



# Z-100 LifeLine

Since 1989

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## HEATH/ZENITH ESCAPE SEQUENCES

**PURPOSE:** Provide escape sequences for cursor control (including erasing and editing), select operation modes, and provide several other additional functions for Heath/Zenith computers.

**DESCRIPTION:** Internal Heath/Zenith Escape Sequences provide backward mobility with the older H-19, H/Z-89, and Z-90 computers, don't require additional software, and permit the changing of screen display characteristics and cursor control functions on-the-fly using the command line and the Z-100's function key, {F8}, which provides the ESC (or ^[ ) code necessary.

For example, to change to yellow text on a cyan background, type the following line at the command line prompt:

|                                      |                                 |
|--------------------------------------|---------------------------------|
| <b>TYPE:</b><br>ECHO {F8}m36{RETURN} | <b>DISPLAY:</b><br>X>ECHO ^[m36 |
|--------------------------------------|---------------------------------|

or another way uses COPY CON command:

|   |  |
|---|--|
| <b>TYPE:</b><br>COPY CON{RETURN}<br>{F8}m36{RETURN}<br>{CTRL-Z}{RETURN} | <b>DISPLAY:</b><br>X>COPY CON<br>^[m36<br>1 file(s) copied.<br>X>_ |
|---|--|

The Heath/Zenith ESCape codes are:

|         |   |       |  |
|---------|---|-------|--|
| ESC A   | Cursor up                                   | ESC B | Cursor down                              |
| ESC C   | Cursor right                                | ESC D | Cursor left                              |
| ESC H   | Cursor home                                 | ESC I | Reverse Index (RevScroll)                |
| ESC n   | Report cursor position                      | ESC j | Save cursor posit                        |
| ESC Yrc | Direct cursor address<br>where r=row, c=col | ESC k | Set cursor to previous<br>saved position |

Note: The screen origin (Home) is at 20h, 20h

|       |                        |       |                         |
|-------|------------------------|-------|-------------------------|
| ESC E | Clear screen; home     | ESC z | Reset to PowerUp Conf   |
| ESC J | Erase to page end      | ESC K | Erase to line end       |
| ESC L | Insert Line            | ESC M | Delete line             |
| ESC N | Delete Char            | ESC b | Erase to page beginning |
| ESC l | Erase current Line     | ESC o | Erase to line beginning |
| ESC @ | Enter Insert Char Mode | ESC O | Exit Insert Char Mode   |
| ESC F | Enter Graphics Mode    | ESC G | Exit Graphics Mode      |
| ESC = | Enter Alt Keypad Mode  | ESC > | Exit Alt Keypad Mode    |
| ESC p | Enter Reverse Video    | ESC q | Exit Reverse Video      |
| ESC t | Enter shifted Keypad   | ESC u | Exit shifted Keypad     |
| ESC { | Keyboard enable        | ESC } | Keyboard disable        |
| ESC v | Line Wrap Around       | ESC w | Discard at Line End     |

|         |   |         |  |
|---------|---|---------|--|
| ESC m## | Set fore/back colors<br>where fore#/back# are:                        | ESC rX  | Set baud rate<br>where X is letter:  |
| 0       | Black   | A       | 110 G 2000   |
| 1       | Blue  | B       | 150 H 2400   |
| 2       | Red   | C       | 300 I 3600   |
| 3       | Magenta   | D       | 600 J 4800   |
| 4       | Green   | E       | 1200 K 7200  |
| 5       | Cyan  | F       | 1800 L 9600  |
| 6       | Yellow  |         |  |
| 7       | White   |         |  |
| ESC #   | Transmit page   | ESC ^   | Transmit current line  |
| ESC ]   | Transmit 25th line  | ESC _   | Txmit char @ cursor  |
| ESC     | {BREAK} key was pressed   | ESC ~   | {HELP} key was pressed   |
| ESC x#  | Set Modes   | ESC y#  | Reset Modes:   |
| 1       | Enable 25th line  | 1       | Disable  |
| 2       | No key click  | 2       | Key Click ON   |
| 3       | Enter hold screen mode  | 3       | Exit hold screen mode  |
| 4       | Block Cursor  | 4       | Underline Cursor   |
| 5       | Cursor Off  | 5       | Cursor On  |
| 6       | Keypad shifted  | 6       | Keypad unshifted   |
| 7       | Enter Alt Keypad Mode   | 7       | Exit Alt Keypad Mode   |
| 8       | Auto LF on CR   | 8       | No auto LF   |
| 9       | Auto CR on LF   | 9       | No auto CR   |
| ;       | Nonblinking Cursor  | ;       | Blinking Cursor  |
| <       | Disable key auto repeat   | <       | Enable key auto repeat   |
| @       | Enable key up/dn mode   | @       | Disable key up/dn mode   |
| ?       | Enable key expansion mode<br>(Keyboard generates<br>ESCape sequences) | ?       | Disable key expansion<br>(Keyboard generates<br>8-bit characters)  |
| ESC Z   | Identify as VT52  | ESC / K | Response: VT52 identity  |
| ESC iO  | Zenith ID Terminal Type<br>Z-100 Response:                            | ESC i E | <banks> <size><br>where <banks> is either:<br>1 (1 bank of VRAM), or<br>3 (3 banks of VRAM)<br>where <size> is either:<br>A (32k VRAM parts), or<br>B (64k VRAM parts)-100 |

The Zenith escape codes are also provided in Appendix B of the Z-100 User's Manual.

In issue #24 of the "Z-100 LifeLine" Paul Herman also provided an excellent description of the Zenith ESCape codes and useful examples of their use.