ANSI/VT100 Terminal Control Escape Sequences

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Many computer terminals and terminal emulators support colour and cursor control through a system of escape sequences. One such standard is commonly referred to as ANSI Colour. Several terminal specifications are based on the ANSI colour standard, including VT100.

The following is a partial listing of the VT100 control set.

`<ESC>` represents the ASCII "escape" character, 0x1B. Bracketed tags represent modifiable decimal parameters; eg. `{ROW}` would be replaced by a row number.

Device Status

The following codes are used for reporting terminal/display settings, and vary depending on the implementation:

Query Device Code   `<ESC>[c`

- Requests a `Report Device Code` response from the device.

Report Device Code   `<ESC>[{code}0c`

- Generated by the device in response to `Query Device Code` request.

Query Device Status   `<ESC>[5n`

- Requests a `Report Device Status` response from the device.

Report Device OK   `<ESC>[0n`

- Generated by the device in response to a `Query Device Status` request; indicates that device is functioning correctly.

Report Device Failure   `<ESC>[3n`

- Generated by the device in response to a `Query Device Status` request; indicates that device is functioning improperly.

Query Cursor Position   `<ESC>[6n`

- Requests a `Report Cursor Position` response from the device.

`Report Cursor Position` `<ESC>[{ROW};{COLUMN}R`

- Generated by the device in response to a `Query Cursor Position` request; reports current cursor position.

Terminal Setup

The `h` and `l` codes are used for setting terminal/display mode, and vary depending on the implementation. Line Wrap is one of the few setup codes that tend to be used consistently:

`Reset Device`   `<ESC>c`

- Reset all terminal settings to default.

`Enable Line Wrap`   `<ESC>[7h`

- Text wraps to next line if longer than the length of the display area.

`Disable Line Wrap`   `<ESC>[7l`

- Disables line wrapping.

Fonts

Some terminals support multiple fonts: normal/bold, swiss/italic, etc. There are a variety of special codes for certain terminals; the following are fairly standard:

`Font Set G0`   `<ESC>(`

- Set default font.

`Font Set G1`   `<ESC>)`

- Set alternate font.

Cursor Control

```
Cursor Home              <ESC>[{ROW};{COLUMN}H
```

- Sets the cursor position where subsequent text will begin. If no row/column parameters are provided (ie. `<ESC>[H`), the cursor will move to the *home* position, at the upper left of the screen.

```
Cursor Up                <ESC>[{COUNT}A
```

- Moves the cursor up by *COUNT* rows; the default count is 1.

```
Cursor Down              <ESC>[{COUNT}B
```

- Moves the cursor down by *COUNT* rows; the default count is 1.

```
Cursor Forward           <ESC>[{COUNT}C
```

- Moves the cursor *forward* by *COUNT* columns; the default count is 1.

```
Cursor Backward          <ESC>[{COUNT}D
```

- Moves the cursor *backward* by *COUNT* columns; the default count is 1.

```
Force Cursor Position    <ESC>[{ROW};{COLUMN}f
```

- Identical to `Cursor Home`.

```
Save Cursor              <ESC>[s
```

- Save current cursor position.

```
Unsave Cursor            <ESC>[u
```

- Restores cursor position after a `Save Cursor`.

```
Save Cursor & Attrs      <ESC>7
```

- Save current cursor position.

```
Restore Cursor & Attrs   <ESC>8
```

- Restores cursor position after a `Save Cursor`.

Scrolling

`Scroll Screen          <ESC>[r`

- Enable scrolling for entire display.

`Scroll Screen          <ESC>[{start};{end}r`

- Enable scrolling from row `{start}` to row `{end}`.

`Scroll Down            <ESC>D`

- Scroll display down one line.

`Scroll Up              <ESC>M`

- Scroll display up one line.

Tab Control

`Set Tab                <ESC>H`

- Sets a tab at the current position.

`Clear Tab              <ESC>[g`

- Clears tab at the current position.

`Clear All Tabs         <ESC>[3g`

- Clears all tabs.

Erasing Text

`Erase End of Line      <ESC>[K`

- Erases from the current cursor position to the end of the current line.

`Erase Start of Line    <ESC>[1K`

- Erases from the current cursor position to the start of the current line.

Erase Line   `<ESC>[2K`

- Erases the entire current line.

Erase Down   `<ESC>[J`

- Erases the screen from the current line down to the bottom of the screen.

Erase Up   `<ESC>[1J`

- Erases the screen from the current line up to the top of the screen.

Erase Screen   `<ESC>[2J`

- Erases the screen with the background colour and moves the cursor to *home*.

Printing

Some terminals support local printing:

Print Screen   `<ESC>[i`

- Print the current screen.

Print Line   `<ESC>[1i`

- Print the current line.

Stop Print Log   `<ESC>[4i`

- Disable log.

Start Print Log   `<ESC>[5i`

- Start log; all received text is echoed to a printer.

Define Key

Set Key Definition   `<ESC>[{key};"{string}"p`

- Associates a *string* of text to a keyboard key. `{key}` indicates the key by its ASCII value in decimal.

Set Display Attributes

Set Attribute Mode   `<ESC>[{attr1};...;{attrn}m`

- Sets multiple display attribute settings. The following lists standard attributes:

```
0       Reset all attributes
1       Bright
2       Dim
4       Underscore
5       Blink
7       Reverse
8       Hidden

        Foreground Colours
30      Black
31      Red
32      Green
33      Yellow
34      Blue
35      Magenta
36      Cyan
37      White

        Background Colours
40      Black
41      Red
42      Green
43      Yellow
44      Blue
45      Magenta
46      Cyan
47      White
```

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