DISK BUMP/PATCH UTILITY
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INTRODUCTION :

The Disk Dump/Patch Utility manipulates disk data. Data can
be read from any track/sector or granule/offset. The limit is
in the number of tracks on your disk, 35, 40, 96, & etc. Data
is viewed 128 bytes at a time in both hexidecimal and ASCII
formats.   The data from a disk sector can be strolled up or
down by 8 bytes or scanned forward or backwards by 128 bytes.
Data being viewed can be changed by moving the blinking cursor
over the data to be changed and typing in the new data.   The
data currently being viewed can be written to any track/sector
or granule/offset, up to the total number of tracks on disk.

All keys on the keyboard are auto-repeating. Hold the key
down for about a second and it begins to repeat until you
release it. Cursor movement key will repeat about twice a fast
as the rest of the keys. All the special functions are entered
by holding the clear key down, as a control key, then pressing
the desired function.

Disk directorys are one of the most important areas. C-D
will read sector 3 of the current default disk drive.   The
default disk drive is specified in disk specification area.

Data from a disk sector can be strolled up or down by a line
in a wrap around fashion. A display line consist of 8 bytes of
data from the sector. Data bytes are displayed sequentially
from the beginning of a sector to end of sector. The next byte
displayed after the last byte in a sector is the first byte in
the same sector. Auto-repeat stroll line functions stroll a
line in about half a second.

Data from a disk sector can be strolled forward or backwards
by a page in a scanning fashion. A display page consist of 128
bytes of data from a sector. The first stroll forward by page
request for a sector will display the first half of the sector.
The next request will display the second half of the sector.
Next request will read the next sequential sector and display
the first half of new sector. This process continue until the
last sector of your disk. Then start over going back to first
sector, or track/sector using C-G or C-T inputs. Strolling
backward works in reverse of stroll forward, backwards through
the sectors.   Auto repeat stroll page functions will display
sectors at about a sector a second.

Several warning message are supported. After modifying data
in a sector, a read request give a warning message and a chance
to reject the request. All write request give warning message
and a chance to reject the request. Attemp to write a sector
to a different sector gives a warning message and a chance to
reject the request.

A print screen function is available to help document change
and discoveries. Printing is accoumplished using rom print
routine an prior baud rate setting. C-P, screen to printer.

I

To change from decimal inputs to hexidecimal inputs in the specification area, use C-H. A (D or H) will be displayed at the top of the specification area, indicates working system. H = hexidecimal, or D = decimal inputs to specification area.

KEY CONVENTIONS:

Conventions used for describing non-printable characters used throughout this document.

    BR = Break key   UA = Up arrow key
    CR = Enter key   DA = Down arrow key
    C- = Control key   LA = Left arrow key
    SP = Space key   RA = Right arrow key
    S- = Shift key

The Clear key is used as the Control key. The function of the Control key is similar to the upper case shift on most typewriters, hold it down then press the desired key.

FUNCTION KEYS:

        BR = Return to calling program
        CR = Return cursor where it was before entering pro-
             tected specification area.
        DA = Move cursor down screen
        LA = Move cursor left across screen
        RA = Move cursor right across screen
        UA = Move cursor up screen
       C-D = Displays first half of first directory, track 11
             sector 3, of default drive.
       C-G = Sets the cursor to the protected granule specif-
             ication area.
       C-H = Hexidecimal or decimal specification area.
       C-R = Reads sector specified in protected specification
             area into buffer.
       C-T = Sets the cursor to the protected track specifica-
             tion area.
       C-W = Writes buffer to sector specified in protected
             specification area.
       C-X = Reverses video screen.
      S-DA = Stroll backward through sectors
      S-LA = Tab backward across screen
      S-RA = Tab forward across screen
      S-UA = Stroll forward through sectors

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SCREEN LAYOUT:

```
+----------------------------------+
! H 00 44534B44 40502020 DSKDMP  !
!    08 42494E02 0020005F BIN     !
! D 10 00000000 00000000         !
! O 18 00000000 00000000         !
!    20 40454D44 4D502020 MEMDMP  !
! G 28 42494E02 0022001B BIN     !
!-- 30 00000000 00000000         !
! O 38 00000000 00000000         !
! - 40 00000000 00000000         !
!    48 00000000 00000000         !
! T 50 00000000 00000000         !
!11 58 00000000 00000000         !
! S 60 00000000 00000000         !
!03 68 00000000 00000000         !
!    70 00000000 00000000         !
!U 78 00000000 00000000          !
+----------------------------------+
  !  !  !         !         !
  !  !  !         !         !     +--) ASCII area
  !  !  +---------+---------) Hexidecimal area
  !  +-------------------------) Offset area
  +-----------------------------) Specification area
```

SPECIFICATION AREA:

   The specification area is used for specifing which disk
sector is used in disk IO operation. Each parameter is headed
by a single character, signifying its function, followed on the
next line by a hexidecimal or decimal number.

```
+---+------------------+--------------+
!   ! function         ! valid range  !
+---+------------------+--------------+
! D ! drive number     ! 0 through 3  !
! G ! granule number   ! 0 through 43 !
! O ! offset number    ! 1 through 9  !
! T ! track number     ! 0 through 22 !
! S ! sector number    ! 1 through 12 !
+---+------------------+--------------+
```

   A specific sector can be requested by either the track and
sector, or granule and offset methods. Track and sector method
can specify any sector on the disk, including the directory
track. Granule and offset method is Coco's way of specifing a
specific sector on the disk. It is limited to non-directory
sectors. When the track input specifies the directory track,
the granule and offset inputs contain minuses.

   The specification part of the display is protected during
normal uses of the disk dump/patch program. It can be unpro-
tected by either entering C-T which positions the cursor at the
track input area, or C-G which positions the cursor at the
granule input area. Once in the specification area the rest of
the display is protected and the cursor can move freely through
out the specification area only.

The track/sector and granule/offset methods are different ways of specifing the same sector. Changeing the inputs for one method will automatically be converted and change the inputs for the other method. This occurs on a key by key bases.

The results of a keypress, in an input area, must produce a number which is in the disks track range. For example, suppose the track's input area contains 1B. You wish to change it to 20. You enter C-T to move the cursor the left digit of the track input area. Type a 2 will cause the resulting track number to be 2B, if C-R is input a disk I/O error will result. Now input a 0 in the second track number. Now C-R an new track will be read in.

When track number is specifing the directory track, granule and offset contain minuses. To select a granule, enter C-G, and enter desired granule number left digit then right digit. The offset can be changed only when it does not contain a minus.

The last line of the specification part of the display con- tains status information. The character in column 1 is either U for upper case or L for lower case keyboard input. The charact- er in column 2 is either E or blank to indicate when the disk has an I/O error.

The specification area can be left in one of several ways. Pressing enter key will protect the specification area and unprotect the rest of the display for normal use. Pressing C-R will read the sector currently being specified in the specif- ication area, then acts like the enter key. Pressing C-W will write the sector currently being specified in the specification area, then acts like the enter key. Pressing C-UA will incre- ment the byte offset by 80 hexidecimal bytes, then if byte off- set is greater than 100 hexidecimal acts like C-R else acts like enter key. Pressing C-DA will decrement the byte offset by 80 hexidecimal bytes, then if byte offset is less than 0 hexi- decimal acts like C-W else acts like enter key.

OFFSET AREA:

The offset area indicates the byte offset into the sector from which the data for each display line came from. The byte offset is always a multipule of 8 bytes. It can be changed by entering one of 4 commands. S-UA increments and S-DA decrements the offset, displayed on the first line, by 8 bytes. C-UA in- crements and C-DA decrements the offset, displayed on the first line, by 80 hexidecimal bytes.

HEXIDECIMAL AREA:

This area allows dumping and patching disk sectors in hexi- decimal format. Changes are checked for valid hexidecimal dig- its, on a key by key bases. Accepted changes are displayed in both hexidecimal and ASCII formats.

ASCII AREA:

This area allows dumping and patching disk sectors in ASCII character format. Changes are accepted on a key by key bases. Changes are displayed in both ASCII and hexidecimal formats.

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INTRODUCTION :

The Memory Dump/Patch Utility manipulates an displays memory data. Data can be displayed from any memory address. Data is viewed in 128 bytes, in both hexidecimal and ASCII formats. The data from memory can be strolled up or down by 8 bytes or scanned forward or backwards by 128 bytes. Data being viewed can be changed by moving the blinking cursor over the data to be changed and typing in the new data.

All keys on the keyboard are auto-repeating. Hold the key down for about a second and it begins to repeat untill you release it. Cursor movement key will repreat about twice as fast as the rest of the keys. All the special functions are entered by holding the clear key down, as a control key, then pressing the desired function.

Data in memory can be strolled up or down by a line at a time. A line contain 8 bytes of data. The data is displayed sequentialy from left to right on the screen, as to the last address input in the memory collum. Auto-repreat stroll line functions, strolls a line in about half a second.

Data in memeory can be strolled forward or backwards by a page in a scanning fashion. A display page consist of 128 bytes of data from memory. When the first page is displayed the address is 0000. The next request for a page is displayed at address 0080 forwards, or address FF80 backwards. The next request will display the next sequential memory address an continue till the last memory address is displayed then start at 0000 again. Strolling backwards works in reverse of stroll forward, backwards through memory. Auto-repeatstroll functions will display memory pages in about a second.

A print screen function is available to help document change and discoveries. Printing is accomplished using rom print routine an the prior baud rate setting. C-F, screen to printer.

To exit program press BREAK key. To reenter, exec and old displays last memory address an cursor position.

KEY CONVENTIONS:

Conventions used for describing non-printable characters used throughout this document.

    BR = Break key   UA = Up arrow key
    CR = Enter key   DA = Down arrow key
    C- = Control key   LA = Left arrow key
    S- = Shift key   RA = Right arrow key

The Clear key is used as the Control key. The function of the Control key is similar to the upper case shift on most typewriters, hold it down then press the desired key.

I

FUNCTION KEYS:

```
        DA = Move cursor down screen
        LA = Move cursor left across screen
        RA = Move cursor right across screen
        UA = Move cursor up screen
  C-P  = Print screen
  C-X  = Reverses video screen
  S-DA = Stroll backward through memory
  S-LA = Tab backward across screen
  S-RA = Tab forward across screen
  S-UA = Stroll forward through memory
```

SCREEN PRINTOUT, USING PRINTER WITH NON GRAPHICS:

```
+----------------------------------------+
! 0000 00222200 0000FF00   .""......   !
! 0008 00000001 A901A400   ........    !
! 0010 00000000 0000007F   ........    !
! 0018 2A260126 03260326   *&.&.&.&    !
! 0020 037F367F FE7FFF7F   ..6.....    !
! 0028 FE000000 96000002   ........    !
! 0030 E4000026 00000000   ...&....    !
! 0038 00000000 00000000   ........    !
! 0040 84002200 00000000   .."......   !
! 0048 00000000 0002E585   ........    !
! 0050 000001A9 00000300   ........    !
! 0058 ABEE0000 84A00000   ........    !
! 0060 0020ABEE ABF10000   . ......    !
! 0068 FFFF1010 00200000   ..... ..    !
! 0070 0055022E 7FFE0000   .U.....     !
! 0078 00000000 00000000   ........    !
+----------------------------------------+
    !     !        !         !
    !     !        !         +--) ASCII area
    !     +--------+-----------) Hexidecimal area
    +--------------------------) Memory address area
```

MEMORY ADDRESS AREA:

   The memory address area is used for changing memory address,
then displaying this information on the screen. As fast as you
cn change the address the screen is updated. Memory address is
in hexidecimal format.

   Any where the cursor is placed that data can be change by
typing in new data. Be carefull what an where you change data.

HEXIDECIMAL AREA:

   This area allows dumping and patching memory addrress in
hexidecimal format. Changes are checked for valid hexidecimal
digits, on a key by key bases. Accepted changes are displayed
in both hexidecimal and ASCII formats.

ASCII AREA:

   This area allows dumping and patching memory addrress in
ASCII character format. Changes are accepted on a key by key
bases. Changes are displayed in both ASCII and hexidecimal.

DISK UTIL 2.1

R=+=H6W7_&RPPQ++=H+ //X#Sx#*@1#pAHLXWIL##+P

```
1CF1 = 53, changed to 50
31A9 = 03, changed to 00
320C = 17, changed to 14
```

Location of STEP RATE
constants

(all are ~~passed~~ followed by)
STA FF48

```
1CF1 = 53, changed to 50
31A9 = 03, changed to 00
320C = 17, changed to 14
```