VT100 escape codes

This document describes how to control a VT100 terminal. The entries are of the form "name, description, escape code".

The name isn't important, and the description is just to help you find what you're looking for. What you have to do is send the "escape code" to the screen. These codes are often several characters long, but they all begin with ^[. This isn't the two characters ^ and [, but rather a representation of the ASCII code ESC (which is why these are called escape codes).

ESC has the value:

Ada	27, #8#33 #16#1B
C	27, 033, 0x1b
English	27 decimal, 33 octal, 1b hexadecimal

and should be sent before the rest of the code, which is simply an ASCII string.

As an example of how to use this information, here's how to clear the screen in Ada and C, using the VT100 escape codes:

Ada

```
PUT( ASCII.ESC );
PUT_LINE( "[2J" );
```

C

```
#define ASCII_ESC 27
printf( "%c[2J", ESC );
```

_or_

```
puts( "\033[2J" );
```

Name	Description	Esc Code
setnl LMN	Set new line mode	^[[20h
setappl DECCKM	Set cursor key to application	^[[?1h
setansi DECANM	Set ANSI (versus VT52)	none
setcol DECCOLM	Set number of columns to 132	^[[?3h
setsmooth DECSCLM	Set smooth scrolling	^[[?4h
setrevscrn DECSCNM	Set reverse video on screen	^[[?5h
setorgrel DECOM	Set origin to relative	^[[?6h
setwrap DECAWM	Set auto-wrap mode	^[[?7h
setrep DECARM	Set auto-repeat mode	^[[?8h
setinter DECINLM	Set interlacing mode	^[[?9h
setlf LMN	Set line feed mode	^[[20l
setcursor DECCKM	Set cursor key to cursor	^[[?1l
setvt52 DECANM	Set VT52 (versus ANSI)	^[[?2l
resetcol DECCOLM	Set number of columns to 80	^[[?3l
setjump DECSCLM	Set jump scrolling	^[[?4l
setnormscrn DECSCNM	Set normal video on screen	^[[?5l
setorgabs DECOM	Set origin to absolute	^[[?6l
resetwrap DECAWM	Reset auto-wrap mode	^[[?7l
resetrep DECARM	Reset auto-repeat mode	^[[?8l
resetinter DECINLM	Reset interlacing mode	^[[?9l
altkeypad DECKPAM	Set alternate keypad mode	^[=

```
numkeypad DECKPNM      Set numeric keypad mode             ^[>

setukg0                Set United Kingdom G0 character set  ^[(A
setukg1                Set United Kingdom G1 character set  ^[)A
setusg0                Set United States G0 character set   ^[(B
setusg1                Set United States G1 character set   ^[)B
setspecg0              Set G0 special chars. & line set     ^[(0
setspecg1              Set G1 special chars. & line set     ^[)0
setaltg0               Set G0 alternate character ROM       ^[(1
setaltg1               Set G1 alternate character ROM       ^[)1
setaltspecg0           Set G0 alt char ROM and spec. graphics ^[(2
setaltspecg1           Set G1 alt char ROM and spec. graphics ^[)2

setss2 SS2             Set single shift 2                   ^[N
setss3 SS3             Set single shift 3                   ^[O

modesoff SGR0          Turn off character attributes        ^[[m
modesoff SGR0          Turn off character attributes        ^[[0m
bold SGR1              Turn bold mode on                    ^[[1m
lowint SGR2            Turn low intensity mode on           ^[[2m
underline SGR4         Turn underline mode on               ^[[4m
blink SGR5             Turn blinking mode on                ^[[5m
reverse SGR7           Turn reverse video on                ^[[7m
invisible SGR8         Turn invisible text mode on          ^[[8m

setwin DECSTBM         Set top and bottom line#s of a window ^[[;r

cursorup(n) CUU        Move cursor up n lines               ^[[A
cursordn(n) CUD        Move cursor down n lines             ^[[B
cursorrt(n) CUF        Move cursor right n lines            ^[[C
cursorlf(n) CUB        Move cursor left n lines             ^[[D
cursorhome             Move cursor to upper left corner     ^[[H
cursorhome             Move cursor to upper left corner     ^[[;H
cursorpos(v,h) CUP     Move cursor to screen location v,h   ^[[;H
hvhome                 Move cursor to upper left corner     ^[[f
hvhome                 Move cursor to upper left corner     ^[[;f
hvpos(v,h) CUP         Move cursor to screen location v,h   ^[[;f
index IND              Move/scroll window up one line       ^[D
revindex RI            Move/scroll window down one line     ^[M
nextline NEL           Move to next line                    ^[E
savecursor DECSC       Save cursor position and attributes  ^[7
restorecursor DECSC    Restore cursor position and attributes ^[8

tabset HTS             Set a tab at the current column      ^[H
tabclr TBC             Clear a tab at the current column    ^[[g
tabclr TBC             Clear a tab at the current column    ^[[0g
tabclrall TBC          Clear all tabs                       ^[[3g

dhtop DECDHL           Double-height letters, top half      ^[#3
dhbot DECDHL           Double-height letters, bottom half   ^[#4
swsh DECSWL            Single width, single height letters  ^[#5
dwsh DECDWL            Double width, single height letters  ^[#6

cleareol EL0           Clear line from cursor right         ^[[K
cleareol EL0           Clear line from cursor right         ^[[0K
clearbol EL1           Clear line from cursor left          ^[[1K
clearline EL2          Clear entire line                    ^[[2K

cleareos ED0           Clear screen from cursor down        ^[[J
cleareos ED0           Clear screen from cursor down        ^[[0J
clearbos ED1           Clear screen from cursor up          ^[[1J
clearscreen ED2        Clear entire screen                  ^[[2J

devstat DSR            Device status report                 ^[5n
termok DSR                Response: terminal is OK           ^[0n
termnok DSR               Response: terminal is not OK       ^[3n

getcursor DSR          Get cursor position                  ^[6n
cursorpos CPR             Response: cursor is at v,h         ^[[;R
```

```
  ident DA              Identify what terminal type              ^[[c
  ident DA              Identify what terminal type (another)    ^[[0c
  gettype DA              Response: terminal type code n         ^[[?1;0c

  reset RIS             Reset terminal to initial state          ^[c

  align DECALN          Screen alignment display                 ^[#8
  testpu DECTST         Confidence power up test                 ^[[2;1y
  testlb DECTST         Confidence loopback test                 ^[[2;2y
  testpurep DECTST      Repeat power up test                     ^[[2;9y
  testlbrep DECTST      Repeat loopback test                     ^[[2;10y

  ledsoff DECLL0        Turn off all four leds                   ^[[0q
  led1 DECLL1           Turn on LED #1                           ^[[1q
  led2 DECLL2           Turn on LED #2                           ^[[2q
  led3 DECLL3           Turn on LED #3                           ^[[3q
  led4 DECLL4           Turn on LED #4                           ^[[4q

  #
  #  All codes below are for use in VT52 compatibility mode.
  #

  setansi               Enter/exit ANSI mode (VT52)              ^[<

  altkeypad             Enter alternate keypad mode              ^[=
  numkeypad             Exit alternate keypad mode               ^[>

  setgr                 Use special graphics character set       ^[F
  resetgr               Use normal US/UK character set           ^[G

  cursorup              Move cursor up one line                  ^[A
  cursordn              Move cursor down one line                ^[B
  cursorrt              Move cursor right one char               ^[C
  cursorlf              Move cursor left one char                ^[D
  cursorhome            Move cursor to upper left corner         ^[H
  cursorpos(v,h)        Move cursor to v,h location              ^[
  revindex              Generate a reverse line-feed             ^[I

  cleareol              Erase to end of current line             ^[K
  cleareos              Erase to end of screen                   ^[J

  ident                 Identify what the terminal is            ^[Z
  identresp             Correct response to ident                ^[/Z
```

```
  #
  # VT100 Special Key Codes
  #
  # These are sent from the terminal back to the computer when the
  # particular key is pressed.  Note that the numeric keypad keys
  # send different codes in numeric mode than in alternate mode.
  # See escape codes above to change keypad mode.
  #

  # Function Keys:

  PF1            ^[OP
  PF2            ^[OQ
  PF3            ^[OR
  PF4            ^[OS


  # Arrow Keys:
                 Reset     Set
                 -----     ---
  up             ^[A       ^[OA
```

```
down            ^[B     ^[OB
right           ^[C     ^[OC
left            ^[D     ^[OD


# Numeric Keypad Keys:

                Keypad Mode
                -----------------
Keypad Key      Numeric Alternate
----------      ------- ---------
0               0       ^[Op
1               1       ^[Oq
2               2       ^[Or
3               3       ^[Os
4               4       ^[Ot
5               5       ^[Ou
6               6       ^[Ov
7               7       ^[Ow
8               8       ^[Ox
9               9       ^[Oy
- (minus)       -       ^[Om
, (comma)       ,       ^[Ol
. (period)      .       ^[On
ENTER           ^M      ^[OM
```

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