300

POKES PEEKS 'N EXECS FOR THE COCO III

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for the
COCO III

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C O N T E N T S

P R E F A C E

The advent of the Color Computer III has necessitated certain modifications/additions of different POKEs, PEEKs and EXECs for a more effective utilization of the capabilities of the CoCo. The popularity and usefulness of our books "500 POKES PEEKS 'N EXECS' and 'SUPPLEMENT TO 500 POKES PEEKS 'N EXECS' has created an unprecedented demand for an exclusive repository of the POKEs, PEEKs and EXECs for the CoCo III. Most of the POKEs, PEEKs 'N EXECs in the earlier books are also applicable to CoCo III. This book includes a number of POKE, PEEK 'N EXEC commands, as well as some routines that will give you more programming power.

Some of the commands included in this book are:

40/64/80 Column Text Screen Dump
Save Text/Graphics Screens to tape/disk
Command/Function disables
Enhancements for CoCo III Basic.
128K/512K Ram Test Program
HPRINT character modifier

We hope the CoCo III users will be delighted with the information given in this book. We shall be glad to receive yours views on the book and any changes/additions to be made to make it even more useful.

GOOD LUCK!!

HOW TO USE THIS BOOK

Before typing in any COMMAND, please read its ensuing RESULT and REMARKS. This will give you a better understanding of the command and whether or not it will be compatible with your system.

If the COMMAND is a PEEK, for example PEEK (341), precede it with a PRINT command. For example PRINT PEEK (341) and press <ENTER>. The computer will return (or display) a value. Then read the RESULT and REMARKS to see what that value stands for. If you wish to use the PEEK command in a Basic Program, you may precede it with a variable, for example: A = PEEK (3441)

If the COMMAND contains any DATA statements , it must be preceded by a statement # and RUN. If you do not precede such commands with a statement #, you will get an ?OD ERROR. Always make BACKUPs of your program that contain POKEs, PEEKs and EXECs as a slight error can wipe out your entire program.

Please read Page 43 of this book before using this book.

Some abbreviations used in this book are:

Col	-->	Column
CR + LF	-->	Carriage Return
LF	-->	Linefeed
hi-res	-->	high resolution

COMMAND: POKE 113,0:EXEC &H8C1B
RESULT: Performs a cold start
REMARKS: ** WARNING ** Erases any Basic program in memory

COMMAND: PEEK (&HE6)
RESULT: Returns 1 if HSCREEN 1 is used
REMARKS: Returns 0 if no hi-res graphics is used

COMMAND: PEEK (&HE6)
RESULT: Returns 2 if HSCREEN 2 is used
REMARKS: See previous remarks

COMMAND: PEEK (&HE6)
RESULT: Returns 3 if HSCREEN 3 is used
REMARKS: See previous remarks

COMMAND: PEEK (&HE6)
RESULT: Returns 4 if HSCREEN 4 is used
REMARKS: See previous remarks

COMMAND: PEEK (&HE7)
RESULT: Returns 0 With 32x16 text screen
REMARKS: None

COMMAND: PEEK (&HE7)
RESULT: Returns 1 with 40 col text screen
REMARKS: None

COMMAND: PEEK (&HE7)
RESULT: Returns 2 with 80 col text screen
REMARKS: None

COMMAND: PEEK (341)
RESULT: Returns 191 if ALT key is pressed
REMARKS: None

COMMAND: PEEK (342)
RESULT: Returns 191 if CTRL key is pressed
REMARKS: None

COMMAND: PEEK (343)
RESULT: Returns 191 if F1 key is pressed
REMARKS: None

COMMAND: PEEK (344)
RESULT: Returns 191 if F2 key is pressed
REMARKS: None

COMMAND: EXEC &H8C1B
RESULT: Performs a warm-start
REMARKS: All changes made to "ROM" are lost

COMMAND: POKE &H95AC,57:POKE &HFF22,
PEEK (&HFF22) OR &H10
RESULT: Gives true lowercase in 32 col
REMARKS: Lowercase includes descenders!

COMMAND: POKE &H95AC,57:POKE &HFF22,
PEEK (&HFF22) OR &H20
RESULT: Inverse Video for 32 col screen
REMARKS: Better visual display!

COMMAND: POKE &H95AC,57:POKE &HFF22,
PEEK (&HFF22) OR &H40
RESULT: Changes border of 32 col
screen to green
REMARKS: None

COMMAND: POKE &H95AC,57:POKE &HFF22,
PEEK (&HFF22) AND (255-64)
RESULT: Restores normal border
REMARKS: For 32 col screen only

COMMAND: POKE &H95AC,52
RESULT: Restores to normal after previous 4 POKEs
REMARKS: None

COMMAND: POKE &HB752,236:POKE &HB756,&HF4
RESULT: Replaces PEEK command with DPEEK
REMARKS: DPEEK gives you 16-bit value of consecutive memory locations. Very useful!!

COMMAND: EXEC &HE010
RESULT: Executes the present ROMPAK
REMARKS: This command should be used in place of the EXEC 49152 command to execute a ROMPAK.

COMMAND: PALETTE 13,255:POKE &HE033,PEEK (&HE033) OR 16
RESULT: Disables colorburst for 32 col text screen
REMARKS: Better visual display for monochrome monitors

COMMAND: POKE &HE033,PEEK(&HE033) AND (255-16)
RESULT: Re-enables colorburst
REMARKS: For 32 col screen only

COMMAND: SAVEM "DOS",PEEK(&HE038)*256, &HFEDF,0
RESULT: Saves the EXB DOS to disk
REMARKS: All changes are saved also

COMMAND: CSAVEM "DOS",PEEK(&HE038)*256, &HFEDF,0
RESULT: Saves the EXB DOS to tape
REMARKS: All changes are saved also

COMMAND: LOADM "DOS",PEEK (&H8A)
RESULT: Loads the EXB DOS from disk
REMARKS: Loads back all changes to DOS

COMMAND: EXEC 42136 "DOS"
RESULT: Loads the EXB DOS from tape
REMARKS: Loads back all changes to DOS

COMMAND: POKE &HE03C,3
RESULT: Sets 1 line spacing between vertical rows on screen
REMARKS: For 40 col screen only. This is default spacing

COMMAND: POKE &HE03C,4
RESULT: Sets 2 line spacing between vertical rows on screen
REMARKS: For 40 col screen only

COMMAND: POKE &HE03C,5
RESULT: Sets 3 line spacing between vertical rows on screen
REMARKS: For 40 col screen only

COMMAND: POKE &HE03C,6
RESULT: Sets 5 line spacing between vertical rows on screen
REMARKS: For 40 col screen only

COMMAND: PALETTE 13,255:POKE &HE03C,PEEK (&HE03C) OR 16
RESULT: Disables colorburst for 40 col text screen
REMARKS: Better visual display for monochrome monitors

COMMAND: POKE &HE03C,PEEK(&HE03C) AND 239
RESULT: Re-enables colorburst
REMARKS: For 40 col screen only

COMMAND: POKE &HE03E,x
RESULT: Sets border around 40 col text screen to color x
REMARKS: x is any color betwen 0 & 63

COMMAND: POKE &HE045,3
RESULT: Sets 1 line spacing between vertical rows on screen
REMARKS: For 80 col screen only. This is default spacing

COMMAND: POKE &HE045,4
RESULT: Sets 2 line spacing between vertical rows on screen
REMARKS: For 80 col screen only

COMMAND: POKE &HE045,5
RESULT: Sets 3 line spacing between vertical rows on screen
REMARKS: For 80 col screen only

COMMAND: POKE &HE045,6
RESULT: Sets 5 line spacing between vertical rows on screen
REMARKS: For 80 col screen only

COMMAND: PALETTE 13,255:POKE &HE045,PEEK (&HE045) OR 16
RESULT: Disables colorburst for 80 col text screen
REMARKS: Better visual display for monochrome monitors

COMMAND: POKE &HE045,PEEK(&HE045) AND 239
RESULT: Re-enables colorburst
REMARKS: For 80 col screen only

COMMAND: POKE &HE046,17:WIDTH80:POKE &HFE04,64:POKE &HF871,&H80: POKE &HF875,&H2B:POKE &HF876, &H80:POKE &HFE06,&H2C
RESULT: Sets up 64 col text screen
REMARKS: Especially useful for TV users!

COMMAND: POKE &HE046,21:WIDTH80:POKE &HFE04,80:POKE &HF871,&HA0: POKE &HF875,&H2E:POKE &HF876, &H60:POKE &HFE06,&H2F
RESULT: Restores normal text screen
REMARKS: For use after previous command

COMMAND: POKE &HE047,x
RESULT: Sets border of color x around the 80 col text screen
REMARKS: x is any color between 0 & 63

Command Disables/Enables

COMMAND: POKE &HE1C6,0
RESULT: Disables the WIDTH command
REMARKS: None

COMMAND: POKE &HE1C6,&H49
RESULT: Re-enables WIDTH command
REMARKS: For use after previous command

COMMAND: POKE &HE1CC,0
RESULT: Disables the PALETTE command
REMARKS: None

COMMAND: POKE &HE1CC,&H4C
RESULT: Re-enables the PALETTE command
REMARKS: For use after previous command

COMMAND: POKE &HE1D6,0
RESULT: Disables the HSCREEN command
REMARKS: None

COMMAND: POKE &HE1D6,&H45
RESULT: Re-enables the HSCREEN command
REMARKS: For use after previous command

COMMAND: POKE &HE1D8,0
RESULT: Disables the LPOKE command
REMARKS: None

COMMAND: POKE &HE1D8,&H4C
RESULT: Re-enables the LPOKE command
REMARKS: For use after previous command

COMMAND: POKE &HE1DE,0
RESULT: Disables the HCLS command
REMARKS: None

COMMAND: POKE &HE1DE,&H43
RESULT: Re-enables the HCLS command
REMARKS: For use after previous command

COMMAND: POKE &HE1E2,0
RESULT: Disables the HCOLOR command
REMARKS: None

COMMAND: POKE &HE1E2,&H43
RESULT: Re-enables the HCOLOR command
REMARKS: For use after previous command

COMMAND: POKE &HE1EC,0
RESULT: Disables the HPAINT command
REMARKS: None

COMMAND: POKE &HE1EC,&H54
RESULT: Re-enables the HPAINT command
REMARKS: For use after previous command

COMMAND: POKE &HE1F0,0
RESULT: Disables the HCIRCLE command
REMARKS: None

COMMAND: POKE &HE1F0,&H52
RESULT: Re-enables the HCIRCLE command
REMARKS: For use after previous command

COMMAND: POKE &HE1F4,0
RESULT: Disables the HLINE command
REMARKS: None

COMMAND: POKE &HE1F4,&H48
RESULT: Re-enables the HLINE command
REMARKS: For use after previous command

COMMAND: POKE &HE1FB,0
RESULT: Disables the HGET command
REMARKS: None

COMMAND: POKE &HE1FB,&H45
RESULT: Re-enables the HGET command
REMARKS: None

COMMAND: POKE &HE1FD,0
RESULT: Disables the HPUT command
REMARKS: None

COMMAND: POKE &HE1FD,&H48
RESULT: Re-enables the HPUT command
REMARKS: For use after previous command

COMMAND: POKE &HE205,0
RESULT: Disables the HBUFF command
REMARKS: None

COMMAND: POKE &HE205,&H46
RESULT: Re-enables the HBUFF command
REMARKS: For use after previous command

COMMAND: POKE &HE20D,0
RESULT: Disables the ON ERR GOTO command
REMARKS: None

COMMAND: POKE &HE20D,&H52
RESULT: Re-enables the ON ERR GOTO command
REMARKS: For use after previous command

COMMAND: POKE &HE20F,0
RESULT: Disables the ON BRK GOTO command
REMARKS: None

COMMAND: POKE &HE20F,66
RESULT: Re-enables the ON BRK GOTO command
REMARKS: For use after previous command

COMMAND: POKE &HE215,0
RESULT: Disables the LOCATE command
REMARKS: None

COMMAND: POKE &HE215,65
RESULT: Re-enables the LOCATE command
REMARKS: For use after previous command

COMMAND: POKE &HE218,0
RESULT: Disables the HSTAT command
REMARKS: None

COMMAND: POKE &HE218,&H48
RESULT: Re-enables the HSTAT command
REMARKS: For use after previous command

COMMAND: POKE &HE21D,0
RESULT: Disables the HSET command
REMARKS: None

COMMAND: POKE &HE21D,&H48
RESULT: Re-enables the HSET command
REMARKS: For use after previous command

COMMAND: POKE &HE223,0
RESULT: Disables the HRESET command
REMARKS: None

COMMAND: POKE &HE223,&H45
RESULT: Re-enables the HRESET command
REMARKS: For use after previous command

COMMAND: POKE &HE22A,0
RESULT: Disables the HDRAW command
REMARKS: None

COMMAND: POKE &HE22A,65
RESULT: Re-enables the HDRAW command
REMARKS: For use after previous command

COMMAND: POKE &HE22C,0
RESULT: Disables the CMP command
REMARKS: None

COMMAND: POKE &HE22C,&H43
RESULT: Re-enables the CMP command
REMARKS: For use after previous command

COMMAND: POKE &HE22F,0
RESULT: Disables the RGB command
REMARKS: None

COMMAND: POKE &HE22F,&H52
RESULT: Re-enables the RGB command
REMARKS: For use after previous command

COMMAND: POKE &HE233,0
RESULT: Disables the ATTR command
REMARKS: None

COMMAND: POKE &HE233,&H54
RESULT: Re-enables the ATTR command
REMARKS: For use after previous command

COMMAND: POKE &HE267,0
RESULT: Disables the LPEEK function
REMARKS: None

COMMAND: POKE &HE267,&H45
RESULT: Re-enables the LPEEK function
REMARKS: For use after previous command

COMMAND: POKE &HE26A,0
RESULT: Disables the BUTTON function
REMARKS: None

COMMAND: POKE &HE26A,&H55
RESULT: Re-enables the BUTTON function
REMARKS: For use after previous command

COMMAND: POKE &HE274,0
RESULT: Disables the HPOINT function
REMARKS: None

COMMAND: POKE &HE274,&H54
RESULT: Re-enables the HPOINT function
REMARKS: For use after previous command

COMMAND: POKE &HE275,0
RESULT: Disables the ERNO function
REMARKS: None

COMMAND: POKE &HE275,&H45
RESULT: Re-enables the ERNO function
REMARKS: For use after previous command

COMMAND: POKE &HE279,0
RESULT: Disables the ERLIN function
REMARKS: None

COMMAND: POKE &HE279,&H45
RESULT: Re-enables the ERLIN function
REMARKS: For use after previous command

COMMAND: POKE &HE414,0:POKE &HE42A,0
RESULT: Disables the BREAK KEY
REMARKS: None

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COMMAND: POKE &HE414,3:POKE &HE42A,3
RESULT:  Enables the BREAK KEY after
         previous command
REMARKS: None

COMMAND: POKE &HE47B,18:POKE &HE47C,18
RESULT:  Disables error trapping
REMARKS: None

COMMAND: POKE &HE47B,38:POKE &HE47C,54
RESULT:  Re-enables error trapping after
         previous command
REMARKS: None

COMMAND: POKE &HE649,16
RESULT:  Fixes the RGB/CMP bug
REMARKS: All 16 (instead of 15) palette
         registered are copied now

COMMAND: FORI = &HE654 TO &HE663: PRINT
         PEEK(I):NEXT
RESULT:  Gives initial palette color
         settings for composite monitors
REMARKS: None

COMMAND: FORI=&HE664 TO &HE673:PRINT PEEK (
         I):NEXT
RESULT:  Gives initial palette color
         settings for RGB monitors
REMARKS: None

COMMAND: POKE &HE6C6,18:POKE &HE6C7,18
RESULT:  Prevents HSCREEN from clearing
         the hi-res graphics screen
REMARKS: None
```

COMMAND: POKE &HE7BA,199:POKE &HE7BE,198:
POKE &HEB75,198:POKE &HEFDF,25-1:
POKE &HF521,199:POKE &HF526,198
RESULT: Allows 200 rows instead of 192 on a hi-res graphics screen
REMARKS: One of the following 4 POKEs (for the appropriate graphics screen) must be set before using HSCREEN

COMMAND: POKE &HE06C,&H35
RESULT: Patches HSCREEN 1 to set 200 rows instead of 192
REMARKS: To be used with previous command

COMMAND: POKE &HE06C,&H3E
RESULT: Patches HSCREEN 2 to set 200 rows instead of 192
REMARKS: See remarks for previous command

COMMAND: POKE &HE06C,&H34
RESULT: Patches HSCREEN 3 to set 200 rows instead of 192
REMARKS: See remarks for previous command

COMMAND: POKE &HE06C,&H3D
RESULT: Patches HSCREEN 4 to set 200 rows instead of 192
REMARKS: See remarks for previous command

COMMAND: POKE &HEF13,&HCC-8
RESULT: Fixes the HPUT "NOT" bug
REMARKS: None

COMMAND: POKE &HF655,18:POKE &HF656,18:
POKE &HF657,18
RESULT: Prevents WIDTH command from erasing text screen
REMARKS: For 32 col text screen only

COMMAND: POKE &HF670,18:POKE &HF671,18
RESULT: Prevents WIDTH command from erasing the text screen
REMARKS: For 40/80 column screens

COMMAND: POKE &HF6BC,16
RESULT: Allows you to CLS 1 - 16 instead of CLS 1 - 8
REMARKS: For hi-res text screens only

COMMAND: POKE &HF787,198:POKE &HF788,1
RESULT: Creates a steady cursor
REMARKS: Only for hi-res text screens

COMMAND: POKE &HF787,10:POKE &HF788,148
RESULT: Restores normal cursor
REMARKS: For use after previous command

COMMAND: POKE &HF78C,x
RESULT: Changes cursor blink rate
REMARKS: x is any # between 0 & 255

COMMAND: POKE &HF78C,11
RESULT: Restores normal cursor
REMARKS: For use after previous command

COMMAND: PEEK (&HFE00)*256+PEEK(&HFE01)
RESULT: Returns cursor position in hi-res text screen
REMARKS: Not compatible with 32 col screen

COMMAND: PEEK (&HFE02)
RESULT: Returns X cursor position on screen
REMARKS: Not compatible with 32 col screen

COMMAND: PEEK (&HFE03)
RESULT: Returns Y cursor position on screen
REMARKS: Not compatible with 32 col screen

COMMAND: PEEK (&HFE04)
RESULT: Returns 40 with 40 column screen
REMARKS: None

COMMAND: PEEK (&HFE04)
RESULT: Returns 64 with 64 column screen
REMARKS: None

COMMAND: PEEK (&HFE04)
RESULT: Returns 80 with 80 column screen
REMARKS: None

COMMAND: POKE &HFE04,20
RESULT: Divides 40 col screen into 2 cols
REMARKS: None

COMMAND: POKE &HFE04,40
RESULT: Divides 80 col screen into 2 cols
REMARKS: None

COMMAND: PEEK (&HFE05)
RESULT: Returns # of rows in current hi-res text screen
REMARKS: Default value should be 24

COMMAND: PEEK (&HFE06)*256+PEEK (&HFE07)
RESULT: Returns end address of current hi-res text screen
REMARKS: None

COMMAND: PEEK (&HFE08)
RESULT: Returns the current cursor attribute
REMARKS: Not for 32 col screens

COMMAND: PEEK (&HFE0A)
RESULT: Returns current foreground color
REMARKS: Only for HSCREEN graphic modes

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COMMAND:  PEEK (&HFE0B)
RESULT:   Returns current background color
REMARKS:  Only for HSCREEN modes

COMMAND:  PEEK (&HFE0C)*256+PEEK (&HFE0D)
RESULT:   Returns current ON BRK GOTO line #
REMARKS:  None

COMMAND:  PEEK (&HFE0E)*256+PEEK (&HFE0F)
RESULT:   Returns current ON ERR GOTO line #
REMARKS:  None

COMMAND:  PEEK (&HFE10)
RESULT:   Returns # of most recent error
REMARKS:  Returns 255 if no error occurred

COMMAND:  PEEK (&HFE11)*256+PEEK (&HFE12)
RESULT:   Returns Basic Program line # which
          contains the ON ERR GOTO statement
REMARKS:  None

COMMAND:  PEEK (&HFE13)*256+PEEK (&HFE14)
RESULT:   Returns line # where error occurred
REMARKS:  None

COMMAND:  PEEK (&HFE15)*256+PEEK (&HFE16)
RESULT:   Returns Basic Program line # which
          contains the ON BRK GOTO statement
REMARKS:  None

COMMAND:  PEEK (&HFE18)
RESULT:   Returns # of characters to be
          HPRINTed to hi-res graphics screen
REMARKS:  None

COMMAND:  FORI=1 TO PEEK (&HFE18):PRINT
          CHR$(PEEK(I+&HFE18));:NEXT I
RESULT:   Displays characters that were
          last HPRINTed on the screen
REMARKS:  None
```

COMMAND: POKE &HFF01,0
RESULT: Disables keyboard input
REMARKS: ** WARNING ** Save any programs before using this POKE. Great for demos!

COMMAND: POKE &HFF01,4
RESULT: Restores to normal after previous POKE
REMARKS: Same as for previous command

COMMAND: POKE &HFF94,x
RESULT: Comtrols the blinking rate of characters on the screen
REMARKS: x is any number between 0 & 100

COMMAND: POKE &HFF94,126
RESULT: Restores to normal after POKE &HFFF94,x
REMARKS: None

Hires-graphic modes

The next few commands show you how to set various graphics modes. Many of these modes are not supported by Basic directly. Some knowledge of ML is required to access these graphic modes. Hint for Basic Programmers: Try LPOKEing values starting at address $60000!

COMMAND: HSCREEN 4:POKE &HFF99,0
RESULT: Sets 128x192 graphics Mode
REMARKS: 2 colors are available

COMMAND: HSCREEN 4:POKE &HFF99,9
RESULT: Sets 128x192 graphics Mode
REMARKS: 4 colors are available

COMMAND: HSCREEN 4:POKE &HFF99,18
RESULT: Sets 128x192 graphics Mode
REMARKS: 16 colors are available

COMMAND: HSCREEN 4:POKE &HFF99,4
RESULT: Sets 160x192 graphics Mode
REMARKS: 2 colors are available

COMMAND: HSCREEN 4:POKE &HFF99,22
RESULT: Sets 160x192 graphics Mode
REMARKS: 16 colors are available

COMMAND: HSCREEN 4:POKE &HFF99,8
RESULT: Sets 256x192 graphics Mode
REMARKS: 2 colors are available

COMMAND: HSCREEN 4:POKE &HFF99,17
RESULT: Sets 256x192 graphics Mode
REMARKS: 4 colors are available

COMMAND: HSCREEN 4:POKE &HFF99,26
RESULT: Sets 256x192 graphics Mode
REMARKS: 16 colors are available

COMMAND: HSCREEN 4:POKE &HFF99,21
RESULT: Sets 320x192 graphics Mode
REMARKS: 4 colors are available

COMMAND: HSCREEN 4:POKE &HFF99,30
RESULT: Sets 320x192 graphics Mode
REMARKS: 16 colors are available

COMMAND: HSCREEN 4:POKE &HFF99,16
RESULT: Sets 512x192 graphics Mode
REMARKS: 2 colors are available

COMMAND: HSCREEN 4:POKE &HFF99,25
RESULT: Sets 512x192 graphics Mode
REMARKS: 4 colors are available

COMMAND: HSCREEN 4:POKE &HFF99,20
RESULT: Sets 640x192 graphics Mode
REMARKS: 2 colors are available

COMMAND: HSCREEN 4:POKE &HFF99,29
RESULT: Sets 640x192 graphics Mode
REMARKS: 4 colors are available

The following border changes will work only in hi-res modes. Also, they will not work from direct mode. To change border color in direct mode, see contents. Colors depend on Monitor settings and may vary slightly.

COMMAND: POKE &HFF9A,x
RESULT: Creates a red border around the current hi-res text/graphics screen
REMARKS: For RGB monitors only. Values for x = 4,32-39,60 for various red types

COMMAND: POKE &HFF9A,x
RESULT: Creates a red border around the current hi-res text/graphics screen
REMARKS: For composite monitors only. Values for x = 6-8,21,23,24,38,39,54 for various red types

COMMAND: POKE &HFF9A,x
RESULT: Creates a blue border around the current hi-res text/graphics screen
REMARKS: For RGB monitors only. Values for x = 1,8-15,57 for various blue types

COMMAND: POKE &HFF9A,x
RESULT: Creates a blue border around the current hi-res text/graphics screen
REMARKS: For composite monitors only. Values for x = 10-13,27,29,43,44,57 for various blue types

COMMAND: POKE &HFF9A,x
RESULT: Creates a green border around the current hi-res text/graphics screen
REMARKS: For RGB monitors. Values for x= 2,16-23,58 for various green types

COMMAND: POKE &HFF9A,x
RESULT: Creates a green border around the current hi-res text/graphics screen
REMARKS: For composite monitors. Values for x= 1-3,17-19,33,34,49,50 for various green types

COMMAND: POKE &HFF9A,x
RESULT: Creates a yellow border around the current hi-res text/graphics screen
REMARKS: For RGB monitors. Values for x= 48-55,62 for various yellow types

COMMAND: POKE &HFF9A,x
RESULT: Creates a yellow border around the current hi-res text/graphics screen
REMARKS: For composite monitors. Values for x= 4,20,35.51-53,63 for various yellow types

COMMAND: POKE &HFF9A,x
RESULT: Creates a brown border around the current hi-res text/graphics screen
REMARKS: For RGB monitors. x = 48 or 6

COMMAND: POKE &HFF9A,x
RESULT: Creates a brown border around the current hi-res text/graphics screen
REMARKS: For composite monitors. x = 20 or 5

COMMAND: POKE &HFF9A,x
RESULT: Creates a cyan border around the current hi-res text/graphics screen
REMARKS: For RGB monitors. Values for x= 3,24-31,59 for various cyan types

COMMAND: POKE &HFF9A,x
RESULT: Creates a cyan border around the current hi-res text/graphics screen
REMARKS: For composite monitors. Values for x= 14,15,30,31,45-47,60-62 for various cyan types

COMMAND: POKE &HFF9A,x
RESULT: Creates a magneta border around the current hi-res text/graphics screen
REMARKS: For RGB monitors. Values for x= 5,40-47,61 for various magneta types

COMMAND: POKE &HFF9A,x
RESULT: Creates a magneta border around the current hi-res text/graphics screen
REMARKS: For composite monitors. Values for x= 9,24-26,40-42,56-58 for various magneta types

COMMAND: POKE &HFF9A,x
RESULT: Creates a white border around the current hi-res text/graphics screen
REMARKS: For RGB monitors. Values for x= 7,56,63 for various white types

COMMAND: POKE &HFF9A,x
RESULT: Creates a white border around the current hi-res text/graphics screen
REMARKS: For composite monitors. Values for x= 16,32,48 for various white types

COMMAND: POKE &HFF9A,0
RESULT: Creates a black border around the current hi-res text/graphics screen
REMARKS: None

COMMAND: POKE &HFF7F,0
RESULT: EXECutes ROMPAK in multipak slot 1
REMARKS: Requires a multipak

COMMAND: POKE &HFF7F,17
RESULT: EXECutes ROMPAK in multipak slot 2
REMARKS: Requires a multipak

COMMAND: POKE &HFF7F,34
RESULT: EXECutes ROMPAK in multipak slot 3
REMARKS: Requires a multipak

COMMAND: POKE &HFF7F,51
RESULT: EXECutes ROMPAK in multipak slot 4
REMARKS: Requires a multipak

COMMAND: PEEK (&HFFB0)-64
RESULT: Returns color # in Palette 0
REMARKS: Color # is between 0 & 63

COMMAND: PEEK (&HFFB1)-64
RESULT: Returns color # in Palette 1
REMARKS: Color # is between 0 & 63

COMMAND: PEEK (&HFFB2)-64
RESULT: Returns color # in Palette 2
REMARKS: Color # is between 0 & 63

COMMAND: PEEK (&HFFB3)-64
RESULT: Returns color # in Palette 3
REMARKS: Color # is between 0 & 63

COMMAND: PEEK (&HFFB4)-64
RESULT: Returns color # in Palette 4
REMARKS: Color # is between 0 & 63

COMMAND: PEEK (&HFFB5)-64
RESULT: Returns color # in Palette 5
REMARKS: Color # is between 0 & 63

COMMAND: PEEK (&HFFB6)-64
RESULT: Returns color # in Palette 6
REMARKS: Color # is between 0 & 63

COMMAND: PEEK (&HFFB7)-64
RESULT: Returns color # in Palette 7
REMARKS: Color # is between 0 & 63

COMMAND: PEEK (&HFFB8)-64
RESULT: Returns color # in Palette 8
REMARKS: Color # is between 0 & 63

COMMAND: PEEK (&HFFB9)-64
RESULT: Returns color # in Palette 9
REMARKS: Color # is between 0 & 63

COMMAND: PEEK (&HFFBA)-64
RESULT: Returns color # in Palette 10
REMARKS: Color # is between 0 & 63

COMMAND: PEEK (&HFFBB)-64
RESULT: Returns color # in Palette 11
REMARKS: Color # is between 0 & 63

COMMAND: PEEK (&HFFBC)-64
RESULT: Returns color # in Palette 12
REMARKS: Color # is between 0 & 63

COMMAND: PEEK (&HFFBD)-64
RESULT: Returns color # in Palette 13
REMARKS: Color # is between 0 & 63

COMMAND: PEEK (&HFFBE)-64
RESULT: Returns color # in Palette 14
REMARKS: Color # is between 0 & 63

COMMAND: PEEK (&HFFBF)-64
RESULT: Returns color # in Palette 15
REMARKS: Color # is between 0 & 63

COMMAND: POKE &HFFB0,x+64
RESULT: Stores color x in Palette 0
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFB1,x+64
RESULT: Stores color x in Palette 1
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFB2,x+64
RESULT: Stores color x in Palette 2
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFB3,x+64
RESULT: Stores color x in Palette 3
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFB4,x+64
RESULT: Stores color x in Palette 4
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFB5,x+64
RESULT: Stores color x in Palette 5
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFB6,x+64
RESULT: Stores color x in Palette 6
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFB7,x+64
RESULT: Stores color x in Palette 7
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFB8,x+64
RESULT: Stores color x in Palette 8
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFB9,x+64
RESULT: Stores color x in Palette 9
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFBA,x+64
RESULT: Stores color x in Palette 10
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFBB,x+64
RESULT: Stores color x in Palette 11
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFBC,x+64
RESULT: Stores color x in Palette 12
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFBD,x+64
RESULT: Stores color x in Palette 13
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFBE,x+64
RESULT: Stores color x in Palette 14
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFBF,x+64
RESULT: Stores color x in Palette 15
REMARKS: x is any color between 0 & 63

COMMAND: POKE &HFFBC,x+64
RESULT: Changes foreground color of 32
col screen to color x
REMARKS: x is any # between 0 & 63

COMMAND: POKE &HFFBC,64
RESULT: Restores to normal after previous command
REMARKS: None

COMMAND: POKE &HFFBD,x+64
RESULT: Changes background color of 32 col text screen to color x
REMARKS: x is any # between 0 & 63

COMMAND: POKE &HFFBD,82
RESULT: Restores to normal after previous command
REMARKS: Only for 32 col screens

COMMAND: POKE &HFFD9,0
RESULT: High speed poke
REMARKS: Doubles the speed of all operations Affects disk/printer I/O

COMMAND: POKE &HFFD8,0
RESULT: Normal speed poke
REMARKS: Restores to normal after the high speed poke

COMMAND: POKE &HFFDE,0
RESULT: Switches to CoCo Compatible mode
REMARKS: Disables all CoCo 3 commands

COMMAND: POKE &HFFDF,0
RESULT: Switches to CoCo 3 mode
REMARKS: Restore to normal after previous command.

COMMAND: PEEK(&HFFFE)*256+PEEK (&HFFFF)
RESULT: Returns 35867 with CoCo 3
REMARKS: Helps ascertain if CoCo 2/3 is installed

```
COMMAND:  PEEK(&HFFFE)*256+PEEK (&HFFFF)
RESULT:   Returns 40999 with CoCo 2
REMARKS:  Same as for previous command

COMMAND:  A=LPEEK(442368+((y-1)*80)+((x-1)
          *2)+1):A=A AND 128
RESULT:   Returns A=128 if character at
          column x, row y is blinking
REMARKS:  For 80 col screen only

COMMAND:  A=LPEEK(442368+((y-1)*80)+((x-1)
          *2)+1):A=A AND 64
RESULT:   Returns A=64 if character at
          column x, row y is underlined
REMARKS:  For 80 col screen only

COMMAND:  A=LPEEK(442368+((y-1)*64)+((x-1)
          *2)+1):A=A AND 128
RESULT:   Returns A=128 if character at
          column x, row y is blinking
REMARKS:  For 64 col screen only

COMMAND:  A=LPEEK(442368+((y-1)*64)+((x-1)
          *2)+1):A=A AND 64
RESULT:   Returns A=64 if character at
          column x, row y is underlined
REMARKS:  For 64 col screen only

COMMAND:  A=LPEEK(442368+((y-1)*40)+((x-1)
          *2)+1):A=A AND 128
RESULT:   Returns A=128 if character at
          column x, row y is blinking
REMARKS:  For 40 col screen only

COMMAND:  A=LPEEK(442368+((y-1)*40)+((x-1)
          *2)+1):A=A AND 64
RESULT:   Returns A=64 if character at
          column x, row y is underlined
REMARKS:  For 40 col screen only
```

COMMAND: A=LPEEK(442368+((y-1)*80)+((x-1)*2)+1):A=A AND 56:A=A/8

RESULT: Returns in A, the palette # which contains the foreground color of the character at column x, row y

REMARKS: For 80 col screen only

COMMAND: A=LPEEK(442368+((y-1)*80)+((x-1)*2)+1):A=A AND 7

RESULT: Returns in A, the palette # which contains the background color of the character at column x, row y

REMARKS: For 80 col screen only

COMMAND: A=LPEEK(442368+((y-1)*64)+((x-1)*2)+1):A=A AND 56:A=A/8

RESULT: Returns in A, the palette # which contains the foreground color of the character at column x, row y

REMARKS: For 64 col screen only

COMMAND: A=LPEEK(442368+((y-1)*64)+((x-1)*2)+1):A=A AND 7

RESULT: Returns in A, the palette # which contains the background color of the character at column x, row y

REMARKS: For 64 col screen only

COMMAND: A=LPEEK(442368+((y-1)*40)+((x-1)*2)+1):A=A AND 56:A=A/8

RESULT: Returns in A, the palette # which contains the foreground color of the character at column x, row y

REMARKS: For 40 col screen only

COMMAND: A=LPEEK(442368+((y-1)*40)+((x-1)*2)+1):A=A AND 7

RESULT: Returns in A, the palette # which contains the background color of the character at column x, row y

REMARKS: For 40 col screen only

```
COMMAND: 10 R=0:FORI=442368 TO 444288 STEP 2
         20 A= LPEEK(I):R=R+1
         30 A=A AND 127:IF A>95 THEN A=A-64
         40 PRINT #-2,CHR$(A);
         50 IF R>39 THEN PRINT #-2:R=0
         60 NEXT
RESULT:  Text Screen Dump for 40 col screen
REMARKS: Make sure correct baud rate is set
         before RUNning this routine

COMMAND: 10 R=0:FORI=442368 TO 445440 STEP 2
         20 A= LPEEK(I):R=R+1
         30 A=A AND 127:IF A>95 THEN A=A-64
         40 PRINT #-2,CHR$(A);
         50 IF R>63 THEN PRINT #-2:R=0
         60 NEXT
RESULT:  Text Screen Dump for 64 col screen
REMARKS: Make sure correct baud rate is set
         before RUNning this routine

COMMAND: 10 R=0:FORI=442368 TO 446208 STEP 2
         20 A= LPEEK(I):R=R+1
         30 A=A AND 127:IF A>95 THEN A=A-64
         40 PRINT #-2,CHR$(A);
         50 IF R>79 THEN PRINT #-2:R=0
         60 NEXT
RESULT:  Text Screen Dump for 80 col screen
REMARKS: Make sure correct baud rate is set
         before RUNning this routine

COMMAND: LPOKE &H60000,3:IF LPEEK(&H40000)=3
         AND LPEEK(&H20000)=3 THEN ?"128K"
RESULT:  Tests if 128K RAM is present
REMARKS: Prints 128K if 128K RAM is present
```

```
COMMAND:  LPOKE &H40000,33:IF
          LPEEK(&H00000)=3 THEN ?"256K"
RESULT:   Tests if 256K RAM is present
REMARKS:  Prints 256K if 256K RAM is present

COMMAND:  CLEAR 200,&H6000:POKE
          &HFFA3,&H36:SAVEM "40COL",
          24576,&H7FFF,44539:POKE &HFFA2,123
          CLEAR 200,&H7FFF
RESULT:   Saves the current 40 col text
          screen to disk
REMARKS:  None

COMMAND:  CLEAR 200,&H6000:POKE &HFFA3,&H36
          :CSAVEM "40COL", 24576,&H7FFF,
          44539:POKE &HFFA2,123: POKE
          &HFFA3,123:CLEAR 200,&H7FFF
RESULT:   Saves the current 40 col text
          screen to tape
REMARKS:  None

COMMAND:  CLEAR 200,&H6000:POKE &HFFA3,&H36:
          CSAVEM "64COL",24576,27648,0:POKE
          &HFFA2,123:CLEAR 200,&H7FFF
RESULT:   Saves the current 64 col text
          screen to tape
REMARKS:  None

COMMAND:  CLEAR 200,&H6000:POKE &HFFA3,&H36:
          SAVEM "64COL",24576,27648,0:POKE
          &HFFA2,123:CLEAR 200,&H7FFF
RESULT:   Saves the current 64 col text
          screen to disk
REMARKS:  None
```

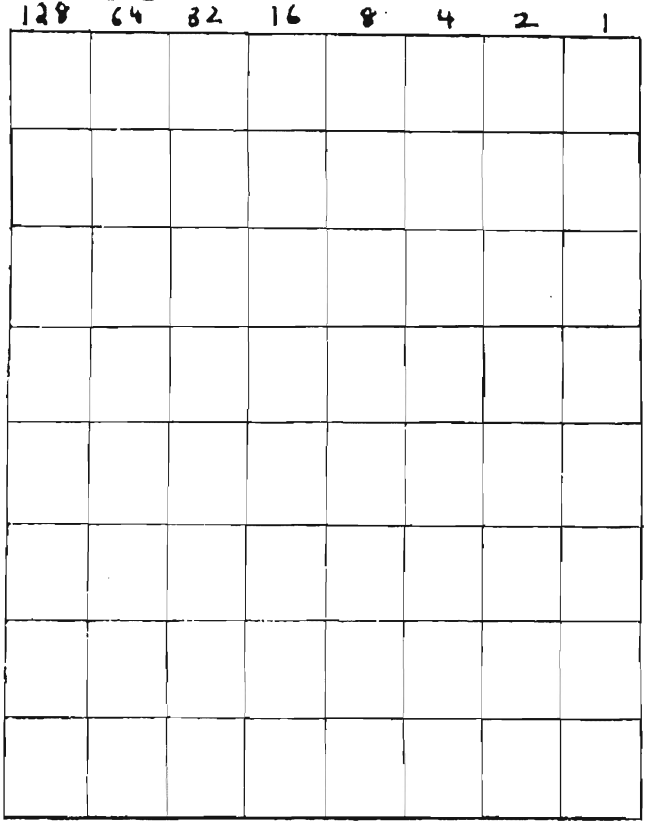
```
COMMAND: CLEAR 200,&H6000:POKE &HFFA3,&H36:
         SAVEM "80COL", 24576,&H7FFF,
         44539:POKE &HFFA2,123:CLEAR 200,
         &H7FFF
RESULT:  Saves the current 80 col text
         screen to disk
REMARKS: None

COMMAND: CLEAR 200,&H6000:POKE
         &HFFA3,&H36:CSAVEM "80COL",
         24576,&H7FFF,44539:POKE &HFFA3,123:
         CLEAR 200,&H7FFF
RESULT:  Saves the current 80 col text
         screen to disk
REMARKS: None

COMMAND: CLEAR 200,&H6000:POKE
         &HFFA3,&H36:LOADM"40COL":POKE
         &HFFA3,123:CLEAR 200,&H7FFF
RESULT:  Loads a previously saved 40 col
         text from disk
REMARKS: None

COMMAND: CLEAR 200, &H6000:POKE
         &HFFA3,&H36:CLOADM"40COL":POKE
         &HFFA3,123:CLEAR 200,&H7FFF
RESULT:  Loads a previously saved 40 col
         text from tape
REMARKS: None

COMMAND: CLEAR 200,&H6000:POKE &HFFA3,&H36:
         CLOADM "64COL":POKE &HFFA3,123:
         CLEAR 200,&H7FFF
RESULT:  Loads a previously saved 64 col
         text screen from tape
REMARKS: None
```

```
COMMAND: CLEAR 200,&H6000:POKE &HFFA3,&H36:
         LOADM "64COL":POKE &HFFA3,123:
         CLEAR 200,&H7FFF
RESULT:  Loads a previously saved 64 col
         text screen from disk
REMARKS: None

COMMAND: CLEAR 200, &H6000: POKE
         &HFFA3,&H36:LOADM"80COL":POKE
         &HFFA3,123:CLEAR 200,&H7FFF
RESULT:  Loads a previously saved 80 col
         text from disk
REMARKS: None

COMMAND: CLEAR 200, &H6000:POKE
         &HFFA3,&H36:LOADM"80COL":POKE
         &HFFA3,123:CLEAR 200,&H7FFF
RESULT:  Loads a previously saved 80 col
         text from disk
REMARKS: None

COMMAND: CLEAR200,&H6000:A$="fname":FORI=1
         TO 2:POKE &HFFA3,48+I-1:SAVEM A$+
         CHR$(I),24576,32767,0:POKE &HFFA3,
         123:CLEAR 200,&H7FFF
RESULT:  Saves HSCREEN 1,3 screen to disk
REMARKS: Filename(fname) must <=6 characters

COMMAND: CLEAR200,&H6000:A$="fname":FORI=1
         TO 2:POKE &HFFA3,48+I-1:CSAVEM A$+
         CHR$(I),24576,32767,0:POKE &HFFA3,
         123:CLEAR 200,&H7FFF
RESULT:  Saves HSCREEN 1,3 screen to tape
REMARKS: Filename(fname) must <=6 characters

COMMAND: CLEAR200,&H6000:A$="fname":FORI=1
         TO 4:POKE &HFFA3,48+I-1:SAVEM A$+
         CHR$(I),24576,32767,0:POKE &HFFA3,
         123:CLEAR 200,&H7FFF
RESULT:  Saves HSCREEN 2,4 screen to disk
REMARKS: Filename(fname) must <=6 characters
```

```
COMMAND: CLEAR200,&H6000:A$="fname":FORI=1
         TO 4:POKE &HFFA3,48+I-1:SAVEM A$+
         CHR$(I),24576,32767,0:POKE &HFFA3,
         123:CLEAR 200,&H7FFF
RESULT:  Saves HSCREEN 2,4 screen to tape
REMARKS: Filename(fname) must <=6 characters

COMMAND: CLEAR200,&H6000:A$="fname":FORI=1
         TO 2:POKE &HFFA3,48+I-1:LOADM A$+
         CHR$(I):POKE &HFFA3, 123:CLEAR
         200,&H7FFF
RESULT:  Loads HSCREEN 1,3 screen from disk
REMARKS: Filename(fname) must <=6 characters

COMMAND: CLEAR200,&H6000:A$="fname":FORI=1
         TO 2:POKE &HFFA3,48+I-1:CLOADM A$+
         CHR$(I):POKE &HFFA3, 123:CLEAR
         200,&H7FFF
RESULT:  Loads HSCREEN 1,3 screen from tape
REMARKS: Filename(fname) must <=6 characters

COMMAND: CLEAR200,&H6000:A$="fname":FORI=1
         TO 4:POKE &HFFA3,48+I-1:LOADM A$+
         CHR$(I):POKE &HFFA3, 123:CLEAR
         200,&H7FFF
RESULT:  Loads HSCREEN 2,4 screen from disk
REMARKS: Filename(fname) must <=6 characters

COMMAND: CLEAR200,&H6000:A$="fname":FORI=1
         TO 2:POKE &HFFA3,48+I-1:CLOADM A$+
         CHR$(I):POKE &HFFA3, 123:CLEAR
         200,&H7FFF
RESULT:  Loads HSCREEN 2,4 screen from tape
REMARKS: Filename(fname) must <=6 characters
```

XPRINT CONTROLS

This routine will allow you to modify the XPRINT graphics character set of the CoCo 3. First, design the character you want on the following grid:



Then take each row, add up the #'s of the "boxes" that contain a pixel. Do this for all 8 rows. Then determine which character you want to replace with your character. Then use the following command (s):

```
COMMAND: INPUT "CHARACTER TO REPLACE:";C$:
          FORI=0 TO 7:?"# OF ROW ";I:
          INPUT A(I): POKE &HF09D+
          ((ASC(C$)-32) *8)+I,A(I): NEXT I
RESULT:  Modifies HPRINT character C$
REMARKS: None

COMMAND: INPUT"CHARACTER";C$:FORI=0 TO 7:
         PRINT PEEK(&HF09D+((ASC(C$) -32)
         *8)+I): NEXT
RESULT:  Prints the 8 row #'s of character
         C$

COMMAND: CSAVEM "NEWSET",&HF09D,&HF39C,
         PEEK(&H8A)
RESULT:  Saves the new character set to tape
REMARKS: None

COMMAND: SAVEM "NEWSET",&HF09D,&HF39C,
         PEEK(&H8A)
RESULT:  Saves the new character set to disk
REMARKS: None

COMMAND: CLOADM "NEWSET",PEEK (&H8A)
RESULT:  Loads a previously saved character
         set (for HPRINT) from tape
REMARKS: None

COMMAND: LOADM "NEWSET",PEEK (&H8A)
RESULT:  Loads a previously saved character
         set (for HPRINT) from disk
REMARKS: None
```

```
COMMAND:  WIDTH 40:X=8192+(x-1)*80:
          A=INT(X/256):B=X-(A*256):POKE
          &HF866,A:POKE &HF867,
          B:X=X+80:A=INT(X/256):B=X-(A*256):
          POKE &HFE06,A:POKE &HFE07,B
RESULT:   Scroll Protects a portion of the
          40 col text screen
REMARKS:  Scroll Protects 24-'x' lines from
          the bottom

COMMAND:  POKE &HF866,39:POKE &HF867,48:
          WIDTH 40
RESULT:   Restores normal scroll for 40 col
REMARKS:  See previous command

COMMAND:  WIDTH 80: X=8192+(x-1)*160:
          A=INT(X/256):B=X-(A*256):POKE
          &HF875,A:POKE &HF876,B:X=X+160:
          A=INT(X/256):B=X-(A*256): POKE
          &HFE06,A:POKE &HFE07,B
RESULT:   Scroll Protects a portion of the
          80 col text screen
REMARKS:  Scroll Protects 24-'x' lines from
          the bottom

COMMAND:  POKE &HF875,46:POKE &HF876,96:
          WIDTH 80
RESULT:   Restores normal scroll for 80 col
REMARKS:  See previous command
```

```
COMMAND: 10 CLEAR 2000:A$="SEARCH"
         20 FORI=0TO34:FOR J=1 TO 18:
            DSKI$ PEEK(&HEB),I,J,B$,C$:
            IF INSTR(B$+LEFT$(C$,127),A$)
            <>0 OR INSTR(LEFT$(B$,127)+C$,
            A$)<> 0  THEN ?"TR"I"SEC"J
         30 NEXT J,I
RESULT:  Searches thru the disk for a
         phrase
REMARKS: A$ should contain the search
         string.  Lists all tracks/sectors
         which contain the string

COMMAND: FORI=&H1D1 TO &H225:READ A$:POKE
         I,VAL("&H"+A$):NEXT:EXEC 465:DATA
         1A,50,BD,A9,28,4F,81,38,26,2,86,39,
         81,3F,22,23,B7,FF,A3,8E,60,0,E6,84,
         6F,84,6D,84,26,10,6C,84,6D,80,27,A,
         E7,1F,8C:DATA 7F,FF,23,
         EB,4C,20,D8,CE,2,1B,20,
         3,CE,2,14,8E, 4,0,A6,C0,27,4,
         A7,80,20,F8, 20,FE,35,31,
         32,4B,4F,4B, 0,4D,45,4D,4F,52,59,
         20,42,41,44,0
RESULT:  Tests 512K RAM
REMARKS: Use two lines for this command.
         Initially the screen is cleared.
         After about 1 minute the message
         512K OK or MEMORY BAD will appear.
         Press Reset Button to return to
         Basic. ** WARNING ** Save any
         programs before using this test
         This routine will lock up the
         computer if it is RUN on a
         computer system with less
         than 512K of memory.
```

```
COMMAND: FORI=&H1D1 TO &H226:READ A$:POKE
         I,VAL("&H"+A$):NEXT:EXEC 465:DATA
         1A,50,8D,A9,28,86,30,81,38,
         26,2,86, 39, 81,3F,22,23,B7,
         FF,A3,8E,60,0,E6,84,6F,84,6D,84,
         26,10,6C,84,6D,80,27,A,E7,1F,8C,7F,
         FF, 23,EB,4C,20,D8,CE,2:DATA
         1C,20,3,CE,2,15,8E,4,0,A6,C0,27,4,
         A7,80,20,F8,20,FE, 31,32,
         38,48,4F,4B,0,4D,45,4D,4F,
         52,59,20,42,41,44,0
RESULT:  Tests 128K RAM
REMARKS: Initially the screen is cleared.
         After about 1 minute the message
         128K OK or MEMORY BAD will appear.
         Press Reset Button to return to
         Basic. ** WARNING ** Save any
         programs before using this test
         Use two lines for this command.

COMMAND: POKE 243,PEEK(&H168):POKE
         244,PEEK(&H169):X= PEEK(39) *
         256+PEEK(40)-100: CLEAR 200,X:
         X=PEEK(39) *256+PEEK(40)+1: FORI=X
         TO X+&H2B:READ A$:POKE I,
         VAL("&H"+A$):NEXT:EXEC X:DATA
         BE,1,68,AF,8D,0,13,30,8D,0,4,BF,1,
         68,39,34,2,96,6F,81,FE,27,5,35,2,7E
         ,0,0,35,2,81,D,26,F7,86,D,BD,A2,BF,
         86,A,20,EE,0
RESULT:  Linefeed routine for printer
REMARKS: Sends CR+LF with every CR code.
         Great for printers that seem to
         print on the "same line"

COMMAND: POKE &H168,PEEK(243):POKE
         &H169,PEEK(244)
RESULT:  Restores to normal after previous
         command
REMARKS: CR no longer generates CR + LF
```

```
COMMAND: X= PEEK(39) * 256+PEEK(40)-100:
         CLEAR 200,X: X=PEEK(39)
         *256+PEEK(40)+1: FORI=X TO
         X+&H33:READ A$:POKE I,
         VAL("&H"+A$):NEXT:EXEC X:DATA
         BE,1,68,AF,8D,0,13,30,8D,0,4,
         BF,1,68,39,34,2,96,6F,81,FE,27,
         5,35,2,7E,0,0,35,2,81,0,26,F7,
         86,20,34,4,F6,1,14,5A,8D,A2,BF,
         5A,26,FA,35,4,20,E5
RESULT:  Allows you to define left margin
         for your printer
REMARKS: See next command

COMMAND: POKE &H114,x
RESULT:  Sets left margin for previous
         command
REMARKS: x is the value of left margin

COMMAND: FORI=0 TO 8:POKE &HFF9C,I:FOR DE=
         1 TO 250:NEXT:NEXT
RESULT:  Smooth vertical scrolling
REMARKS: For 40 col screen only

COMMAND: FORI=0 TO 8:POKE &HFF9C,I:FOR DE=
         1 TO 250:NEXT:NEXT
RESULT:  Smooth vertical scrolling
REMARKS: For 80 col screen only
```

MEMORY MANAGEMENT

This section will describe the CoCo 3's Memory Management Unit as simply as possible as well as the different commands associated with bank switching.

In 128K CoCo 3, there is 128K of RAM. However, this RAM is not treated as one block. It is divided into 8K sections. Therefore in 128K computer, there are 16 (128K/8K) blocks and in 512K computer there

are 64 (512K/8K) blocks. Each of these blocks has a number, starting with 00 through 63. These blocks are "hidden" inside the computer. All these blocks can't be accessed at one time because the CoCo can only access 64K at one time. Here is where the MMU comes into play. The CoCo's 64K work space is also divided into eight 8K "empty" blocks. Each of these "empty" 8K blocks can be filled with the "hidden blocks" described above. How is it done? Simple. Each of the 8K "empty" blocks is assigned its own Memory Register. By POKEing the value of a "hidden" block into this Memory Register we are effectively taking the "hidden" block and storing it in the "empty" block to store information in. Here are the POKEs for moving different blocks into the CoCo workspace. DO NOT attempt to use these POKEs unless you have a thorough understanding of this process or you could crash your computer.

COMMAND: POKE &HFFA0,x
RESULT: Puts "hidden block" x into CoCo's memory locations $0000-$1FFF
REMARKS: x = block # between 0 & 63

COMMAND: POKE &HFFA1,x
RESULT: Puts "hidden block" x into CoCo's memory locations $2000-$3FFF
REMARKS: x = block # between 0 & 63

COMMAND: POKE &HFFA2,x
RESULT: Puts "hidden block" x into CoCo's memory locations $4000-$5FFF
REMARKS: x = block # between 0 & 63

COMMAND: POKE &HFFA3,x
RESULT: Puts "hidden block" x into CoCo's memory locations $6000-$7FFF
REMARKS: x = block # between 0 & 63

COMMAND: POKE &HFFA4,x
RESULT: Puts "hidden block" x into CoCo's memory locations $8000-$9FFF
REMARKS: x = block # between 0 & 63

COMMAND: POKE &HFFA5,x
RESULT: Puts "hidden block" x into CoCo's memory locations $A000-$BFFF
REMARKS: x = block # between 0 & 63

COMMAND: POKE &HFFA6,x
RESULT: Puts "hidden block" x into CoCo's memory locations $C000-$DFFF
REMARKS: x = block # between 0 & 63

COMMAND: POKE &HFFA7,x
RESULT: Puts "hidden block" x into CoCo's memory locations $E000-$FFFF
REMARKS: x = block # between 0 & 63

Tandy (R) also included another set of memory locations besides the ones listed above. Here they are!

COMMAND: POKE &HFF91,PEEK(&HFF91) OR 1:
POKE &HFFA8,x
RESULT: Puts "hidden block" x into CoCo's memory locations $0000-$1FFF
REMARKS: x = block # between 0 & 63

COMMAND: POKE &HFF91,PEEK(&HFF91) OR 1:
POKE &HFFA9,x
RESULT: Puts "hidden block" x into CoCo's memory locations $2000-$3FFF
REMARKS: x = block # between 0 & 63

```
COMMAND:  POKE &HFF91,PEEK(&HFF91) OR 1:
          POKE &HFFAA,x
RESULT:   Puts "hidden block" x into CoCo's
          memory locations $4000-$5FFF
REMARKS:  x = block # between 0 & 63

COMMAND:  POKE &HFF91,PEEK(&HFF91) OR 1:
          POKE &HFFAB,x
RESULT:   Puts "hidden block" x into CoCo's
          memory locations $6000-$7FFF
REMARKS:  x = block # between 0 & 63

COMMAND:  POKE &HFF91,PEEK(&HFF91) OR 1:
          POKE &HFFAC,x
RESULT:   Puts "hidden block" x into CoCo's
          memory locations $8000-$9FFF
REMARKS:  x = block # between 0 & 63

COMMAND:  POKE &HFF91,PEEK(&HFF91) OR 1:
          POKE &HFFAD,x
RESULT:   Puts "hidden block" x into CoCo's
          memory locations $A000-$BFFF
REMARKS:  x = block # between 0 & 63

COMMAND:  POKE &HFF91,PEEK(&HFF91) OR 1:
          POKE &HFFAE,x
RESULT:   Puts "hidden block" x into CoCo's
          memory locations $C000-$DFFF
REMARKS:  x = block # between 0 & 63

COMMAND:  POKE &HFF91,PEEK(&HFF91) OR 1:
          POKE &HFFAF,x
RESULT:   Puts "hidden block" x into CoCo's
          memory locations $E000-$FFFF
REMARKS:  x = block # between 0 & 63
```

RESET PROTECTION

Many of these COMMANDs given in this book allow you to make changes to the "ROM". However, as soon as you press the RESET, all the changes are lost. The next set of POKEs will allow you to RESET PROTECT your changes made to the "ROM". Do not use Cassette I/O when using RESET PROTECTION.

```
COMMAND: POKE 114,1:POKE 115,&HD1:FOR
         I=&H1D1 TO &H1D9:READ A$:POKE
         I,VAL("&H"+A$):NEXT:DATA 12,1A,
         50,7F,FF,DF,7E,C0,E7
RESULT:  Reset Protection
REMARKS: For Disk Basic 1.1 Only

COMMAND: POKE 114,1:POKE 115,&HD1:FOR
         I=&H1D1 TO &H1D9:READ A$:POKE
         I,VAL("&H"+A$):NEXT:DATA 12,1A,
         50,7F,FF,DF,7E,C0,D4
RESULT:  Reset Protection
REMARKS: For Disk Basic 1.0 Only

COMMAND: POKE 114,1:POKE 115,&HD1:FOR
         I=&H1D1 TO &H1D9:READ A$:POKE
         I,VAL("&H"+A$):NEXT:DATA 12,1A,
         50,7F,FF,DF,7E,80,C0
RESULT:  Reset Protection
REMARKS: For non-disk systems

COMMAND: POKE 114,&H80:POKE 115,&HC0
RESULT:  Restores normal RESET
REMARKS: For non-disk'systems

COMMAND: POKE 114,&HC0:POKE 115,&HE7
RESULT:  Restores Normal RESET
REMARKS: For Disk Basic 1.1 Only
         For 1.0 use, POKE 114,&HC0:
         POKE 115,&HD4
```

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