

# VT Compatibility and Escape Codes

This appendix lists the features and modes of the VT standard that are not supported by NCSA Telnet for the Macintosh®. This appendix also lists the escape codes sent by NCSA Telnet for certain codes in the various emulation modes. This appendix is intended as a reference of NCSA Telnet's implementation of VT emulation, and is not intended to be the definitive source for information regarding the VT series of terminals.

## VT Compatibility

NCSA Telnet does not support double height or double width characters. NCSA Telnet also does not support the VT52 mode.

## Key Mapping

NCSA Telnet does not emulate the following VT-200 keys: F1, F2, F3, F4, and F5.

NCSA Telnet maps F6 through F20 on the VT-200 keyboard to F1 through F15 on the Apple Extended Keyboard.

NCSA Telnet maps PF1 through PF4 on the VT-200 keyboard to the top row of keys on the numeric keypad (CLEAR, =, /, \*).

## Key Codes sent by NCSA Telnet

NCSA Telnet always sends the CSI and SS3 control characters using their 7-bit extensions. Therefore, substitute ESC [ (1B 5B) for CSI and ESC O (1B 4F) for SS3 in the following tables.

This section divides the keycode tables by the divisions used in the VT 200 manual.

### Editing Keys

Key (VT Key Name)	VT200 mode	VT100 mode
HELP (find)	9B 31 7E	
	CSI 1 ~	
HOME (Insert Here)	9B 32 7E	Telnet will send the VT220
	CSI 2 ~	codes for these keys while in
PAGEUP (Remove)	9B 33 7E	VT100 mode, even though these
	CSI 3 ~	keys did not exist on the VT100.
DEL (Select)	9B 34 7E	
	CSI 4 ~	
END (Prev Screen)	9B 35 7E	
	CSI 5 ~	
PAGEDOWN (Next Screen)	9B 36 7E	
	CSI 6 ~	

### Cursor Control Keys

Cursor Control Keys (Same for VT200/100)			
	Reset	Set	<- Cursor Key Mode
Key	Normal mode		Application mode
UpArrow	9B 41	8F 41	
	CSI A	SS3 A	
DownArrow	9B 42	8F 42	
	CSI B	SS3 B	

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RightArrow 9B 43      8F 43  
                  CSI C      SS3 C  
 LeftArrow 9B 44      8F 44  
                  CSI D      SS3 D

### Auxiliary Keypad Codes

Auxiliary Keypad Codes (Same for VT200/100)

Key	Numeric mode	Application mode
0	30	8F 70
	0	SS3 p
1	31	8F 71
	1	SS3 q
2	32	8F 72
	2	SS3 r
3	33	8F 73
	3	SS3 s
4	34	8F 74
	4	SS3 t
5	35	8F 75
	5	SS3 u
6	36	8F 76
	6	SS3 v
7	37	8F 77
	7	SS3 w
8	38	8F 78
	8	SS3 x
9	39	8F 79
	9	SS3 y
-	2D	8F 6D
	-	SS3 m
+ (,)	2C	8F 6C
	,	SS3 l
.	2E	8F 6E
	.	SS3 n
Enter	**	8F 4D
	**	SS3 M
Clear (PF1)	8F 50	8F 50
	SS3 P	SS3 P
= (PF2)	8F 51	8F 51
	SS3 Q	SS3 Q
/ (PF3)	8F 52	8F 52
	SS3 R	SS3 R
* (PF4)	8F 53	8F 53
	SS3 Q	SS3 Q

### Top-Row Function Keys

Key	(VT Key Name)	VT200 Mode Code	VT100 Mode Code
F1 (F6)		9B 31 37 7E	
		CSI 1 7 ~	
F2 (F7)		9B 31 38 7E	
		CSI 1 8 ~	Telnet will send the VT220
F3 (F8)		9B 31 39 7E	codes for these keys while in
		CSI 1 9 ~	VT100 mode, even though these
F4 (F9)		9B 32 30 7E	keys did not exist on the VT100.
		CSI 2 0 ~	
F5 (F10)		9B 32 31 7E	

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	CSI 2 1 ~
F6 (F11)	9B 32 33 7E
	CSI 2 3 ~
F7 (F12)	9B 32 34 7E
	CSI 2 4 ~
F8 (F13)	9B 32 35 7E
	CSI 2 5 ~
F9 (F14)	9B 32 36 7E
	CSI 2 6 ~
F10 (F15/Help)	9B 32 38 7E
	CSI 2 8 ~
F11 (F16/Do)	9B 32 39 7E
	CSI 2 9 ~
F12 (F17)	9B 33 31 7E
	CSI 3 1 ~
F13 (F18)	9B 33 32 7E
	CSI 3 2 ~
F14 (F19)	9B 33 33 7E
	CSI 3 3 ~
F15 (F20)	9B 33 34 7E
	CSI 3 4 ~