

concept AVT-APL

REFERENCE CARD

Setup Mode

Setup Mode provides a simple way of changing the terminal configuration in order to establish compatibility with the user's hardware and software environment. To enter Setup Mode, press the SETUP key. This will cause the User Status Line to appear in reverse video at the bottom of the screen. Note: Only Setup Mode functions may be performed while the terminal is in Setup Mode. Once changed, the terminal configuration may be saved in non-volatile memory so that it will be in effect the next time the terminal is turned on or reset (until a different configuration is saved).

When in Setup Mode, you may change one or more of the fields displayed on the User Status Line. All of the fields that may be changed through Setup Mode are listed at the right in the order in which they appear. A complete description of the User Status Line may be found on the last panels on the reverse side. If you do not wish to change any of the fields, just press the SETUP key again to exit from Setup Mode. (Note: changes are not permanent unless an additional operation, described below, is performed.)

To specify the field you wish to change, strike one of the FIELD keys (marked — or — on top) until the desired field is selected. Then strike the NEXT VAL key (marked ↑ on top) until the desired value appears. Regardless of how many times this process is repeated, the features in effect will be those that appear when you exit from Setup Mode by pressing the SETUP key again. To save the current values of all the fields in non-volatile memory, press the SAVE key (marked ↵ on top) before exiting from Setup Mode. Any changes made after pressing the SAVE key will affect current terminal operation, but will not affect what has been saved.

Features that can be changed in SETUP Mode (see User Status Line on reverse side)

FIELD (REF.)	POSSIBLE VALUES
Baud Rate (B)	15 baud rates from 50 to 9600 (see <i>baud</i> under Command Parameters)
Duplex (C)	HDX = half duplex (local echo); FDX = full duplex (no echo).
Stop Bits (D)	1S = one stop bit; 2S = two stop bits.
Parity (E)	NO = no parity bit; EV = even; OD = odd; MK = mark (1); SP = space (0).
Local/Remote (F)	LOC = local; REM = remote.
Character/Block (G)	CHR = character; BLK = block.
Caps Lock (H)	U/L = upper and lower case; CAP = upper case only.
ASCII/APL (J)	ASC = ASCII character set with no character overstrike; APL = APL character set with character overstrike. †
Display Window (K)	<i>top</i> ; <i>bot</i> ; <i>lft</i> ; <i>rgt</i> (coordinates of display window). In Setup Mode, <i>bot</i> toggles between 24 and the maximum of display memory; <i>rgt</i> toggles between 80 and 132; <i>top</i> and <i>lft</i> may be set to 1. †
ANSI/VT52 (L)	ANS = ANSI mode (VT100 compatible); V52 = VT52 mode.
Screen Width (M)	80 or 132 columns. †
Cursor (N)	Cursor represented as underline or block. †
Screen Video (O)	White characters on black background or black characters on white background. †
Wraparound (P)	a = Cursor and character wraparound off. † A = Cursor and character wraparound on.
Cursor Keypad Operation (Q)	CE = Entire cursor keypad in Execute Mode; CT = 4 cursor movement keys in Transmit Mode; remaining cursor keypad keys in Execute Mode. †

NOTES:
† These fields may have values other than those which are selectable through Setup Mode. The only way to be certain that a field is in fact set to the value shown on the status line is to use the NEXT VAL key (marked ↑ on top) to select the desired value. If the desired value appears upon entering Setup Mode, use the NEXT VAL key to change it, and then change it back again.
‡ The character that appears on the status line only shows which field is being modified; it does not change to reflect changes in the value selected.

Setup for APL

Use Setup Mode as described at the left to select APL (rather than ASC). APL users would ordinarily include APL among the terminal settings SAVED in non-volatile memory (NVM). Once this has been done, † N puts the terminal in APL Mode (that is, all data sent to the screen is displayed as APL characters with full overstrike). † O puts the terminal in ASCII Mode (that is, all data sent to the screen is displayed as ASCII characters with no overstrike).

Other Setup Features

The status line displayed upon entering Setup Mode applies to the keyboard communication line (Line 1). Use the NEXT LINE key (↑) to select the User Status Lines for Line 2 or 3, or the Tabs Status Line. Settings for Lines 2 and 3 are changed in the same way as settings for the keyboard communication line (Line 1). Tab stops (indicated by periods on the Tabs Status Line) are set or cleared by striking the NEXT FIELD key (→) until the desired column position is selected, and then striking the NEXT VAL key (↑) to set or clear a tab stop. All status lines are explained on the back of the reference card.

Concept AVT-APL Command Summary

Terminal commands, listed below, are either control codes or command sequences. All terminal commands are executable either from the keyboard or, under program control, from the communication line(s). Control codes are generated from the keyboard by pressing the control key (CTRL) while simultaneously pressing another key. Command sequences are generated from the keyboard by pressing the key labelled CMD (instead of ESC) and then typing the remainder of the command sequence.

NOTE: (1) The key labelled ESC on the keyboard is NOT equivalent to the CMD key. The escape message character is only used from communication lines.

(2) For convenience, typing shifted CMD is equivalent to typing unshifted CMD followed by — (i.e., the way to produce the sequence ESC — from the keyboard).

(3) To abort a command sequence, type CTRL-X.

Commonly used commands such as cursor controls, print, and editing functions have special keys (e.g. SEND, PRINT, INSRT) which, when pressed, generate the appropriate control code or command sequence. These commands can be executed either by pressing the special key, or by typing the appropriate control code or command sequence.

Format of Command Summary

- Command name [special key]. If there is a special key that generates the command sequence, the key label appears in braces following the command name. If the key generates the command sequence by itself (unshifted), the key label appears in lower case; if the key generates the sequence only when shifted, the key label appears in UPPER CASE. Footnotes follow Command Parameters.
- Command sequence — according to the following conventions:
 - ESC stands for the escape message character (default is APL chart location 27). Use CMD key to enter from keyboard. Use shifted CMD to enter ESC — from the keyboard.
 - Command sequences may contain no embedded spaces; blank space in command sequence representations is for clarity of graphic presentation only.
 - Numbers and single characters are APL literals, and should be entered exactly as shown. See APL Character Set following Command Summary for chart locations to be used as ARBOUT parameters.
 - Each string of three or more italicized lower case alphabetic characters represents a parameter that is explained in the section entitled "Command Parameters" following the list of commands.
- Lists Changed — Aspects of the terminal's current state that are changed by the command. Letters refer to lists of current characteristics: A = attribute; W = window; D = device; T = terminal.
- Modes/Lists Utilized — Aspects of the terminal's current state that affect the outcome of the command. Numbers refer to HDS modes (see Alternate Processing Modes); letters refer to lists described in the previous paragraph.

Command Name (Special Key)	Command Sequence	Lists Changed	Modes/Lists Utilized
GENERAL			
Self Test	ESC - test Y		
Reset Terminal (RESET)	ESC C	All	
Save Configuration (NVM)	ESC - save \$	All	
Reset Term/NVM to Factory Default	ESC - 9 \$	All	
Change Message Char. ¹	ESC - msgchr [chr] [chr] T	A,T	
Fill Character Alternate ²	ESC - fill [chr] [chr] T	A,T	
Select Attribute List	ESC - alist [dev] U	A,D	
Copy Attribute List	ESC - alist [dev] V	A,D	
Select Window	ESC - win [dev] W	W,D	

APL/ASCII (CHARACTER SET)			
APL Mode ³	ESC - x 101 H	A	
ASCII Mode ³	ESC - x 101 L	A	
Use Alt. Char. Set (APL)	↑N	T,A	
Use Nrm Char. Set (ASC) ¹	↑O	T,A	
Define Normal Char. Set ⁵	ESC v cset	T,A	
Define Alt. Char. Set	ESC ^ cset	T,A	

STATUS INFORMATION			
Transmit Terminal ID ⁶	ESC - O C		111,123
Alternate	ESC =		
Transmit Device Status ⁷	ESC - 5 N		111
Display Status Line	ESC - destd [sline] =U		
Display Next Status Line (STATUS)	ESC - =U		T,D,111
Transmit Status Line	ESC - dev [sline] [beg] [end] =T		
Toggle/Clear Status Line (status)	ESC - tes =V		
Set Background Status Line	ESC - bkg =W	T	W
Transmit Answerback Msg.	↑E		

CURSOR CONTROLS			
Carriage Ret. (return)	↑M	W	D,20,104
Line Feed (line feed)	↑J	W	D,20,104
Index (Line Feed) ⁸	ESC L	W	104
Reverse Index ⁸	ESC I	W	104
New Line (Line Feed/CR)	ESC c	W	104
Cursor Up (↑)	ESC - repeat o	W	107
Cursor Down (↓)	ESC - repeat u	W	107
Alternate	ESC - repeat E	W	107
Cursor Right (→)	ESC - repeat n	W	107
Alternate	ESC - repeat A	W	107
Cursor Left (←) ⁸	ESC - repeat l	W	107
Backspace	↑H	W	107
Cursor Up-Left Margin	ESC - repeat _	W	107
Cursor Down-Left Margin	ESC - repeat e	W	107
Home Cursor (↶)	ESC - a	W	206
Position Cursor	ESC - lin [col] a	W	206
Alternate	ESC - lin [col] F	W	206
Position Cursor-Column	ESC - col v	W	
Alternate	ESC - col o	W	
Position Cursor-Line	ESC - lin D	W	206
End of Text	ESC 2	W	206
Xmit Cursor Position ¹⁰	ESC - 6 N	W,D,111,206	
Save Cursor	ESC 7	W,A	A,206
Restore Cursor	ESC 8	W,A	107
Tab (tab)	↑I	W	105
Forward Tab	ESC - repeat s	W	105
Backward Tab (TAB)	ESC - repeat =	W	105
Set Tab	ESC Δ	T	W
Clear Tabs	ESC - clrtab G	T	W
Tab Control	ESC - tabctl ω	T	W

Command Name (Special Key)	Command Sequence	Lists Changed	Modes/Lists Utilized
EDITING			
Form Feed	↑L	W	120,122
Select Editing Extent	ESC - extent ?	A	
Toggle Insert (insrt)	ESC 1	A	D
Delete Char. (del char)	ESC - repeat .	A	A,W,T,102,120
Insert Line (ins l)	ESC - repeat □	W	T,104,206
Delete Line (DEL L)	ESC - repeat l	W	T,104,206
Erase in Window (ERAS)	ESC - erase -	W	W,T,6,120
Erase in Line (eras)	ESC - erase ^	W	W,T,6,120
Erase in Field ¹¹	ESC - erase o	W	W,T,6,120
Set Cursor Characteristics	ESC - atusd [atall] [chr] R	T	
Set Margin Bell	ESC - offset Y	T	

DISPLAY CONTROLS			
Select Alternate Attributes	ESC - atalt M	A	
Select Default Attributes	ESC - atdef " {	A	
Block Attribute Change	ESC - atusd [atall] [ins] [cls] Q	A	120
Block Character Change	ESC - chr [cls] [ins] P	A	
Transparent Mode On	ESC ?	A	
Transparent Mode Off ¹²	ESC p	A	
Protection On ¹³	ESC u	A	
Protection Off	ESC ω	A	

MULTIPLE DEVICES			
Print/Line 3 Control ¹⁴	ESC - media I	D	W,T,115,116,117
Set Output Network	ESC - output [dev] T	D	
Keyboard Comm. Device	ESC - devcm Z	D	

TRANSMISSION CONTROL			
Parity/Parity Checking	ESC - par [check] [devcm] *P	D	
Set Baud Rate	ESC - baud [rate] *R	D	
Set Stop Bits	ESC - sbit [devcm] *S	D	
CTS/RTS (Xmit) Protocol	ESC - xmit [devcm] *X	D	
Buffer Overflow (Receive) Protocol	ESC - buff [devcm] *Q	D	
Stop Transmission	↑S	D	
Resume Transmission	↑Q	D	
Transmit (send)	ESC 5	D	W,T,116,111,114,115,116
Set Transmit Extent	ESC - trfext =Y	W	
Set Transmit Delay	ESC - dly =Z	T	
Break (break)	ESC - devcm =S	D	111
Start of Print/Transmit	ESC \	W	

SCREEN CONTROLS			
Scroll Down (scrol)	ESC - repeat -	W	
Scroll Up (SCROL)	ESC - repeat ↑	W	
Page Down (page)	ESC - repeat ↓	W	
Page Up (PAGE)	ESC - repeat u	W	
Set Top of Screen	ESC - lin " S	W	
Define Scrolling Region	ESC - top [bot] R	W	
Max. Scrolling Region	ESC - R	W	
Set Display Pages	ESC - pages " P	All	
Define Window	ESC - top [bot] [lft] [rgt] W	W	
Maximum Window	ESC - W	W	

Command Name (Special Key)	Command Sequence	Lists Changed	Modes/Lists Utilized
KEYBOARD CONTROLS			
Lock Keyboard	ESC o	T	
Unlock Keyboard	ESC B	T	
Cursor Pad Key Settings	ESC - crskey [crskey] [crskey] Z	T	
Ring Keyboard Bell	↑G	T	112

FUNCTION KEYS, STORED DATA			
Program Function Key	ESC + key [actn] [del] [msg] [del] T	T	
Program Alert Line Msg.	ESC - 97 U [del] [alert] del T	T	
Program Answerback Msg.	ESC - 98 U [del] [answer] del T	T	
Program Latent Exp.	ESC - 99 U [del] [latexp] del T	T	
Display/Edit Function Key/Store Data	ESC - field [oper] V	T	
Execute Function Key/Store Data	ESC - field " X	T	D,111
Program Numeric Pad - Application ³	ESC *	T	
Program Numeric Pad - Numeric	ESC :	T	

APL Character Set

000	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015
016	017	018	019	020	021	022	023	024	025	026	027	028	029	030	031
032	033	034	035	036	037	038	039	040	041	042	043	044	045	046	047
048	049	050	051	052	053	054	055	056	057	058	059	060	061	062	063
064	065	066	067	068	069	070	071	072	073	074	075	076	077	078	079
080	081	082	083	084	085	086	087	088	089	090	091	092	093	094	095
096	097	098	099	100	101	102	103	104	105	106	107	108	109	110	111
112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127

Command Parameters
1. All parameters must be numeric, except for *cset*, *del* and programmable texts (*msg*, *answer*, *latexp*, *aler*). See APL Character Set at left for character equivalents to use as ARBOUT parameters.
2. A dagger (†) following the parameter name means that the parameter may consist of a string of numeric parameters separated by [.
3. Default values, shown in **boldface**, are used when zero is entered for a numeric parameter, or the parameter is omitted. Factory defaults may be different.
4. Unless otherwise indicated, parameter values not defined below are ignored.

NAME † EXPLANATION: POSSIBLE VALUES
actn 0 = Execute; 1 = Transmit; 2 = Default execute; 3 = Default transmit; 9 = Factory default.
Note: When action is execute, ESC is read as CMD, and ESC ESC is read as ESC.
alist Actual sequence of characters to be used (40 character maximum). Note: This is an exception to the rule that parameters must be numeric.
Number of attribute list: 1, 2, 3, or 4.
answer Actual sequence of characters to be used (20 character maximum).
atalt Character attribute(s) to be set to ALTERNATE state (see Attribute Table); 0 = Set all attributes to DEFAULT state.
atdef Character attribute(s) to be set to DEFAULT state (see Attribute Table); 0 = No attributes set to DEFAULT state.

ATTRIBUTE TABLE

Attribute	Default	Alternate
1	Normal brightness	Bold
4	No underline	Underline
5	Non-blinking	Blinking
7	Normal video	Inverse video
8	Displayable	Not displayable
(x) 99	No protection	Protection

Note: When attribute 99 is used, precede entire parameter list with * (the 'times' symbol). For example, to select bold, inverse video, and protection: ESC * * 1 [99 M. To select underline and blinking: ESC * * 4 [5 M or ESC * * 4 [5 M.

atusd † Character attribute(s) used by this command (see Attribute Table).
baud 0 = 50 4 = 150 8 = 1800 12 = 4800
1 = 75 5 = 300 9 = 2000 13 = 7200
2 = 110 6 = 600 10 = 2400 14 = 9600
3 = 134.5 7 = 1200 11 = 3600
beg Beginning column position of status line transmission 1 to 132.
blk 0 = Blank; 1-4 = Cursor line of window 1-4.
bot Bottom line of window or scrolling region. For scrolling region, the default is the bottom of the window; for window the default is the maximum of display memory.
buff 0 = None; 1 = Send XON(↑Q) / XOFF(↑S).
check 0 = No parity checking; 1 = Parity checking.
chr ASCII chart location of character to be used (0 - 127).
Note: 0 = ↑; if parameter is omitted, the message character specified by *msgchr* is not used.

clrtab 0 = Clear text tab stop, if any, at current cursor position; 2 or 3 = Clear all text tab stops.
cls Number of columns affected (default = 1). Values greater than number of columns in window yield number of columns in window.
col Column position, beginning with 1. 0 is treated as 1; values outside window definition yield rightmost position in current line.
crsky 0 = All levels, all keys.
1 = SETUP 6 = PRINT SCRN 11 = ↓
2 = CMD 7 = PAGE 12 = →
3 = BREAK/RESET 8 = ↑ 13 = STATUS
4 = \ 9 = SCROL 14 = B TAB
5 = PRINT 10 = ←

crslv 0 = All levels; 1 = Unshifted only; 2 = Shifted only.
crsop 0 = Execute; 1 = Transmit; 2 = Transmit and execute; 3 = Disabled.
cset _L or OC = First character set (ASCII); 0(zero) = Second character set (VT100 and Concept Special Graphics); 1 = Third character set (HDS Block Graphics); 2 = Fourth character set (APL).
Note: This is an exception to the rule that parameters must be numeric.

del A delimiter character, used in pairs to mark the beginning and end of a message. It may be any character, but must be different from every character in the message.
Note: Beginning with the first delimiter character, the terminal does not respond to NUL, RUB, ↑S, or ↑Q until the second delimiter is encountered.

dev 0 = Requesting device; 1 = Line 1; 2 = Line 2; 3 = Line 3; 9 = Keyboard.
devcm 0 = Requesting device or Keyboard Comm. Device; 1 = Line 1; 2 = Line 2; 3 = Line 3; 9 = Keyboard (not valid for Set Keyboard Comm. Device).
0 = Scroll; 1 = Line 1; 2 = Line 2; 3 = Line 3; 9 = Keyboard. In 100 millisecond units: 0 = no delay.

devst In 100 millisecond units: 0 = no delay.
dly Ending column position for status line transmission: 1 to 132.
end 0 = Erase from cursor to end of field, line, or window; 1 = Erase from beginning of field, line, or window to cursor, inclusive; 2 = Erase all of field, line, or window.
erast 0 = Insert/delete characters in window; 1 = Insert/delete characters in line; 3 = Insert/delete characters in field.
Combining 1 and 3 results in the extent being field, except that insertion/deletion in line will take place for multiline fields.
Stored data to edit or display. Values include all key Numbers listed in the table of Programmable Keys, plus 98 (answerback message) and 99 (latent expression).
Number of programmable function key(s) affected (see Programmable Keys). 0 = all keys F1 to F12.
Actual sequence of characters to be used (80 character maximum).
Notes: (1) ESC is read as CMD, and ESC ESC is read as ESC. (2) This is an exception to the rule that parameters must be numeric.

extent † Leftmost column position of window (default = 1).
Line position beginning with 1. 0 is treated as 1; values outside of window definition are treated as the bottom position in window or scrolling region.
field Number of lines affected by command (default = 1). Values outside of window definition are treated as the bottom position in window or scrolling region.
key 0 = Print window to cursor position; 2 = Send to Line 3; 4 = Detach printer; 5 = Attach printer; 6 = Detach Line 3; 7 = Attach Line 3; 8 = Print to end of window; 9 = Print line.
Note: If 8 or 9 is used, precede entire parameter string with *.
latexp Actual sequence of characters to be transmitted or executed.
Notes: (1) When *actn* is execute, ESC is read as CMD; and ESC ESC is read as ESC. (2) This is an exception to the rule that parameters must be numeric.

lft Leftmost column position of window (default = 1).
lin Line

Alternate Processing Modes
 A variety of terminal modes allows for a choice between two states: SET and RESET. There are three groups of such modes: HDS, ANSI, and DEC. Associated with each group is a single SET command that selects the SET state of one or more modes, and a single RESET command that selects the RESET state of one or more modes. All of these commands use a parameter string to specify the feature(s) to be affected. Any of these commands may contain as many as 15 parameters — separated by [— as long as all of the modes referenced belong to the same group. For convenience, the HDS group includes equivalents for all ANSI and DEC features.

ANSI Group	DEC Group	HDS Group
Set Reset	ESC ← ansi H ESC ← ansi L	ESC ← \ dec H ESC ← \ dec L
		ESC ← * hds ESC ← * hds

Notes: (1) * is the APL symbol 'times' (see Note 3).
 (2) 'ansi' represents a string of ANSI mode numbers; 'dec' represents a string of DEC mode numbers; 'hds' represents a string of HDS mode numbers.
 (3) Factory default states shown in **boldface**.

MODE NUMBERS	ANSI	DEC	HDS	Description of Feature	HDS	Reset State (Status 0)	Set State (Status 1)	List Changed
1			1	Transmit Unprotected/All	1	Unprotected	All	A
2			2	Keyboard Lock	2	Unlocked	Locked	A
3			3	Transparent/Control Code Processing	3	Execute	Display Only	A
4			4	Replace/Insert Characters	4	Replace	Insert	A
6			6	Erase Protected Characters	6	No	Yes	A
12			12	Full/Half Duplex (Local Echo)	12	Half Duplex	Full Duplex	T
16			16	Transmit Termination	16	End of Line, Window, Field	Cursor Position	W
20			20	Line Feed Processing	20	Line Feed	New Line (Line Feed/CR)	A
101			101	ASCII/APL	101	ASCII (overstrike off)	APL (overstrike on)	A
102			102	Character Overstrike	102	Off	On	A
103			103	Display Width (change is non-destructive)	103	80 columns	132 columns	T
104			104	Scrolling (Line Feed)	104	Off	On	A
105			105	Tab Processing	105	Text	Form	A
106			106	Auto Tabs	106	Off	On	A
107			107	Cursor Wraparound	107	Off	On	A
108			108	Protected Field Overwrite	108	Not allowed	Allowed	A
109			109	Caps Lock	109	Upper/lower	Caps Lock	T
110			110	Character/Block Transmit	110	Character	Block	T
111			111	Remote/Local	111	Remote	Local	T
112			112	Keyboard Bell	112	Off	On	T
113			113	Alert Line Display	113	Automatic	On request	T
114			114	Trailing Spaces on Output	114	Transmit	Suppress	T
115			115	Underline Attribute Processing	115	Transmit	Suppress	T
116			116	Transfer Initiation	116	Beginning of window	Start of Print/Transmit	W
117			117	Form Feed Prior to Print	117	Off	On	T
118			118	Protected Field Display	118	As Specified	Half-bright	T
119			119	Cursor Representation	119	Underline	Block	A
120			120	Character/Attribute Replacement	120	Both	Character Only	T
121			121	ASCII Underline on Input	121	Attribute	Character	T
122			122	Form Feed Processing	122	Clear Screen	Index (Line Feed)	T
123			123	Terminal Identifier	123	VT100	AVT-APL	T
201			201	Cursor Pad Operation	201	Normal	Application	T
202			202	ANSI/VT52 Compatibility	202	VT52	ANSI	T
203			203	Display Width (change is destructive)	203	80 columns	132 columns	T
205			205	Screen Video	205	White on black	Black on white	T
206			206	Cursor Addressing	206	Window-relative	Scrolling region-relative	W
207			207	Character Wraparound	207	Off	On	A

Cursor Pad Operation

Level	Key Label	Function Executed	Sequence Transmitted* Normal	Sequence Transmitted* Application	Level	Key Label	Function Executed	Sequence Transmitted* Normal	Sequence Transmitted* Application
Both	SETUP	Enter Setup Mode	ESC [	ESC [	Shifted	PAGE ↑	Page Up	ESC +u	ESC ○u
Shifted	CMD [	Command Sequence	ESC +	ESC ○	Unshifted	PAGE ↓	Page Down	ESC +d	ESC ○d
Unshifted	CMD [	Introducer	ESC +	ESC ○	Shifted	SCROLL ↑	Scroll Up	ESC +f	ESC ○f
Unshifted	CMD [	Command Introducer	ESC (	ESC (	Unshifted	SCROLL ↓	Scroll Down	ESC +b	ESC ○b
Shifted	RESET	Reset Terminal	ESC C	ESC C	Both	↑	Cursor Up	ESC +u	ESC ○u
Unshifted	BREAK	Break	ESC -#	ESC ○=#	Both	↓	Cursor Down	ESC +d	ESC ○d
Both	↔	Home Cursor	ESC +a	ESC ○a	Both	→	Cursor Right	ESC +r	ESC ○r
Shifted	PRINT	Detach Printer	ESC +41	ESC ○41	Both	←	Cursor Left	ESC +l	ESC ○l
Unshifted	PRINT	Attach Printer	ESC -51	ESC ○51	Shifted	STATUS	Scroll Status Line	ESC +#P	ESC ○#P
Shifted	PRINT	Print to End of Window	ESC -x81	ESC ○x81	Unshifted	STATUS	Toggle Status Line	ESC +#V	ESC ○#V
Unshifted	SCRN	Print to Cursor	ESC -I	ESC ○I	Shifted	B TAB	Backward Tab	ESC +c	ESC ○c

*'o' in Application column is the APL symbol 'circle,' chart location 079.

Programmable Keys

Key Label (Front)	Key #	Power-Up State	Default Execute	Default Transmit
F1 (INSRT)	001	Execute	Toggle insert mode	†
F2 (DEL CHAR)	002	"	Delete character	†
F3 (INS L)	003	"	Insert line	†
F4 (ERAS)	004	"	Erase line	†
F5 (SEND)	005	"	Send	†
F6	006	Transmit	Nothing	†
F7	007	"	"	†
F8	008	"	"	†
F9	009	"	"	†
F10	010	"	"	†
F11	011	"	"	†
F12	012	"	"	†

FUNCTION KEYS SHIFTED:

Key Label (Front)	Key #	Power-Up State	Default Execute	Default Transmit
F1 (INSRT)	031	Execute	Toggle insert mode	†
F2 (DEL CHAR)	032	"	Delete character	†
F3 (DEL L)	033	"	Delete line	†
F4 (ERAS)	034	"	Erase window	†
F5 (SEND)	035	"	Send	†
F6	036	Transmit	Nothing	†
F7	037	"	"	†
F8	038	"	"	†
F9	039	"	"	†
F10	040	"	"	†
F11	041	"	"	†
F12	042	"	"	†

NUMERIC PAD KEYS:

Key*	Default Execute	Default Transmit	Key*	Default Execute	Default Transmit
PF1	ESC *	ESC *	0	0	ESC \P
PF2	ESC ?	ESC ?	1	1	ESC \Q
PF3	ESC ρ	ESC ρ	2	2	ESC \R
PF4	ESC †	ESC †	3	3	ESC \S
ENTER	CR	ESC \I	4	4	ESC \T
ENTER (comma)	ESC \L	ESC \L	5	5	ESC \U
TAB	TAB	ESC \T	6	6	ESC \V
-(dash)	ESC \M	ESC \M	7	7	ESC \W
-(period)	ESC \N	ESC \N	8	8	ESC \X
0	110	0	9	9	ESC \Y
1	111	1			
2	112	2			
3	113	3			
4	114	4			
5	115	5			
6	116	6			
7	117	7			
8	118	8			
9	119	9			

† Default transmit sequence: FKD (default = APL 028) followed by Key #, followed by EOM (default = APL 013). For example, unshifted function key F6 generates the five character sequence FKD 006 EOM.

- Notes on Numeric Pad keys:
- Keys in the Numeric Pad are NOT functionally equivalent to similarly labeled keys in the main pad, since keys in the main pad have different shifted and unshifted values, and do not have alternate modes of operation (i.e. execute and transmit).
 - The operation of keys in the Numeric Pad depends upon the Program Numeric Pad commands as well as the Program Function Key command (see Function Keys, Stored Data section of Command Summary):
 - Individual Numeric Pad keys are fully programmable via the Program Function Key command.
 - The Program Numeric Pad — Application command (ESC *) reprograms all Numeric Pad keys to Default Transmit operation. See note 3.
 - The Program Numeric Pad — Numeric command (ESC :) reprograms all Numeric Pad keys to Power-up State.

VT52 Terminal Type Operation
 (see Alternate Processing Modes)

Commands recognized when in VT52 Mode (no others recognized).

Description	Command
Cursor Up	ESC ↑
Cursor Down	ESC ↓
Cursor Right	ESC →
Cursor Left	ESC ←
Reverse Line Feed	ESC ↵
Cursor Home	ESC +
Direct Cursor Address*	ESC ↑ l e
Erase to End of Line	ESC *
Erase to End of Window	ESC *
Select Special Graphics Character Set	ESC ~
Select ASCII Character Set	ESC x
Numeric Pad Application Mode	ESC :
Numeric Pad Normal Mode	ESC :
Identify Terminal Type (Response: 'ESC / =')	ESC =
Return to ANSI Mode	ESC ;

* 1 (lower case alphabetic 'l' as in 'letter') and c are one- or two-character codes whose APL chart location specifies the desired number as follows:
 1 = (APL 33) 95 = 1A Sp (APL 1 32) 190 = 1B Sp (APL 2 32)
 2 = (APL 34) 96 = 1A (APL 1 33) 191 = 1B (APL 2 33)
 3 = (APL 35) 97 = 1A (APL 1 34) 192 = 1B (APL 2 34)
 94 = \$ (APL 126) 189 = 1A \$ (APL 1 126)

VT52 Numeric Pad — Numeric and Application Modes

Key*	Default Execute	Default Transmit	Key*	Default Execute	Default Transmit
PF1	ESC *	ESC *	0	0	ESC \P
PF2	ESC ?	ESC ?	1	1	ESC \Q
PF3	ESC ρ	ESC ρ	2	2	ESC \R
PF4	ESC †	ESC †	3	3	ESC \S
ENTER	CR	ESC \I	4	4	ESC \T
ENTER (comma)	ESC \L	ESC \L	5	5	ESC \U
TAB	TAB	ESC \T	6	6	ESC \V
-(dash)	ESC \M	ESC \M	7	7	ESC \W
-(period)	ESC \N	ESC \N	8	8	ESC \X
0	110	0	9	9	ESC \Y

*No difference between shifted and unshifted.

VT52 Cursor Keypad Sequences

Shifted	Unshifted	SETUP	ESC [	ESC	RESET	ESC C
Shifted	Unshifted	ESC ↑	CMD	ESC (	BREAK	ESC #
Shifted	Unshifted	ESC ↓	PRINT	ESC 41	PRINT	ESC x81
Shifted	Unshifted	ESC →	ESC 51	ESC α	SCRN	ESC x1
Shifted	Unshifted	ESC ←	ESC α	ESC α	ESC ~	ESC ~
Shifted	Unshifted	ESC ↵	ESC ↓	ESC ↓	ESC n	ESC n

ASCII Character Set

000	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015
016	017	018	019	020	021	022	023	024	025	026	027	028	029	030	031
032	033	034	035	036	037	038	039	040	041	042	043	044	045	046	047
048	049	050	051	052	053	054	055	056	057	058	059	060	061	062	063
064	065	066	067	068	069	070	071	072	073	074	075	076	077	078	079
080	081	082	083	084	085	086	087	088	089	090	091	092	093	094	095
096	097	098	099	100	101	102	103	104	105	106	107	108	109	110	111
112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127

VT100 and Concept Special Graphics

000	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015
016	017	018	019	020	021	022	023	024	025	026	027	028	029	030	031
032	033	034	035	036	037	038	039	040	041	042	043	044	045	046	047
048	049	050	051	052	053	054	055	056	057	058	059	060	061	062	063
064	065	066	067	068	069	070	071	072	073	074	075	076	077	078	079
080	081	082	083	084	085	086	087	088	089	090	091	092	093	094	095
096	097	098	099	100	101	102	103	104	105	106	107	108	109	110	111
112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127

USER STATUS LINE

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
KB	50	HDX	IS	NO	REM	BLK	UL	lin; col	ASC	top; bot; lft; rgt	ANS	S	C	V	a	CT	VPPPPP	INS/OFF
L1	75	FDX	2S	EV	LOC	CHR	CAP	001	001	CH0	001	001	001	001	V52	A	CE	INS/ON
L2										OD								
L3	9600							192	132	CH2	192	192	132	132				