ZDOS v4 HELP Documentation

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MS-DOS version 4 comes with a tremendous help system - unlike anything prior. The system consists of several primary files in the \Root directory. The Help files themselves are split between multiple catalogs, in a \HELPDIR directory. The file hierarchy follows:

```
Root            Help        Catalog subdirectories
directory       directory

                             ---\BATCH.CAT        This catalog contains Help files for batch
                            |   (batchcat.zip)    routine commands.
                            |
                            |---\CFIG_SYS.CAT     This catalog contains Help files for all the
                            |   (cfsyscat.zip)    commands pertaining to the CONFIG.SYS file.
                            |
                            |---\COMMAND.CAT      This catalog contains Help files for the
                            |   (cmdcat.zip)      COMMAND.COM internal commands.
                            |
                            |---\GEMINI.CAT       This catalog contains Help files for the
                            |   (gemcat.zip)      GEMINI PC-emulator board.
                            |
HELP.EXE----                |---\HDUTIL.CAT       This catalog contains Help files for a Z-100
          |                 |   (hutilcat.zip)    with a Winchester hard drive.
HELP.PIF----|               |
          |                 |---\LLSCSI.CAT       This catalog contains Help files for the
HELPRD.ME---|               |   (termscat.zip)    LifeLine SCSI/EEPROM board software.
          |                 |
SHELLH.MEU--|--\HELPDIR---|---\MTR.CAT          This catalog contains Help files for all the
          |                 |   (mtrcat.zip)      monitor ROM functions.
HELPZ.BAT---|               |
          |                 |---\PCDOS.CAT        This catalog contains Help files for all the
HELPPC.BAT--|               |   (pcdoscat.zip)    normal distribution files for a PC machine.
          |                 |
ZVIDEO.COM--                |---\SCOTTIE.CAT      This catalog contains Help files for the
                            |   (scotcat.zip)     Scottie Board routines.
                            |
                            |---\SHELL.CAT        This catalog contains Help files for the
                            |   (shellcat.zip)    DOS SHELL program.
                            |
                            |---\TERMS.CAT        This catalog contains Help files for the computer
                            |   (termscat.zip)    terminology that you are bombarded with.
                            |
                            |---\ZDOS.CAT         This catalog contains Help files for all files
                            |   (zdoscat.zip)     pertaining to the Z-100 for use w/BIOS Version
                            |                     4.02 & MS-DOS Version 4.01.
                            |
                             ---\ZPC.CAT          This catalog contains Help files for ZPC.
                                (zpccat.zip)
```

INSTALLATION:

On the MS-DOS distribution CD disk, all the catalog files have been compressed (zipped) under the file names given above for each catalog.

While all these help files can be placed in a directory titled \HELPDIR, using the directory hierarchy shown above, the files consume nearly 1 Mb of disk space. For those of you using smaller hard drives, this may be excessive for occasional use.

The ideal HELP system, though considerably slower than a hard drive system, would consist of the above directory hierarchy placed on a high density 5-1/4" or 3-1/2" disk. MS-DOS v4.x is able to support these high density drives without difficulty, and the drives are now very reasonably priced.

The least desirable system involves using 360 Kb disks, with one or more .CAT files on each, but we will describe this procedure first.

Dual Floppy Installation:

1. Format a disk. You may want to use an extended format to increase your storage capacity - try:

FORMAT /v/x3/d1/i

to give a disk size of 405504 bytes vs. 362496 bytes.

Note: The catalogs must be in a directory called \HELPDIR. For example:

\HELPDIR\TERMS.CAT

This is because of the necessary file hierarchy and structure, to be discussed later.

2. Create a Help directory on the formatted disk with the command:

MD B:\HELPDIR{RETURN}

Note: Whenever possible and to avoid confusion, any word enclosed in braces, {}, denotes a Z-100 key, e.g., {**RETURN**} means to press the RETURN key. The braces are NOT part of the command to be typed! From here on, it is understood that all commands end with a carriage return, so the {**RETURN**} has been omitted.

3. Create a catalog subdirectory: (PCDOS.CAT, TERMS.CAT, ZDOS.CAT, ZPC.CAT, HDUTIL.CAT, SHELL.CAT, CFIG_SYS.CAT or any other directory name with .CAT appended (the period is mandatory). The command would be:

MD B:\HELPDIR\HDUTIL.CAT

4. Choose any one of 3 options:

   a. Run DRIVECFG and create an imaginary drive C:

   b. Re-boot, and at the prompt for an alternate CONFIG.SYS file, enter {**R**} (to load RAMDRIVE.SYS). Copy PKUNZIP to the Ramdrive.

   c. Copy PKUNZIP.EXE to the blank formatted disk that will receive the unzipped file.

5. Make drive A: the default drive with the command:

A:{RETURN}

6. Put the .ZIP distribution disk in drive A: and the formatted disk in B:.

7. Change to the desired subdirectory on B: using the following command, for example:

CD B:\HELPDIR\HDUTIL.CAT

8a. If you created an imaginary drive (option a.), type:

C:PKUNZIP A:[zip filename] B:

8b. If you re-booted (option b.), type:

[Ramdrive]:PKUNZIP [zip filename] B:

   Where: Ramdrive is ramdisk drive letter.

8c. If using two floppies (option c.), type:

B:PKUNZIP [zip filename] B:

Note: This action will unzip the zipped catalog file into unzipped files on drive B:, in the \HELPDIR \HDUTIL.CAT subdirectory. Then delete the PKUNZIP.EXE file and copy HELP.EXE, HELP.PIF, and SHELLH.MEU to the root directory of drive B:.

Hard Disk Installation:

1. Copy PKUNZIP.EXE to your hard disk.

2. Choose one of two options:

   a. Create a \HELPDIR directory with the desired catalog subdirectories and unzip the files to the subdirectories.

   b. Follow the directions for dual floppy disk users.

3. Create a catalog subdirectory, such as one of those listed earlier:

MD\HELPDIR\ZDOS.CAT

4. Unzip the desired files into the new .CAT subdirectory:

PKUNZIP A:[zip filename] E:[pathname]

   Where: E: is a hard drive letter & path-name is the path and file name for the catalog file, e.g., \HELPDIR\HDUTIL.CAT.

Note: This will unzip the zipped catalog file into unzipped files in the chosen catalog subdirectory.

THE HELP (.PLH) FILES:

While all the HELP (.PLH) data files are ASCII text only files and can be read like any other text file using a text viewing program, this HELP system, originally from AT&T, is somewhat more capable and sophisticated.

Each HELP floppy disk, or the hard disk, must contain several files in its \Root directory. These are the minimum necessary files:

HELP.EXE   HELP.PIF   SHELLH.MEU

However, some additional files have been added for your convenience and will be explained later:

**HELPZ.BAT   HELPPC.BAT
ZVIDEO.ASM   ZVIDEO.COM**

Finally, a **HELPRD.ME** text file) is optional and can be placed anywhere you desire.

The **\HELPDIR** directory must also be placed on each floppy disk or the hard drive partition that will have this HELP system. This directory will contain any or all of the Catalog (.CAT) sub-directories, depending upon the amount of space available. As mentioned earlier, the entire HELP system fits nicely on a 5-1/4" or 3-1/2" HD disk.

Each Catalog (actually called Category in the help file text) subdirectory contains the individual help (.PLH) files, and a CATALOG.TOC (similar to a Table of Contents) file that is updated automatically when HELP is run.

Because of this automatic update, the size, quantity, and name of these help data files are easily changed and more added. Just remember that speed decreases as the number of files increases.

Each individual .PLH file has a certain format to enable the easy updating of the CATALOG file.

Let's look at the CATALOG file first, which has its own special format. Fortunately, we do not have to generate or change this file because it is all automatic. In fact, if you begin a new Category yourself, such as GAMES.CAT, for game instructions, the first time HELP is run, the CATEGORY.TOC file is self-generated. Here is the listing for GENIMI.CAT (The text enclosed by braces, {}, is mine):

```
#a0     {Haven't figured this one out yet.}
#b0     {Nor this one.}
#1GEMINIKEYS     14
        {Full name of file (not limited to DOS
        convention); limited to 14 letters.}
#2GEMKEYS.PLH     11
        {File name in dir; 11=name length}
#37927  {Don't know}
#424280 {Don't know}
#5GEMINI Keyboard in IBM PC Emulate mode.     41
```

```
        {Line #5 is one-line description, with
        a maximum length of 41 chars}
```

Other files would be listed as additional lines, #1 thru #5. For example, the HELP. PLH file discussed next is listed this way in the ZDOS.CAT directory's CATEGORY.TOC:

```
...     {Several previous files listed}
#1FORMAT        14  {Here's 5 lines for FORMAT.PLH}
#2FORMAT.PLH    10
#38819
#431436
#5Prepares a disk for use     23
#1HELP          14  {Here's 5 lines for HELP.PLH}
#2HELP.PLH       8
#39994
#42048
#5Displays help text    19
#1IFSFUNC       14  {Then the other files continue
#2IFSFUNC.PLH   11   to be listed}
... etc.
```

OK, so what does the HELP.PLH file itself look like? Well, here's the first page of text. Again, the braces, {}, are mine.

```
-----------------------------------------------
.TP HELP    {The .TP (topic) line, req'd for
            line #1 of CATEGORY.TOC above}
.DES Displays help text
            {The .DES (description) line
            becomes line #5 above}
HELP [category] [topic]
            {Brief, one line, but more descriptive}
Displays information on MS-DOS commands and other
related subjects. {Actual HELP text, but on 1 line}
```

Note: Without ZPC loaded and NumLock Off (LineFeed (toggle)).
Page Up is Shifted Keypad 9.
Page Down is Shifted Keypad 3.
CTRL END is Function Key `F0', then Shifted 1 or Shifted HOME.

Otherwise, if the new ZPC is loaded, see the included Event Driven mode key list.

```
See below for additional MTR-ROM key configurations.
.PG     {Page Break - breaks the text into screens}
-----------------------------------------------
```

As you can see, the HELP screen is plain ASCII text. It can be read and displayed by any text viewer program.

The text screens continue, but I've made changes to the following text to help explain what was said.

HELP [catagory] [topic]

Use this command to display help text on MS-DOS commands and related subjects, or to display an index of the commands and sub-jects (topics) available for help.

In addition, the AT&T HELP facility provides a customization feature. This enables you to change the AT&T-provided help text, and to add other sets (categories) of help topics. (For example, you can add a set of help topics pertaining to a custom program frequently used on your system, SEPARATE from the set of help topics on DOS.)

Note: It is no longer necessary to have ZPC loaded and be in PC mode to use this program. HELP will now run in native Z-100 mode. If the bottom line is missing on the menu, set the lines per screen to 25 using an escape sequence in a batch file or by using the following command at the DOS prompt:

E:\>SETLPS 25

HELP (**with no parameters**) displays a topic index. The topic index lists the topics available for HELP. (If you add your own set of topics, a category index is displayed instead.)

[category] specifies the category containing the topics in which you are interested. You only need to concern yourself with this argument if you have added your own set(s) of help topics.

[topic] specifies the topic whose help text you want to view.

DEVELOPING OR ADDING YOUR OWN HELP FILES:

If you add your own set(s) of help topics to the Help facility, you must be careful to create the help files in the proper manner. If HELP finds a discrepancy in any of the files you create, it changes the extension of the file containing the discrepancy to:

- **.BAD** -- if the .TP and .DES lines are entered incorrectly, or

- **.DPx** -- if two or more help files contain the same topic name (the name in the .TP line).

For each help file you create, you MUST enter the .TP and .DES lines as the first two lines in the file:

- **.TP** (topic) -- the first line in every help file must contain the .TP macro, which defines the topic name. You may separate the .TP from the topic name with a blank space. However, you can not include blank spaces in the actual topic name. Instead of a space, use an underscore (_), a period (.), or a hyphen (-).

Topic names should not exceed 14 characters. If a topic name exceeds 14 characters, the name will be truncated to 14 characters. For example, to create the topic name "Get Help," the FIRST line of the GETHELP.PLH file must be:

.TP Get_Help

- **.DES** (description) -- the second line of every help file must contain the .DES macro, which enables you to give a brief description of the topic. If you do not want to enter a description, you must still enter the .DES macro on the second line. If you want, you can separate the macro from the description with a blank space. However, unlike the topic name, you CAN use blank spaces in the actual description.

The total length of this line cannot exceed 75 characters. For example, to enter a

description for the "Get Help" topic, the SECOND line of the GETHELP.PLH file could be:

.DES Displays help information on the subject of your choice.

The HELP program uses the .TP and .DES lines as instructions to display topic information correctly. Each file you create in the main help directory is checked for these two lines. If .BAD files occur in your help directory, you will be notified by the message:

'BAD' files in this category;
see 'Fix_Help'

on the topic index. If this occurs, issue the DIR command for the help directory to identify the files with the .BAD extensions. You must edit .BAD files and fix the first two lines according to the above instructions. After you resave the fixed file, you must rename it from filename.BAD to filename.PLH.

When you create help files, be careful to give each file a unique topic name. If you accident- lly assign the same topic name in two or more files, HELP changes the extension of one of those files to .PLx and the rest of the files to .DPx.

For example, if you give two files the topic name "Record," HELP changes the extension of one of the files to .PLa and the other file to .DPa. The .PLx file is accessible from the topic index; the .DPx files are not.

If more sets of duplicates exist, the extensions of the duplicate files are changed to DPb, DPc and so on.

When duplicate files occur, you must edit at least one of the files and change the topic name. Then, you must rename BOTH the PLa and DPa files to .PLH.

THE CURSOR MOVEMENT CONTROL KEYS:

Developed for the PC-compatible, the HELP screens use PC terminology, such as PgUp or PgDn, so special Z-100 key strokes are used.

When using ZPC, these are:

PC key:	Z-100 key:
Line up	{Keypad 8}
Line down	{Keypad 2}
Page up	{Keypad 9}
Page down	{Keypad 3}
Move right	{Keypad 6}
Move left	{Keypad 4}
Top of document	{Keypad 7}
Bottom of documt	{Keypad 1}
Exit fm any point	{ESC} key
CTRL-END	{CTRL}-{Keypad 1}
	or {CTRL}-{SHIFT}{HOME}
	or {ESC}

If not using ZPC, place the keypad in shifted mode by toggling {LINE FEED}. Then, all the above keys work, except that CTRL-END can be:

        {F0}-{Keypad 1},
        {F0}-{SHIFT}{HOME},
    or {ESC}

See ZPC in the ZPC catalog for a complete list of PC/Z-100 key combinations.

INVOKING Z-100 HELP:

There are several methods of invoking HELP:

    A. Getting help when there is only a SINGLE category {This may be as a result of placing the HELP system on double-density floppies}:

        1. To display the topic index, type:

        HELP

        a. To choose a help topic from the topic index:

            - Highlight a topic using the arrow keys and press {RETURN}

                OR

            - Type a topic name in response to the "Enter topic name:" prompt and press {RETURN}.

        2. To display help text on the COPY command directly from the MS-DOS prompt (without using the topic index), type:

        HELP COPY

    B. Getting help when there are MULTIPLE categories (high-density floppies or hard drive setup):

        1. To display the category index, type:

        HELP

        a. To display the topic index of one of the categories listed in the category index:

            - Highlight the category name using the cursor control keys and press {RETURN}

                OR

            - Type the category name in response to the "Enter category name:" prompt and press {RETURN}.

        2. Choose a topic from the topic index in the same manner as described previously.

        3. To display the topic index of a category, such as DATABASE, without using the category index, type:

HELP DATABASE

        4. To display help text on the RECORD topic in the DATABASE category, without using the category and topic indices, type:

HELP DATABASE RECORD

FINAL COMMENTS:

Remember: All the .PLH help files are ASCII files. They can be read with any word processing program and can be TYPEd to a printer. So, why not just use a text reader, such as LOOK, VIEW, or SEE? Well, several reasons come to mind:

    While using a text viewer like LOOK would greatly reduce the overhead associated with HELP and its files, the sheer number of the files requires some means of organization and management. There are currently 13 different categories in the latest distribution of MS-DOS v4.x. While GEMINI.CAT has one help file, PCDOS.CAT has 33, ZDOS.CAT has 77, etc.

    Help files for PCDOS are generally different from ZDOS and ZPC.

    In short, we can't just throw them all in one directory. And, if they are placed in separate sub-directories, it becomes tedious to type a long command from memory, such as:

LOOK B:\HELPDIR\ZDOS.CAT\IFSFUNC.PLH

There's no doubt about it, the HELP routine adopted from AT&T has its advantages - it is slick, takes the tedium out of maintaining some kind of help system, and is relatively fast, even on a floppy.

HELP QUIRKS:

Because of differences between ZPC and native Z-100 video, there remains a few differences between HELP as run under ZPC and HELP without using ZPC. These are:

    - While perusing a help file and finding the correct key combination to do a PgDn, I found that HELP's request "Enter Command:" does not trap, filter, or control key input. Pressing a 3 for PGDn, for example, because you forgot to shift the keypad and pressing {RETURN} abruptly exits HELP, stating in reverse video "Calling DOS to exec '3':", and dumping you to the DOS prompt but in reverse video!

    - Related to the above, there are no instructions stating what kind of commands are expected, other than PgUp, PgDwn, ESC, etc. Why not trap all other obvious errors? At one point, I even blanked the screen somehow and had to reboot to get it back!

    - Also related to the above, even a normal exit dumps you back to DOS in reverse video at the bottom left corner of the screen, without clearing the screen!

- It seems that under ZPC, if lines per screen is set at something other than 25, HELP does some weird things:

   = The Catagory screen is not displayed, just a quick flash of something and the cursor in the middle of a blank screen. Pressing another {RETURN} will cause the next screen, generally the first command to be displayed.

   = The cursor gets lost, appearing in an odd location.

   - Finally, the reason the latest version of MS-DOS was distributed set for 25 lines per screen was for the HELP screen. At 24 lines per screen, the normal setting for Z-100 computers, the bottom line of the HELP screen is not displayed. However, at 25 lines per screen, some existing programs, such as LOOK.COM, work incorrectly. Programs that scroll and use line 25 as a status line are most susceptible.

John Beyers has written a program to alleviate most HELP program problems when run directly from the native Z-100 mode. The program ZVIDEO .COM with the switch **/s** saves the Z-100's video parameters:

   Reverse video condition
   Foreground color
   Background color
   Graphics mode condition
   Cursor shape (blink/block/undrline)
   Displayed lines/screen (50 max)
   Status line condition
   Line wrap condition
   Key click condition

Then, once HELP has been run, the video conditions can be reset using the program ZVIDEO.COM with the switch **/r** to reset the Z-100's video parameters. The source code, ZVIDEO.ASM, is included.

The batch file **HELPZ.BAT** can then be used to invoke HELP without running ZPC. The batch file consists of:

```
  @ECHO OFF
  ZVIDEO /S
  REM ZVIDEO /S saves the video parameters.
  SETLPS 25
  REM Sets the Z-100 video screen for 25
     lines/screen.
  CLS
  ECHO  * * Z-100 MS-DOS HELP PROGRAM * *
  ECHO.
  ECHO NOTE: CTRL is the {F0} key and the
     keypad cannot be shifted in
  ECHO advance, so the key assignments are:
  ECHO   PgUp is {DEL LINE}  or
                 {SHIFT}{keypad 9}.
  ECHO   PgDn is {INS LINE}  or
                 {SHIFT}{keypad 3}.
  ECHO   CTRL-END is {F0}-{SHIFT}{HOME} or
  ECHO             {F0}-{SHIFT}{keypad 1} or
  ECHO                press {ESC} to exit.
  ECHO.
  ECHO NOTE: To shift/unshift the keypad,
           press {LINE FEED}.
```

```
  ECHO      To go to 1st page of a multi-
              page document, press {HOME}.
  ECHO      To go to the last page,
              press {SHIFT}{HOME}.
  ECHO.
  PAUSE
  HELP %1 %2
  ZVIDEO /R
  REM ZVIDEO /R resets video parameters.
  CLS
```

And to remedy the lines per screen problem under ZPC, I've written another batch file, **HELPPC.BAT,** to invoke HELP:

```
  @ECHO OFF
  ZVIDEO /S
  REM ZVIDEO /S saves the video parameters.
  SETLPS 25
  REM Sets the Z-100 video screen for 25
     lines/screen.
  CLS
  ECHO  * * Z-100 PC-DOS HELP PROGRAM * *
  ECHO.
  ECHO Note: The keypad is already shifted,
      so the key assignments are:
  ECHO   PgUp is {DEL LINE}  or
                 {keypad 9}.
  ECHO   PgDn is {INS LINE}  or
                 {keypad 3}.
  ECHO   CTRL-END is {CTRL}-{SHFT}{HOME} or
  ECHO             {CTRL}-{keypad 1} or
  ECHO                press {ESC} to exit.

  ECHO.
  ECHO NOTE: To shift/unshift the keypad,
           press {HELP}.
  ECHO      To go to first page of a
           multipage document, press
           {HOME}.
  ECHO      To go to the last page,
           press {SHIFT}{HOME}.
  ECHO.
  PAUSE
  HELP %1 %2
  ZVIDEO /R
  CLS
```

Note: ESCape sequences used in ZVIDEO.COM are not recognized while running HELP under ZPC, so only the lines per screen are reset upon exiting.

The ZVIDEO program can be similarly used with other programs that require a certain environment to operate. Then simply reset the Z-100 environment upon completion.

For more on the ZVIDEO program, including the program's code listing, see the ZVIDEO article on the "*Z-100 LifeLine*" Website.

If you have any questions or comments, please email me at:
        z100lifeline@swvagts.com

Cheers,

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