND2R2ND4R2ND
2R16U2L36E2R32L4U2L24E2R20U2L20E
2R16U2L16U2R16U2L16E2R12U2L12U2R
12U2L12U2R12H2L8E2R4D14C5L4D8R4U
4NL2U2"
100 DRAW"C6BM98,126U2R2NR2U2R4NR
6U2R8D2R2D2R4U2C8U14L2D12H2U8G2D
4R8U8F2D6R2NU4G2L2D2F2R2U2E2R6D2
R2D8G2U8L2D4L2NU4BD4R2L4H2U4L2D2
C6H2G2C8G2R4F2L8G2R12D2L12D2R12G
2L8F2R4"
110 GET(54,6)-(91,42),E,G:GET(98
,6)-(135,42),H,G:GET(142,6)-(179
,42),K,G:GET(98,50)-(135,86),N,G
:GET(142,50)-(179,86),R,G:GET(98
,106)-(135,142),U,G
120 GET(54,6)-(91,24),F,G:GET(54
,26)-(91,42),G,G:GET(98,6)-(135,
24),I,G:GET(98,26)-(135,42),J,G:
GET(142,6)-(179,24),L,G:GET(142,
26)-(179,42),M,G
130 GET(98,50)-(135,68),P,G:GET(
98,70)-(135,86),Q,G:GET(142,50)-
(179,68),S,G:GET(142,70)-(179,86
),T,G:GET(98,106)-(135,124),V,G:
GET(98,126)-(135,142),W,G
140 PCLS5:DRAW"C6BM30,190U58L24U
100R14D84R10NR224U64NR224U52BM25
5,0D191":LINE(50,6)-(94,46),PSET
,B:LINE(100,6)-(144,46),PSET,B:L
INE(150,6)-(194,46),PSET,B
150 CIRCLE(224,26),16,6:LINE(190
,136)-(250,186),PSET,B:LINE(80,1
50)-(140,186),PSET,B:DRAW"C7BM84
,154D4R2ND4R2U4BR8L4D8R4U8BR4D8R
4U8"
160 DRAW"C7BM116,154D6ND2R4ND2U6
BR4R2NR2D8NL2R2BR4U8F2D4F2U8":X$
="92":Y$="170":GOSUB810:X$="214"
:Y$="20":GOSUB810
170 DRAW"C7BM218,140D4R2ND4R2U4B
M194,148U8R4D4L2BM202,140D8R4BM2
10,148U8R4D4NL2D4BM230,140L4D4NR
2D4R4BM234,148U8R4D4L2D2F2"
180 DRAW"C7BM194,154D8R4U4NL2U4L
2BM202,162U8R4D4NL2D4BM210,154D8
R4BM218,162U8R4D4NL2D4BM226,162U
8F2D4F2U8BM238,154L4D8R4BM246,15
4L4D4NR2D4R4"
190 X$="194":Y$="170":GOSUB810:X
$="34":Y$="56":GOSUB920:X$="130"
:GOSUB840:X$="150":GOSUB920:X$="
246":GOSUB850:X$="166":GOSUB920
200 X$="34":Y$="72":GOSUB920:X$=
"94":GOSUB940:X$="50":GOSUB920:X
$="66":GOSUB920:X$="210":GOSUB94
0:X$="130":GOSUB870:X$="238":GOS
UB830
210 X$="150":GOSUB950:X$="246":G
OSUB820:X$="166":GOSUB950:X$="18
2":GOSUB950:DRAW"C8BM50,64R12BR4
R12BR16R12BM182,64R12BR16R12"
220 DRAW"C7BM82,64E8BM82,80E8BM8
2,96E8BM82,112E8BM198,64E8BM198,
80E8BM198,96E8":X$="112":Y$="58"
:GOSUB930:Y$="74":GOSUB930
230 C=TIMER
240 IFC<100THEN250ELSEC=INT(C/10
):GOTO240
250 FORA=1TOC:B=RND(2):NEXTA
```

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```
260 Y$="90":GOSUB930:Y$="106":GO
SUB930:X$="210":GOSUB930:X$="228
":Y$="58":GOSUB930:Y$="74":GOSUB
930:Y$="90":GOSUB930:X$="34":Y$=
"88":GOSUB960
270 X$="50":GOSUB960:X$="66":GOS
UB960:X$="94":GOSUB940:X$="122":
GOSUB840:X$="130":GOSUB820:X$="1
50":GOSUB970:X$="166":GOSUB970
280 X$="182":GOSUB970:X$="210":G
OSUB940:X$="238":GOSUB840:X$="24
6":GOSUB870:X$="34":Y$="104":GOS
UB980:X$="50":GOSUB980
290 X$="66":GOSUB980:X$="94":GOS
UB940:X$="122":GOSUB870:X$="130"
:GOSUB820:DRAW"C7BM150,104F4G4BR
4H4E4":X$="160":GOSUB940
300 X$="176":GOSUB940:X$="192":G
OSUB940:X$="220":GOSUB830:X$="22
8":GOSUB820:X$="236":GOSUB820:DR
AW"C7BM246,104F4G4BR4H4E4"
310 PAINT(60,140),6,6:PAINT(40,2
0),6,6:FORA=1TO18:READA(A),B(A),
C(A):NEXTA:COLOR6,5:H=RND(18):I=
RND(18):J=RND(18):GOSUB1240:GOSU
B1250:GOSUB1260
320 SCREEN1,1:FORP=1TON:IFH=18TH
ENH=1ELSEH=H+1
330 IFI=18THENI=1ELSEI=I+1
340 IFJ=18THENJ=1ELSEJ=J+1
350 K=RND(18):L=RND(18):M=RND(18
):FORA=100TO124STEP8:PUT(A,172)-
(A+6,180),X,PSET:NEXTA
360 FORA=202TO242STEP8:PUT(A,172
)-(A+6,180),X,PSET:NEXTA
370 PUT(242,140)-(248,148),X,PSE
T:X$="242":Y$="140":ONP GOSUB830
,840,850,860,870,880,890,900,910
:IFD(P)<1THEN750ELSEGOSUB1270
380 S$=INKEY$:PUT(222,22)-(228,3
0),X,PSET:PUT(230,22)-(236,30),X
,PSET:SOUND55,5:SOUND55,5
390 S$=INKEY$:IFS$=""THEN390ELSE
IFVAL(S$)<0ORVAL(S$)>9THEN390
400 X$="222":Y$="22":ONVAL(S$)+1
 GOSUB820,830,840,850,860,870,88
0,890,900,910:A=10*VAL(S$)
410 S$=INKEY$:IFS$=""THEN410ELSE
IFVAL(S$)<0ORVAL(S$)>9THEN410
420 X$="230":Y$="22":ONVAL(S$)+1
 GOSUB820,830,840,850,860,870,88
0,890,900,910:A=A+VAL(S$)
430 IFA<1ORA>D(P)THEN380ELSED(P)
=D(P)-A:FORB=32TO114STEP2:LINE(6
,B)-(20,B),PRESET:NEXTB
440 COLOR6,5:FORB=114TO32STEP-2:
LINE(6,B)-(20,B),PSET:NEXTB
450 GOSUB1180:GOSUB1200:GOSUB122
0:GOSUB1240:GOSUB1250:GOSUB1260:
IFH=K THEN510
460 IFH=18THENH=1ELSEH=H+1
470 IFI=18THENI=1ELSEI=I+1
480 IFJ=18THENJ=1ELSEJ=J+1
490 GOTO450
500 GOSUB1200:GOSUB1220:GOSUB125
0:GOSUB1260
510 IFI=L THEN560
520 IFI=18THENI=1ELSEI=I+1
530 IFJ=18THENJ=1ELSEJ=J+1
540 GOTO500
550 GOSUB1220:GOSUB1260
560 IFJ=M THEN590
570 IFJ=18THENJ=1ELSEJ=J+1
580 GOTO550
590 B=A*100:IFA(H)=6ANDB(I)=6AND
C(J)=6THEN670
600 B=A*50:IFA(H)=5ANDB(I)=5AND(
C(J)=6ORC(J)=5)THEN670
610 B=A*25:IFA(H)=4ANDB(I)=4AND(
C(J)=6ORC(J)=4)THEN670
620 B=A*20:IFA(H)=3ANDB(I)=3AND(
C(J)=6ORC(J)=3)THEN670
630 B=A*10:IFA(H)=2ANDB(I)=2AND(
C(J)=6ORC(J)=2)THEN670
640 B=A*5:IFA(H)=1ANDB(I)=1AND(C
(J)=6ORC(J)=1)THEN670
650 B=A*3:IFA(H)=1ANDB(I)=1THEN6
70
660 B=A*2:IFA(H)=1THEN670ELSEB=0

670 IFB>0THENPLAY"T7L402A03DF#L2
AL4F#L2.A"
680 A=INT((B+.1)/1000):C=INT((B-
A*1000+.1)/100):D=INT((B-A*1000-
C*100+.1)/10):Y$="172"
690 E=INT(B-A*1000-C*100-D*10+.1
):IFA>0THEN700ELSEIFC>0THEN710EL
SEIFD>0THEN720ELSE730
700 X$="100":ONA+1 GOSUB820,830,
840,850,860,870,880,890,900,910
710 X$="108":ONC+1 GOSUB820,830,
840,850,860,870,880,890,900,910
720 X$="116":OND+1 GOSUB820,830,
840,850,860,870,880,890,900,910
730 X$="124":ONE+1 GOSUB820,830,
840,850,860,870,880,890,900,910
740 D(P)=D(P)+B:IFD(P)>999999THE
NCLS:PRINT"YOU BREAK THE BANK!!!
!":GOTO770
750 GOSUB1270:FORA=1TO2000:NEXTA
:B=0:FORA=1TON:B=D(A)+B:NEXTA:IF
B=0THEN760ELSENEXTP:GOTO320
760 CLS:PRINT"ALL PLAYERS ARE OU
T OF MONEY!!!"
770 INPUT"TRY AGAIN (Y OR N)";S$
:IFS$="N"THENENDELSEGOSUB780:GOT
O320
780 CLS:INPUT"HOW MANY PLAYERS (
1 TO 9)";N:IFN<>INT(N)ORN<1ORN>9
THEN780
```

```
790 CLS:INPUT"STARTING CASH (10
TO 1000)";A:IFA<>INT(A)ORA<10ORA
>1000THEN790
800 FORB=1TON:D(B)=A:NEXTB:RETUR
N
810 DRAW"C8BM"+X$+","+Y$+"BR4BD2
L2NU2L2D4R4D4L2ND2L2":RETURN
820 DRAW"C8BM"+X$+","+Y$+"D8R4U8
L2":RETURN
830 DRAW"C8BM"+X$+","+Y$+"BR2D2N
L2D6NL2R2":RETURN
840 DRAW"C8BM"+X$+","+Y$+"R4D4L4
D4R4":RETURN
850 DRAW"C8BM"+X$+","+Y$+"R4D4NL
2D4L4":RETURN
860 DRAW"C8BM"+X$+","+Y$+"D4R4NU
4D4":RETURN
870 DRAW"C8BM"+X$+","+Y$+"NR4D4R
4D4L4":RETURN
880 DRAW"C8BM"+X$+","+Y$+"NR4D8R
4U4L2":RETURN
890 DRAW"C8BM"+X$+","+Y$+"R4D8":
RETURN
900 DRAW"C8BM"+X$+","+Y$+"D8R4U4
NL2U4L2":RETURN
910 DRAW"C8BM"+X$+","+Y$+"BD8R4U
8L4D4R2":RETURN
920 DRAW"C8BM"+X$+","+Y$+"NR4D8R
4BR4U4NU4R4D4":RETURN
930 DRAW"C7BM"+X$+","+Y$+"R4BD4L
4":RETURN
940 DRAW"C8BM"+X$+","+Y$+"D8R4U4
NL2U4NL2BF4ND4R4D2":RETURN
950 DRAW"C8BM"+X$+","+Y$+"D8R4BR
4NR4U6R4D2L2":RETURN
960 DRAW"C8BM"+X$+","+Y$+"ND8R4D
4NL2BF4U8":RETURN
970 DRAW"C8BM"+X$+","+Y$+"D8R4U8
L4BF8U4R4D2":RETURN
980 DRAW"C8BM"+X$+","+Y$+"D8R4U4
NL2U4L4BF8U8":RETURN
990 DATA4,1,1,2,2,2,1,1,3,4,4,4,
3,1,5,5,2,6,2,1,1,4,3,2,1,1,3,3,
5,4,6,1,5,4,2,6,2,1,1,1,6,2,3,1,
3,4,2,4,2,1,5,5,3,6
1000 PUT(B,8)-(B+37,26),W,PSET:R
ETURN
1010 PUT(B,8)-(B+37,26),T,PSET:R
ETURN
1020 PUT(B,8)-(B+37,26),M,PSET:R
ETURN
1030 PUT(B,8)-(B+37,26),J,PSET:R
ETURN
1040 PUT(B,8)-(B+37,26),Q,PSET:R
ETURN
1050 PUT(B,8)-(B+37,26),G,PSET:R
ETURN
1060 PUT(B,26)-(B+37,44),V,PSET:
RETURN
1070 PUT(B,26)-(B+37,44),S,PSET:
RETURN
1080 PUT(B,26)-(B+37,44),L,PSET:
RETURN
1090 PUT(B,26)-(B+37,44),I,PSET:
RETURN
1100 PUT(B,26)-(B+37,44),P,PSET:
RETURN
1110 PUT(B,26)-(B+37,44),F,PSET:
RETURN
1120 PUT(B,8)-(B+37,44),U,PSET:R
ETURN
1130 PUT(B,8)-(B+37,44),R,PSET:R
ETURN
1140 PUT(B,8)-(B+37,44),K,PSET:R
ETURN
1150 PUT(B,8)-(B+37,44),H,PSET:R
ETURN
1160 PUT(B,8)-(B+37,44),N,PSET:R
ETURN
1170 PUT(B,8)-(B+37,44),E,PSET:R
ETURN
1180 B=54:IFH=1THENC=18ELSEC=H-1

1190 ONH GOSUB1030,1010,1000,103
0,1020,1040,1010,1030,1000,1020,
1050,1030,1010,1000,1020,1030,10
10,1040:ONC GOSUB1090,1070,1060,
1090,1080,1100,1070,1090,1060,10
80,1110,1090,1070,1060,1080,1090
,1070,1100:RETURN
1200 B=104:IFI=1THENC=18ELSEC=I-
1
1210 ONI GOSUB1000,1010,1000,103
0,1000,1010,1000,1020,1000,1040,
1000,1010,1000,1050,1000,1010,10
00,1020:ONC GOSUB1060,1070,1060,
1090,1060,1070,1060,1080,1060,11
00,1060,1070,1060,1110,1060,1070
,1060,1080:RETURN
1220 B=154:IFJ=1THENC=18ELSEC=J-
1
1230 ONJ GOSUB1000,1010,1020,103
0,1040,1050,1000,1010,1020,1030,
1040,1050,1000,1010,1020,1030,10
40,1050:ONC GOSUB1060,1070,1080,
1090,1100,1110,1060,1070,1080,10
90,1100,1110,1060,1070,1080,1090
,1100,1110:RETURN
1240 B=54:ONH GOSUB1150,1130,112
0,1150,1140,1160,1130,1150,1120,
1140,1170,1150,1130,1120,1140,11
50,1130,1160:RETURN
1250 B=104:ONI GOSUB1120,1130,11
20,1150,1120,1130,1120,1140,1120
,1160,1120,1130,1120,1170,1120,1
130,1120,1140:RETURN
```

```
1260 B=154:ONJ GOSUB1120,1130,11
40,1150,1160,1170,1120,1130,1140
,1150,1160,1170,1120,1130,1140,1
150,1160,1170:RETURN
1270 A=D(P):B=INT((A+.1)/100000)
:C=INT((A-B*100000+.1)/10000):D=
INT((A-B*100000-C*10000+.1)/1000
)
1280 E=INT((A-B*100000-C*10000-D
*1000+.1)/100):F=INT((A-B*100000
-C*10000-D*1000-E*100+.1)/10)
1290 G=INT(A-B*100000-C*10000-D*
1000-E*100-F*10+.1):FORA=202TO24
2STEP8:PUT(A,172)-(A+6,180),X,PS
ET:NEXTA:Y$="172"
1300 IFB>0THEN1310ELSEIFC>0THEN1
320ELSEIFD>0THEN1330ELSEIFE>0THE
N1340ELSEIFF>0THEN1350ELSE1360
1310 X$="202":ONB+1 GOSUB820,830
,840,850,860,870,880,890,900,910

1320 X$="210":ONC+1 GOSUB820,830
,840,850,860,870,880,890,900,910

1330 X$="218":OND+1 GOSUB820,830
,840,850,860,870,880,890,900,910

1340 X$="226":ONE+1 GOSUB820,830
,840,850,860,870,880,890,900,910

1350 X$="234":ONF+1 GOSUB820,830
,840,850,860,870,880,890,900,910

1360 X$="242":ONG+1 GOSUB820,830
,840,850,860,870,880,890,900,910
:RETURN
```

Review Corner

By:
Michael E. Salsbury
177 Sunview Drive
Beaver Falls, PA 15010

This month: "Lunchtime" from Novasoft, P.O. Box 201, Ada, Michigan 49301. Cost $18.95 tape, $21.95 disk, and $3 S&H. Mich. Res. add sales tax.

If you have ever played the arcade game "Burger Time" then you know what "Lunchtime" from Novasoft is all about. If you don't, let me explain. In this game, you are "Peter Pepper" the burger chef. It is your job to build hamburgers. Each level is a maze of floors, ladders, and burger parts. Running through this maze are your enemies, the pickles, hot dogs, and eggs. You can damage your enemies one of two ways. First, you can shake pepper on him (hence your name) but not too many times since you have a limited pepper supply. If you'd rather (and you'd better), you can squash your enemies under falling burger parts.

If that's confusing, let me explain further. The burgers you make come from parts (bun, meat, lettuce, etc.) That lie in columns in the maze. Let's say that you run over the bun on the bottom of a maze. The bun will be pushed down through the floor to the waiting "burger box" below. Let's say that you next run to the top of the maze and run over the topmost bun in a column. What will happen then is that this bun piece will drop a level in the maze, push down the burger part below it, which will push down the one below that, etc. until the bottommost burger part is sitting at the lowest level in the maze. In other words, if a burger part falls on another, that part will drop a level onto the next part, which will do the same. This chain reaction stops when either an empty level of the maze is reached, or the bottommost part falls into the burger box. After you have caused the last of the burger parts to fall into the box, the screen will be completed and you'll get a new maze and more burger parts to push around.

As you would expect from Novasoft, Lunchtime has fine hi-res graphics and good sound. Joystick response is smooth and consistent, and game play is fairly fast-paced. It is a lot of fun, and if you enjoy the game Burger Time, I doubt you'll ever get tired of this one. Considering most of the arcade games out there on the market, this one is reasonably priced, too. Very reasonably priced.

I have no real complaints about the game, although I personally do not enjoy it as much as I did Moneyopoly (which I reviewed before). It is a quality piece of programming work and is certainly worth adding to your collection.

Discoveries. . . .

When I first began to outline my article, "Discoveries" this month, it became clear that the subject would be Delphi and as I began to list the benefits, the steps that are needed to get online and the hardware required, it came to me that this had already been done by a number of different people and I would only be repeating statements andcomments made by others, over and over again.

Another approach was needed and I soon realized that one aspect of Delphi that was not immediatly apparent, is the brotherhood of communication between all of us with a common interest. One might expect the common interest to be CoCo, and that is certainly the vehicle used to express ourselves, but the excitement, the bond, the need, goes a lot deeper than a piece of hardware.

By this time, most of us have seen many other computers grow up and some, like the Amiga, offer superior graphics while others can provide more memory, faster access, better keyboards and on and on.....

Much of the hardware that is available now isn't so expensive that we probably could find a way to get whatever we want and certainly programming is abundant for almost anything that you want to do, for whatevermachine.

My feeling about ourselves and why we love this machine, why we continue to feed it and develop it's capabilities, far beyond anything the manufacturer allowed that it was able to produce, reminds me of my early days with my first car.

I was given a 1934 Plymouth, in 1947, by my Father as my first car. Well you know, what I really wanted was a 1936 Ford with a V8 engine.

His consideration was that the Plymouth had hydraulic brakes while Fords then still had mechanical brakes and you were lucky if you could get more than three wheels to respond at any one time on the Ford. Well, I wasn't interested in stopping, I only wanted to go, which the Ford did very well.

So, in my embarrassment, and since I was the only one in school that had a car that would stop as well as go forward, I began to develop the other features of the car that were appealing. I gave it a new paint job, I reupholstered the interior, which, at that time, was cloth rather than plastic. My friends and I took the engine apart and rebuilt everything, polished everything, painted everything and generally made that little car more than it could be, and,just because everyone said it couldn't do it, we raced every Ford in town and actually beat a few. It turns out that Chrysler gave the little Plymouth a very strong second gear and the miserable four cylinders could wind past the Ford's second gear. That's before they found out the Ford box would house the old Lincoln Zepher gears, but that's another story.

So what we are doing here is something that everyone said couldn't be done. We have our own national SIG, we have software that comes in from everywhere, it's hard to imagine how many people are writing articles for CoCo. We've had magazines and still have magazines, though for me, there doesn't seem to be the same excitement in the magazines compared to the beginning days when every issue offered new and startling revelations.

What's new and startling now appears online with Delphi. There are downloads and uploads, there are conversations with people that you would not expect would have time to talk with you, writers, publishers, programmers, people whose articles we read and who give us the wonderful toys to play with. Please don't get me wrong, I subscribe to every magazine that still produces anything even remotly related to CoCo and if it were not for this little magazine, I wouldn't have anywhere to send MY articles. And now with Delphi we have a fantastic experience, it seems to open up the space around us and, with the CoCo III, it's as though you've just started over, and, unlike the days of '82 when everything was new, we come into this new media armed with a strong working knowledge of our computer and what makes it go. Also there is a realization that we are not at any kind of dead end.

Actually, there doesn't seem to be any end in sight, what I do experience on Delphi is a sharing, a joining, a feeling of discovery again and an excitement that hasn't been around for awhile.

The cost isn't so great either, you can get there by Telenet or Tymenet, and this link will be paid for by the Delphi charges . At first, though, I racked up a fairly healthy bill until I got controll of myself. You should be able to spend one or two hours a week online without too much pain. What you get is a chance to break out of the isolation so many of us feel with our hobby. It's like going to a convention and suddenly realizing

that there are so many other CoCo people out there. Can you imagine how many applications DMV gets every year for "6809" license plates? I know, it sometimes doesn't feel that way when we sit alone at 3:30 AM pounding away at this much modified little machine.

Another big plus is the availability of free terminal software for Delphi being offered by supporters of the SIG. This is legitimate, free software produced by real authors, for use in accessing Delphi.

Now, to be clear, Delphi doesn't exist solely for CoCo users, it's true there are other computers around and some of them even are able to talk to each other and so they too are offered a modicum of space to play their games and insignificant little things that other computers do, while leaving the important work to the CoCo SIG.

Okey now, after accessing Delphi, one can go through half a dozen menus to get to CoCo SIG, but it's very easy to modify your access settings on Delphi that will allow you to go directly to the SIG without going through all those other menus and you can actually tailor your SETTINGS to take you directly to MAIL when you first logon, if you choose.

I like to go to MAIL first to see what Eric Robichaud has written me, or what Marty Goodman has to say (This is what's known as name dropping), before going to see WHO's online and JOINing the FORUM. You can get answers there that would take six months to get from letter writing. People seem to open up and offer intelligence online that you couldn't buy anywhere in town.

Okey, that about does it this time. Don't forget I will burn an Eprom for you with your version of DOS, and I like ADOS, send me a SASE for more information about this. I have a new supply of 27128s and if you need 24 pin chips, I have 68764s and 66s.

Here's something neat that you canexperiment with for Ultra TW. 64:

```
11  FOR T = 1 TO 6
   :READ A, B
   :PALETTE A, B
   :NEXT
   :DATA 12,64,13,0,9,0,11,0,8,64,10,64
```

This is a means of altering the screens formenus and text editing. Load "T" and insert this line.

There is a lot more to be done with this and I invite all of you to work on possible screen settings. This information came to me from Bob Van Der Poel, who has given so muchto make TW work for us. I would like to share your results with everyone and we'll enter the best in this column.

John C. Burke
38699 Greenwich Cir.
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****

RoadRace

```
10 'COCO ADS
20 LC=0.4
30 CR =2:CC=5
40 L$ =CHR$(8):R$=CHR$(9)
50 RC =1-LC
60 G=1024
70 GOSUB 820
80 GOSUB 1020
90 PRINT:T=0:N=0
100 INPUT " ROAD WIDTH (4-15)";W

110 W=INT(W):PRINT
120 IFW<4 OR W >15 THEN 90
130 PRINT" VISIBALTY CONDITIONS"

140 PRINT " 1 - TERRIBLE"
150 PRINT " 2 - BAD"
160 PRINT " 3 - FAIR"
170 PRINT " 4 - GOOD"
180 INPUT"VISIBALTY (1-4)";V
190 V = INT(V):GOSUB 620
200 IF V<1 OR V>4 THEN 180
210 N=N+1:EL=449:ER=478-W:H=0
220 Z=527-64*V:L=463-INT(W/2)
230 FOR J=1 TO 16:PRINT @ 480,B$

240 GOSUB 590:Q$=INKEY$:NEXT
250 PRINT @Z,C$;:GOSUB 1070
260 H=H+1:Q=RND(0):PRINT @ 480,B
$;
270 IFQ>RC AND L<ER THEN 300
280 IF Q<LC AND L>EL THEN 310
290 GOSUB 590: GOTO 320
300 GOSUB 610:GOTO 320
310 GOSUB 600
320 Q$=INKEY$:IFQ$=CHR$(8)THENQ=
10ELSEIFQ$=CHR$(9)THENQ=50ELSEQ=
32
330 IF Q<21 THEN Z=Z-1
340 IF Q>42 THEN Z=Z+1
350 IF PEEK (Z+G)<>128 THEN 380
360 IF PEEK(Z+G+1)<>128 THEN 380

370 PRINT @Z,C$;:GOTO 260
380 FOR J=1 TO 8:Q$=INKEY$
390 PRINT @Z, D$;:SOUND150,3
400 FOR K=1 TO 10:NEXT
410 PRINT@Z,C$;
420 FOR K=1 TO 10:NEXT
430 M=H*5:T=T+M
440 PRINT @480,CHR$(143)
450 PRINT "YOU WENT ";M;"MILES F
OR A TOTAL"
460 PRINT"OF";T;"MILES IN";N;"DA
Y(S)":PRINT
470 PRINT "HIT 'C' - CONTINUE RA
CE"
480 PRINT"HIT 'R' - RESTART RACE
"
490 PRINT "HIT 'Q' - QUIT"
500 Q$= INKEY$
510 IF  Q$="C" THEN 210
520 IF Q$="R" THEN 540
530 IF Q$=<>"Q" THEN 500
540 PRINT
550 PRINT"AVERAGE MILES PER DAY
WAS"
560 PRINT T/N
570 IF Q$="R" THEN 90
580 END
590 PRINT @L,RS$;:RETURN
600 L=L-1:PRINT @L,RL$;:RETURN
610 PRINT @L,RR$;:L=L+1:RETURN
620 Q=121+CC*16:K=118+CC*16
630 C$=CHR$(Q)+CHR$(K)
640 Q=127+CR*16:RS$=CHR$(Q)
650 FOR J=1 TO W
660 RS$=RS$+CHR$(128):NEXT
670 RS$=RS$+CHR$(Q)
680 Q=119 +CR*16:K=120+CR*16
690 RL$=CHR$(Q)+CHR$(K)
700 FOR J=1 TO (W-1)
710 RL$=RL$+CHR$(128): NEXT
720 RL$=RL$+CHR$(Q)+CHR$(K)
730 Q=116+CR*16:K=123+CR*16
740 RR$=CHR$(Q)+CHR$(K)
750 FOR J=1 TO (W-1)
760 RR$=RR$+CHR$(128):NEXT
770 RR$=RR$+CHR$(Q)+CHR$(K)
780 B$="":FOR J=1 TO 32
790 B$=B$+CHR$(128):NEXT
800 D$=CHR$(128)+CHR$(128)
810 RETURN
820 W=Z:GOSUB 620 :CLS(0)
830 FOR J=1 TO 15:READ Q
840 PRINT @Q,RS$;:NEXT
850 FOR J=1 TO 600:NEXT
860 RESTORE:FOR J = 1 TO 6
870 READ Q:PRINT @Q+3,C$;
880 FOR K=1 TO 100:NEXT:NEXT
890 T$="ROADRACE" :FOR J=1 TO 8
900 READQ:PRINT @ Q+3,C$;
910 Q$=CHR$(128)+MID$(T$,J,1)
920 FOR K=1 TO 100:NEXT
930 PRINT @Q +3,Q$;:NEXT
940 READ Q:PRINT @Q+3,C$;
950 SOUND 150,20
960 FOR J=1 TO 500:NEXT
970 PRINT@480,""
980 RETURN
990 DATA 12,44,77,110,141,172
1000 DATA 205,238,271,304,337
1010 DATA 370,403,436,469
```

```
1020 PRINT
1030 PRINT "HIT ANY KEY TO BEGIN
"
1040 Q=RND(0):Q$=INKEY$
1050 IF Q$=""THEN 1040
1060 RETURN
1070 Q=175:K=195
1080 N$=CHR$(Q)+CHR$(Q)+CHR$(Q)
1090 M$=CHR$(Q)+CHR$(K)+CHR$(Q)
1100 Q=Z-INT(W/2)-5:K=Q-128
1110 FOR J=K TO Q STEP 32
1120 PRINT@J,N$;:NEXT
1130 FOR J=K TO Q STEP 32
1140 FOR R=1 TO 300 :NEXT
1150 PRINT @J,M$;:SOUND100,4
1160 NEXT:RETURN
```

Tax Estimater

```
10 'COPYRIGHT 1987 JOHN M GREGG
20 'THIS PROGRAM PLACED IN THE P
UBLIC DOMAIN WITH THE STIPULATIO
N THAT ALL CODE REMAINS INTACT
30 CLS:PRINT:PRINT:PRINT:PRINT:P
RINT"          TAX  ESTIMATER "
40 PRINT:PRINT:PRINT"          CO
PYRIGHT 1987 "
50 PRINT:PRINT"           JOHN M
GREGG ";
55 PRINT:PRINT " "
60 FOR DE=1 TO 800:NEXT DE
65 PRINT " "
67 GOSUB 3000
70 CLS:PRINT"THIS 'QUICKIE' WILL
 HELP YOU    ESTIMATE YOUR FEDER
AL INCOME TAXLIABILITY"
80 PRINT:PRINT"A PROGRAM TO AID
IN PREPARATION OF SCHEDULES A B
C D E F G W ANDFORMS 1040 2106 A
ND 2441 IS AVAILABLE FOR THE MS/
PCDOS MACHINES,THE TANDY COLOR
COMPUTER,AND   THE MODELS III AN
D 4 FOR $44.99 PLUS $3.00 S & H
FROM:"
85 PRINT
90 PRINT"TRY-O-BYTE"
100 PRINT"1008  ALTON CIRCLE"
110 PRINT"FLORENCE SC  29501"
120 PRINT"803 662 9500
";
130 INPUT"<ENTER>";DE
140 PRINT:PRINT"YOUR PERSONAL CH
ECK WELCOME"
150 PRINT"NO COD OR CREDIT CARD
PLEASE"
160 FOR DE=1 TO 999:NEXT DE
170 CLS:PRINT:PRINT:PRINT"INDICA
TE YOUR FILING STATUS"
180 PRINT:PRINT"      1  SINGLE"

190 PRINT:PRINT"      2  MARRIED
 FILING JOINT"
192 PRINT:PRINT"      3  HEAD OF
 HOUSEHOLD"
194 PRINT:PRINT"      4  MARRIED
 FILING SEPARATE"
200 PRINT:PRINT"          ":INPU
T ST
230 IF ST<1 OR ST>4 THEN 170
235 CLS:INPUT"IS TAXPAYER/HUSBAN
D 65 YRS OLD? Y/ ";H7$:IF ST=1 T
HEN 240
237 INPUT"IS SPOUSE 65 YRS OLD?
Y/ ";W7$
240 CLS:PRINT"ENTER EXPECTED ANN
UAL AMOUNTS   WHEN PROMPTED":PRI
NT
250 PRINT:PRINT"<-> INDICATES A
LOSS IS ENTERED AS A NEGATIVE IN
TEGER"
260 PRINT:PRINT"<+> INDICATES A
LOSS IS ENTERED AS A POSITIVE IN
TEGER"
270 PRINT
280 INPUT"SALARIES, WAGES AND TI
PS OF 1ST SPOUSE";A1:IF ST=1 OR
ST=3 OR ST=4 THEN 300
290 INPUT"SALARIES, WAGES AND TI
PS OF 2ND SPOUSE";A2
300 IF A1<A2 THEN LL=A1*.1 ELSE
LL=A2*.1
310 A=A1+A2
320 IF ST<>1 THEN LL=0
330 INPUT"INTEREST INCOME";B
340 INPUT"DIVIDEND INCOME";C
345 C7=C
350 C=C-C1:IF C<0 THEN C=0
360 INPUT"ALIMONY RECIEVED";D
370 INPUT"NET BUSINESS INCOME OR
 LOSS <->";E
390 F1=INT((F*.4)+.5):IF F1>3000
 THEN F1=3000
410 INPUT"CAPITAL GAIN OR LOSS <
->       ";H
420 IF H<=-3000 THEN H=-3000:PRI
NT"YOU WILL HAVE CAPITAL LOSS CA
RRY-OVER."
430 INPUT"PENSION, ANNUITY, and
IRA DISTRIBUTIONS";I
```

```
440 INPUT"RENTS AND ROYALTIES";J
:INPUT"LESS EXPENSES";J1:J=J-J1
450 INPUT"INCOME FROM PARTNERSHI
PS, TRUSTS AND ESTATES";K
460 L=A+B+C+D+E+F1-G1+H+I+J+K
465 L7=A+B+C7+D+E+F7-G7+H+I+J+K
470 CLS:PRINT"ENTER ADJUSTMENTS
FOR:":PRINT
490 INPUT"IRA AND KEOGH CONTRIBU
TIONS    ";N
500 INPUT"ALIMONY PAID";O
515 P7=L7-M-N-O
520 CLS:PRINT"ENTER EXEMPTIONS A
ND DEDUCTIONS:":PRINT
530 INPUT"NUMBER OF PERSONAL EXE
MPTIONS";R:R7=R
535 R7=R7*1900
540 INPUT"TOTAL MEDICAL EXPENSE"
;S:S7=S
545 S7=INT(S7-(P7*.075))
547 IF S7<0 THEN S7=0
550 PRINT"ENTER LOCAL AND STATE
TAXES"
560 INPUT"INCOME TAX";T1
570 INPUT"PROPERTY TAXES";T2
590 T=T1+T2+T3
595 T7=T1+T2
596 INPUT"AMOUNT OF HOME MORTGAG
E INTEREST ";MI
600 INPUT"OTHER INTEREST EXPENSE
";OI
605 M7=MI+(OI*.65)
610 INPUT"CHARITABLE CONTRIBUTIO
NS";V
620 INPUT"TOTAL AMOUNT OF CASUAL
TY LOSSES";W
630 INPUT"NUMBER OF SEPARATE LOS
SES";W1:W1=W1*100
640 W=INT((W-W1)-(P7*.1)):IF W<0
 THEN W=0
642 INPUT"MOVING EXPENSE     ";MX

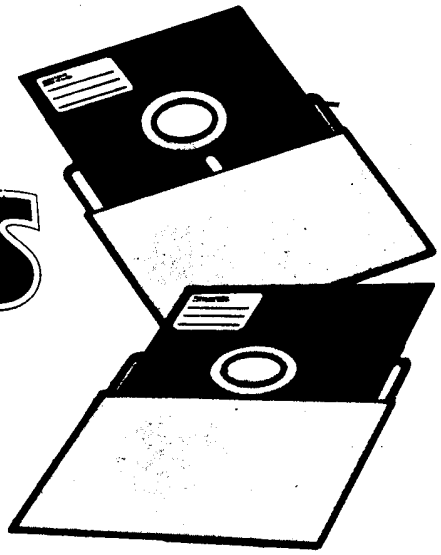
644 INPUT"UNREIMBURSED EMPLOYEE
BUSINESS EXPENSE    ";BX
650 INPUT"OTHER DEDUCTIONS";X
660 X=X+BX
665 X7=INT(X-(P7*.02)):X7=X7+MX
667 IF X7<0 THEN X7=0
668 Y7=S7+T7+M7+V+W+X7
675 IF ST=1 THEN SD=2540
676 IF ST=1 AND H7$="Y" OR W7$="
Y" THEN SD=3750
684 IF ST=3 THEN SD=3760/2 :IF H
7$="Y" OR W7$="Y" THEN SD=6200/2

685 IF ST=2 THEN SD=3760
686 IF ST=2 AND H7$="Y" AND W7$=
"Y" THEN SD=6200:GOTO 690
687 IF ST=2 AND H7$="Y" OR W7$="
Y" THEN SD=5600
688 IF ST=4 THEN SD=2540
690 Y=Y-AA:IF Y<0 THEN Y=0
692 IF Y7<SD THEN Y7=SD
695 Z7=P7-Y7-R7
725 PRINT"TAXABLE INCOME 1987 LA
W "Z7
745 GOSUB 4000
746 PRINT:PRINT"TAX FOR 1987 BEF
ORE CREDITS "ES
750 PRINT:PRINT"ENTER TAX CREDTS
 FOR:"
760 INPUT"INVESTMENT TAX CREDIT"
;AD
770 INPUT"CHILD-CARE CREDIT";AE
780 INPUT"WITHHOLDING AND ESTIMA
TED TAX   PAID";AI
800 CLS:PRINT:PRINT"
 RECAP"
810 PRINT:PRINT"    TAXABLE INCO
ME                  "Z7
820 AG=AI+AD+AE+AF:AB=ES-AG
840 PRINT:PRINT"    TAX LIABILIT
Y AFTER CREDITS    ";AB
850 PRINT:PRINT"    CREDIT APPLI
ED                  "AG
870 PRINT:PRINT:PRINT"<P> PRINTE
R                     <O> ORDER
TRY-O-TAX"
880 IN$=INKEY$:IF IN$="" THEN 88
0
890 IF IN$="P" OR IN$="p" THEN 9
10
895 IF IN$="O" THEN 2000
900 IF IN$="O" OR IN$="o" THEN 2
000 ELSE END
910 CLS:PRINT"PREPARE PRINTER"
920 PRINT:PRINT"PRINTER WILL FEE
D FOUR LINES"
930 INPUT IN$
940 LF=4:GOSUB 1060
950 PRINT#-2, TAB(34)"RECAP"
960 LF=4:GOSUB 1060
970 PRINT#-2, TAB(8)"ESTIMATED T
AXABLE INCOME";:PRINT#-2, TAB(64
)Z7
980 PRINT#-2:PRINT#-2, TAB(8)"TA
X LIABILITY AFTER CREDITS";:PRIN
T#-2, TAB(64)AB
990 PRINT#-2:PRINT#-2, TAB(8)"TA
X CREDITS";:PRINT#-2, TAB(64) AG

1000 PRINT#-2:PRINT#-2, TAB(8)"C
REDITS APPLIED";:PRINT#-2, TAB(6
4) AG
1030 PRINT#-2:PRINT#-2, TAB(8)"R
EMEMBER THIS IS ONLY AN ESTIMATE
 OF 1987 TAXES!"
```

CONTINUED ON PAGE 46

DSDD DISKS .49



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SUBDEST	GAME
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AUTORITE	UTILITY

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TAX ESTIMATE	ESTIMATE TAX
M L T T D	UTILITY
PARTS INVEN	INVENTORY FILE
DATA MAKER	DATA STATEMENT INPUTS
KABOOM	GAME
DEF MOV	GAME
R/C AIRPLANE	GAME
MATCH SQU	GAME

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TEST	UTILITY
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COCO-MON	UTILITY

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WORD PROC	PROCESSOR
CASS FILE	TAPE UTILITY
CASTLE	ADVENTURE
HOME BGT	BUDGET
DISK MAST	DISK UTILITY
ROAD RACE	GAME

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AMORIT	UTILITY
SPOOLER	UTILITY
DISKCOPY	UTILITY
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DATABOOK	DATA BASE
ROMTOTPE	UTILITY
CALENDAR	UTILITY
LETTER	BUSINESS
ANTI-TOP	GAME

ISSUE B5	
CANNON	GAME
CRYPT	ADVENTURE
BANNER	UTILITY
FLASH CRD	EDUCATION
WORDS	GAME EDUC
REPORTER	BUSINESS

ISSUE B6	
RETRIEV	UTILITY
POOL	GAME
STATES	EDUCATION
DRAW	GAME
DISKSPED	UTILITY
ML ADDR	UTILITY
TRIANGLE	ART
NAMES	DATA BASE
HANGMAN	GAME

ISSUE B7		ISSUE B8		ISSUE B9	
CONQUEST	ADVENTURE	STOCKMKT	GAME	MEMTEST	UTILITY
MTERMCON	UTILITY	DISKTCK	UTILITY	ML CONVT	UTILITY
LOSTREAS	ADVENTURE	DRAW	DRAW	DATAENTY	UTILITY
DISKZAP	DSK UTIL	BRICKS	GAME	ML-TTD	UTILITY
LOTTO	GAME	WATTS	UTILITY	R P M	DKS UTIL
SPELLHLP	EDUCATION	DIARY	DATA BASE	ALPHA	UTILITY
UNSCRAMBL	EDUCATION	ORBOUEST	ADVENTURE	PERTTY	UTILITY
		ROM2ROM	UTILITY	CHART	BUSINESS
		CLOCK	UTILITY	DSK2TAPE	UTILITY
				CASSINDX	UTILITY
				UGLYWORD	GAME
				VOICESYN	UTILITY
				TIMERACE	GAME
				DIRHELP	UTILITY

ISSUE B10		ISSUE B11		ISSUE B12	
GRADEBOOK	SCHOOL	PRESENT	UTILITY	FILECOPY	UTILITY
WONDERBAR	BUSINESS	AUTOBOOT	UTILITY	XMASLIST	DATABASE
COCOKENNO	GAME	CERTIFY	DSK UTIL	TXTSCREEN	PRINT UTIL
DSKENVEL	UTILITY	CASSETTE	UTILITY	MTCC3	UTILITY CC3
HORSES	GAME	HOMEINVE	DATABASE	DOS	UTILITY CC3
SQUEEZE	UTILITY	TYPING	EDUCATION	LLISTER	UTILITY
DATAPRNT	UTILITY	LOLLIPOP	GAME	SIGNMAKER	UTILITY
PRNTDRIV	UTILITY	SETUP	UTILITY	AIRBATTLE	GAME
WATERCOST	UTILITY	SUBS	GAME	WORDHUNT	GAME
ELECTRIC	EDUCATION	CHICKEN	GAME	BITESIZE	DSK UTILITY
				CLIMBER	GAME
				Q-BEE	GAME

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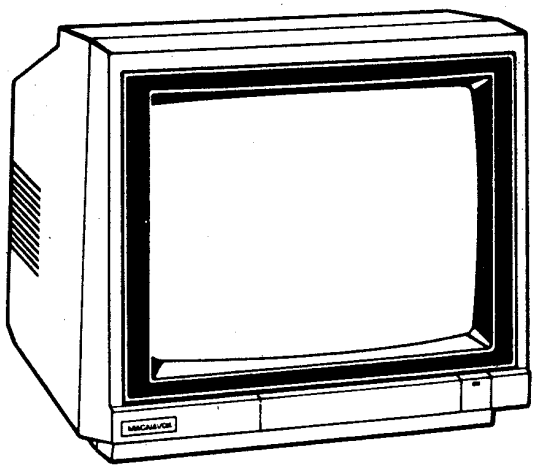

8CM515 RGB/Monitor 80

17% Larger Screen than Standard 12" Monitors • 14" tube provides larger screen size without an appreciably larger footprint.

RGB TTL, RGB Analog, Composite Video Inputs • make monitor compatible with all three standard video signal types.

Green Raster Display Switch • emulating monochrome performance for text applications, this switch disables the monitor's ability to display anything other than green light — a feature normally found on more expensive products.

Etched Faceplate • the CRT face is treated with a special glare-reducing process to help eliminate eye fatigue caused by reflections from the monitor face.

Dark Glass CRT • the tube glass used in this product incorporates a special dark background material which helps to improve image contrast and reduce operator eye strain — a feature normally found on more expensive products.

640 Dots of Resolution (Horizontal) • in RGB, the monitor system will display 640 dots of image resolution on each scan line, the minimum number required to display 80 characters.

240 Lines of Resolution (Vertical) • the monitor will produce 240 vertical scan lines, standard for RGB use.

Displays 2000 Characters, 80 x 25 • this monitor system will display 25 lines of 80 characters each.

Comb Filter on Composite Input • when used with a composite input signal, the monitor's comb filter improves the resolution quality of the visual image.

Line Level Audio Input • provides convenient connection to a VCR or any device which generates a line level audio signal.

Image Size and Position Controls • located on the back panel, these controls allow the user to adjust both the size and position of any image displayed on the CRT, assuring compatibility with computer and other video devices.

Built-in Tilt Stand • allows the user to adjust the viewing angle to suit personal preference.

Two Year Parts and Labor Warranty • solid evidence that this is a reliable product, nationally supported by Magnavox.

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PUBLIC DOMAIN PROGRAMS
FOR YOUR COCO

DISK # 1
MISC PROGRAMS

IN-OUT	BAS	1
ROMRAM	BAS	1
64KTEST	BAS	1
UPPER32K	BAS	1
HEXTODEC	BAS	1
DEC<>HEX	BAS	1
BASECONV	BAS	1
DISKTEST	BAS	1
SOUNDDEM	BAS	1
CONVERGE	BAS	1
TESTPATT	BAS	2
COMPLAWS	BAS	2
CHESS	BAS	5
CHECKERS	BAS	2
PATROL2	BAS	3
ELECTMAZ	BAS	4
ICE	BAS	2
TANKS	BAS	2
DODGE-EM	BAS	2
SOISAYS	BAS	2
DOORS	BAS	1
FUELCOST	BAS	1
OHMSLAW	BAS	1
LANDER	BAS	1
WHERISIT	BAS	2
HANGMAN	BAS	2
OTHELLO	BAS	4
GOLDMINE	BAS	3
STATCAP	BAS	2
PINGPONG	BAS	1
BIORYTHM	BAS	3
CALENDAR	BAS	2
MAILLIST	BAS	2

DISK # 2
MISC PROGRAMS

DISKLIST	BAS	1
DIRLIST	BAS	2
ML ADDR	BAS	1
DISKDUMP	BAS	1
PRINUTIL	BAS	2
CALPRINT	BAS	3
ALPHSONG	BAS	1
PAINT	BAS	1
DOGPICT	BAS	2
EVADER	BAS	1
NUKATTC	BAS	2
BASICMAP	BAS	3
JOYPAINT	BAS	1
PUMPKIN	BAS	1
HOMOYMS	BAS	1
ABBREV	BAS	4
CONVERT	BAS	3
CASSDIR	BAS	1
CVERT	BAS	1
FLASCARD	BAS	1
MESSAGE	BAS	1
RELOCAT	BAS	1
COUNT	BAS	1
CALENDAR	BAS	1
DOGS	BAS	1
DOGFIGHT	BAS	1
BEAST	BAS	1
DSKTAPE	BAS	1

DISK # 3
MISC PROGRAMS

BOXLABLE	BAS	1
MONOL	BAS	7
ATOMS	BAS	2
FLIP	BAS	2
POWER UP	BAS	1
DISKSORT	BAS	1
READBIN	BAS	1
MACDATA	BAS	1
CUBES	BAS	1
HEXLOAD	BAS	1
HANGMAN	BAS	2
OHMS	BAS	1
SPEDMATH	BAS	3
SCRDUMP	BAS	1
DSKCLEAN	BAS	1
DIRGET	BAS	1
DIRSAVE	BAS	1
ML ADDR	BAS	1
WALLHIT	BAS	1
TEMPCONV	BAS	1
CHKBOOK	BAS	1
DIS	BAS	2
LOCFIND	BAS	1
MISSLETT	BAS	1
MEMORIE	BAS	2
FISH	BAS	1
CIPHER	BAS	1
CARCAL	BAS	1
BIGHILL	BAS	1
PROTECT	BAS	2
STOCK	BAS	3
JUMP	BAS	1
FOOTBALL	BAS	4
BOWLSUM	BAS	2
HILOW	BAS	3
MEMTEST	BAS	1

DISK # 4
MISC PROGRAMS

COMMAND	BAS	3
PACMAN	BAS	8
TYCOON	BAS	2
DIALER	BAS	2
DEXICON	BAS	1
DISK FIX	BAS	1
DISKTIME	BAS	1
DOS64A	BAS	3
GDS	BAS	5
PIXCMP	BAS	2
ROMPACK	BAS	1
SOUND	BIN	1
SPOOLER	BIN	1
UT	BAS	2
Z	BAS	4
QUADDRAW	BAS	1
B	BAS	1
CLOCK	BIN	1
COPY DIR	BIN	1
DDCOPY	BAS	2
FDCTST	BIN	3
FIND	BAS	1
ODIE	PIX	3
PEANUTS	PIX	3
SPACE	PIX	3
ISLAND	BAS	6
PATTERN	BAS	2
CHEKBOOK	BAS	4

DISK # 5
MISC PROGRAMS

MLDISK	BAS	2
SORT	BAS	1
TELETERM	BIN	3
TOF	BIN	1
DSK EDIT	BAS	4
HEALTH	BAS	9
SOUND	BIN	1
TOF	ASM	2
SOUND	ASM	1
AIRPORT	BIN	6
CUBE	BIN	3
OBJECTS	BIN	2
TANK	BIN	4
CIA	BAS	6
TRIANGLE	BIN	2
WORLDMAP	BIN	4
GARFIELD	PIX	3
HALLDEMO	BAS	1
LINES	BAS	1
KALVOS	BAS	1
CASTLE	BAS	10

DISK # 6
MISC PROGRAMS

SLITHER	BAS	1
TUMBLERS	BAS	2
ELIZA	BAS	4
ICELAND	BAS	2
EDUCATE	BAS	1
DUNGEON	BAS	2
PIXDUMP	BAS	1
CONTOUR	BAS	1
SLOSKROL	BAS	1
COPYDIR	BAS	1
DIRLIST	BAS	1
PILOT	BAS	2
INVITE	BAS	1
MATHPAL	BAS	3
DUPER	BAS	2
IN-OUT	BAS	1
GOLDMINE	BAS	3
HUSTLE	BAS	1
HOBBIT	BAS	2
CONNECT4	BAS	2
OTHELLO	BAS	3
BIORYTHM	BAS	1
SIMON	BAS	1
TICTACT	BAS	2
3-D-T	BAS	2
DARTBORD	BAS	2
COPTER	BAS	2

DISK # 7
MISC PROGRAMS

D-ADV	BAS	8
SWORDS	BAS	4
TROLL	BAS	6
QUEST	BAS	4
SURVIVE	BAS	5
SPELWORD	BAS	1
CUBIC	BIN	3
DOTMAT	BIN	8
FLIGHT	BIN	3
GRID	BIN	2
TIGER	PIX	3
ZIGGY	PIX	3
LABELPRT	BAS	1
PEEK	BAS	1
ROMDUMP	BAS	1
DISASSY	BAS	4
MLFINDER	BAS	1
COLORBAR	BAS	1
PATTERN	BAS	1
PORT	BAS	1
PAYMENT	BAS	1
PHONE	BAS	1
LOAN	BAS	3

DISK # 8
MISC PROGRAMS

LOANAMOR	BAS	1
MLTTD	BAS	1
BLACKJK	BAS	4
SLITTER	BAS	1
IDKIT	BAS	6
SPACE	BAS	8
FARMING	BAS	6
TREK	BAS	5
DSCOPY	BAS	1
DSKSPEED	BAS	1
EXREF	BAS	3
ALARM	BAS	2
CLOCK	BAS	1
PHONEDIR	BAS	2
TICKTAPE	BAS	3
FINANCE	BAS	8
BARTENDR	BAS	3
DSKLIBRY	BAS	3
MESSAGE	BAS	1
FLIPPAGE	BAS	3
DSKAID	BAS	4

DISK # 9
MISC PROGRAMS

DECIDE	BAS	3
BIBLE	BAS	2
BOMBER	BAS	2
WEATHERX	BAS	3
PROJEVAL	BAS	4
FILES	BAS	4
SUB	BAS	5
DISKDIRE	BAS	3
BASEBALL	BAS	10
AMORTLN	BAS	2
ASSMLBER	BAS	3
GUITAR	BAS	5
POKER	BAS	4
TANK	BAS	2
TRIANGLE	BAS	4
SHIPS	BAS	2
HANDBALL	BAS	2
TRAIL	BAS	4

AVAILABLE ON DISK OR TAPE

DISK # 10
MISC PROGRAMS

KINGDOM	BAS	6
CHECKS	BAS	3
BINGOCD	BAS	1
DSK2TP	BAS	2
SLOTS	BAS	2
DATAFILE	BAS	4
MLADFND	BAS	2
ICE	BAS	3
ASSMBLER	BAS	6
DISMON	BAS	7
SIMSAS	BAS	1
DISKNAMS	BAS	4
SQUEEZE	BAS	2
STATUS	BAS	4
DISKLOOK	BAS	1
MAZE	BAS	4
CROSROAD	BAS	2
ANIMALS	BAS	3
DSKLOCK	BAS	2
SELFMAIL	BAS	1

DISK # 11
MISC PROGRAMS

COMBAT	BAS	3
MCONVERT	BAS	2
FRACTION	BAS	4
BALONS	BAS	3
DATA3	BAS	3
LIFE	BAS	4
MUSCOMP	BAS	2
BOGGEL	BAS	3
OFFSET	BAS	1
BATSHIP	BAS	4
DUMPALL	BAS	3
GEOGAME	BAS	4
MAILLIST	BAS	3
VALENCE	BAS	2
GRAPHDZN	BAS	3
WEREWAND	BAS	5
POKER	BAS	3
ASSMBLER	BAS	5
MAZE3	BAS	3
RUBCUBE	BAS	5

DISK # 12
MISC PROGRAMS

CIPHER	BAS	1
COPY M	BAS	1
SCRPRINT	BAS	2
MOPOLY	BAS	7
SOUNDS	BAS	3
DISTANCE	BAS	4
DATES	BAS	2
PHONEWRD	BAS	1
ROBOTS	BAS	3
DIGGEM	BAS	3
CONNECT4	BAS	4
ROLLON	BAS	2
WILLSADV	BAS	5
BASICMAP	BAS	3
GRAPHICS	BAS	5
RACEWAY	BAS	4
TYPING	BAS	2
CHECKS	BAS	4
MONEYHLP	BAS	4
WORDPRC	BAS	5

DISK # 13
MISC PROGRAMS

CARDIOH	BAS	5
HAUNTHSE	BAS	6
DISKHLP	BAS	4
FIND-IT	BAS	3
MISSLES	BAS	2
PLANE	BAS	1
FLASHCRD	BAS	2
COMPTALK	BAS	2
HOMEUTIL	BAS	6
CHKBOOK	BAS	3
SHAPES	BAS	3
VIPERS	BAS	3
POKING	BAS	4
BUGS	BAS	6
GEOSTUDY	BAS	4
USASTUDY	BAS	4
HEALTH	BAS	9

DISK # 14
MISC PROGRAMS

DISKWASH	BAS	1
AUTODIAL	BAS	2
MASTMESS	BAS	3
BIGPRINT	BAS	3
TRIVIA	BAS	4
DTOD	BAS	2
SORT32	BAS	1
CHARACTR	BAS	2
64KLOOK	BAS	8
SCRIPT	BAS	3
LOADINTR	BAS	3
FINDAWRD	BAS	2
BUTR17	BAS	2
BATTSHIP	BAS	2
FLY	BAS	3
VOICE	BIN	4
64KMEMT	BAS	2
OTHELLO	BAS	4
FINANAD	BAS	6
SPRDSHET	BAS	5
METCONV	BAS	1
CRACE	BAS	2

DISK # 15
MISC PROGRAMS

DKTODK	BAS	3
ATTACKER	BAS	4
BIORYTHM	BAS	2
HAMGMAN	BAS	2
TREK	BAS	4
3DTTT	BAS	4
TYPEFACE	BAS	3
STAT-LOG	BAS	3
WORDSCAR	BAS	2
DSKMSTER	BAS	4
TYPING	BAS	3
CHECKS	BAS	3
200DD	BAS	4
FISHING	BAS	1
MEMORY	BAS	2
HORSERAC	BAS	3
KRAKEN	BAS	5
KINGS	BAS	6
STOCKS	BAS	5
CYRPTO	BAS	3

DISK # 16
ADVENTURES

SORCERER	BAS	6
KINGTUT	BAS	7
SURVIVAL	BAS	5
STARTREK	BAS	8
CASTLE	BAS	8

DISK # 17
BEGINNERS PROGR

HI	BAS	1
TONE	BAS	1
COLOR	BAS	1
COUNTING	BAS	1
COUNTSND	BAS	1
RANGE	BAS	1
SECONDS	BAS	1
WITHTIME	BAS	1
CLOCK	BAS	1
COL-SEC	BAS	1
MICE	BAS	1
IF-THEN	BAS	1
RND	BAS	1
RUSSROUL	BAS	1
DICE	BAS	1
CRAPS	BAS	1
SET	BAS	1
FACE	BAS	1
DOT	BAS	1
JOYSTK	BAS	1
BRUSH	BAS	1
TEACHER	BAS	1
TEACH 2	BAS	1
ARITH	BAS	1
DATA	BAS	1
VOCAB	BAS	1
GOSUB	BAS	1
POWER	BAS	1
SQUARES	BAS	1
SAVING	BAS	1
LEN$	BAS	1
ROSE	BAS	1
LEFT&RT$	BAS	1
MID$	BAS	1
MID$2	BAS	1
CHANGE	BAS	1
EDITOR	BAS	1
INKEY$	BAS	1
PIANO	BAS	1
PIANO2	BAS	1
VAL	BAS	1
TYPETEST	BAS	1
ERROR	BAS	1
STOP	BAS	1
ON-GOSUB	BAS	1
ELSE	BAS	1
ON-GOTO	BAS	1
AND-OR	BAS	1
SGN	BAS	1
ABS	BAS	1
STR$	BAS	1
EXP-NOTE	BAS	1
DIR	BAS	1

DISK # 18
BEGINNERS PROGR

CHR$	BAS	1
TRAIN	BAS	1
RECORDER	BAS	1
TALKER	BAS	1
POINT	BAS	1
POINT2	BAS	1
ASTEROID	BAS	1
GRAPHCHR	BAS	1
BLUECAR	BAS	1
TABLE	BAS	1
TRAFFIC	BAS	1
LARGER	BAS	1
DANCE	BAS	1
ARRAY	BAS	1
CANDAT-B	BAS	1
INVNTORY	BAS	1
MEMTEST	BAS	1
DEAL	BAS	1
SHOPLIST	BAS	1
SONG	BAS	1
ESSAY	BAS	1
WORDPROC	BAS	1
SAVEFILE	BAS	1
CATALOG	BAS	1
PICK	BAS	1
CHECKS	BAS	1
ABC	BAS	1
ALPHATIZ	BAS	1
BOOK	BAS	1
2DIMARAY	BAS	1
3DIMARAY	BAS	1
2DIMCARD	BAS	1
PRG#1	BAS	1
PRG#1A	BAS	1
PRG#2	BAS	2
PRG#3	BAS	1
MLSUBRTN	BAS	1
BASICPRG	BAS	1
BASICPR1	BAS	1
SQR ROOT	BAS	1
EXPON-Y	BAS	1
LOG	BAS	1
EXPON-X	BAS	1
TANGENT	BAS	1
COSINE	BAS	1
ARC COS	BAS	1
ARC SINE	BAS	1
ARC TANG	BAS	1
SPACEGUN	BAS	1
BOUNCE	BAS	1
BLK JACK	BAS	1
KALEIDOS	BAS	1
ELECDICE	BAS	1
PLAYTUNE	BAS	1
LRN TUNE	BAS	1
INV SHOP	BAS	1
BARGRAPH	BAS	1
SPD READ	BAS	1
MUS COMP	BAS	1
DIR	BAS	1

DISK # 19
MACHINE LANGUAGE

PONG	BIN	1
SRFIRE	BIN	3
TAPEDISK	BIN	1
BRICKPNG	BIN	2
GERM	BIN	1
FLYBY	BIN	2
TTD	BIN	1
PACKMAZE	BIN	3
FORESTAD	BIN	3
40K-	BIN	1
D2T-COPY	BIN	1
TOOLZ	BIN	2

DISK # 20
COMMUNICATIONS

MTERM	BIN	6
COPY	BAS	1

MCONFIG	BAS	3
MODEM6	BIN	1
MODEM6	BAS	1
MALB	BIN	7
REMOTERM	BIN	1
TERM1-0	BIN	3
ASCIIEX	BIN	4
ASCIIEX	DOC	3

DISK # 21
23 HI-RES PICT

PICTURE	NO2	1
RUNME	BAS	1
PHASER	BIN	3
TREK3	BIN	3
RELIANT	BIN	3
STRIPE	BIN	3
GBUSTER	BIN	3
F-18	BIN	3
TIESHIP	BIN	3
WSHIP	BIN	3
X-WING	BIN	3
SAUCER	BIN	3
PIGYBACK	BIN	3
TIGER	BIN	3
PANZER	BIN	3
VINCENT	BIN	3
SNOOPY	BIN	3
MAX	BIN	3
F-15	BIN	3
ALIEN	BIN	3
EARTH	BIN	3

DISK # 22
19 HI-RES PICT

3DHAT	BAS	1
3DROTATE	BAS	2
3DWORLD	BAS	4
CCOG	BAS	1
CCOGLOGO	BAS	5
CHRISCAR	BAS	1
CPAINT	BAS	1
DOG	BAS	2
FORMS	BAS	1
IN-OUT	BAS	1
KALIEDOS	BAS	2
KEYPAINT	BAS	1
LOGO#1	BAS	1
PAPER	BAS	1
PATTERNS	BAS	1
PICTURE	BAS	4
POLYGON	BAS	1
POLYGONI	BAS	1
PUMPKIN	BAS	1
SHIPS	BAS	2
SKETCHER	BAS	2
TUNNEL	BAS	1
AMERICA	BAS	1
OPTICAL	BAS	4
PICT2	BAS	1
POLAR	BAS	2
SCOTT	BAS	1
XPAD	BAS	2
TRIANLES	BAS	1

DISK # 23
21 DIFFERENT SO

A TEAM	BIN	2
ALFIE	BIN	2
BEATIT	BIN	4
CLOSETO	BIN	2
D'AMOUR	BIN	2
FATHER	BIN	2
GREMLINS	BIN	5
JUMP	BIN	5
KHAN	BIN	6
LUVSTORY	BIN	2
MUSIC	BAS	2
ROMEO &	BIN	2
WRITEMUS	BAS	3
CHORALE	BIN	2
LUTE	BIN	2
LONELY	BIN	2
FUGE	BIN	4
MINUET	BIN	2
SONATA	BIN	2
MARCH	BIN	2
NUTCRACK	BIN	2

DISK # 24
19 DIFFERENT SO

SONGS	BAS	2
DISK	DAT	1
2001	BIN	3
ALFRED H	BIN	4
ATEEM	BIN	2
BOOGY	BIN	5
BUMBLE	BIN	2
CANTINA	BIN	6
CHARRIOT	BIN	2
HILLSTRT	BIN	2
JONYBGUD	BIN	4
JUMP	BIN	5
MASH	BIN	2
OHHOLY	BIN	3
POLICE	BIN	7
RAIDER	BIN	4
STARTREK	BIN	6
STARWARS	BIN	3
MUSICBOX	BIN	2
CANNON	BIN	3

DISK # 25
18 DIFFERENT SO

DISKMENU	BAS	1
BEATIT	MUS	4
BTHFIFTH	BIN	7
CIRCUS	MUS	5
CIRCUS2	BIN	1
FEELINGS	BIN	2
GREMLIN	MUS	5
HPLESSLY	MUS	2
JOY	MUS	4
LMODD	MUS	7
LOVELY	BIN	1
NADIA	BIN	1
NIGHTS	MUS	3
NITEB4	MUS	2
PIANOMAN	MUS	5
PINBALWZ	MUS	5
STARS	MUS	5
SUNSHINE	BIN	2
SWEET16	MUS	4
USA	MUS	2

DISK # 26
MCPAINT COCO I & II

MCPAINT	BIN	11
ICONS	SYS	3
MCDOC	DOC	11
PRINTDOC	BAS	1
GLASDEMO	BIN	6
STARS	BIN	2
1940S	SET	1
BLOON	SET	1
BOLD	SET	1
FANCY	SET	1
FIGURE	SET	1
FUTURE	SET	1
GREEK	SET	1
GREEKU	SET	1
HEBREW	SET	1
OLDENG	SET	1
SCRIPT	SET	1
TYPING	SET	1
EPSON	DRV	1
EPSON2	DRV	1
ANIMATE	BAS	1
ANIMAT	BIN	1
BANNER	BAS	2
GARFIELD	BIN	3
MCUTIL	BIN	1

DISK # 27
MISC PROGRAMS

ADD-TAB	BAS	5
MULT-TAB	BAS	4
SPELL	BAS	2
BST 1	BAS	2
BST 2	BAS	2
BST 3	BAS	2
INCOME	BAS	1
ALG PLOT	BAS	1
ALG WR I	BAS	2
ALGEBRA	BAS	3
O T	BAS	1
BAS MATH	BAS	3
TIPS	BAS	1
COMM	BAS	1
DEDUCT	BAS	1
DEC-FRAC	BAS	1
CHECK	BAS	1
CHECK II	BAS	1
BUDGET	BAS	1
LOG	BAS	1
SALESTAX	BAS	1
FRAC-DEC	BAS	1
GRADEAV	BAS	1
GRADEREP	BAS	1
METRIC	BAS	1
MID TERM	BAS	1
NUMBER	BAS	1
PASCHAL	BAS	1
POLY WR	BAS	1
PT-SLOPE	BAS	1
RELATION	BAS	1
SLOPE	BAS	1
STATS WR	BAS	1
TEMPCONV	BAS	1
BAR GR	BAS	1
ELEMATH	BAS	1
SPEEDMTH	BAS	3
MATHDRIL	BAS	2
EGYPT8	BAS	2
MUSIC	BAS	3

DISK # 28
COMMUNICATIONS

DENOTE	BAS	3
DENOTE	DAT	2
CNFG43	BAS	4
MTRM43	BIN	8
MTADD	TXT	1
MTDOC1	TXT	11
MTDOC2	TXT	8
MTDOC3	TXT	7
MTDIAL	BAS	1
MT450	BAS	1
NCHG	BAS	1
TAPCNV	BAS	2
RTERM	BAS	1
RTERM	BIN	3
RTERM	DOC	9

DISK # 29
MISC PROGRAMS

SCRTHPAD	BAS	1
LABELS	BAS	1
AE	BIN	4
AE	HLP	3
AE	DOC	5
DUMBAE	DOC	6
MASTER	BAS	3
LABELS2	BAS	2
MAILER	BAS	1
MORTDATA	BAS	1
DB-INSTR	BAS	3
DB	BAS	6
DB1	BAS	1
DB2	BAS	1
DB3	BAS	4
PROGLIST	BAS	2
CATPRT2	BAS	2
CATPRT3	BAS	2
CATPRT4	BAS	2
PROGLIST	DAT	3
!-C	LIB	1
D-F	LIB	1
G-L	LIB	1
M-R	LIB	1
S->	LIB	1
MABEL	BIN	8

DISK # 30
MISC PROGRAMS

BATON	BAS	5
DUMP115	BAS	3
DUMP220	BAS	2
GEMDUMP	BAS	1
GEMSRNDP	BIN	1
GRAPDUMP	BAS	1
GRAPDUMP	BIN	1
BOOT	BAS	1
SKETCH PAD		4
SKETCH	PIC	3
BOOTGRAP	BAS	1
BOOTGPII	BAS	1
BOOTHARD	BAS	1
GRAPHCOM	PIC	3
GRAPHPII	PIC	3
HARDCOPY	PIC	3
PICDOS	BIN	2
PICDOS	DOC	6
MODPDOS1	BAS	1
RUNCOPY	BAS	2
AMORT	BAS	3
ESP	BAS	3
175	BAS	9
EXT22	BAS	5

DISK # 31
MISC PROGRAMS

LANDER	BAS	2
LAND1	BIN	3
LAND2	BIN	3
LAND3	BIN	3
LAND4	BIN	3
LAND5	BIN	3
BLANK	BIN	3
DISKCHCK	BIN	2
GRPHLBLR	BAS	2
PRINTRDY	BAS	1
BASIC	BAS	8
BASIC2	BAS	9
BASIC3	BAS	3
EXT1	BAS	9
EXT2	BAS	5

DISK # 32
MISC PROGRAMS

DIRBACK3	BAS	2
DS-DIR	BAS	1
DSKINDEX	BAS	1
DSKCBL4	BAS	3
DSKCBL5	BAS	3
BOOT35	BAS	3
RAMLOOK	BAS	4
DIR	BAS	1
INSTDB35	BAS	1
DIRBAC35	BAS	1
INIT35	BIN	1
SETCLMS	BAS	1
CONVERT	BAS	3
FREE351A	BAS	4
FREE351B	BIN	1
FREE301A	BAS	8
FREE301B	BAS	6
FREE301C	BAS	6
FREE301D	BAS	1
PRINTDOC	BAS	1
PCOPY	BAS	1
HELLO	BAS	2
DISKOPY	BAS	2
CERTIFY	BAS	3
SCANNER	BAS	1
MINIGEN	BAS	5
COCOMON	BAS	2

DISK # 33
MISC PROGRAMS

DICT	TXT	33
SPELLFX2	BIN	6
SPELLFX2	BAS	1
SPELLFIX	BIN	5
SPELLFIX	BAS	1
MANUAL	TXT	12
COREDICT	TXT	1
SAMPLE	TXT	1
BUILD	BAS	1
LIST	BAS	1
APPEND	BAS	1
ADDWORDS	BIN	3
RUN-THIS	BAS	1

DISK # 34
MISC PROGRAMS

TAPELIST	BAS	1
FGRAPH	BAS	4
ABCPOP	BAS	3
TEENMONY	BAS	3
ABSTRACT	BAS	1
JOUST	BAS	4
COCO	BAS	1
ANALYSIS	BAS	3
TRIXDEV	BAS	2
YANKEE	BAS	2
DRIVER	BAS	1
THEWIZ	BAS	1
COLODYE	BAS	3
SORTDYE	BAS	1
RVWRTR	BAS	2
QUIZ	BAS	2
CALC	BAS	1
TUTORIAL	BAS	4
CHEKANA	BAS	4
COLCONT	BAS	1
ASTROIDS	BAS	1
DSKDIRTY	BAS	1
DISKLKER	BAS	1
A TO C	BAS	7
D TO F	BAS	8
G TO I	BAS	5
SOCCOR	BAS	1

DISK # 35
MISC PROGRAMS

PTEST	BAS	1
REFLEX	BAS	1
MAZE2	BAS	1
TAPEIN	BAS	4
CHECKWRI	BAS	2
HIDOT	BAS	1
SQUARGRA	BAS	1
GAMES	BAS	5
FIGURES	BAS	2
FINDWORD	BAS	1
QUIZ	BAS	3
FORESAPP	BAS	3
FORESTRY	BAS	3
FOREST2	BAS	2
TAPEINV	BAS	2
CLOC2	BAS	1
BANKSTAT	BAS	4
LOCKLOOK	BAS	1
COLOTRAP	BAS	1
ARTHUR	BAS	1
LOTTODN	BAS	2
LABELPRT	BAS	1
TELLTIME	BAS	2
RIFLECOL	BAS	1
COPYCAM	BAS	1
CAMERA	BAS	1
EXKEY	BAS	1
CAPITALS	BAS	1
HOMONYMS	BAS	1
ABREV	BAS	4
MATHDRIL	BAS	2
SEQUENCE	BAS	2
ROUNDOFF	BAS	2
CONVERTS	BAS	3
FARMSKP	BAS	4

DISK # 36
MISC PROGRAMS

METRIC2	BAS	1
TEMP	BAS	2
TEMPCOMP	BAS	1
BASXREF	BAS	3
INENTOR	BAS	4
ACCREC1	BAS	5
PERFINAN	BAS	5
KEYBOARD	BAS	1
MATH	BAS	3
MEMO	BAS	2
ORDER	BAS	3
DISKMAP	BAS	1
PSUPPLY	BAS	4
JOYFOUR	BAS	1
RECORDS	BAS	3
ADRESS	BAS	2
LETEDIT	BAS	3
BOOKS	BAS	3
MATH2	BAS	2
SALES19	BAS	4
INVEST	BAS	2
INVEST2	BAS	1
STOCKAN	BAS	1
CAROWN	BAS	1
SIMEQ	BAS	2
NEWTON	BAS	2
SIMPSON	BAS	1
MONTHDU	BAS	1
CONVERT	BAS	4

DISK # 37
MISC PROGRAMS

DONATION	BAS	6
PRECALEN	BAS	1
SHORTDAT	BAS	1
BLOCK	BAS	1
HORSE	BAS	2
BRICKS	BAS	1
PILLBOX	BAS	2
ATACMAN	BAS	3
SLOTS	BAS	4
METERIC	BAS	6
UFO	BAS	2
LETWRITE	BAS	3
LP7WRITE	BAS	1
40CALEN	BAS	1
BLOCK2	BAS	1
ISSUSION	BAS	1
32COLBEP	BAS	1
CAGE	BAS	2
40LET	BAS	3
CGPDEMO	BAS	4
LSPRINT	BAS	1
BACH	BAS	1
MINIEDIT	BAS	2
DEFEND	BAS	3
CHECKERS	BAS	2
PEGWARS	BAS	2
CLOCK	BAS	1
TREKADV	BAS	4
BACCARAT	BAS	2
ANIMAL	BAS	1
MAZE	BAS	3

DISK # 38
MISC PROGRAMS

WAMPUS	BAS	3
MINDER	BAS	3
MCJUMP	BAS	3
SUNDANCE	BAS	2
PIVADERS	BAS	1
AREAVOL	BAS	5
BOMBER	BAS	2
ICBM	BAS	3
SCRPRINT	BAS	2
USASYMBL	BAS	1
BUBLSORT	BAS	1
CARDFILE	BAS	2
FREEWAY	BAS	1
RELOCATE	BAS	1
DOC	BAS	7
ACCOUNT	BAS	2
ROTATE	BAS	1
LEDGER	BAS	3
SEE	BAS	4
CALENDAR	BAS	1
ROLL IT	BAS	2
DRAW	BAS	1
3 FILE	BAS	2
DRAW2	BAS	1
MEMBER	BAS	5
BUSIN	BAS	2
SKMAKE	BAS	1
DIRE	BAS	1
ADRLABLE	BAS	2
SCTMAKER	BAS	2
PHONLIST	BAS	1

DISK # 39
MISC PROGRAMS

C642COCO	BAS	2
C64SUBS	BIN	1
C64SUBS	TXT	3
C642COCO	DOC	3
POLA	DOD	5
PIRATE	DOD	5
PAGODA	DOD	5
FREE101	BAS	4
REMLOADR	BAS	1
REMULAK	BAS	6
SHIPHUNT	BIN	6
SALVDSK1	BIN	5
SALVDSK2	BIN	2
CASTEST	BIN	3
PHONE	DAT	1
MASTER	BAS	4
SIGN	BAS	4

DISK # 40
MISC PROGRAMS

FOZZI	BAS	2
RNDGRAPH	BAS	1
PWRLOVE	MUS	3
GHOSTBST	MUS	3
ORCH90	BIN	8
ORC90DOC	DAT	3
NEUTRON	MUS	6
MATERIAL	MUS	3
AXELF	MUS	2
SHIPWREC	BAS	5
STOCKS	BAS	2
LINES	BAS	1
TEMPIST	BAS	2
TREK	BAS	5
BYTSCR16	BAS	2
RESTORE	BAS	1
TRACK	BAS	2
FORECAST	BAS	4
TAPEFIX	BAS	2
DIRSORT	BAS	1
TELE1	BAS	5
TELE2	BAS	5

DISK # 41
MISC PROGRAMS

FACE1	BIN	11
DOGFIGHT	BAS	2
DRAGTERM	BIN	1
EDICONS	SYS	2
GLASDEMO	BIN	6
MAILIST	BAS	1
BAS 4 7769		
FACE2	BIN	11
LOOK PIX	BAS	1
MARK	PIX	3
CRAIG	PIX	3
CA CAR	PIX	3
ORCH90	BAS	1
RS232PAK	ASM	2
RS232PAK	BIN	1
DPATCH		2
ORCH90	BIN	1
NOPAK	BIN	1
WORDPLAY	BAS	2
MUS	BIN	1

DISK # 42
MISC PROGRAMS

DISK MAP	BAS	1
DISKILL	BAS	1
ALPHADIR	BAS	1
ASC EDIT	BAS	1
ASCEDIT	BAS	1
BAGLES	BAS	2
BAS-MAP1	BAS	3
BASBUG	BAS	1
CHUTE	BAS	2
COLORBAR	BAS	1
COUNT	BAS	1
DARTS	BAS	1
DEGREES	BAS	1
DISKTEST	BAS	1
DOGEM	BAS	2
DSK-DUMP	BAS	1
ERASE	BIN	1
FASTLINE	BIN	1
FOOTBALL	BAS	4
GRAPHMES	BAS	2
HANGMAN	BAS	3
KEYS	BAS	1
LINES	BAS	1
LINES	BIN	1
LOOKDISK	BAS	1
MAILLIST	BAS	2
ONEARM	BAS	1
SOUND	BAS	3
STOCK	BAS	3
WHERE IS	BAS	2
WSEARCH	BAS	2
NSEARCH	BAS	2
SUBRTINE	BIN	1
EVADER	BAS	1
TI-SPEED	BAS	1
TICO	BAS	1

DISK # 43
MISC PROGRAMS

64KFHL	BAS	1
BOX BLST	BAS	1
ACEY	BAS	1
CHECKERS	BAS	3
CLOCK	BAS	2
CRYPTO	BAS	1
DOCTOR	BAS	7
BASBUG	BAS	1
MISMARS	BAS	2
OLDHOUSE	BAS	5
PYRAMID	BAS	3
SLOTS	BAS	2
S TREK	BAS	5
STARTRK	BAS	9
TREK	BAS	4
UTILITY	BAS	7
UTILITY	TXT	1
WORDWISE	ASM	6
WORDWISE	BIN	1
WORDWISE	TXT	1
CAR RACE	BAS	1

DISK # 44
MISC PROGRAMS

MULTIPLY	BAS	6
ALPHADIR	BAS	1
CATALOG	BAS	2
COPTRACK	BAS	1
COPY DIR	BIN	1
DDCOPY	BAS	2
DIRSAVE	BAS	2
DISK MAP	BAS	1
DISKAID	BAS	4
DISKD	BAS	1
DISKEDIT	BAS	4
DISKTIME	BAS	2
DISKTIME	BIN	2
DSK-DUMP	BAS	1
DSKINDEX	BAS	2
FDCTST	BIN	3
FILECOPY	BAS	1
TRAKLOCK	BAS	2
MASTRCAT	BAS	3
OFFSET	BAS	2
SECTDUMP	BAS	1
TAPELIST	BAS	2
Z	BAS	4
MAZE	BAS	2
KEEP	BAS	2
HORSRACE	BAS	4
HILLSTRT	BIN	1
GR DEMO	BAS	3
FLASH	BAS	2

DISK # 45
MISC PROGRAMS

SATAN	BAS	8
CHESS	BAS	5
CIPHER	BAS	1
CONTROL	BAS	5
DECTOHEX	BAS	1
DISKD	BAS	1
DISKLIST	BAS	1
DISKMAP	BAS	1
DSKCLEAN	BAS	1
DSKMAIL	BAS	2
FREEWAY	BAS	1
FUELCOST	BAS	1
GERMS	BAS	2
ITALIC	BAS	2
OLDHOUSE	BAS	5
PRINTEST	BAS	1
REFLEX	BAS	1
SECTDUMP	BAS	1
SILLY	BAS	2
STATECAP	BAS	2
SONGDISK	BAS	2
STEVEHAR	BAS	1
SUB	BAS	2
TANKS	BAS	2
WATOR	BAS	3
WESTERN	BAS	3
STOCKS	BAS	2
TAPELIST	BAS	2
JOUST	BAS	4

DISK # 46
MISC PROGRAMS

INTEREST	BAS	2
BAG-O-TR	BAS	9
BATLSHIP	BAS	6
CHAOS	BAS	9
DICE	BAS	2
FORTUNE	BAS	6
FREEDOM	BAS	9
GUMBO	BAS	1
LAUNCH	BAS	3
MSTRMIND	BAS	4
PLAY IT	BAS	2
PROPERTY	BAS	3
SHIELDS	BAS	2
TICKER	BAS	4
OTHELLO	BAS	3
DCHR-PM4	BIN	1

DISK # 47
MISC PROGRAMS

BATSTO21	PAK	2
BATTE004	PAK	2
BIKE 018	PAK	2
BLACK013	PAK	3
CAR 020	PAK	2
COLOR016	PAK	2
COLORS	PIC	3
DEMODISK		6
GALLERY	BAS	1
GIRL 017	PAK	3
HALLO019	PAK	3
HANDS003	PAK	3
HEARTO11	PAK	3
HELLO		7
HOTC0010	PAK	2
INDAI014	PAK	2
NOTEP023	PAK	2
PENCL006	PAK	2
PENCT007	PAK	2
PICPAK	BIN	1
PICTURES	BAS	1
ROCKM022	PAK	2
SANDY015	PAK	2
SHUTT009	PAK	2
WATER005	PAK	3
WHITESMITH	1	
X-PAD	PAK	2

DISK # 48
MISC PROGRAMS

ADDSUB	BAS	1
ATOM	BAS	2
BIO	BAS	1
BJACK	BAS	1
CONTRAT	BAS	3
DIR	BAS	1
EXTBASIC	BAS	3
FIFTEEN	BAS	2
FLASH	BAS	2
GC SCOTT	BAS	1
GOLF	BAS	3
GUNNER	BAS	2
HAMARABI	BAS	1
METRONUM	BAS	1
OTHELLO	BAS	3
PCLEARO	BAS	1
RUG	BAS	1
RULETTE	BAS	1
SKI	BAS	1
DSKINDEX	BAS	2
LOOK PIX	BAS	1
WILE E	PIX	3
PIPELINE	PIX	3
KGHTRIDR	PIX	3
GARFIE	PIX	3
MR CHIPS	PIX	3
PLAYSONG	BAS	1
AVEMARIA	MUS	2
PEANUTS	MUS	3
STELSWHR	MUS	3

DISK # 49
MISC PROGRAMS

BEAUTY	BIN	1
DATAGEN	BIN	3
FASTEXT	BAS	2
FASTEXT	BIN	1
FRACTUT	BAS	6
HANGMAN	BAS	4
HATDANCE	BAS	1
INSURE	BAS	3
LETTRPRO	BAS	2
MASTMIND	BAS	3
MEANIES	BAS	4
MONITOR+	BIN	3
MONLOAD	BIN	1
MORSECOD	BAS	2
MOZART	BAS	3
OREGON	BAS	6
PRTSPECH	BAS	3
RUN2BC	BIN	1
SCR ECHO	BAS	1
SCRPRT	BIN	1
SKIING	BAS	1
SPESPL	BAS	1
SPOOL64K	BIN	1
TYMSTABL	BAS	4

DISK # 50
MISC PROGRAMS

ANAEST	BAS	6
AUSTGEOG	BAS	2
COCOFILE	BAS	4
CRICKET	BAS	6
DIARY	BAS	2
DODGEM	BIN	4
DRAW	BAS	1
GBUSTERS	BAS	5
JULY 4TH	BAS	5
MARKET	BAS	4
MENU	PRG	1
NUMSCRAB	BAS	3
PAKDUMP	BIN	1
PERSMAN	BAS	5
PRINT32	BAS	1
PROTECT	BAS	3
SORT	BIN	1
TLIST	BAS	3
TOWNQUIZ	BAS	2

DISK # 51
MISC PROGRAMS

ALPHABET	BAS	2
BABYSIT	BAS	3
BRIDGE	BAS	8
CLASSIC	BAS	4
COGS	BAS	1
FIREWORK	BAS	2
GIFTWORD	BAS	4
GO?	BAS	3
HERALDRY	BAS	7
LISSAJOS	BAS	1
MENU	BAS	1
MORG&INT	BAS	1
MOSAICS	BAS	3
OANDX	BAS	2
SALE	BAS	4
SHIFT	BAS	2
T-T-TEST	BAS	3
TESSEL	BAS	3
WORDPRO+	BAS	2
YOURGRAF	BAS	2
3BALLADS	BAS	1

DISK # 52
MISC PROGRAMS

SPSORT	BAS	1
0	DAZ	1
?	DAZ	6
CA DOS	BIN	1
CA DOS	DOC	5
CA DOS	SRC	7
CAWRITER	BAS	4
CONTROL	BAS	5
DAZTERM	BIN	8
ERR DEMO	BAS	1
FONT ED	BAS	2
FONT ED	BIN	1
FONT ED	SRC	1
FONT1	BIN	1
FONT2	BIN	1
FONT3	BIN	1
FONT4	BIN	1
FONT5	BIN	1
SORCERER	DAT	2
RES DEMO	BAS	1
SORCERER	BAS	8

DISK # 53
MISC PROGRAMS

DICT	DIC	3
DISKLOOK	BAS	1
DICTLOOK	BAS	1
ROOT	BIN	4
DS	TXT	2
DS	BIN	1
DS	BAS	1
GU	BAS	9
INTRO	GU	3
MAINMENU	MNU	3
DUMYFILE	DUM	3
FATBITS	FAT	2
ART#1	BAS	1
ART#2	BAS	1
ART#3	BAS	1
ART#4	BAS	1
ART#5	BAS	1
ART#6	BAS	1
ART#7	BAS	1
ART#8	BAS	1
ART#9	BAS	1
ART#10	BAS	1
ART#11	BAS	1
ENHANCE	BAS	1
CENTIPED	BAS	1
ZAPPER	BAS	2
PALOOKA	BAS	1
EUPHORIA	BAS	3
ICE CAVE	BAS	2
DISKEXAM	BAS	1
HILOW-BJ	BAS	5

DISK # 54
MISC PROGRAMS

SPCHK	BAS	1
SPELCONT	BAS	2
ALFABETA	BAS	2
ALPHABET	BAS	3
AUTOLINE	BAS	1
CCMETEOR	BAS	3
CENTRIT	BAS	3
COCOMIND	BAS	2
ERAZOR	BIN	4
FLAGQUIZ	BAS	4
GARDEN	BAS	4
KT MOVES	BAS	2
LINECTRL	BAS	2
POKRMACH	BAS	2
PRINTDAT	BAS	2
PUNTER	BAS	4
RALLY	BIN	4
RBASIC	BIN	1
RS	TXT	1
RS	BIN	1
RS	BAS	1
SCUBA	BAS	3
TIMSCONV	BAS	2
USE64K	BIN	1
USE64KB	BAS	1
USE64KS	BAS	2
ZAP	BAS	3
SPELLER	DOC	2

DISK # 55
MISC PROGRAMS

B ATTACK	BAS	2
BIO	BAS	1
C IF 64K	BAS	1
CALENDAR	BAS	3
CLUBLIST	BAS	3
DRAWTUTR	BAS	2
EARTH	MAX	3
EVEREST	BAS	6
GALACTIC	BAS	3
ICOSA	BAS	1
INVADERS	BAS	1
INVOICE	BAS	4
LOADPIX	BAS	1
NCC-1701	MAX	3
OILSLICK	BAS	3
PCOPY	BAS	2
POKERSIM	BAS	3
PRNTSORT	BAS	1
SALECTRL	BAS	5
SHOOTGLY	BAS	2
SPOCK	MAX	3
STARWARS	MAX	3
TIPS	BAS	2

DISK # 56
MISC PROGRAMS

COCO	BAS	1
COUNT	BAS	1
AREACODE	BAS	3
BOMBER	BAS	2
FINANCE	BAS	3
FISHPOND	BAS	4
FONTGEN	BAS	5
FONT	DOC	4
FONT1	FNT	1
OUTLINE	FNT	4
SCRIPT	FNT	1
SHADOW	FNT	4
FRUST	BAS	3
L-CHNGES	BAS	1
MAS-MIND	BAS	1
OUTPOST	BAS	2
P-MAN-4K	BAS	1
PHONELST	BAS	2
PINGPONG	BAS	2
RUINS	BAS	3
SPIDERS	BAS	3
TYPING	BAS	5
USED-TRK	BAS	1
WORDFIND	BAS	4

DISK # 57
MISC PROGRAMS

ALPHA	BAS	6
GECUSTM	BIN	3
GEHELP	TXT	4
GEMANUL	DAT	11
GEMANUL2	DAT	11
GETERM	BIN	10
KDISK	BIN	11
KDISK	TXT	4

DISK # 58
MISC PROGRAMS

512KTEST	BIN	1
CNFG43	BAS	4
CTLKEY	BAS	1
DSKLABEL	BAS	2
DSKZAP	BIN	3
DSKZAP	DOC	1
EPDUMP	BIN	2
EPDUMP	DOC	3
FOOTBALL	BAS	6
JYMAX2	BAS	1
LOWERCAS	BAS	1
MAC2CC3	BIN	2
MFOX	PIC	3
MT450BD	BAS	1
MTADD	DOC	1
MTDIAL	BAS	1
MTERM	CAT	1
MTERM43	BIN	8
MTINIT	BAS	1
MTPPRT	BAS	1
NCHG	BAS	1
PRINT16	BIN	1
SHOW16C3	BIN	1
TASTTT	BAS	3
VALENT	BAS	2
VIEW16C3	BAS	2
VOYAGER	MAC	7
TRAIN	BAS	1

DISK # 59
MISC PROGRAMS

3-D-T	BAS	2
ADRLABEL	BAS	2
ATTACMAN	BAS	3
BRICKS	BAS	1
CANETRAK	BAS	3
CLINIC	BAS	7
CONNECT4	BAS	2
CONTOUR	BAS	1
COPTER	BAS	2
DARTBORD	BAS	2
DATABASE	BAS	5
DOS-OR-9	BAS	2
ECBDEMO	BAS	3
GOLDMINE	BAS	3
IN-OUT	BAS	1
KALVOS	BAS	1
MEMBER	DAT	1
MLADRESS	BAS	2
MUSIC	BAS	2
PATTERN	BAS	1
PEEK	BAS	1
PILLBOX	BAS	2
QUIKDRAW	BAS	2
SIMON	BAS	1
SLITHER	BAS	1
SONGS	BAS	3
TICTACTO	BAS	2
TRSCLEAN	BAS	1

DISK # 60
MISC PROGRAMS

AUTO LOG	BAS	2
BOMBER	BAS	2
CHECKERS	BAS	2
CLOCK	BAS	1
COLRCAGE	BAS	2
DATABASE	BAS	2
DAY DATE	BAS	1
DEFEND	BAS	3
EAGLE	BAS	1
ENGTOMET	BAS	6
GRAN-MAP	BAS	1
ICBM'S	BAS	3
ILLUSION	BAS	1
INVADERS	BAS	2
LIFE	BAS	2
LPVII	BAS	1
LTRWRTR	BAS	3
MATH HLP	BAS	5
MINIEDIT	BAS	2
MLADFIND	BAS	2
ROLL ON	BAS	2
SCRNPRNT	BAS	2
SCRPRT	BAS	1
SUNDANCE	BAS	2
TASKARTE	BAS	5
UFO	BAS	2
WRONGWAY	BAS	1

DISK # 61
MISC PROGRAMS

BLOCKS	BAS	1
CC3DEMO1	BAS	1
CC3IND	BAS	7
CONFIG40	BAS	4
DFIX	BAS	2
EXPLODE	BAS	1
GAMESFIX	BAS	1

MT 3 FIX	BAS	1
MT DOC 1	TXT	12
MT DOC 2	TXT	9
MT DOC 3	TXT	7
MTERM40	BIN	8
PALETTE2	BAS	1
ROMREAD3	BAS	1
RS 2 OS9	BAS	2
RUN ME	BAS	1
SQUARES	BAS	1
TEXTDEMO	BAS	1
VIPWFIX	BAS	1
YOURWAY	BAS	1

DISK # 62
MISC PROGRAMS

*	BAS	1
BIKINI	MAC	6
BOOT	BIN	1
CC3IND	BAS	7
CC3IND	BIN	1
DFIX	BAS	2
DIAL+	BAS	5
DIAL+	DAT	1
DIAL+	DOC	3
DISKFIX3	BIN	1
DISPC	BAS	1
FATIBMC	BIN	1
GETPE	GPF	3
GPE1	BAS	1
GPE2	BAS	1
JMBUDGET	BAS	7
JMBUDGET	DAT	1
MODONNA	MAC	10
SPOOLER3	BAS	1
SPOOLER3	BIN	1
SPOOLER	DOC	3
SPOOLER3	SRC	3
THINIBMC	BIN	1
WFIX	BAS	1

DISK # 63
MISC PROGRAMS

BALLOON	BAS	3
BATLSHIP	BAS	6
COCOART	BAS	2
ESP TEST	BAS	3
GOSFILL	BAS	1
GOSPER	BAS	1
HILBERT	BAS	1
HOMEBUDG	BAS	3
KANGA	BAS	1
LEDGER	BAS	3
LINE ART	BAS	1
LOAN	BAS	3
LOCO	BAS	2
LOTTO	BAS	2
MARTHA	BAS	1
MAZE	BAS	2
MAZE2	BAS	3
MOTRCYCL	BAS	3
PRINTER	BAS	1
SIEVE	BAS	1
SLOTS	BAS	4
STRIPJAK	BAS	1
SUPRMIND	BAS	4
TARGET	BAS	1
TEENBDGT	BAS	3
WUMPUS	BAS	3

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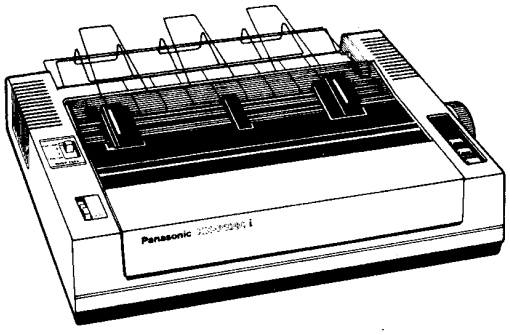

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Characters/Inch	5 6 7.5 8.5 10 12 15 17.1 + P.S.
Characters/Line	40 48 60 68 80 96 120 137
Paper Width	Fanfold paper: 3" to 10" Cut sheet 4" to 9"
Interface/Buffer	8 bit parallel/1K bytes
Compatibility	RX-80™ IBM Matrix Printer, IBM Graphics Printer
Noise Level	60 dbA
Reliability	MTBF 4000 hours at 25% duty
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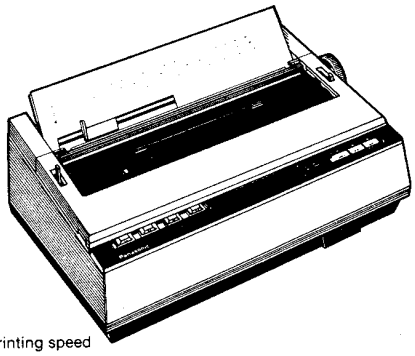

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Characters/Line	110, 132, 165, Proportional spacing
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Resolution	Horizontal spacing 1/120" Vertical spacing 1/48"
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A DETACHED KEYBOARD FOR THE COCO

First, let me ramble on a bit about how this project came about...

For a couple years I've had ideas about putting my CoCo in a bigger box with several of the "extras" in there with it, like the modem, disk controller, etc. But after getting such a box (like the PC clones use), I found that the chore, while possible, would be difficult, and really more than I wanted to get into... but, the idea of the external keyboard lingered in my brain, but I really didn't see much use for it, until one day when I was looking at the "mess" on my computer desk! I mean a real mess... there was the CoCo, with the MPI sticking out the side, all the stuff in the MPI, with their associated cables (CoCoMax, RS232 pack, digitizer.....), WOW, whatta mess!

Then the solution trickled out of my brain... why not move all the mess elswhere, out of the way, and use an "external keyboard" as the only piece of gear on the desk (plus the monitor, of course).

By this time I had progressed to a new CoCo III with the CM8 monitor, and could just "see" the new setup... it would be GREAT!! And great it is, for me at least. I hope it works as well for you, and you can get some good out of my information, or at least part of it... and if you come up with some addition, or improvement, let me know...

OK, now on to the nitty-gritty. There are a few items that you will have to get before you start the project:

1. Decide if you want to use your CoCo's keyboard, or leave it in the machine, and use another for the "external". I left my original in the CoCo III (not hooked up though), just to keep dust, etc. out of the machine. You may order a replacement keyboard through your friendly(?) local Radio Shack. The part number for the CoCo keyboard you want to use (II or III) can be determined by just having the Radio Shack personnel order for a catalog 26-3127 (CoCo II), or catalog 26-3334 (CoCo III).

2. You must also get some "ribbon cable", you know, the flat stuff that goes from the disk controller to the drives... except that the cable you use will only have 16 wires, unlike the 34 the disk unit uses. I can't say exactly how much you'll need, but in my case, 5 feet is plenty. There will be a drawing (remember, I'm NOT an artist) with this info to show how my stuff is finally setup, after having it in two or three locations.

3. The hardest thing for me to find was some small pieces of the plastic with the conductive traces "printed" on it... like the end that plugs your CoCo ("F" board or later) keyboard into the circuit board socket. You may be able to clip some off an old keyboard, or other kind of electronic equipment... I found an old "ODDOSEY" game at a garage sale that had several inches of the stuff in it. I re-enforced a small strip by putting some thin plastic on it with double sided tape... the drawings will show what you need to make as a "coupler"... I'll call it a coupler, because it couples the new keyboard cable connector to the one in the CoCo.

4. The next special thing you need is a pair of keyboard sockets just like the one that is in the CoCo where the keyboard plugs in. DO NOT try to unsolder one from a CoCo... their little legs are too fragile to make that operation much of a possible success. Order them from Radio Shack National Parts - - the part number is AJ-7567, and tell the person ordering that it is for a Catalog 26-3334 or 26-3127 CoCo. You may even find that ordering a couple extra is desirable, as you may end up making more external keyboards, or in case one gets broken - - remember I said the little legs are quite fragile...

5. And the final item, a neat enclosure for your external keyboard. Although I was never very impressed with the ADAM computer, I guess that fact multiplied a couple zillion times is what we have to thank for the neatest little keyboard "box" you'll ever find for your project, and they are CHEAP! Several places advertise the Adam keyboard, but some of them are only the actual keyboard, and do not include the keyboard enclosure. If you can't find one, try; JAMECO Electronics, 1355 Shoreway Blvd., Belmont Calif. 94002 - - Phone 415-592-8097. The last time I

purchased from them, they had 'em for only $9.95 - ask for "KB75".

6. The rest of what you'll need are the usual hardware hacker goodies, soldering iron, fine solder, small nippers, etc. In addition, a coping saw, or similar will help trim out the case, and if you want it to match the rest of your CoCo stuff, get some ALMOND Krylon spray paint - Kmart usually has it for a couple bucks a can. Remember wood?? You know the stuff that things used to be made out of before plastic? - well, you'll also need a couple small pieces of wood, and four flat head wood screws - the sizes are noted in the instructions.

Have fun, and good luck

->>> DISCLAIMER <<<- Please be aware that there are some concerns about the undertaking of this project... First, the CoCo must be opened, which will put an end to any warranty you may have left. In addition, due to the use of cutting tools, and exotic adhesives, I will not be responsible for any damage to the CoCo, external keyboard, fingers, etc. Anyone who has some mechanical, and basic electronic knowledge, should be able to easily accomplish the project - but - if you have any reservations about the procedures involved, it would be best to get some outside help. I also cannot be responsible for and damage, physical or electronic, that the project may cause to any of your CoCo system.

I have used the external keyboard, exactly as described in the text and instructions, for several months, and have encountered no problems with the system.

***** Step by Step Instructions *****

STEP ONE - After you have obtained the Adam keyboard assembly, remove the six screws from the bottom of the keyboard enclosure - KEEP THESE SCREWS! You'll need them when you put the thing back together. When you have the enclosure opened up, remove everything from the inside (except the "on" LED), and see if you can find someone who collects "electronic junk", as that is what comes out of the enclosure - - more on the LED later. Now set everything aside except the enclosure top... it should look like the layout in Figure 1.

STEP TWO - Look at figure 2... all the shaded areas must be removed. I used a coping saw to do the major cutting, then cleaned everything up with a utility knife and some fine sandpaper. You may also remove the Adam label and clean all the "sticky stuff" from where it was attached. If all has proceeded normally, the enclosure top should look like Figure 3 now... DO NOT be concerned about the small area NOT removed from the lower left and the lower right.

STEP THREE - OK, now we move on to Figure 6, the wood blocks... you'll need to make two of these. The dimensions in the drawings are very close to what they should be. The 3/8" should actually be equal to the thickness of the CoCo keyboard, not including the "mounting flanges". The blocks may be of any type wood, whatever you can get, but one consideration is that they be hard enough to hold the CoCo keyboard mounting screws, and the surface which will be exposed throught the enclosure top is sanded smooth, so it will look nice when the whole thing is painted.

STEP FOUR - Figure 4 shows where the two blocks are to be mounted... the width of the opening after they are in place should be just a "frog-hair" wider than the width of the CoCo keyboard, where it will protrude through the opening. The blocks are to be fastened to the inside of the enclosure, in their proper place, with some kind of adhesive. I found that a "thick" version of "super-glue" worked fine... don't try to use plain super-glue, it is too thin, and will set before you can get the blocks properly placed. A source for the "thick" variety is a supplier of model airplane stuff - the hobby shops in your town should have it - ask for thick "Hot-Stuff" or "Zap". When working with this type of adhesive, be very careful!! I've been using it in construction of Radio Control models for several years, and have seen modelers who have glued their hands to tables, to model airplanes, fingers to fingers, and the worst case... a guy got some in an eye, and almost LOST IT!! - - BE CAREFUL!!

STEP FIVE - When the enclosure top is finished - blocks glued in, etc. - it is time to give it the finish paint job. The Almond Krylon is an exact match for the enclosure bottom, so you only have to paint the top! This color should also match the rest of your CoCo system, if it is recent vintage. When he paint is dry, mount the keyboard with four screws... flat head wood screws of about 6 or 8 size, and 3/8" long should work fine. Be sure to place the CoCo keyboard in the

enclosure, and correct any "ill-fitting" before you put the screws to it!

STEP SIX - Prepare the ribbon cable by separating each wire, at each end, for about 1", and then strip and tin about 1/4" of each wire. With the cable ends prepared, get the two AJ-7576 connectors, and solder one to each end of the cable, as shown in Figure 5. If you're real careful doing the soldering job, and apply only enough solder to each wire (and connector pin) to make a good connection, you probably wont have to use any insulation on the soldered connections - the assembly will be stiff enough to keep connections from touching one another. One caution... look at the female side of the sockets, and be sure they match on both ends of the cable... you'll see little protrusions on the inside top or bottom - be sure top on one end is also top on the other, or bottom to bottom - just so they both have the same side up when the cable is laid flat on your workbench (or floor), or whatever.

STEP SEVEN - The final sub-assembly is the "coupler", the little plastic conductor that will attach one cable end to the CoCo connector (the one already installed in your CoCo). Once you've found some of this stuff, just prepare a short (1/2" or so) section that will plug into one end of the cable you made, and the CoCo socket. The connector at the other end of your cable will be where the "external" keyboard plugs in.

STEP EIGHT - Check all yor work carefully - especially the soldering! If all looks well to you, it's time for the "smoke test"... My friends hate it when I tell them that! That is, unless it's my machine we're working on! Anyway, it's time to see if all works OK. Be sure all power to anthing you are working on is OFF! I guess the best way would be to just hook up the CoCo to a display, and leave the drives, etc., disconnected 'till you are sure all is OK. Plug the external keyboard into the cable (the keyboard enclosure bottom may be left off), and plug the other end into the connector on the CoCo... when you apply power, the keyboard should do as the one in your CoCo originally did... if not turn everything off and try flipping the cable over (both ends, of course). When you are sure everything is OK, turn the system off, and finish the enclosure. The cable should exit at the center of the back side - I cut a small area away where the top and bottom meet to feed the cable through. Also put a short "Z" bend in the cable, indide the enclosure to serve as a strain relief. Use some sticky tape to hold the cable inside the enclosure, taped to the bottom of the metal plate of the CoCo keyboard.

STEP NINE - Replace all screws, etc, and you are finished! I didn't make a drawing of my setup, but it is as follows: I have a computer desk with an "adjustable shelf" hutch about 30" high (Foremost brand), and have my CoCo III and multi-pack interface on the top shelf of the hutch, with the back sides facing me... that way, the stuff is off my desk, and the CoCo Cassette, Serial, and Joystick jacks are right where they are easy to get to, and the power and reset buttons are easily accessible, but not easy to accidently get bumped. In front of me I have the new external keyboard, and behind it is my CM-8 monitor on a Radio Shack (of course) adjustable monitor pedestal - there is just room above this for a shelf, where my modem sits. To the immediate right of the "shelf center" are two evenly spaced shelves - the center area has my disk drives, and the rest serves as storage for disk boxes, joysticks, and other miscellaneous clutter. The external keyboard cable goes back to the right of the monitor, up the backside of the hutch, and into the front (facing back now) of the CoCo III (the CoCo case is not screwed in place).

Now back to that "power on" LED on the keyboard... I wasn't able to figure out how to hook it up easily. Extra wires, etc. would have had to be fed from the CoCo to the keyboard, and it just didn't seem worth it... so - if anyone asks me why it isn't lit, I just tell them that it is wired as a "programming error detection" indicator, and it just hasn't ever come on since I got the new CoCo III!! I actually think a couple of guys believed me...

Hope this info has been of some help to you...

DETACHED KEYBOARD

HERE IS A PROGRAM TO HELP YOU WITH YOUR UPGRADE TO A DETACHABLE KEYBOARD. IT WILL GIVE YOU SPECS AND DIAGRAMS.

```
1 CLS:CLEAR200,&H7F00:GOTO28
2 PRINT"USE UP AND DOWN ARROW TO
 SCROLL":PRINT"THE SCREEN."
3 PRINT:PRINT"HIT 'S' TO SAVE PI
CTURE AS A":PRINT"BINARY FILE"
4 S=6:E=&H35:IF PEEK(&HC000)=&H4
4 THEN D=1:S=S+8:E=E+8
5 POKE&H7FFC,S:POKE&H7FFD,0:POKE
&H7FFE,E:POKE&H7FFF,&HFF:V=S
6 FORI=&H7F00 TO&H7FB7:READ H$:P
OKE I,VAL("&H"+H$):NEXT:U=S+24
7 DATA EC,8D,0,FA,83,0,1F,ED,8D,
0,AF,A3,8D,0,ED,43,50,5C
8 DATA ED,8D,0,8E,1A,50,7F,FF,DF
,9E,33,30,6,10,8E,80,0,86
9 DATA 8,A7,8C,3A,86,6,A7,8C,34,
A6,80,80,30,48,48,48,59,6A
10 DATA 8C,29,27,E,6A,8C,25,26,F
4,E7,A0,C6,8,E7,8C,1C,20,EB
11 DATA 86,6,A7,8C,14,A6,80,26,A
,A6,4,81,22,26,C,30,5,A6
12 DATA 80,80,30,48,48,20,D9,0,0
,8E,80,0,10,AE,8D,0,91,A6
13 DATA 80,A7,8C,48,6F,8C,46,A6,
80,A1,8C,40,26,F,E6,80,A6,80,A7
14 DATA A4,8D,15,8D,23,5A,26,F7,
20,4,A7,A4,8D,A,8D,18,27,E2,7F
15 DATA FF,DE,1C,AF,39,10,AC,8D,
0,1E,24,4,31,A8,20,39,31,A9,E8
16 DATA 21,39,6D,8C,F,26,B,10,AC
,8C,4E,26,3,6C,8C,4,1A,4,39
17 PMODE4:PCLS1:SCREEN1,1:READZ:
EXEC&H7F00:CLS:SOUND 200,1
18 P=PEEK(&H155):IF P=251 THEN 2
2
19 IF P=247 THEN V=V+1:POKE&H155
,&HFF:IF V>U THEN V=U
20 IF PEEK(&H156)=247 THEN V=V-1
:POKE&H156,&HFF:IF V<S THEN V=S
21 POKE&HBA,V:SCREEN1:GOTO18
22 IFD THEN PRINT@64,"(DEFAULT E
XTENSION IS /MAX)":PRINT@0,"";
23 LINEINPUT"FILENAME FOR PICTUR
E: ";F$:IFF$=""THEN 22
24 P=INSTR(F$,":"):IFP>2 THEN F$
=MID$(F$,P+1)+":"+LEFT$(F$,P-1)
25 IFD AND INSTR(F$,"/")=0 AND I
NSTR(F$,".")=0THEN F$=F$+"/MAX"
26 IFD THEN SAVEM F$,&HE00,256*(
E+1)-1,&HA027:END
27 CSAVEM F$,&H600,256*(E+1)-1,&
HA027:END
28 PCLEAR 8:GOTO2
29 DATA1
100 "1P001QTo>?8Z>cSb=c100?8I?cS
b:S\h1S\o003b03ob103b60101PKoh?8

101 "HknOb1?O`1PGo0?8go`001QWo0?
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127 "`cb1?101PMcHf=Skno_01FX5JPE
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130 "_eMNO^oooo=JGceCKooon<]Hf]]
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136 "glhODBYA:U4ZDBYA:U4ZDBYA:U4
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137 "o=mLgec7b2?looco0?o86oo840?
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138 "mOgmooooooRGVIjao8Qo`001QWoO
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139 "oooo_kb9ol00?8Coo840?8:ogoo
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140 "E8YDRUB:E8YDRUB:E8YDRUB:E8Y
DRUB:E8YDRUB:E?85o`mo7gl?1Q?olP@

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142 "3b1_101Qgo0?85o`3b1on3k^k^k
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143 "PO>S8b<_Kfm05FREJ9EXUFREJ9E
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144 "XUFREO8Moo840?8Io`3b1_101PQ
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145 "oQkn?_hOb8O100?8Io`3b1_101Q
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146 "Oo003b4olo7`171Q;g1o8:Ooooo
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147 "klo_cno?klo_cno?klo_cob7Oob
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148 "oH7bí;lolPGo0?8go`001QWo0?8
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152 "1O101POon?_hno_b;ol00?8hoog
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153 "ooggmoOgl1PCmlQcolP@01QWo0?
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154 "101PKo0?8;omnO09oO1Pgo0?85o
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155 "PGoo_Wgc[ekO>kM^gO^gKJgkJfk
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156 "7O101PGo0?88oocb1oonoOkoo?8
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157 "oO?85o`3b1omiJ[LFfO8_o`001S
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158 "fkMnkM^gO^gK\01PGooPOoookb7
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159 "GIaMGKooolJkF6JKO8Ro`001QWo
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160 "QKb=_HGb;ol00?8SoogimN7mlPC
oo_WgckmolPGoo_gckimoo_gkmnoO_go

161 "noO\0kJfkMnkM^gO^gK\01PGo7k
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```
162 "101PSo[ZBZ[Zkoooo L[Jd5M?8Ro
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164 "1_onnOO>_G_gkmnoOokmnoO_gkm
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165 "_1Q;oo?glo0gb1_ob103b60101P
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166 ">_HO8Go`]j6WYk1PKo003b60101
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167 "PGo0?87okBGYkNg1RGoFMODe]Wb
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168 "OokmnoO_gkmoo_gkmnoO_gonoO\
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169 "\jf[[k?86oo840?8Io`3b1_101Q
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170 "Oo=_JFeSWb1_100?8Io`3b1_101
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171 "POo7o840o8UokBe];G=1PGo003b
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174 "gb5on<]Hb]]?86o`001QWo0?86o
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177 "b1_ob103b60101PKo0?8Mo`3b10
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179 "o8Zookb1_100?8Aookim1noOo86
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180 "OokmnoCZehXo:_nZoj[oZ_b[mhn
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181 "PO?85o`3b2?ob1;^8ooooMn_[`E
gb5oockO?_hO86o`001QWo0?86o`3b1o

182 "mo1POok]KFP[[b20101PGo0?87o
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183 "1?3:o85nooon??_WgonoO_gkmno
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184 "oj[nZON_Wgob3_ogmOGen_oooo7
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185 "o0?oooo86n?8?oo860?85o`3b4?
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188 "o`3b1_10Ph>31PD30?8;P?84Qo8
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189 "?o`3b10101POoKJ_WZfgb;o100?
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192 "o`3b1on?Oio_7o8_o`001QSo0>o
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193 "b:?oHJgVndO8Moo840?8Io`3b1_
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194 "3b1_ob6POb2_101S_o003b6?10k
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195 "?8Io3cb:[`11SO1003b6O`L1R[L
7?8ko0001QS171cLW=bLg9cLW=bL_7cb

196 "E_`002
```

CONTINUED FROM PAGE 25

```
1040 GOTO 800
1050 END
1060 FOR DE=1 TO LF:PRINT#-2:NEX
T DE
1070 RETURN
1092 IF ST=3 OR ST=1 THEN 1500
1094 IF ST=4 THEN 1710
1870 RETURN
2000 CLS:PRINT"POSITION PAPER AT
 TOP OF FORM"
2010 INPUT IN$
2020 LF=12:GOSUB 1060
2030 INPUT"YOUR NAME ";NA$
2040 LINE INPUT"STREET ADDRESS "
;ST$
2050 LINE INPUT"CITY, STATE, ZIP
";CS$
2060 INPUT"PHONE NUMBER";PH$
2070 INPUT"COMPUTER MODEL";CM$
2080 INPUT"MEMORY AVAILABLE";MA$

2090 INPUT"DISK DRIVE Y/N";DD$
2100 IF DD$="Y" THEN DD$="DISK"
2110 IF DD$="N" THEN DD$="CASSET
TE"
2120 PRINT#-2, TAB(8)"TO: TRY-O-
BYTE";:PRINT#-2, TAB(44)"FROM: "
NA$
2130 PRINT#-2, TAB(12)"1008 ALTO
N CIRCLE";:PRINT#-2, TAB(50)ST$
2140 PRINT#-2, TAB(12)"FLORENCE,
 SC 29501";:PRINT#-2, TAB(50)CS$

2150 PRINT#-2, TAB(50)"PHONE "PH
$
2160 LF=4:GOSUB 1060
2170 PRINT#-2, TAB(12)"PLEASE SH
IP THE FOLLOWING:":PRINT#-2
2180 PRINT#-2, TAB(12)"TRY-O-TAX
 FOR ";CM$", ";MA$"K ";", "DD$
2190 PRINT#-2, TAB(60)"PRICE $44
.99"
2200 PRINT#-2:PRINT#-2, TAB(45)"
SHIPPING AND HANDLING $3.00"
2210 PRINT#-2:PRINT#-2, TAB(51)"
TOTAL ENCLOSED $47.99"
2220 END
3000 CLS: PRINT "NO CLAIMS ARE M
ADE AS TO THE    SUITABILITY OF
THIS PROGRAM FOR ANY PURPOSE."
3010 PRINT
3020 PRINT "ITS USE IS AT THE US
ER'S OWN    RISK.  HOWEVER, IF P
ROBLEMS ARE ENCOUNTERED ";
3030 PRINT "WE WOULD APPRECIATE
BEING ADVISED OF THEIR NATURE."
3050 FOR CH=1 TO 2000:NEXT CH
3060 RETURN
4000 IF ST=1 OR ST=3 THEN 5000
4010 IF ST=2 THEN 6000
4020 IF ST=4 THEN 6000
5000 '87 TABLES SINGLE
5010 IF Z7<1800 THEN ES=Z7*.11
5020 IF Z7>1800 AND Z7<16800 THE
N ES=198+((Z7-1800)*.15)
5030 IF Z7>16800 AND Z7=<27000 T
HEN ES=2448+((Z7-16800)*.28)
5040 IF Z7>27000 AND Z7=<54000 T
HEN ES=5304+((Z7-27000)*.35)
5050 IF Z7>54000 THEN ES=14754+(
(Z7-54000)*.385)
5060 ES=INT(ES+.5)
5070 RETURN
6000 IF Z7<3000 THEN ES=Z7*.11
6010 IF Z7=>3000 AND Z7<=28000 T
HEN ES=330+((Z7-3000)*.15)
6020 IF Z7>28000 AND Z7=<45000 T
HEN ES=4080+((Z7-28000)*.28)
6030 IF Z7>45000 AND Z7=<90000 T
HEN ES=8840+((Z7-45000)*.35)
6040 IF Z7>90000 THEN ES=24590+(
(Z7-90000)*.385)
6050 ES=INT(ES+.5)
6060 RETURN
```

TRY-O-TAX
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FORMS 1040, 2106, 2441

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INTERNATIONAL COLOR COMPUTER CLUB

17710 MOSS POINT DR SPRING, TX 77379

The (all new) International Color Computer Club was formed to help people get to know the Color Computer and how it operates, to make available to it's members all the information about the Color Computer that we can find, including information which Radio Shack isn't willing to give you. To make programs available so you may extend your library.

Programming is difficult to learn, and the club is a place you can turn to for help with problems you might have in writing a program of adapting a piece of hardware. We can-not solve all problems, but with hundreds of other members with expertise in every aspect of the Color Computer, we can solve most on them.

New members will receive a new member kit which contains all the programs which are in the current library of programs (165 programs to date), data on the CoCo, and a poke & peek book, all to help you along with your programing.

New members will receive a subscription to COCO ADS, (if you now have one, it will be extended) which is the clubs newsletter to its members. Members may place unlimited FREE classified ads in COCO ADS (one per month) and a discount on all display ads.

You are asked to donate some of your programs you wrote to help increase the library. These programs are available to you FREE, with a small charge for postage and blank tape or disk cost. You also may download programs from the clubs own BBS.

A list of other COCO members will be furnished to you that are in your area.

I hope you have found this informative and decide to join our club. We would really like to have you. I'm sure that you will find the benefits of the club worthwhile. All this for only $30.00 per year.

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AGE
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TYPE OF COCO YOU OWN_____ MEMORY SIZE_____
EXT BASIC_____.DO YOU HAVE A - PRINTER _____ MODEM _____
DISK _____ CASSETTE _____ OTHER _____
HAVE YOU WRITTEN ANY PROGRAMS ?_____
WOULD YOU SHARE THEM WITH OTHER MEMBERS ?_____
WHAT IS YOUR PRIMARY REASON FOR YOUR COCO?
GAMES_____ BUSINESS _____ BOTH____

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