

# ASCII Video Terminal Escape Codes

These are the codes that the terminal will respond to and will send when a special key is pressed. They emulate most of the functions on both the original DEC VT100 and VT52 terminals. Note that the symbol **ESC** means the escape code (decimal 27, hex 1B) and all codes start with this character. For a more detailed explanation of each code use Google to search for "VT100 User Guide".

The ASCII Video Terminal adds some extensions to the VT100 standard. These include codes to select 36 or 24 lines per screen for VGA, the ability to select from two extra large sized fonts (large and jumbo) and also codes to draw lines, boxes and circles on the screen.

In the latter case the terms X1 and Y1 refer to the starting position on the screen and X2 and Y2 refer to the ending position. In the case of a circle R is the radius of the circle. All these variables are in pixels with the top left hand corner of the screen being X=0 and Y=0. X is the horizontal position and Y is the vertical with both getting greater as you move away from the top left corner. The overall resolution depends on the display mode; it is 480x288 pixels in VGA 25 line mode, 480x432 pixels in VGA 36 line mode, 288x216 in PAL composite and 264x180 pixels in NTSC composite mode

The following example in MMBasic demonstrates how to draw a circle with a radius of 100 pixels at the centre of the screen (which is at pixel 240 by 144 when in VGA 24 line mode):

```
PRINT CHR$(27)+"[Z4;240;144;100Z";
```

## Standard VT100 mode codes

Note that codes surrounded by a less than symbol (<) and greater than symbol (>) (for example, <v> or <h>) represent one or more decimal digits

Auto-wrap mode off	<b>ESC</b> [?7l
Auto-wrap mode on (default)	<b>ESC</b> [?7h
Set 36 lines per screen	<b>ESC</b> [?9l
Set 24 lines per screen (default)	<b>ESC</b> [?9h
Set alternate keypad mode	<b>ESC</b> =
Set numeric keypad mode (default)	<b>ESC</b> >
Turn off all character attributes	<b>ESC</b> [m -or- <b>ESC</b> [0m
Turn underline mode on	<b>ESC</b> [4m
Turn reverse video on	<b>ESC</b> [7m
Turn invisible text mode on	<b>ESC</b> [8m
Select font #2 (large characters)	<b>ESC</b> [3m
Select font #2 (jumbo characters)	<b>ESC</b> [6m
Move cursor up n lines	<b>ESC</b> [<n>A
Move cursor down n lines	<b>ESC</b> [<n>B
Move cursor right n lines	<b>ESC</b> [<n>C
Move cursor left n lines	<b>ESC</b> [<n>D
Move cursor to upper left corner	<b>ESC</b> [H
Move cursor to upper left corner	<b>ESC</b> [;H
Move cursor to screen location v,h	<b>ESC</b> [<v>;<h>H
Move cursor to upper left corner	<b>ESC</b> [f
Move cursor to upper left corner	<b>ESC</b> [;f
Move cursor to screen location v,h	<b>ESC</b> [<v>;<h>f
Move/scroll window up one line	<b>ESC</b> D
Move/scroll window down one line	<b>ESC</b> M
Move to next line	<b>ESC</b> E
Save cursor position and attributes	<b>ESC</b> 7
Restore cursor position and attributes	<b>ESC</b> 8
Clear line from cursor right	<b>ESC</b> [K
Clear line from cursor right	<b>ESC</b> [OK
Clear line from cursor left	<b>ESC</b> [1K
Clear entire line	<b>ESC</b> [2K

Clear screen from cursor down	<b>ESC</b> [J
Clear screen from cursor down	<b>ESC</b> [0J
Clear screen from cursor up	<b>ESC</b> [1J
Clear entire screen	<b>ESC</b> [2J
Device status report	<b>ESC</b> 5n (response is <b>ESC</b> 0n)
Get cursor position	<b>ESC</b> 6n
Response: cursor is at v,h	<b>ESC</b> <v>;<h>R
Identify what terminal type	<b>ESC</b> [c
Identify what terminal type (another)	<b>ESC</b> [0c (response is <b>ESC</b> [?1;0c)
Reset terminal to initial state	<b>ESC</b> c
Turn off all three LEDs	<b>ESC</b> [0q
Turn on LED Num Lock	<b>ESC</b> [1q
Turn on LED Caps Lock	<b>ESC</b> [2q
Turn on LED Scroll	<b>ESC</b> [3q
Draw a line	<b>ESC</b> [Z1;<x1>;<y1>;<x2>;<y2>Z
Draw a box	<b>ESC</b> [Z2;<x1>;<y1>;<x2>;<y2>Z
Draw a filled box	<b>ESC</b> [Z3;<x1>;<y1>;<x2>;<y2>Z
Draw a circle	<b>ESC</b> [Z4;<x1>;<y1>;<r>Z
Draw a filled circle	<b>ESC</b> [Z5;<x1>;<y1>;<r>Z

#### VT52 compatibility mode codes

Enter/exit ANSI mode (VT52)	<b>ESC</b> <
Enter alternate keypad mode	<b>ESC</b> =
Exit alternate keypad mode	<b>ESC</b> >
Move cursor up one line	<b>ESC</b> A
Move cursor down one line	<b>ESC</b> B
Move cursor right one char	<b>ESC</b> C
Move cursor left one char	<b>ESC</b> D
Move cursor to upper left corner	<b>ESC</b> H
Move cursor to v,h location	<b>ESC</b> <v><h>
Generate a reverse line-feed	<b>ESC</b> I
Erase to end of current line	<b>ESC</b> K
Erase to end of screen	<b>ESC</b> J
Identify what the terminal is	<b>ESC</b> Z
Response:	<b>ESC</b> /Z

#### VT100 Special Key Codes

These are sent from the terminal back to the computer when the particular key is pressed on the PS2 keyboard. Note that the numeric keypad keys send different codes in alternate mode. See escape codes above to change the keypad mode.

UP	<b>ESC</b> [A
DOWN	<b>ESC</b> [B
LEFT	<b>ESC</b> [D
RIGHT	<b>ESC</b> [C
HOME	<b>ESC</b> [1~
INSERT	<b>ESC</b> [2~
DEL	<b>ESC</b> [3~
END	<b>ESC</b> [4~
PUP	<b>ESC</b> [5~
PDOWN	<b>ESC</b> [6~
F1	<b>ESC</b> [11~
F2	<b>ESC</b> [12~
F3	<b>ESC</b> [13~

F4	<b>ESC</b> [14~
F5	<b>ESC</b> [15~
F6	<b>ESC</b> [17~
F7	<b>ESC</b> [18~
F8	<b>ESC</b> [19~
F9	<b>ESC</b> [20~
F10	<b>ESC</b> [21~
F11	<b>ESC</b> [23~
F12	<b>ESC</b> [24~
F3+0x20	<b>ESC</b> [25~

#### VT52 Special Key Codes

These codes are sent when the terminal is in VT52 mode. All other keys Will generate the VT100 codes listed above.

UP	<b>ESC</b> A
DOWN	<b>ESC</b> B
LEFT	<b>ESC</b> D
RIGHT	<b>ESC</b> C