Platine Terminal AXEL
Serial and TCP/IP Models

Programmer's Guide

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ABOUT THIS MANUAL

Organisation of the manual and available emulations.

1.1 - ORGANISATION

This manual provides detailed information on AX3000 terminal and its features. This manual has three chapters:

- **terminal commands**: an exhaustive list of escapes sequences supported by the AX3000 emulations,
- **character sets**: description of character sets,
- **keyboards**: description of available national keyboards, list of the default values for programming keys corresponding to the selected emulation and information about dead keys.

1.2 - AVAILABLE EMULATIONS ACCORDING TO THE MODEL

Several emulations are provided by the AX3000. The available emulations depend on the AX3000 model (serial or Ethernet TCP/IP).

Further more, emulations are grouped by family. These emulation families are used in the following chapters.

The following table lists the available emulations (sorted by family) according to the AX3000 models:

Emulation Families	Emulations	AX3000 Models	
		Serial	TCP/IP
ANSI	ANSI	yes	yes
	XENIX SCO	yes	yes
	UNIX SCO 3.2.2	yes	yes
	UNIX SCO 3.2.4	yes	yes
	SCO OPENSERVER	yes	yes
	ANSI DOS	yes	yes
	UNIX SVR4	yes	yes
	ANSI INTERACTIVE	yes	yes
	ANSI RS6000	yes	yes
	ANSI MOS	yes	yes
	ANSI DATA GENERAL	---	yes
	ANSI SLNET	---	yes *
	UNIXWARE 7	---	yes
	LINUX	---	yes
VT	VT220	yes	yes
	HFT	yes	yes
	VT AS400	---	yes
WYSE	WYSE 60	yes *	yes *
PCTERM	PCTERM	yes	yes *
	PCTERM THEOS	yes	yes *
	OS2 POLYMOD2	yes	yes *
SM94xx	SM9400 et SM9412	yes *	yes *
TVI	TVI	---	yes *
QVT	QVT119+	---	yes *
3151	3151	---	yes *
Prologue	PROLOGUE 2/3, PROLOGUE 4/5	yes	---
	TWIN SERVER	yes	yes *

(*) optional

1.3 - FIRMWARE REVISION

The AX3000 firmware revision is composed by:
- an hardware information
- a firmware information

1.3.1 - Hardware Information

The AX3000 hardware information is:

FKx-BVyyy

- **FKx** is the electronic board code
- **BVyyy** is the boot code version (the boot code is the non-erasable part of the flash memory)

Examples:
FK3-BV11f
FK5-BV12a

1.3.2 - Firmware Information

a) General Information

The beginning of the firmware version is:

FCT.NA.aassi

- **FCT** is the AX3000 operating mode:
  - TCP stands for both TCP/IP and serial modes,
  - SER stands for serial mode.
- **NA** is the firmware nationality (code is ISO compliant). The main nationalities are:
  - FR: France
  - GR: Greece
  - FI: Finland
  - XX: International
  - TR: Turkey
  - PT: Portugal
- **aassi** is the year and the week number of the firmware creation following by an alphabetical index (for instance: 9832f).

Note: Three parameters depend on the firmware nationality:
- the set-up message nationality (FR: French messages, other: English messages),
- the possible presence of a national keyboard and associated character set. For instance, the Turkish environment (keyboards and character set) is only available with the 'TR' firmware.
- the default keyboard nationality (FR: France, XX: North American, TR: Turkey, etc).

b) Possible Firmware Options

If no option are included, the general firmware information is followed by ':STD'. Else, options, encoded by 3 characters, follow the general firmware information. A '&' is used as a separator.

The main firmware options are:

WYS	: Wyse 60/120 emulation	ATO	: ATO300 emulation
SM9	: SM9400/SM9412 emulation	THE	: Theos emulation
QVT	: QVT 119+ emulation	TVI	: TVI 910 emulation
SLN	: SLNET emulation	I51	: 3151 emulation
ALG	: alpha-graphics mode	EUR	: Euro currency symbol
F24	: 24-fctn-keys keyboard (AS/400)	MSE	: mouse support

Note: some options are incompatible (ex.: WYS and I51).

Examples:

FK3-BV11f/TCP.FR.9832f:STD
FK5-BV12a/TCP.XX.9832f:WYS&EUR

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TERMINAL COMMANDS

This chapter describes supported terminal commands for each emulation.

A terminal command is a character string. Terminal commands perform special actions (moving the cursor, setting reverse mode, etc). Generally such a sequence contains only 1 unprintable ASCII character (smaller than 20h). All other characters are printable (greater than 20h).

Conventions:

- **xxh**: xx is the hexadecimal ASCII character (ex: 1Bh is 27 decimal),
- **Esc** is 1Bh,
- **CSI** is the both ASCII characters 'Esc [' (1Bh and 5Bh).

2.1 - ANSI FAMILY

Note: for the 4 SCO emulations and the LINUX emulation, CSI can also be obtained by the 9Bh ASCII character (instead of the Esc [ASCII characters).

Controlling the Cursor	
Cursor right Pn columns	CSI Pn C (or CSI Pn a)
Cursor left	08h
Cursor left Pn columns	CSI Pn D
Cursor up	Esc M
Cursor up Pn lines	CSI Pn A
Cursor up Pn lines and to column 1	CSI Pn F
Cursor down	Esc D (or 0Ah)
Cursor down Pn lines	CSI Pn B (or CSI Pn e)
Cursor down Pn lines and to column 1	CSI Pn E
Cursor to column Pn	CSI Pn G (or CSI Pn `)
Cursor to line Pn	CSI Pn d

Cursor to line Pn1 (1..25) column Pn2 (1..132)	CSI Pn1;Pn2 H (or CSI Pn1;Pn2 f)
Cursor to start of line (or to start of next line)	0Dh
Save cursor position	CSI s (or Esc 7)
Restore cursor to saved position	CSI u (or Esc 8)
Disable cursor	CSI < 0 @
Enable cursor	CSI < 1 @

Controlling the Terminal

Sound bell	07h
Set scrolling region (beginning line number, ending line number)	CSI Pn1;Pn2 r
Terminal mode on	CSI Ps;...Ps h
Ps = 2: lock keyboard	
Ps = 4: insert character mode	
Ps = 20: new line (LF=CR+LF)	
Ps = 32: lock keyboard and send ACK (06h)	
Ps = 33: autoscrolling mode on	
Ps = ?3: set 132-column display	
Ps = ?6: origin is scrolling region	
Ps = ?7: autowrap mode on	
Terminal mode off	CSI Ps;...Ps l*
Ps = 2: unlock keyboard	
Ps = 4: replace character mode	
Ps = 20: line feed	
Ps = 33: autoscrolling mode off	
Ps = ?3: set 80-column display	
Ps = ?6: origin is screen	
Ps = ?7: autowrap mode off	
PC-scancode mode	CSI < 0 A
ASCII mode	CSI < 1 A
Display 24 data lines + 1 message line	CSI < 0 I**
Display 25 data lines	CSI < 1 I
Enable main screen (24 lines)	CSI < 0 E
Enable message line (25$^{Th.}$ line)	CSI < 1 E
Disable colouring feature	CSI < 0 G
Enable colouring feature	CSI < 1 G

* The last character in this sequence is a lowercase L

** The last character in this sequence and in the next sequence is an uppercase i

Set colours and enable colouring mode (4 pairs) CSI < 2;Cn1;...;Cn8 G
Set a VGA palette colour CSI < 3;Cn;Pn G
Enable private enhanced AXEL ANSI sequence mode CSI < 0 B
Disable private enhanced AXEL ANSI sequence mode CSI < 1 B
Save current setting and set UNIX SCO 3.2.2 personality CSI < 0 H
Restore saved setting CSI < 1 H
Active la vue Pn CSI Pn z
Enable monitor mode Esc U
Disable monitor mode Esc X
Miscallenous actions CSI = Pn L

Pn=0: a cleared area (CSI Pn J, CSI Pn K or scroll) is filled with the current video attribute
Pn=1: a cleared area (CSI Pn J, CSI Pn K or scroll) is filled with the normal video attribute
Pn=2: the CSI Pn g sequence is equal to CSI = Pn g (see Editing section)
Pn=3: the CSI Pn g sequence is behavior is defined in the Editing section

Change page (only if '4 views, 2 pages' is selected through the set-up) CSI < Ps1;Ps2 L

Ps1 = 0: regular page changing Ps2 = 0: enable next page
Ps1 = 1: copy current page to wanted page before swap Ps2 = 1: enable page number 1
Ps1 = 2: clear wanted page before swap Ps2 = 2: enable page number 2

Turn keyboard LEDs on or off CSI < Pn1;Pn2;Pn3 O

Pn1 is the state of NUM LED, Pn2 is the state of CAPS LED and Pn3 is the state of SCROLL LED.

The Pn parameter values should be:

Pn = 0: the state of the LED (on or off) is not modified
Pn = 1: turn the LED on
Pn = 2: turn the LED off

Mouse feature (if set through the set-up) CSI < Pn M*

Pn = 0: disable mouse Pn = 1: local mode Pn = 2: raw mode

Axel bitmap graphics functions CSI < Ps;...Ps K**
Font downloading (if set through the set-up) CSI < Ps;...Ps N <font>
Double-size characters (if set through the set-up) CSI < Pn Q term mess term

Pn = 1: double height Pn = 2: double width Pn = 3: double height / double width
term: message terminator message: character string displayed in double size

* For more information, refer the concerned literature
** For more information, refer the concerned literature

Controlling Character Attributes

Definition CSI Ps;...Ps m

Ps = 0: all attributes off
Ps = 1: bold
Ps = 4: underline (only monochrome VGA monitor)
Ps = 5: blinking
Ps = 7: reverse video
Ps = 8: blank
Ps = 10: selects the primary font
Ps = 11: selects the first alternate font; lets ASCII characters less than 32 be displayed as ROM characters
Ps = 12: selects a second alternate font; toggles high bit of extended ASCII code before displaying as ROM characters
Ps = 22: bold off
Ps = 24: blinking off
Ps = 25: underline off
Ps = 27: reverse video off
Ps = 3x: set foreground colour to colour x (x from 0 to 7)

0: black	1: red	2: green	3: brown*
4: blue	5: magenta	6: cyan	7: white

Ps = 38: enable underline option
Ps = 39: disable underline option
Ps = 4x: set background colour to colour x (x from 0 to 7)

0: black	1: red	2: green	3: brown
4: blue	5: magenta	6: cyan	7: white

Editing

Set tab stop at cursor position	Esc H
Move cursor to next tab stop	09h
Move cursor backward Pn tab stops	CSI Pn Z
Clear tab stop at cursor position	CSI 0g
Clear all tab stops	CSI 3g
Display ASCII character Pn	CSI =Pn g
Insert Pn null characters beginning at cursor position	CSI Pn @
Insert Pn lines of null characters beginning at cursor line	CSI Pn L
Display Pn times, the last displayed character	CSI Pn b

* Yellow for ANSI RS6000 emulation

Erase display:

from cursor to end of screen	CSI 0 J
from beginning of screen to cursor	CSI 1 J
entire screen	CSI 2 J

Erase line:

from cursor to end of line	CSI 0 K
from start of line to cursor	CSI 1 K
entire line	CSI 2 K
Delete Pn characters beginning at cursor position	CSI Pn P
Delete Pn lines beginning at cursor line	CSI Pn M
Erase Pn character beginning at cursor column	CSI Pn X

Printing Control Sequences

Select the default printer port: CSI < Po F

TCP/IP models:	Po = 1: AUX1	Po = 2: AUX2	Po = 3: parallel
Serial models:	Po = 1: AUX1	Po = 2: parallel	

Using default port (serial or parallel): CSI Pn i

Pn = 0: Print screen	Pn = 5: Enable local printing mode	Pn = 4: Disable local printing mode

Enable Po auxiliary port for sending only (disable: CSI 4i) CSI < 5; Po C

Enable receive mode of Po auxiliary port (AUX1 or AUX2) CSI < 5; Po D

Disable receive mode of Po auxiliary port (AUX1 or AUX2) CSI < 4; Po D

TCP/IP models:	Po = 0: default port	Po = 1: AUX1	Po = 2: AUX2	Po = 3: parallel
Serial models:	Po = 0: default port	Po = 1: AUX1	Po = 2: parallel	

Programming Function Keys

ANSI mode: Esc Q Code Terminator Message Terminator

- Code: function key (<F1> = 0 (30h) ... <F61> = I (6Ch))
- Terminator: one character (>20h)
- Message: key definition (any character except Terminator). Character '^' (5Eh) indicates 20h must be subtracted from the next character.

Example: **ESC Q 0 amenu^-a**, <F1> sends **menu <RC>**

AXEL mode: CSI < Code P Terminator Message Terminator

- Code: function key (refer to appendix A.3 or see the AX3000 set-up)
- Terminator: one character (>20h)
- Message: key definition (any character except Terminator). Character '^' (5Eh) indicates 20h must be subtracted from the next character.

Example: **CSI < 1 P amenu^-a**, <F1> sends **menu <RC>**

Additional Screen Attributes Sequences (except ANSI DOS)

Set overscan colour to colour Cn (64 colours are available)	CSI = Cn A
VGA mode 'blink' (8 background colours)	CSI = D
VGA mode 'bold' (16 background colours)	CSI = E
Set normal foreground colour to Cn	CSI = Cn F*
Set normal background colour to Cn	CSI = Cn G
Set normal foreground colour to Cn1 and background colour to Cn2	CSI 2;Cn1;Cn2 m
Set reverse foreground colour to Cn	CSI = Cn H
Set reverse background colour to Cn	CSI = Cn I
Set reverse foreground colour to Cn1 and background colour to Cn2	CSI 7;Cn1;Cn2 m
Set graphic foreground colour to Cn	CSI = Cn J
Set graphic background colour to Cn	CSI = Cn K
For XENIX personality only: VGA mode 'bold' (16 background colours)	CSI 3;0 m
For XENIX personality only: VGA mode 'blink' (8 background colours)	CSI 3;1 m
Set cursor size (P1 upper microline, P2 lower microline)	CSI = P1;P2 C
Save current colour setting	CSI = Y
Restore saved colour setting	CSI = Z

Reports

AX3000 IP address	CSI < a (or CSI < 0 a)
Response: IP address <CR>	
Firmware revision	CSI < 1 a
Response: version <CR>	
Answerback message (set through the AX3000 Set-Up)	CSI < 4 a
Response: message	
Current session number	CSI < 5 a
Response: number <CR>	
Printer Status	CSI < 6 a
Response: OK <CR> or ERR <CR>	

TCP/IP Status Line (set the associated label)

Syntax is: CSI < c Terminator Message Terminator

- Terminator: one character (>20h)
- Message: session label.

Example: **CSI <czview 1z**

* In this sequence and in the next 7 sequences, Cn value is in range 0 to 15

Private Enhanced AXEL ANSI Sequence Mode

The following sequences, derived from native personalities, may be used to speed up the display on a Platine terminal. These sequences are shorter than their equivalent ANSI sequences.

Description	Sequence	Equivalent ANSI Seq.
Cursor up	05h	CSI B
Cursor right	06h	CSI C
Cursor left	08h	CSI D
Cursor down	0Bh	CSI A
Clear screen	0Eh	CSI H CSI 2J
Cursor to line 1 column 1	1Eh	CSI H
Insert a null character	Esc @	CSI @
Erase display from cursor to end of screen	Esc J	CSI J
Erase line from cursor to end of line	Esc K	CSI K
Insert a line of null characters	Esc L	CSI L
Delete current line	Esc M	CSI M
Delete 1 character	Esc P	CSI P
Start local printing mode	Esc '	CSI 5i
Stop local printing mode	Esc ²²	CSI 4i
All attributes off	Esc a	CSI 0m
Reverse video	Esc b	CSI 7m
Blinking	Esc c	CSI 5m
Underline	Esc d	CSI 4m
Cursor to line L and column C	Esc f L C	CSI L+33;C+33 H
Bold	Esc h	CSI 1m
Default attribute	Esc p	CSI 7m
Enable cursor	Esc v	CSI <1@
Disable cursor	Esc w	CSI <0@
Black foreground	Esc r 0	CSI 22;30m
Red foreground	Esc r 1	CSI 22;31m
Green foreground	Esc r 2	CSI 22;32m
Brown foreground	Esc r 3	CSI 22;33m
Blue foreground	Esc r 4	CSI 22;34m
Magenta foreground	Esc r 5	CSI 22;35m
Cyan foreground	Esc r 6	CSI 22;36m
White foreground	Esc r 7	CSI 22;37m
Grey foreground	Esc r 8	CSI 1;30m
Light red foreground	Esc r 9	CSI 1;31m

Description	Sequence	Equivalent ANSI Seq.
Light green foreground	Esc r A	CSI 1;32m
Yellow foreground	Esc r B	CSI 1;33m
Light blue foreground	Esc r C	CSI 1;34m
Light magenta foreground	Esc r D	CSI 1;35m
Light cyan foreground	Esc r E	CSI 1;36m
Bright white foreground	Esc r F	CSI 1;37m
Black background	Esc s 0	CSI 40m
Red background	Esc s 1	CSI 41m
Green background	Esc s 2	CSI 42m
Brown background	Esc s 3	CSI 43m
Blue background	Esc s 4	CSI 44m
Magenta background	Esc s 5	CSI 45m
Cyan background	Esc s 6	CSI 46m
White background	Esc s 7	CSI 47m
Cursor to line L and column C	Esc ü L C	CSI L+33;C+33
Reverse video	Esc é	CSI 7m
Reverse video off	Esc â	CSI 27m
Blinking	Esc ä	CSI 5m
Bold off	Esc à	CSI 22m
Blinking off	Esc å	CSI 25m
Bold	Esc ç	CSI 1m
Set foreground colour to x and background colour to y x and y available values: 0: black 1: red 2: green 3: brown 4: blue 5: magenta 6: cyan 7: white	Esc ê x y	CSI 3x;4ym
Delete current line	Esc ë	CSI M
Insert a line of null characters	Esc è	CSI L
Enable message line ($25^{Th.}$ line)	Esc ï	CSI <1E
Enable main screen (24 lines)	Esc î	CSI <0E
Delete a character	Esc ì	CSI P
Insert a null character	Esc Ä	CSI @
Erase line from cursor to end of line	Esc Å	CSI K
Erase display from cursor to end of screen	Esc É	CSI J

2.2 - VT FAMILY

Note: this family is composed by the VT220, HFT and VT AS400 emulations.

Controlling the Cursor	
Cursor right Pn columns	CSI Pn C
Cursor left	08h
Cursor left Pn columns	CSI Pn D
Cursor up	Esc M
Cursor up Pn lines	CSI Pn A
Cursor down	Esc D (or 0Ah)
Cursor down Pn lines	CSI Pn B
Cursor down Pn lines and to column 1	Esc E
Carriage return (and line feed according to the AX3000 set-up)	0Dh
Cursor to line Pn1 (1..25) column Pn2 (1..132)	CSI Pn1;Pn2 H (or CSI Pn1;Pn2 f)
Editing	
Set tab stop at cursor position	Esc H
Move cursor to next tab stop	09h
Clear tab stop at cursor position	CSI 0g
Clear all tab stops	CSI 3g
Insert Pn null characters beginning at cursor position	CSI Pn @
Insert Pn lines of null characters beginning at cursor line	CSI Pn L
Delete Pn characters beginning at cursor position	CSI Pn P
Delete Pn lines beginning at cursor line	CSI Pn M
Erase display:	
from cursor to end of screen	CSI 0 J
from beginning of screen to cursor	CSI 1 J
entire screen	CSI 2 J
Erase line:	
from cursor to end of line	CSI 0 K
from start of line to cursor	CSI 1 K
entire line	CSI 2 K
Erase Pn characters beginning at cursor column	CSI Pn X

Character Sets

Assign Ps character set as G0			Esc (Ps
Assign Ps character set as G1			Esc) Ps
Assign Ps character set as G2			Esc * Ps
Assign Ps character set as G3			Esc + Ps
	Ps = B (ASCII)	Ps = R (French)	Ps = < (DEC multinational)
	Ps = K (German)	Ps = Y (Italian)	Ps = 0 (DEC special graphics)
	Ps = Z (Spanish)	Ps = = (Swiss)	Ps = %6 (Portuguese)
Map G0 to GL			0Fh
Map G1 to GL			0Eh
Map G2 to GL			Esc n
Map G3 to GL			Esc o
Map G1 to GR			Esc ~
Map G2 to GR			Esc }
Map G3 to GR			Esc |
Temporarily map the G2 character set to GL, for the next character			Esc N
Temporarily map the G3 character set to GL, for the next character			Esc O

Controlling Character Attributes

Definition CSI Ps;...Ps m

- Ps = 0: normal
- Ps = 1: dim
- Ps = 4: underline (only monochrome VGA monitors)
- Ps = 5: blinking
- Ps = 7: reverse video
- Ps = 8: blank
- Ps = 22: normal
- Ps = 24: blinking off
- Ps = 25: underline off
- Ps = 27: reverse video off
- Ps = 3x: set foreground colour to colour x (x from 0 to 7)

0: black	1: red	2: green	3: brown
4: blue	5: magenta	6: cyan	7: white

- Ps = 4x: set background colour to colour x (x from 0 to 7)

0: black	1: red	2: green	3: brown
4: blue	5: magenta	6: cyan	7: white

Controlling the Terminal

Sound bell	07h
Terminal mode on	CSI Ps;...Ps h
Ps = 2: lock keyboard	
Ps = 4: insert character mode	
Ps = 20: new line mode (LF=CR+LF)	
Ps = 54: ASCII mode	
Ps = ?1: cursor keys mode: application	
Ps = ?3: set 132-column display	
Ps = ?4: smooth scroll	
Ps = ?5: Light background (paper white)	
Ps = ?6: origin is scrolling region	
Ps = ?7: autowrap mode on	
Ps = ?8: autorepeat mode on	
Ps = ?12: turn the CAPS LED on	
Ps = ?18: print Form Feed (0Ch) mode on	
Ps = ?19: printer extent mode: screen	
Ps = ?25: enable cursor	
Ps = ?42: national mode	
Terminal mode off	CSI Ps;...Ps l*
Ps = 2: unlock keyboard	
Ps = 4: replace character mode	
Ps = 20: line feed mode	
Ps = 54: PC-scancode mode	
Ps = ?1: cursor keys mode: cursor	
Ps = ?2: entering VT52 Mode	
Ps = ?3: set 80-columns display	
Ps = ?4: jump scroll	
Ps = ?5: normal background	
Ps = ?6: origin is screen	
Ps = ?7: autowrap mode off	
Ps = ?8: autorepeat mode off	
Ps = ?12: turn the CAPS LED off	
Ps = ?18: print Form Feed (0Ch) mode off	
Ps = ?19: printer extent mode: region	
Ps = ?25: disable cursor	
Ps = ?42: multinational mode	

* The last character in this sequence is a lowercase L

Define scrolling region (beginning line number, ending line number)	CSI Pn1;Pn2 r
Display 24 data lines + 1 message line	CSI < 0 I*
Display 25 data lines	CSI < 1 I
Enable main screen (24 lines)	CSI < 0 E
Enable message line ($25^{Th.}$ line)	CSI < 1 E
Keypad application mode	Esc =
Keypad numeric mode	Esc >
Double-width, double-height line (top half)	Esc # 3
Double-width, double-height line (bottom half)	Esc # 4
Single-width, single-height line	Esc # 5
Double-width, single-height line	Esc # 6
Enable view number Pn	CSI Pn z
Enable view number 1	CSI U
Enable view number 2	CSI V
Save current cursor position	Esc 7
Restore cursor to saved position	Esc 8
PC-scancode mode	CSI < 0 A
ASCII mode	CSI < 1 A
Disable colouring feature	CSI < 0 G
Enable colouring feature	CSI < 1 G
Set colours and enable colouring mode (4 pairs)	CSI < 2;Cn1;...;Cn8 G
Set a VGA palette colour	CSI < 3;Cn;Pn G
Change page (only if '4 views, 2 pages' is selected through the set-up)	CSI < Ps1;Ps2 L
Ps1 = 0: regular page changing	Ps2 = 0: enable next page
Ps1 = 1: copy current page to wanted page before swap	Ps2 = 1: enable page number 1
Ps1 = 2: clear wanted page before swap	Ps2 = 2: enable page number 2
Turn keyboard LEDs on or off	CSI < Pn1;Pn2;Pn3 O

Pn1 is the state of NUM LED, Pn2 is the state of CAPS LED and Pn3 is the state of SCROLL LED.

The Pn parameter values should be:

Pn = 0: the state of the LED is not modified	Pn = 1: turn the LED on
Pn = 1: turn the LED on	

Mouse feature (if set through the set-up)	CSI < Pn M**

Pn = 0: disable mouse Pn = 1: local mode Pn = 2: raw mode

Axel bitmap graphics functions	CSI < Ps;...Ps K***

* The last character in this sequence and in the next sequence is an uppercase i

** For more information, refer the concerned literature

*** For more information, refer the concerned literature

Printing Control Sequences

Select the default printer port:	CSI < Po F
TCP/IP models: Po = 1: AUX1 Po = 2: AUX2 Po = 3: parallel	
Serial models: Po = 1: AUX1 Po = 2: parallel	
Using default port (serial or parallel):	CSI Pn i
Pn = 0: print screen Pn = 5: Enable local printing mode Pn = 4: Disable local printing mode	
Enable Po auxiliary port for sending only (disable: CSI 4i)	CSI < 5; Po C
Enable receive mode of Po auxiliary port (only AUX1)	CSI < 5; Po D
Disable receive mode of Po auxiliary port (only AUX1)	CSI < 4; Po D
TCP/IP models: Po = 0: default port Po = 1: AUX1 Po = 2: AUX2 Po = 3: parallel	
Serial models: Po = 0: default port Po = 1: AUX1 Po = 2: parallel	
Print cursor line when 0Ah is received	CSI ? 1 i
Auto print mode on	CSI ? 5 i
Auto print mode off	CSI ? 4 i

Protected Characters

Next written characters are protected	CSI 1 " q
Next written characters are unprotected	CSI 2 " q (or CSI 0 " q)
Erase only unprotected characters in display:	
from cursor to end of screen	CSI ? 0 J
from beginning of screen to cursor	CSI ? 1 J
entire screen	CSI ? 2 J
Erase only unprotected characters in line:	
from cursor to end of line	CSI ? 0 K
from start of line to cursor	CSI ? 1 K
entire line	CSI ? 2 K

Programming Function Keys

VT220 mode: Esc P Ps1 ; Ps2 | Keyn / Stn { ; Keyn / Stn } Esc \

Ps1=0: clear all keys before loading new values (default value)

Ps1=1: clear one key at a time, before loading a new value

Ps2=0: lock the keys (default value)

Ps2=1: do not lock the keys

Keyn: the key selector number indicates which key you are defining

17: <Shift><F6>	23: <Shift><F11>	29: <Alt><Shift><F8>
18: <Shift><F7>	24: <Shift><F12>	31: <Alt><Shift><F9>
19: <Shift><F8>	25: <Alt><Shift><F5>	32: <Alt><Shift><F10>
20: <Shift><F9>	26: <Alt><Shift><F6>	33: <Alt><Shift><F11>
21: <Shift><F10>	28: <Alt><Shift><F7>	34: <Alt><Shift><F12>

Stn: the string parameter is the key definition, encoded as pairs of hexadecimal codes.

Example: LOG <RC> is coded by 4C4F470D

AXEL mode: CSI < Code P Terminator Message Terminator

- Code: function key (refer to appendix A.3 or see the AX3000 set-up)
- Terminator: one character (>20h)
- Message: key definition (any character except Terminator). Character '^' (5Eh) indicates 20h must be subtracted from the next character.

Example: **CSI < 1 P amenu^-a**, <F1> sends **menu <RC>**

Resetting the Terminal

Hard terminal reset — Esc c

Soft terminal reset — CSI 0 ! p

Select an operating level — CSI Ps1;Ps2 " p

Ps1 = 61: level 1 (VT100)

Ps1 = 62: level 2 (VT220)

Ps2 = 0: 8-bit controls (level 2 only)

Ps2 = 1: 7-bit controls

Ps2 = 2: 8-bit controls (level 2 only)

Reports

AX3000 IP address — CSI < a (or CSI < 0 a)
Response: IP address <CR>

Firmware revision — CSI < 1 a
Response: version <CR>

Answerback message (set through the AX3000 Set-Up) — CSI < 4 a
Response: message

Current session number — CSI < 5 a
Response: number <CR>

Printer Status — CSI < 6 a
Response: OK <CR> or ERR <CR>

Primary Device Attributes request — CSI c (or Esc Z)
Response: CSI ? 62 ; 1 ; 2 ; 6 ; 7 ; 8 ; 9 c

Secondary Device Attributes request — CSI > c
Response: CSI > 1 ; 10 ; 0 c

AX3000 operating status — CSI 5 n
Response: CSI 0 n (ready)

Cursor position report — CSI 6 n
Response: CSI Pn1; Pn2 R (Pn1 = line number, Pn2 = column number)

Printer status — CSI ? 15 n
Response: CSI ? 10 n (printer ready)
CSI ? 11 n (printer not ready)

UDK (Programming function keys) report — CSI ? 25 n
Response: CSI ? 20 n (UDKs unlocked)
CSI ? 21 n (UDKs locked)

Keyboard language — CSI ? 26 n
Response: CSI ? 27;Ps n

Ps values:			
1: North American	7: German	9: Italian
10: Swiss	14: French	15: Spanish
16: Portuguese		

TCP/IP Status Line (set the associated label)

Syntax is: CSI < c Terminator Message Terminator

- Terminator: one character (>20h)
- Message: session label.

Example: **CSI <czview 1z**

2.3 - WYSE 60 EMULATION

Cursor Commands

Cursor left	08h
Cursor right	0Ch
Cursor up; no scroll	0Bh
Cursor up; scroll	Esc j
Cursor down; scroll	0Ah
Cursor to start of next line	1Fh
cursor to start of line	0Dh
Home cursor	Esc { or 1Eh
Address cursor in current 80-column page	Esc = *line col*
Address cursor in current 80/132-column page	Esc a *lll* R *ccc* C
Address cursor in a specific 80-column page	Esc w @ *page line col*
Address cursor in a specific 80-column page or window	Esc - *page line col*

Editing

Set tab stop	Esc 1
Clear tab stop	Esc 2
Clear all tab stops	Esc 0 or Esc 3
Tabulate cursor	Esc i or 09h
Backtab	Esc I*
Insert space character	Esc Q
Insert line of spaces	Esc E
Insert column of nulls	Esc c M
Delete cursor character	Esc W
Delete cursor line	Esc R
Delete cursor column	Esc c J
Clear page to nulls	Esc *
Clear page to spaces	Esc +

Character sets

Load *set* in *bank* — Esc c @ bank set

bank is a buffer (0 to 3)

Values of *set*:

'@': native mode 'A': PC multinational 'B': standard ASCII 'C': graphics 1

'D': PC standard 'E': graphics 2 'F': graphics 3

* The last character in this sequence is an uppercase i

Define primary character set (*code* is a *bank* or a *set*)	Esc c B *code*
Define secondary character set (*code* is a *bank* or a *set*)	Esc c C *code*
Select primary character set	Esc c D
Select secondary character set	Esc c E

Video Attributes

Assign character display attribute — Esc G attr

attr values:

0 : normal	p	: dim
1 : invisible	q	: invisible + dim
2 : blink	r	: blink + dim
3 : invisible + blink	s	: invisible + dim
4 : reverse	t	: reverse + dim
5 : reverse + invisible	u	: invisible + reverse + dim
6 : reverse + blink	v	: reverse + blink + dim
7 : reverse + blink + invisible	w	: reverse + blink + invisible + dim
8 : underscore	x	: underscore + dim
9 : underscore + invisible	y	: underscore + invisible + dim
: : underscore + blink	z	: underscore + blink + dim
; : underscore + blink + invisible	{	: underscore + blink + invisible + dim
< : underscore + reverse	|	: underscore + reverse + dim
= : underscore + reverse + invisible	}	:underscore + reverse + invisible + dim
> : underscore + reverse + blink	~	: underscore + reverse + blink + dim
? : underscore + reverse + invis. + blink	7Fh	: underscore + reverse + invisible + blink + dim

Character attribute mode off	Esc e 0
Character attribute mode on	Esc e 1
Page attribute mode on	Esc e 2
Line attribute mode on	Esc e 3
Assign display attribute to message field	Esc A 1 *attr*
Assign display attribute to screen	Esc A 0 *attr*
single-high, single-wide characters	Esc G @
single-high, double-wide characters	Esc G A
Top half of double-high, single-wide characters	Esc G B
Bottom half of double-high, single-wide characters	Esc G C
Top half of double-high, double-wide characters	Esc G D
Bottom half of double-high, double-wide characters	Esc G E

Controlling the terminal

Sound bell	07h
Lock keyboard	0Fh or Esc #
Unlock keyboard	0Eh or Esc "
Monitor mode on	Esc U
Monitor mode off	Esc u or Esc X
ACK mode on	Esc e 7
ACK mode off	Esc e 6
Set MAIN port operating parameters (serial model only)	Esc c 0 bds stp parity word
→ after this command, an ACK is sent by the terminal (06h) if ACK mode is on *bds* values: 0=38400, 1=19200, 2=9600, 3=4800, 4=2400, 7=1200 and 9=300 *stp* values: 0=1 bit *parity* values: 0=none, 1=odd and 3=even *word* values: 0=7 bits and 1= 8 bits	
Set AUX1 port operating parameters (serial model only)	Esc c 1 bds stp parity word
→ after this command, an ACK is sent by the terminal (06h) if ACK mode is on *bds* values: 0=19200, 1=9600, 3=4800, 5=2400, 8=1200 and :=300 *stp* values: 0=1 bit *parity* values: 0=none, 1=odd and 3=even *word* values: 0=7 bits and 1= 8 bits	
Set MAIN port handshaking (serial model only)	Esc c 2 *hdsk*
→ after this command, an ACK is sent by the terminal (06h) if ACK mode is on *hdsk* values: 0=none, 1= xon/xoff and 2=DTR	
Set AUX1 port handshaking (serial model only)	Esc c 5 *hdsk*
→ after this command, an ACK is sent by the terminal (06h) if ACK mode is on *hdsk* values: 0=none, 1= xon/xoff and 2=DTR	
Local edit mode on (duplex off)	Esc k
Duplex edit mode on (local off)	Esc l*
Key repeat off	Esc e,
Key repeat on	Esc e-
autoscrolling mode off	Esc N
autoscrolling mode on	Esc O
End-of-line wrap mode off	Esc d.
End-of-line wrap mode on	Esc d/
Receive CR mode off	Esc e 4
Receive CR mode on	Esc e 5
Insert mode on (replace mode off)	Esc q

* The last character in this sequence is a lowercase L

Replace mode on (insert mode off)		Esc r
Page edit mode off		Esc e "
Page edit mode on		Esc e #
CAPS LOCK on		Esc e &
CAPS LOCK off		Esc e '
ASCII mode		Esc e H
PC-scancode mode		Esc e I*
Turn screen display off		Esc ` 8
Turn screen display on		Esc ` 9
Screen saver on		Esc e Q
Screen saver off		Esc e P
Set scrolling type		Esc ` *scroll*
scroll = '@': jump scroll	*scroll* = '<', '=', '>' or '?': smooth scroll	
Cursor off		Esc ` 0
Cursor on		Esc ` 1
Set cursor type		Esc ` curs
curs = '2' or '5': blinking block	curs = '3' or '4': blinking line	
Line lock mode on		Esc ` H
Line lock mode off		Esc ` I**
Select 80-column display		Esc ` :
Select 132-column display		Esc ` ;
Display 24 data lines		Esc e (
Display 25 data lines		Esc e)
Display previous page		Esc w B
Display next page		Esc w C
Display specific page (*num*=0 or *num*=1)		Esc w *num*
Display specific session (*num* 0 to 8). Serial model only		Esc [*num* z
Graphics mode on		Esc H 02h
Graphics mode off		Esc H 03h
Display graphics character *char*		Esc H *char*
Box rectangle in 80-column page		Esc c G *line col*
Clear entire rectangle in 80-column page		Esc c H *line col char*

* The last character in this sequence is an uppercase i

** The last character in this sequence is an uppercase i

Message Line

Program and display unshifted label line	Esc z (*txt* 0Dh
Program shifted label line	Esc z) *txt* 0Dh
Shifted label line off	Esc z 7Fh
Clear unshifted label line message	Esc z (0Dh
Clear shifted label line message	Esc z) 0Dh
Clear function key label	Esc z *field* 0Dh
Program and display function key label	Esc z *field label* 0Dh

field values: <F1> to <F12>: 30h to 3Bh <Shift><F1> to <Shift><F12>: 50h to 5Bh

Protected Data

Protect mode on	Esc &
Protect mode off	Esc '
Write-protect mode off	Esc (
Write-protect mode on	Esc)
Clear page to write-protected spaces	Esc ,
Clear cursor column from cursor	Esc V
Clear unprotected ...:	
page to spaces	Esc ; or 1Ah
page to nulls	Esc :
page to specific character	Esc . *char*
line to spaces from cursor	Esc T
line to nulls from cursor	Esc t
page to spaces from cursor	Esc Y
page to nulls from cursor	Esc y
to end of line with nulls	Esc c L
column to specific character	Esc c I *char*[*]
Clear unprotected rectangle in 80-column page	Esc c F *high length char*

[*] The character after 'c' in this sequence is an uppercase i

Sending Data

Print formatted page	Esc P
→ after this command, an ACK is sent by the terminal (06h) if ACK mode is on	
Print formatted unprotected page	Esc @
→ after this command, an ACK is sent by the terminal (06h) if ACK mode is on	
Print unformatted page	Esc p or Esc L
→ after this command, an ACK is sent by the terminal (06h) if ACK mode is on	
Transparent print mode on	Esc d # or 18h
Auxiliary print mode on	12h
Turn print modes off (transparent mode and auxiliary print mode)	14h
Secondary receive mode off	Esc d 20h
Secondary receive mode on	Esc d !
Bidirectional mode off	Esc d $
Bidirectional mode on	Esc d %

Programmable keys

WYSE Mode:

Program:

1) Syntax: Esc z key sequence 7Fh

Key: key number

Function keys:

<F1> to <F12>: 40h to 4Bh

<Shift><F1> to <Shift><F12>: 60h to 6Bh

Arrows keypad:

up: 2Bh down: 2Ch left: 2Dh right: 2Eh

Editing keypad:

Insert: 70h Home: 2Ah PageUp: 77h

Delete: 23h End: 5Ch PageDn: 72h

Other keys:

Esc: 20h Backspace: 22h

Sequence: up to 32 bytes to be loaded in the key.

2) Syntax: Esc Z dir key sequence 7Fh

dir: <0> = normal <1> = remote <2> = local

key et sequence: see above

Clear:

Esc z key 7Fh or Esc Z dir key 7Fh

AXEL Mode:

Syntax is: CSI < Code P Terminator Message Terminator

- Code: function key (refer to appendix A.3 or see the AX3000 set-up)
- Terminator: one character (>20h)
- Message: key definition (any character except Terminator). Character '^' (5Eh) indicates 20h must be subtracted from the next character.

Example: **CSI < 1 P amenu^-a**, <F1> sends **menu <RC>**

Terminal Report

AX3000 IP address	CSI < a (or CSI < 0 a)
Response: IP address <CR>	
Firmware revision	CSI < 1 a
Response: version <CR>	
Answerback message (set through the AX3000 Set-Up)	CSI < 4 a
Response: message	
Current session number	CSI < 5 a
Response: number <CR>	
Printer Status	CSI < 6 a
Response: OK <CR> or ERR <CR>	
Terminal identification	Esc 20h
Terminal returns: 6 0 <RC>	
Read Programmable key value	Esc Z ~ key
Terminal returns: dir key sequence 7Fh	
Read cursor address in current 80-column page	Esc ?
Terminal returns: line col <RC>	
Read 80-column page number and cursor address	Esc w `
Terminal returns: num line col <RC>	
Read 80-column page (or window) number and cursor address	Esc /
Terminal returns: num line col <RC>	
Read cursor address in current 80/132-column page	Esc b
Terminal returns: line R col C	
Send ACK	05h
Terminal returns (if ACK mode is on): 06h	

2.4 - PCTERM FAMILY

This family is composed by the PCTERM, PCTERM THEOS and OS2 POLYMOD2 emulation.

Note: in following terminal commands, italic and underscored parameter values are from 00h to FFh. Other parameter values are greater than 20h.

Controlling Cursor	
Cursor left	08h
Cursor right	0Ch
Cursor up (no scroll)	0Bh
Cursor up ; scroll	Esc j
Cursor down (no scroll)	16h
Cursor down ; scroll	0Ah
Cursor to line 1 and column 1	1Eh
Cursor to start of line	0Dh
Cursor to start of next line	1Fh
Cursor to line Pn1 (0..24) and column Pn2 (0..79)	Esc = *Pn1*+20h *Pn2*+20h
Editing	
Move cursor to next tab stop	09h
Move cursor to previous tab stop	Esc I*
Set tab stop at cursor position	Esc 1
Clear tab stop at cursor position	Esc 2
Clear all tab stops	Esc 3
Insert a space character at cursor position	Esc Q
Insert a line of space characters at cursor line	Esc E
Delete cursor character	Esc W
Delete cursor line	Esc R
Clear screen to nulls	Esc *
Clear screen to spaces	Esc +
Clear screen to write-protected spaces	Esc ,
Clear screen to character *car*	Esc F *car*

* The last character in this sequence is an uppercase i

Controlling the Terminal

Sound a bell		07h
Lock keyboard		Esc #
Unlock keyboard		Esc "
Set cursor style		Esc . Pn1
Pn1 = 0 (invisible)	Pn1 = 1 (visible)	Pn1= 2 (block)
Pn1 = 3 (underline)	Pn1 = 4 (underline)	Pn1= 5 (block)
Autowrap mode on		Esc ~
Autowrap mode off		Esc 0
Insert mode on (replace mode off)		Esc Z
Replace mode on (insert mode off)		Esc r
Monitor mode on		Esc U
Monitor mode off		Esc u (or Esc X)
Restore normal screen		Esc d
Reverse screen		Esc b
Turn screen display off		Esc O (or Esc 20h 8)
Turn screen display on		Esc N (or Esc 20h 9)
ASCII mode		Esc c (or Esc 20h q or Esc 20h r)
PC-Scancode mode		Esc H (or Esc 20h p)
Set hardware handshake (DTR)		0Eh
Set software handshake (XON/XOFF or XPC)		0Fh
Set 80-column display		Esc m
Set 132-column display		Esc n
Display 25 data lines (clear screen)		Esc ^
Display 25 data lines (no clear screen)		Esc e (or Esc h)
Display 24 data lines + 1 status line (no clear screen)		Esc g
Display computer message in status line		Esc f str 0Dh
'new line' mode on (CR=CR+LF)		Esc 8
'new line' mode off		Esc 9
Full duplex mode on		Esc }
Autoscrolling mode on		Esc 20h v (or Esc 20h @)
Autoscrolling mode off		Esc w
Set-up MAIN port (serial model only)		Esc 20h t p1 p2 p3
p1 = 0 (8-bit control)	p2 = 0 (no parity)	p3 = 0 (1 stop bit)
p1 = 1 (7-bit control)	p2 = 1 (even parity)	p3 = 1 (2 stop bit)
	p2 = 2 (odd parity)	
NUM LED on		Esc 20h J
NUM LED off		Esc 20h K

MAJ LED on	Esc 20h L
MAJ LED off	Esc 20h M
DEFIL LED on	Esc 20h N
DEFIL LED off	Esc 20h O

Printing Control Sequences

Print screen	Esc P
Transparent print mode on	Esc `
Transparent print mode off	Esc a
Non-transparent print mode on	Esc @ (12h)
Non-transparent print mode off	Esc A (14h)
Print next character	10h

Controlling Character Attributes (except OS/2 POLYMOD2)

Definition Esc G attr

attr values			
	0 : Normal	p or @	: Normal + Dim
	1 : Invisible	q or A	: Invisible + Dim
	2 : Blink	r or B	: Blink + Dim
	3 : Invisible	s or C	: Invisible + Dim
	4 : Reverse	t or D	: Reverse + Dim
	5 : Invisible + Reverse	u or E	: Invisible + Reverse + Dim
	6 : Reverse + Blink	v or F	: Reverse + Blink + Dim
	7 : Invisible + Reverse	w or G	: Invisible + Reverse + Dim
	8 : Underline	x or H	: Underline + Dim
	9 : Invisible	y or I	: Invisible + Dim
	: : Underline + Blink	z or J	: Underline + Blink + Dim
	; : Invisible	{ or K	: Invisible + Dim
	< : Underline	| or L	: Underline + Dim
	= : Invisible + Reverse	} or M	: Invisible + Reverse + Dim
	> : Underline + Blink	~ or N	: Underline + Blink + Dim
	? : Invisible + Reverse	7Fh or o	: Invisible + Reverse + Dim

Colour Character Attributes (only for THEOS)

Definition Esc / c1 c2 c3 c4

c1: foreground normal colour c3: foreground reverse colour

c2: background normal colour c4: background reverse colour

c1, c2, c3 et c4 values:

0: black	1: blue	2: green	3: cyan
4: red	5: magenta	6: yellow	7: white

Character Attributes (only for OS/2 POLYMOD2)

Definition Esc G *attr*

The format of *attr* is the format of the standard VGA character attribute

Write-Protected Characters (only THEOS)

A write-protected character is written with the dim attribute (cf. character attributes)

Protect mode on	Esc &
Protect mode off	Esc '
Characters are written only in the protected regions	Esc (
Characters are written everywhere	Esc)
Clear unprotected:	
screen to spaces	Esc ; or 1Ah
screen to nulls	Esc :
line to spaces from cursor	Esc T
line to nulls from cursor	Esc t
screen to spaces from cursor	Esc Y
screen to nulls from cursor	Esc y

Programming Function Keys

Syntax is: Esc z Keyn *message* 7Fh

Keyn : key selector

@	: <F1>	`	: <Shift><F1>
A	: <F2>	a	: <Shift><F2>
...	...	...	...
K	: <F12>	k	: <Shift><F12>

message : definition string (length max. 32, any character except 7Fh).

2.5 - SM94XX FAMILY

This family is composed by the SM9400 and SM9412 emulations.

These emulations are dedicated to a legacy operating system especially used in France. So, the description of terminal commands are only given in the French manual.

2.6 - PROLOGUE FAMILY

This family is composed by the PROLOGUE 2/3, PROLOGUE 4/5 and TWIN SERVER emulations.

These emulations are dedicated to a legacy operating system especially used in France. So, the description of terminal commands are only given in the French manual.

2.7 - QVT119+ EMULATION

Cursor Commands	
Cursor left	08h
Cursor right	0Ch
Cursor up; no scroll	0Bh
Cursor up; scroll	Esc J
Cursor down; scroll	0Ah
Cursor to start of next line	1Fh
cursor to start of line	0Dh
Home cursor	1Eh
Address cursor in current 80-column page	Esc = *line col*
Address cursor in current 80-column or 132-column page	Esc = *line* n *col*
Address cursor in a specific 80-column page	Esc - *page line col*
Address cursor line (current line not modified)	Esc : *line* or Esc [*line*
Address cursor column (current column not modified)	Esc] *line*
Address cursor in current 80/132-column page	Esc ^ *lll* R *ccc* C

Editing	
Set tab stop	Esc 1
Clear tab stop	Esc 2
Clear all tab stops	Esc 3
Tabulate cursor	09h
Backtab	Esc I*
Insert space character	Esc Q
Insert line of spaces	Esc E
Delete cursor character	Esc W
Delete cursor line	Esc R
Clear page to nulls	Esc *0
Clear page to spaces	Esc *1 or Esc +
Clear screen	1Ah

* The last character in this sequence is an uppercase i

Video Attributes

Assign character display attribute — Esc G attr

attr values for full-intensity:

0	: normal	8	: underscore
1	: invisible	9	: underscore + invisible
2	: blink	:	: underscore + blink
3	: invisible + blink	;	: underscore + blink + invisible
4	: reverse	<	: underscore + reverse
5	: reverse + invisible	=	: underscore + reverse + invisible
6	: reverse + blink	>	: underscore + reverse + blink
7	: reverse + blink + invisible	?	: underscore + reverse + invisible + blink

attr values for half-intensity:

20h	: normal	(	: underscore
!	: invisible	)	: underscore + invisible
"	: blink	*	: underscore + blink
#	: invisible + blink	+	: underscore + blink + invisible
$	: reverse	,	: underscore + reverse
%	: reverse + invisible	-	: underscore + reverse + invisible
&	: reverse + blink	.	: underscore + reverse + blink
'	: reverse + blink + invisible	/	: underscore + reverse + invisible + blink

Message Line

Program and display label line	Esc f *txt* 0Dh
Display label line	Esc g
Clear label line	Esc h
Set message line video attribute (*attr*: se above)	Esc a 1 *attr*

Protected Data

Protect mode on	Esc &
Protect mode off	Esc '
Write-protect mode off	Esc (
Write-protect mode on	Esc)
Clear unprotected ...:	
line to spaces from cursor	Esc T
line to nulls from cursor	Esc t
page to spaces from cursor	Esc Y
page to nulls from cursor	Esc y
page to spaces	Esc *3
page to nulls	Esc *2

Controlling the terminal

Sound bell		07h
Lock keyboard		Esc #
Unlock keyboard		Esc "
Monitor mode on		Esc U
Monitor mode off		Esc u or Esc X
Graphics mode on		Esc $
Graphics mode off		Esc %
Insert mode on (replace mode off)		Esc q
Replace mode on (insert mode off)		Esc r
Cursor on/off		Esc . 0
Set cursor type		Esc ` curs
curs = '1' or '2': blinking block	curs = '3' or '4': blinking line	
Normal screen on		Esc n 0 or Esc a 0 0
Reverse screen on		Esc n 1 or Esc a 0 4
Turn screen display off		Esc n 2
Turn screen display on		Esc n 3
Select 80-column display		Esc n 4
Select 132-column display		Esc n 5
End-of-line wrap mode on		Esc n A
End-of-line wrap mode off		Esc n @
Set 'jump scrolling' mode		Esc n 8 or Esc j
Set 'smooth scrolling' mode		Esc n x (x is 9 : ; < = > ?) or Esc s
autoscrolling mode on/off		Esc H
Display next page		Esc w +
Display previous page		Esc w -
Display specific page		Esc w *num* P

Sending Data

Transparent print mode on	12h or Esc `
Transparent print mode off	14h
COPY mode on	Esc @
COPY mode off	Esc A
Print page	Esc P
Print page to cursor	Esc N

Programmable keys

Program: Esc z route key del sequence del

route: non-significant

Key: key number

Function keys:

<F1> to <F12>: 40h to 4Bh

<Shift><F1> to <Shift><F12>: 60h to 6Bh

Arrows keypad:

up: 20h down: 21h left: 22h right: 23h

del: one character (>20h)

Sequence: key definition (any character except Del)

Set default value for a key : Esc K route key del del

route, key and del: see above

Set default value for all keys: Esc K Z

Terminal Report

Answerback message (set through the AX3000 Set-Up)	05h
Response: message	
ACK (if answerback message is not defined)	05h
Response: 06h	
Read cursor address in current 80-column page	Esc ?
Terminal returns: line col <RC>	
Read 80-column page number and cursor address	Esc / or Esc ~
Terminal returns: num line col <RC>	

2.8 - TVI EMULATION

Cursor Commands	
Cursor left	08h
Cursor right	0Ch
Cursor up; no scroll	0Bh
Cursor up; scroll	Esc j
Cursor down; scroll	0Ah
Cursor down; no scroll	16h
Cursor to start of next line	1Fh
cursor to start of line	0Dh
Home cursor	1Eh
Address cursor in current 80-column page	Esc = *line col*
Address cursor in a specific 80-column page or window	Esc - *page line col*

Editing	
Set tab stop	Esc 1
Clear tab stop	Esc 2
Clear all tab stops	Esc 3
Tabulate cursor	Esc i or 09h
Backtab	Esc I*
Insert line of spaces	Esc E
Delete cursor line	Esc R
Clear page to nulls	Esc *
Clear page to spaces	Esc +

Controlling the terminal	
Sound bell	07h
Lock keyboard	Esc #
Unlock keyboard	Esc "
Monitor mode on	Esc U
Monitor mode off	Esc u or Esc X
Graphics mode on	Esc $
Graphics mode off	Esc %
Character mode on (block mode off)	Esc C
Full-duplex mode on	Esc DF
Half-duplex mode on	Esc DH

* The last character in this sequence is an uppercase i

Display previous page	Esc K
Display next page	Esc J
Turn normal screen on	Esc d
Turn reverse screen on	Esc b
Insert mode on (replace mode off)	Esc q
Replace mode on (insert mode off)	Esc r
Local edit mode on (duplex off)	Esc k
Duplex edit mode on (local off)	Esc l*
Turn screen display off	Esc o
Turn screen display on	Esc n
Set scrolling type	Esc ` *scroll*
Cursor off	Esc . 0
Set cursor type	Esc . *curs*
curs = '1' or '2': blinking block	curs = '3' or '4': blinking line
Key repeat off	Esc e-
Key repeat on	Esc e,
Receive CR mode off	Esc e 4
Receive CR mode on	Esc e 5

Video Attributes

Assign character display attribute — Esc G attr

attr values for full-intensity:

0	: normal	8	: underscore
1	: invisible	9	: underscore + invisible
2	: blink	:	: underscore + blink
3	: invisible + blink	;	: underscore + blink + invisible
4	: reverse	<	: underscore + reverse
5	: reverse + invisible	=	: underscore + reverse + invisible
6	: reverse + blink	>	: underscore + reverse + blink
7	: reverse + blink + invisible	?	: underscore + reverse + invisible + blink

Note: the video attribute is encoded by a character on the screen

Message Line

Program label line	Esc f *txt* 0Dh
Display label line	Esc g
Clear label line	Esc h

* The last character in this sequence is a lowercase L

Protected Data

Protect mode on	Esc &
Protect mode off	Esc '
Write-protect mode off	Esc (
Write-protect mode on	Esc)
Clear cursor column from cursor	Esc V
Clear unprotected ...:	
page to spaces	Esc ; or 1Ah or Esc ,
page to nulls	Esc :
line to spaces from cursor	Esc T
line to nulls from cursor	Esc t
page to spaces from cursor	Esc Y
page to nulls from cursor	Esc y

Sending Data

Print formatted page	Esc P
Print unformatted page	L
Transparent print mode on	Esc '
Transparent print mode off	Esc a
Secondary receive mode off	12h
Secondary receive mode on	14h
COPY mode on	Esc @
COPY mode off	Esc A

Programmable keys

Program (from WYSE emulation)	Esc z *key sequence* 7Fh

Terminal Report

Answerback message (set through the AX3000 Set-Up)	Esc M
Response: message (or 60 <CR> if message is null)	
Read cursor address in current 80-column page	Esc ?
Terminal returns: line col <RC>	
Read 80-column page (or window) number and cursor address	Esc /
Terminal returns: num line col <RC>	
Send ACK	05h
Terminal returns: 06h	

2.9 - 3151 EMULATION

Cursor Commands	
Cursor right	Esc C
Cursor left	Esc D
Cursor up (no scroll)	Esc A
Cursor up (scroll)	Esc ! M
Cursor down (no scroll)	Esc B
Cursor down (scroll)	Esc 20 M
Cursor to start of next line	Esc M
Cursor to next line (same column)	0Ah
Cursor to start of line	0Dh
Home cursor	Esc H
Set cursor address: line Pn1 (20h…38h), column Pn2 (20h…6Fh)	Esc Y Pn1 Pn2
Set cursor address: line Pn1 (1..25), column Pn2 (1..80)	Esc [Pn1 ; Pn2 H
Set buffer address line Pn1 (20h...38h), column Pn2 (20h..6Fh)	Esc X Pn1 Pn2
Reset buffer address mode	Esc 20h Z
Insert cursor	Esc Z

Editing	
Set tab stop	Esc 0
Tabulate cursor	09h
Backtab	Esc 2
Clear tab stop	Esc 1
Clear all tab stops	Esc 20h 1
Clear screen and home cursor	Esc L or Esc K or Esc ! L
Clear screen from cursor	Esc J
Clear line from cursor	Esc I
Insert a line	Esc N
Delete cursor line	Esc O
Insert character Pn	Esc P Pn
Delete cursor character	Esc Q

Terminal Commands

Reset to initial state	Esc 20h S
Sound bell	07h
Lock keyboard	Esc :
Unlock keyboard	Esc ;
Assign Pn character set as G0	Esc < Pn
Assign Pn character set as G1	Esc > Pn
Set a 24x80 screen	Esc 20h r!! 20h 8"P
Set a 25x80 screen	Esc 20h r!! 20h 9"P
Set a 24x132 screen	Esc 20h r!! 20h 8$D
Set a 25x132 screen	Esc 20h r!! 20h 9$D
Enable 'Impr' key (hardcopy sequence is sent when the key is pressed)	Esc) :
Disable 'Impr' key (the hardcopy is locally performed)	Esc) ;

Programmable Keys

Set all default programmable keys	Esc 20h t

Printing Control Sequences

Enable local printing mode	10h 14h
Disable local printing mode	10h 12h
Print the screen (hardcopy)	Esc W or Esc 20h W
Select the default printer port:	CSI < Po F

TCP/IP models: Po = 1: AUX1 Po = 2: AUX2 Po = 3: parallel

Serial models: Po = 1: AUX1 Po = 2: parallel

Video Attributes

Assign character display attribute (additive sequence) Esc 4 *attr* a

attr values:

		(	: bold
!	: reverse	)	: bold + reverse
"	: underscore	*	: bold + underscore
#	: underscore + reverse	+	: bold + underscore + reverse
$	: blink	,	: bold + blink
%	: reverse + blink	-	: bold + reverse + blink
&	: underscore + blink	.	: bold + underscore + blink
'	: reverse + underscore + blink	/	: bold + reverse + underscore + blink
0	: invisible		

Assign character display attribute (non-additive sequence) Esc 4 *attr*

attr values:

@	: normal (no attribute)	H	: bold
A	: reverse	I	: bold + reverse
B	: underscore	J	: bold + underscore
C	: underscore + reverse	K	: bold + underscore + reverse
D	: blink	L	: bold + blink
E	: reverse + blink	M	: bold + reverse + blink
F	: underscore + blink	N	: bold + underscore + blink
G	: reverse + underscore + blink	O	: bold + reverse + underscore + blink
P	: invisible		

Reset character display attribute Esc 4 *attr* b

attr values:

0	: bold + reverse + underscore + blink	8	: reverse + underscore + blink
1	: bold + underscore + blink	9	: underscore + blink
2	: bold + reverse + blink	:	: reverse + blink
3	: bold + blink	;	: blink
4	: bold + underscore + reverse	<	: underscore + reverse
5	: bold + underscore	=	: underscore
6	: bold + reverse	>	: reverse
7	: bold	20h	: invisible

Terminal Report (Axel)

AX3000 IP address	CSI < a (or CSI < 0 a)
Response: IP address <CR>	
Firmware revision	CSI < 1 a
Response: version <CR>	
Answerback message (set through the AX3000 Set-Up)	CSI < 4 a
Response: message	
Current session number	CSI < 5 a
Response: number <CR>	
Printer Status	CSI < 6 a
Response: OK <CR> or ERR <CR>	

Terminal Report

Cursor position report	Esc 5
Response: Esc Y line col <CR>	
Terminal status	Esc 6
Response: Esc 6 20h D <CR>	
Hardware configuration	Esc 20h 6
Response: Esc 20h 6 T <CR>	
Hardware configuration (enhanced)	Esc " 6
Response: Esc " 6) (! & D <CR>	
Answerback message (set through the AX3000 Set-Up)	Esc ! 6
Response: Esc ! 6 message Esc 6 <CR>	

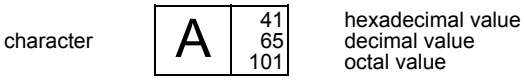
- 3 -
CHARACTER SETS

This chapter deals with available AX3000 character sets.

The Platine terminal supports many character sets. These character sets are sorted by families:

- ANSI, PCTERM, SM94xx, PROLOGUE, QVT, TVI and 3151 families
- VT family
- WYSE family

Convention: in following character sets, for each character, the decimal, hexadecimal and octal values are given:



3.1 - ANSI, PCTERM, SM94XX, PROLOGUE, QVT, TVI, 3151

The following table specifies available character sets for each family:

	ANSI	PCTERM	SM94xx	PROLOGUE	QVT	TVI	3151
PC 437	✓	✓		✓	✓	✓	✓
PC 850	✓	✓		✓			✓
PC 858 (*)	✓	✓		✓			
PC 860	✓	✓		✓			
ISO 8859-1	✓						
ISO 8859-SG	✓						
ISO 8859-15 (*)	✓						
ISO 7-bit	✓	✓	✓	✓	✓	✓	
SM9400			✓				
Special graphics							✓

(*) only available with EURO option

PC-437 :

	0	1	2	3	4	5	6	7
0		►	SP	0	@	P	`	p
1	☺	◄	!	1	A	Q	a	q
2	☻	↕	"	2	B	R	b	r
3	♥	‼	#	3	C	S	c	s
4	♦	¶	$	4	D	T	d	t
5	♣	§	%	5	E	U	e	u
6	♠	↨	&	6	F	V	f	v
7	•	■	'	7	G	W	g	w
8	◘	↑	(	8	H	X	h	x
9	○	↓	)	9	I	Y	i	y
A	◙	→	*	:	J	Z	j	z
B	♂	←	+	;	K	[	k	{
C	♀	∟	,	<	L	\	l	¦
D	♪	↔	-	=	M	]	m	}
E	♫	▲	.	>	N	^	n	~
F	☼	▼	/	?	O	_	o	⌂

	8	9	A	B	C	D	E	F
0	Ç	É	á	░	└	╨	α	≡
1	ü	æ	í	▒	┴	╤	ß	±
2	é	Æ	ó	▓	┬	╥	Γ	≥
3	â	ô	ú	│	├	╙	π	≤
4	ä	ö	ñ	┤	─	╘	Σ	⌠
5	à	ò	Ñ	╡	┼	╒	σ	⌡
6	å	û	ª	╢	╞	╓	µ	÷
7	ç	ù	º	╖	╟	╫	τ	≈
8	ê	ÿ	¿	╕	╚	╪	Φ	°
9	ë	Ö	⌐	╣	╔	┘	Θ	·
A	è	Ü	¬	║	╩	┌	Ω	·
B	ï	¢	½	╗	╦	█	δ	√
C	î	£	¼	╝	╠	▄	∞	n
D	ì	¥	¡	╜	═	▌	φ	²
E	Ä	₧	«	╛	╬	▐	ε	■
F	Å	ƒ	»	┐	╧	▀	∩	

PC-850 :

	0	1	2	3	4	5	6	7
0	0 0 0	► 10 16 20	SP 20 32 40	0 30 48 60	@ 40 64 100	P 50 80 120	` 60 96 140	p 70 112 160
1	☺ 1 1 1	◄ 11 17 21	! 21 33 41	1 31 49 61	A 41 65 101	Q 51 81 121	a 61 97 141	q 71 113 161
2	☻ 2 2 2	↕ 12 18 22	" 22 34 42	2 32 50 62	B 42 66 102	R 52 82 122	b 62 98 142	r 72 114 162
3	♥ 3 3 3	‼ 13 19 23	# 23 35 43	3 33 51 63	C 43 67 103	S 53 83 123	c 63 99 143	s 73 115 163
4	♦ 4 4 4	¶ 14 20 24	$ 24 36 44	4 34 52 64	D 44 68 104	T 54 84 124	d 64 100 144	t 74 116 164
5	♣ 5 5 5	§ 15 21 25	% 25 37 45	5 35 53 65	E 45 69 105	U 55 85 125	e 65 101 145	u 75 117 165
6	♠ 6 6 6	↨ 16 22 26	& 26 38 46	6 36 54 66	F 46 70 106	V 56 86 126	f 66 102 146	v 76 118 166
7	• 7 7 7	■ 17 23 27	' 27 39 47	7 37 55 67	G 47 71 107	W 57 87 127	g 67 103 147	w 77 119 167
8	◘ 8 8 10	↑ 18 24 30	(28 40 50	8 38 56 70	H 48 72 110	X 58 88 130	h 68 104 150	x 78 120 170
9	○ 9 9 11	↓ 19 25 31	) 29 41 51	9 39 57 71	I 49 73 111	Y 59 89 131	i 69 105 151	y 79 121 171
A	◙ A 10 12	→ 1A 26 32	* 2A 42 52	: 3A 58 72	J 4A 74 112	Z 5A 90 132	j 6A 106 152	z 7A 122 172
B	♂ B 11 13	← 1B 27 33	+ 2B 43 53	; 3B 59 73	K 4B 75 113	[5B 91 133	k 6B 107 153	{ 7B 123 173
C	♀ C 12 14	∟ 1C 28 34	, 2C 44 54	< 3C 60 74	L 4C 76 114	\ 5C 92 134	l 6C 108 154	¦ 7C 124 174
D	♪ D 13 15	↔ 1D 29 35	- 2D 45 55	= 3D 61 75	M 4D 77 115	] 5D 93 135	m 6D 109 155	} 7D 125 175
E	♫ E 14 16	▲ 1E 30 36	. 2E 46 56	> 3E 62 76	N 4E 78 116	^ 5E 94 136	n 6E 110 156	~ 7E 126 176
F	☼ F 15 17	▼ 1F 31 37	/ 2F 47 57	? 3F 63 77	O 4F 79 117	_ 5F 95 137	o 6F 111 157	⌂ 7F 127 177

	8	9	A	B	C	D	E	F
0	Ç 80 128 200	É 90 144 220	á A0 160 240	░ B0 176 260	└ C0 192 300	ð D0 208 320	Ó E0 224 340	– F0 240 360
1	ü 81 129 201	æ 91 145 221	í A1 161 241	▒ B1 177 261	┴ C1 193 301	Đ D1 209 321	ß E1 225 341	± F1 241 361
2	é 82 130 202	Æ 92 146 222	ó A2 162 242	▓ B2 178 262	┬ C2 194 302	Ê D2 210 322	Ô E2 226 342	= F2 242 362
3	â 83 131 203	ô 93 147 223	ú A3 163 243	│ B3 179 263	├ C3 195 303	Ë D3 211 323	Ò E3 227 343	¾ F3 243 363
4	ä 84 132 204	ö 94 148 224	ñ A4 164 244	┤ B4 180 264	─ C4 196 304	È D4 212 324	õ E4 228 344	¶ F4 244 364
5	à 85 133 205	ò 95 149 225	Ñ A5 165 245	Á B5 181 265	┼ C5 197 305	ı D5 213 325	Õ E5 229 345	§ F5 245 365
6	å 86 134 206	û 96 150 226	ª A6 166 246	Â B6 182 266	ã C6 198 306	Í D6 214 326	µ E6 230 346	÷ F6 246 366
7	ç 87 135 207	ù 97 151 227	º A7 167 2A7	À B7 183 267	Ã C7 199 307	Î D7 215 327	þ E7 231 347	¸ F7 247 367
8	ê 88 136 210	ÿ 98 152 230	¿ A8 168 250	© B8 184 270	╚ C8 200 310	Ï D8 216 330	Þ E8 232 350	° F8 248 370
9	ë 89 137 211	Ö 99 153 231	® A9 169 251	╣ B9 185 271	╔ C9 201 311	┘ D9 217 331	Ú E9 233 351	¨ F9 249 371
A	è 8A 138 212	Ü 9A 154 232	¬ AA 170 252	║ BA 186 272	╩ CA 202 312	┌ DA 218 332	Û EA 234 352	· FA 250 372
B	ï 8B 139 213	ø 9B 155 233	½ AB 171 253	╗ BB 187 273	╦ CB 203 313	▉ DB 219 333	Ù EB 235 353	¹ FB 251 373
C	î 8C 140 214	£ 9C 156 234	¼ AC 172 254	╝ BC 188 274	╠ CC 204 314	▄ DC 220 334	ý EC 236 354	² FC 252 374
D	ì 8D 141 215	Ø 9D 157 235	¡ AD 173 255	¢ BD 189 275	═ CD 205 315	¦ DD 221 335	Ý ED 237 355	³ FD 253 375
E	Ä 8E 142 216	× 9E 158 236	« AE 174 256	¥ BE 190 276	╬ CE 206 316	ì DE 222 336	¯ EE 238 356	■ FE 254 376
F	Å 8F 143 217	ƒ 9F 159 237	» AF 175 257	┐ BF 191 277	¤ CF 207 317	▌ DF 223 337	´ EF 239 357	FF 255 377

PC-858 :

(Available only with Euro option)

	0	1	2	3	4	5	6	7
0		►	SP	0	@	P	`	p
1	☺	◄	!	1	A	Q	a	q
2	☻	↕	"	2	B	R	b	r
3	♥	‼	#	3	C	S	c	s
4	♦	¶	$	4	D	T	d	t
5	♣	§	%	5	E	U	e	u
6	♠	↨	&	6	F	V	f	v
7	•	■	'	7	G	W	g	w
8	◘	↑	(	8	H	X	h	x
9	○	↓	)	9	I	Y	i	y
A	◙	→	*	:	J	Z	j	z
B	♂	←	+	;	K	[	k	{
C	♀	∟	,	<	L	\	l	¦
D	♪	↔	-	=	M	]	m	}
E	♫	▲	.	>	N	^	n	~
F	☼	▼	/	?	O	_	o	⌂

	8	9	A	B	C	D	E	F
0	Ç	É	á	░	└	ð	Ó	–
1	ü	æ	í	▒	┴	Ð	ß	±
2	é	Æ	ó	▓	┬	Ê	Ô	=
3	â	ô	ú	│	├	Ë	Ò	¾
4	ä	ö	ñ	┤	─	È	õ	¶
5	à	ò	Ñ	Á	┼	€	Õ	§
6	å	û	ª	Â	ã	Í	µ	÷
7	ç	ù	º	À	Ã	Î	þ	¸
8	ê	ÿ	¿	©	╚	Ï	Þ	°
9	ë	Ö	®	╣	╔	┘	Ú	¨
A	è	Ü	¬	║	╩	┌	Û	·
B	ï	ø	½	╗	╦	█	Ù	¹
C	î	£	¼	╝	╠	▄	ý	²
D	ì	Ø	¡	¢	═	¦	Ý	³
E	Ä	×	«	¥	╬	ì	¯	■
F	Å	ƒ	»	┐	¤	■	´	

PC-860 :

	0		1		2		3		4		5		6		7	
0		0 0 0	▶	10 16 20	SP	20 32 40	0	30 48 60	@	40 64 100	P	50 80 120	`	60 96 140	p	70 112 160
1	☺	1 1 1	◀	11 17 21	!	21 33 41	1	31 49 61	A	41 65 101	Q	51 81 121	a	61 97 141	q	71 113 161
2	☻	2 2 2	↕	12 18 22	"	22 34 42	2	32 50 62	B	42 66 102	R	52 82 122	b	62 98 142	r	72 114 162
3	♥	3 3 3	‼	13 19 23	#	23 35 43	3	33 51 63	C	43 67 103	S	53 83 123	c	63 99 143	s	73 115 163
4	♦	4 4 4	¶	14 20 24	$	24 36 44	4	34 52 64	D	44 68 104	T	54 84 124	d	64 100 144	t	74 116 164
5	♣	5 5 5	§	15 21 25	%	25 37 45	5	35 53 65	E	45 69 105	U	55 85 125	e	65 101 145	u	75 117 165
6	♠	6 6 6	↨	16 22 26	&	26 38 46	6	36 54 66	F	46 70 106	V	56 86 126	f	66 102 146	v	76 118 166
7	•	7 7 7	■	17 23 27	'	27 39 47	7	37 55 67	G	47 71 107	W	57 87 127	g	67 103 147	w	77 119 167
8	◘	8 8 10	↑	18 24 30	(	28 40 50	8	38 56 70	H	48 72 110	X	58 88 130	h	68 104 150	x	78 120 170
9	○	9 9 11	↓	19 25 31	)	29 41 51	9	39 57 71	I	49 73 111	Y	59 89 131	i	69 105 151	y	79 121 171
A	◙	A 10 12	→	1A 26 32	*	2A 42 52	:	3A 58 72	J	4A 74 112	Z	5A 90 132	j	6A 106 152	z	7A 122 172
B	♂	B 11 13	←	1B 27 33	+	2B 43 53	;	3B 59 73	K	4B 75 113	[	5B 91 133	k	6B 107 153	{	7B 123 173
C	♀	C 12 14	∟	1C 28 34	,	2C 44 54	<	3C 60 74	L	4C 76 114	\	5C 92 134	l	6C 108 154	¦	7C 124 174
D	♪	D 13 15	↔	1D 29 35	-	2D 45 55	=	3D 61 75	M	4D 77 115	]	5D 93 135	m	6D 109 155	}	7D 125 175
E	♫	E 14 16	▲	1E 30 36	.	2E 46 56	>	3E 62 76	N	4E 78 116	^	5E 94 136	n	6E 110 156	~	7E 126 176
F	☼	F 15 17	▼	1F 31 37	/	2F 47 57	?	3F 63 77	O	4F 79 117	_	5F 95 137	o	6F 111 157	⌂	7F 127 177

	8		9		A		B		C		D		E		F	
0	Ç	80 128 200	É	90 144 220	á	A0 160 240	░	B0 176 260	└	C0 192 300	╨	D0 208 320	α	E0 224 340	≡	F0 240 360
1	ü	81 129 201	À	91 145 221	í	A1 161 241	▒	B1 177 261	┴	C1 193 301	╤	D1 209 321	ß	E1 225 341	±	F1 241 361
2	é	82 130 202	È	92 146 222	ó	A2 162 242	▓	B2 178 262	┬	C2 194 302	╥	D2 210 322	Γ	E2 226 342	≥	F2 242 362
3	â	83 131 203	ô	93 147 223	ú	A3 163 243	│	B3 179 263	├	C3 195 303	╙	D3 211 323	π	E3 227 343	≤	F3 243 363
4	ã	84 132 204	õ	94 148 224	ñ	A4 164 244	┤	B4 180 264	─	C4 196 304	╘	D4 212 324	Σ	E4 228 344	⌠	F4 244 364
5	à	85 133 205	ò	95 149 225	Ñ	A5 165 245	╡	B5 181 265	┼	C5 197 305	╒	D5 213 325	σ	E5 229 345	⌡	F5 245 365
6	Á	86 134 206	Ú	96 150 226	ª	A6 166 246	╢	B6 182 266	╞	C6 198 306	╓	D6 214 326	µ	E6 230 346	÷	F6 246 366
7	ç	87 135 207	ù	97 151 227	º	A7 167 2A7	╖	B7 183 267	╟	C7 199 307	╫	D7 215 327	τ	E7 231 347	≈	F7 247 367
8	ê	88 136 210	Ì	98 152 230	¿	A8 168 250	╕	B8 184 270	╚	C8 200 310	╪	D8 216 330	Φ	E8 232 350	°	F8 248 370
9	Ê	89 137 211	Õ	99 153 231	Ò	A9 169 251	╣	B9 185 271	╔	C9 201 311	┘	D9 217 331	Θ	E9 233 351	·	F9 249 371
A	è	8A 138 212	Ü	9A 154 232	¬	AA 170 252	║	BA 186 272	╩	CA 202 312	┌	DA 218 332	Ω	EA 234 352	·	FA 250 372
B	Í	8B 139 213	¢	9B 155 233	½	AB 171 253	╗	BB 187 273	╦	CB 203 313	█	DB 219 333	δ	EB 235 353	√	FB 251 373
C	Ô	8C 140 214	£	9C 156 234	¼	AC 172 254	╝	BC 188 274	╠	CC 204 314	▄	DC 220 334	∞	EC 236 354	n	FC 252 374
D	ì	8D 141 215	Ù	9D 157 235	¡	AD 173 255	╜	BD 189 275	═	CD 205 315	▌	DD 221 335	φ	ED 237 355	²	FD 253 375
E	Ã	8E 142 216	₧	9E 158 236	«	AE 174 256	╛	BE 190 276	╬	CE 206 316	▐	DE 222 336	ε	EE 238 356	■	FE 254 376
F	Â	8F 143 217	Ó	9F 159 237	»	AF 175 257	┐	BF 191 277	╧	CF 207 317	▀	DF 223 337	∩	EF 239 357		FF 255 377

ISO 8859-1:

	0		1		2		3		4		5		6		7	
0		0 0 0	►	10 16 20	SP	20 32 40	0	30 48 60	@	40 64 100	P	50 80 120	`	60 96 140	p	70 112 160
1	☺	1 1 1	◄	11 17 21	!	21 33 41	1	31 49 61	A	41 65 101	Q	51 81 121	a	61 97 141	q	71 113 161
2	☻	2 2 2	↕	12 18 22	"	22 34 42	2	32 50 62	B	42 66 102	R	52 82 122	b	62 98 142	r	72 114 162
3	♥	3 3 3	!!	13 19 23	#	23 35 43	3	33 51 63	C	43 67 103	S	53 83 123	c	63 99 143	s	73 115 163
4	♦	4 4 4	¶	14 20 24	$	24 36 44	4	34 52 64	D	44 68 104	T	54 84 124	d	64 100 144	t	74 116 164
5	♣	5 5 5	§	15 21 25	%	25 37 45	5	35 53 65	E	45 69 105	U	55 85 125	e	65 101 145	u	75 117 165
6	♠	6 6 6	↨	16 22 26	&	26 38 46	6	36 54 66	F	46 70 106	V	56 86 126	f	66 102 146	v	76 118 166
7	•	7 7 7	■	17 23 27	'	27 39 47	7	37 55 67	G	47 71 107	W	57 87 127	g	67 103 147	w	77 119 167
8	◘	8 8 10	↑	18 24 30	(	28 40 50	8	38 56 70	H	48 72 110	X	58 88 130	h	68 104 150	x	78 120 170
9	○	9 9 11	↓	19 25 31	)	29 41 51	9	39 57 71	I	49 73 111	Y	59 89 131	i	69 105 151	y	79 121 171
A	◙	A 10 12	→	1A 26 32	*	2A 42 52	:	3A 58 72	J	4A 74 112	Z	5A 90 132	j	6A 106 152	z	7A 122 172
B	♂	B 11 13	←	1B 27 33	+	2B 43 53	;	3B 59 73	K	4B 75 113	[	5B 91 133	k	6B 107 153	{	7B 123 173
C	♀	C 12 14	∟	1C 28 34	,	2C 44 54	<	3C 60 74	L	4C 76 114	\	5C 92 134	l	6C 108 154	¦	7C 124 174
D	♪	D 13 15	↔	1D 29 35	-	2D 45 55	=	3D 61 75	M	4D 77 115	]	5D 93 135	m	6D 109 155	}	7D 125 175
E	♫	E 14 16	▲	1E 30 36	.	2E 46 56	>	3E 62 76	N	4E 78 116	^	5E 94 136	n	6E 110 156	~	7E 126 176
F	☼	F 15 17	▼	1F 31 37	/	2F 47 57	?	3F 63 77	O	4F 79 117	_	5F 95 137	o	6F 111 157	⌂	7F 127 177

	8		9		A		B		C		D		E		F	
0		80 128 200	–	90 144 220		A0 160 240	°	B0 176 260	À	C0 192 300	Đ	D0 208 320	à	E0 224 340	ð	F0 240 360
1	♦	81 129 201	–	91 145 221	¡	A1 161 241	±	B1 177 261	Á	C1 193 301	Ñ	D1 209 321	á	E1 225 341	ñ	F1 241 361
2	▒	82 130 202	–	92 146 222	¢	A2 162 242	²	B2 178 262	Â	C2 194 302	Ò	D2 210 322	â	E2 226 342	ò	F2 242 362
3	┤	83 131 203	–	93 147 223	£	A3 163 243	³	B3 179 263	Ã	C3 195 303	Ó	D3 211 323	ã	E3 227 343	ó	F3 243 363
4	╡	84 132 204	–	94 148 224	¤	A4 164 244	´	B4 180 264	Ä	C4 196 304	Ô	D4 212 324	ä	E4 228 344	ô	F4 244 364
5	╢	85 133 205	├	95 149 225	¥	A5 165 245	µ	B5 181 265	Å	C5 197 305	Õ	D5 213 325	å	E5 229 345	õ	F5 245 365
6	╖	86 134 206	┼	96 150 226	¦	A6 166 246	¶	B6 182 266	Æ	C6 198 306	Ö	D6 214 326	æ	E6 230 346	ö	F6 246 366
7	°	87 135 207	┴	97 151 227	§	A7 167 2A7	·	B7 183 267	Ç	C7 199 307	x	D7 215 327	ç	E7 231 347	÷	F7 247 367
8	±	88 136 210	┬	98 152 230	¨	A8 168 250	¸	B8 184 270	È	C8 200 310	Ø	D8 216 330	è	E8 232 350	φ	F8 248 370
9	╕	89 137 211	│	99 153 231	©	A9 169 251	¹	B9 185 271	É	C9 201 311	Ù	D9 217 331	é	E9 233 351	ù	F9 249 371
A	╣	8A 138 212	≤	9A 154 232	ª	AA 170 252	º	BA 186 272	Ê	CA 202 312	Ú	DA 218 332	ê	EA 234 352	ú	FA 250 372
B	╜	8B 139 213	≥	9B 155 233	«	AB 171 253	»	BB 187 273	Ë	CB 203 313	Û	DB 219 333	ë	EB 235 353	û	FB 251 373
C	╗	8C 140 214	∏	9C 156 234	¬	AC 172 254	¼	BC 188 274	Ì	CC 204 314	Ü	DC 220 334	ì	EC 236 354	ü	FC 252 374
D	╓	8D 141 215	≠	9D 157 235	–	AD 173 255	½	BD 189 275	Í	CD 205 315	Ý	DD 221 335	í	ED 237 355	ý	FD 253 375
E	╙	8E 142 216	£	9E 158 236	®	AE 174 256	¾	BE 190 276	Î	CE 206 316	þ	DE 222 336	î	EE 238 356	Þ	FE 254 376
F	╫	8F 143 217	·	9F 159 237	–	AF 175 257	¿	BF 191 277	Ï	CF 207 317	ß	DF 223 337	ï	EF 239 357	ÿ	FF 255 377

Note: for ANSI RS/6000 emulation, the ASCII characters from 80h to 9Fh are blank characters.

ISO 8859-SG:

	0		1		2		3		4		5		6		7	
0	α	0 0 0		10 16 20	SP	20 32 40	0	30 48 60	@	40 64 100	P	50 80 120	`	60 96 140	p	70 112 160
1	Γ	1 1 1		11 17 21	!	21 33 41	1	31 49 61	A	41 65 101	Q	51 81 121	a	61 97 141	q	71 113 161
2	π	2 2 2		12 18 22	"	22 34 42	2	32 50 62	B	42 66 102	R	52 82 122	b	62 98 142	r	72 114 162
3	Σ	3 3 3		13 19 23	#	23 35 43	3	33 51 63	C	43 67 103	S	53 83 123	c	63 99 143	s	73 115 163
4	σ	4 4 4	┤	14 20 24	$	24 36 44	4	34 52 64	D	44 68 104	T	54 84 124	d	64 100 144	t	74 116 164
5	τ	5 5 5	╡	15 21 25	%	25 37 45	5	35 53 65	E	45 69 105	U	55 85 125	e	65 101 145	u	75 117 165
6	Φ	6 6 6	╢	16 22 26	&	26 38 46	6	36 54 66	F	46 70 106	V	56 86 126	f	66 102 146	v	76 118 166
7	Θ	7 7 7	╖	17 23 27	'	27 39 47	7	37 55 67	G	47 71 107	W	57 87 127	g	67 103 147	w	77 119 167
8	Ω	8 8 10	╕	18 24 30	(	28 40 50	8	38 56 70	H	48 72 110	X	58 88 130	h	68 104 150	x	78 120 170
9	δ	9 9 11	╣	19 25 31	)	29 41 51	9	39 57 71	I	49 73 111	Y	59 89 131	i	69 105 151	y	79 121 171
A	∞	A 10 12	╙	1A 26 32	*	2A 42 52	:	3A 58 72	J	4A 74 112	Z	5A 90 132	j	6A 106 152	z	7A 122 172
B	ε	B 11 13	╗	1B 27 33	+	2B 43 53	;	3B 59 73	K	4B 75 113	[	5B 91 133	k	6B 107 153	{	7B 123 173
C	∩	C 12 14	╝	1C 28 34	,	2C 44 54	<	3C 60 74	L	4C 76 114	\	5C 92 134	l	6C 108 154	¦	7C 124 174
D	ÿ	D 13 15	╜	1D 29 35	-	2D 45 55	=	3D 61 75	M	4D 77 115	]	5D 93 135	m	6D 109 155	}	7D 125 175
E	P_t	E 14 16	╛	1E 30 36	.	2E 46 56	>	3E 62 76	N	4E 78 116	^	5E 94 136	n	6E 110 156	~	7E 126 176
F	ƒ	F 15 17	┐	1F 31 37	/	2F 47 57	?	3F 63 77	O	4F 79 117	_	5F 95 137	o	6F 111 157	⌂	7F 127 177

	8		9		A		B		C		D		E		F	
0	└	80 128 200	╨	90 144 220		A0 160 240	°	B0 176 260	À	C0 192 300	Đ	D0 208 320	à	E0 224 340	ð	F0 240 360
1	┴	81 129 201	╤	91 145 221	¡	A1 161 241	±	B1 177 261	Á	C1 193 301	Ñ	D1 209 321	á	E1 225 341	ñ	F1 241 361
2	┬	82 130 202	╥	92 146 222	¢	A2 162 242	²	B2 178 262	Â	C2 194 302	Ò	D2 210 322	â	E2 226 342	ò	F2 242 362
3	├	83 131 203	╙	93 147 223	£	A3 163 243	³	B3 179 263	Ã	C3 195 303	Ó	D3 211 323	ã	E3 227 343	ó	F3 243 363
4	─	84 132 204	╘	94 148 224	¤	A4 164 244	´	B4 180 264	Ä	C4 196 304	Ô	D4 212 324	ä	E4 228 344	ô	F4 244 364
5	┼	85 133 205	╒	95 149 225	¥	A5 165 245	µ	B5 181 265	Å	C5 197 305	Õ	D5 213 325	å	E5 229 345	õ	F5 245 365
6	╞	86 134 206	╓	96 150 226	¦	A6 166 246	¶	B6 182 266	Æ	C6 198 306	Ö	D6 214 326	æ	E6 230 346	ö	F6 246 366
7	╟	87 135 207	╫	97 151 227	§	A7 167 2A7	·	B7 183 267	Ç	C7 199 307	x	D7 215 327	ç	E7 231 347	÷	F7 247 367
8	╚	88 136 210	╪	98 152 230	¨	A8 168 250	¸	B8 184 270	È	C8 200 310	Ø	D8 216 330	è	E8 232 350	φ	F8 248 370
9	╔	89 137 211	┘	99 153 231	©	A9 169 251	¹	B9 185 271	É	C9 201 311	Ù	D9 217 331	é	E9 233 351	ù	F9 249 371
A	╩	8A 138 212	┌	9A 154 232	ª	AA 170 252	º	BA 186 272	Ê	CA 202 312	Ú	DA 218 332	ê	EA 234 352	ú	FA 250 372
B	╦	8B 139 213	▉	9B 155 233	«	AB 171 253	»	BB 187 273	Ë	CB 203 313	Û	DB 219 333	ë	EB 235 353	û	FB 251 373
C	╠	8C 140 214	▄	9C 156 234	¬	AC 172 254	¼	BC 188 274	Ì	CC 204 314	Ü	DC 220 334	ì	EC 236 354	ü	FC 252 374
D	═	8D 141 215	▌	9D 157 235	─	AD 173 255	½	BD 189 275	Í	CD 205 315	Ý	DD 221 335	í	ED 237 355	ý	FD 253 375
E	╬	8E 142 216	▐	9E 158 236	®	AE 174 256	¾	BE 190 276	Î	CE 206 316	þ	DE 222 336	î	EE 238 356	Þ	FE 254 376
F	╧	8F 143 217	▀	9F 159 237	¯	AF 175 257	¿	BF 191 277	Ï	CF 207 317	ß	DF 223 337	ï	EF 239 357	ÿ	FF 255 377

ISO 8859-15:

(only available with the Euro option)

	0	1	2	3	4	5	6	7
0		►	SP	0	@	P	`	p
1	☺	◄	!	1	A	Q	a	q
2	☻	↕	"	2	B	R	b	r
3	♥	‼	#	3	C	S	c	s
4	♦	¶	$	4	D	T	d	t
5	♣	§	%	5	E	U	e	u
6	♠	↨	&	6	F	V	f	v
7	•	■	'	7	G	W	g	w
8	◘	↑	(	8	H	X	h	x
9	○	↓	)	9	I	Y	i	y
A	◙	→	*	:	J	Z	j	z
B	♂	←	+	;	K	[	k	{
C	♀	∟	,	<	L	\	l	¦
D	♪	↔	-	=	M	]	m	}
E	♫	▲	.	>	N	^	n	~
F	☼	▼	/	?	O	_	o	⌂

	8	9	A	B	C	D	E	F
0		–		°	À	Đ	**à**	**ð**
1	♦	–	¡	±	Á	Ñ	á	**ñ**
2	▒	–	¢	²	Â	Ò	**â**	**ò**
3	␉	–	£	³	Ã	Ó	ã	**ó**
4	␋	–	€	Ž	Ä	Ô	**ä**	**ô**
5	␌	├	¥	µ	Å	Õ	**å**	õ
6	␍	┤	Š	¶	**Æ**	Ö	**æ**	**ö**
7	°	┴	§	·	**Ç**	x	**ç**	÷
8	±	┬	**š**	ž	È	Ø	**è**	**φ**
9	␤	│	©	¹	É	Ù	**é**	**ù**
A	␋	≤	**ª**	**º**	Ê	Ú	**ê**	**ú**
B	┘	≥	«	»	Ë	Û	**ë**	**û**
C	┐	∏	¬	Œ	Ì	Ü	**ì**	**ü**
D	┌	≠	SHY	œ	Í	Ý	**í**	ý
E	└	£	®	Ÿ	Î	**þ**	**î**	**Þ**
F	┼	·	¯	¿	Ï	**ß**	**ï**	**ÿ**

Note: for ANSI RS/6000 emulation, the ASCII characters from 80h to 9Fh are blank characters.

National ISO 7-Bit:

Many characters of the National ISO 7-Bit set are dependent of the national keyboard selected through the AX3000 Set-Up. The following table describes the character set associated with the US keyboard:

	0		1		2		3		4		5		6		7	
0	NUL	0 0 0	DLE	10 16 20	SP	20 32 40	0	30 48 60	@	40 64 100	P	50 80 120	`	60 96 140	p	70 112 160
1	SOH	1 1 1	DC1	11 17 21	!	21 33 41	1	31 49 61	A	41 65 101	Q	51 81 121	a	61 97 141	q	71 113 161
2	STX	2 2 2	DC2	12 18 22	"	22 34 42	2	32 50 62	B	42 66 102	R	52 82 122	b	62 98 142	r	72 114 162
3	ETX	3 3 3	DC3	13 19 23	#	23 35 43	3	33 51 63	C	43 67 103	S	53 83 123	c	63 99 143	s	73 115 163
4	EOT	4 4 4	DC4	14 20 24	$	24 36 44	4	34 52 64	D	44 68 104	T	54 84 124	d	64 100 144	t	74 116 164
5	ENQ	5 5 5	NAK	15 21 25	%	25 37 45	5	35 53 65	E	45 69 105	U	55 85 125	e	65 101 145	u	75 117 165
6	ACK	6 6 6	SYN	16 22 26	&	26 38 46	6	36 54 66	F	46 70 106	V	56 86 126	f	66 102 146	v	76 118 166
7	BEL	7 7 7	ETB	17 23 27	'	27 39 47	7	37 55 67	G	47 71 107	W	57 87 127	g	67 103 147	w	77 119 167
8	BS	8 8 10	CAN	18 24 30	(	28 40 50	8	38 56 70	H	48 72 110	X	58 88 130	h	68 104 150	x	78 120 170
9	HT	9 9 11	EM	19 25 31	)	29 41 51	9	39 57 71	I	49 73 111	Y	59 89 131	i	69 105 151	y	79 121 171
A	LF	A 10 12	SUB	1A 26 32	*	2A 42 52	:	3A 58 72	J	4A 74 112	Z	5A 90 132	j	6A 106 152	z	7A 122 172
B	VT	B 11 13	ESC	1B 27 33	+	2B 43 53	;	3B 59 73	K	4B 75 113	[	5B 91 133	k	6B 107 153	{	7B 123 173
C	FF	C 12 14	FS	1C 28 34	,	2C 44 54	<	3C 60 74	L	4C 76 114	\	5C 92 134	l	6C 108 154	¦	7C 124 174
D	CR	D 13 15	GS	1D 29 35	-	2D 45 55	=	3D 61 75	M	4D 77 115	]	5D 93 135	m	6D 109 155	}	7D 125 175
E	SO	E 14 16	RS	1E 30 36	.	2E 46 56	>	3E 62 76	N	4E 78 116	^	5E 94 136	n	6E 110 156	~	7E 126 176
F	SI	F 15 17	US	1F 31 37	/	2F 47 57	?	3F 63 77	O	4F 79 117	_	5F 95 137	o	6F 111 157		7F 127 177

The following table shows the characters that differ from the national set (US keyboard):

	Hexadecimal code of the replaced characters											
	23	40	5B	5C	5D	5E	5F	60	7B	7C	7D	7E
France	£	à	°	ç	§	^	_	`	é	ù	è	¨
U.K	£	@	[	\	]	^	_	`	{	|	}	~
Germany	#	§	Ä	Ö	Ü	^	_	`	ä	ö	ü	ß
Italy	£	§	°	ç	é	^	_	ù	à	ò	è	ì
Spain	£	§	¡	Ñ	¿	^	_	`	°	ñ	ç	~
Switzerland	ù	à	é	ç	ê	î	è	ô	ä	ö	ü	û
Portugal	#	@	Ã	Ç	Õ	^	_	`	ã	ç	õ	~

SM9400 :

	0	1	2	3	4	5	6	7
0	0 0 0	10 16 20	SP 20 32 40	0 30 48 60	@ 40 64 100	P 50 80 120	` 60 96 140	p 70 112 160
1	1 1 1	11 17 21	! 21 33 41	1 31 49 61	A 41 65 101	Q 51 81 121	a 61 97 141	q 71 113 161
2	2 2 2	12 18 22	" 22 34 42	2 32 50 62	B 42 66 102	R 52 82 122	b 62 98 142	r 72 114 162
3	3 3 3	13 19 23	# 23 35 43	3 33 51 63	C 43 67 103	S 53 83 123	c 63 99 143	s 73 115 163
4	4 4 4	14 20 24	$ 24 36 44	4 34 52 64	D 44 68 104	T 54 84 124	d 64 100 144	t 74 116 164
5	5 5 5	15 21 25	% 25 37 45	5 35 53 65	E 45 69 105	U 55 85 125	e 65 101 145	u 75 117 165
6	6 6 6	16 22 26	& 26 38 46	6 36 54 66	F 46 70 106	V 56 86 126	f 66 102 146	v 76 118 166
7	7 7 7	17 23 27	' 27 39 47	7 37 55 67	G 47 71 107	W 57 87 127	g 67 103 147	w 77 119 167
8	8 8 10	18 24 30	(28 40 50	8 38 56 70	H 48 72 110	X 58 88 130	h 68 104 150	x 78 120 170
9	9 9 11	19 25 31	) 29 41 51	9 39 57 71	I 49 73 111	Y 59 89 131	i 69 105 151	y 79 121 171
A	A 10 12	1A 26 32	* 2A 42 52	: 3A 58 72	J 4A 74 112	Z 5A 90 132	j 6A 106 152	z 7A 122 172
B	B 11 13	1B 27 33	+ 2B 43 53	; 3B 59 73	K 4B 75 113	[5B 91 133	k 6B 107 153	{ 7B 123 173
C	C 12 14	1C 28 34	, 2C 44 54	< 3C 60 74	L 4C 76 114	\ 5C 92 134	l 6C 108 154	¦ 7C 124 174
D	D 13 15	1D 29 35	- 2D 45 55	= 3D 61 75	M 4D 77 115	] 5D 93 135	m 6D 109 155	} 7D 125 175
E	E 14 16	1E 30 36	. 2E 46 56	> 3E 62 76	N 4E 78 116	^ 5E 94 136	n 6E 110 156	~ 7E 126 176
F	F 15 17	1F 31 37	/ 2F 47 57	? 3F 63 77	O 4F 79 117	_ 5F 95 137	o 6F 111 157	 7F 127 177

	8	9	A	B	C	D	E	F
0	80 128 200	90 144 220	Å A0 160 240	æ B0 176 260	ø C0 192 300	┏ D0 208 320	┌ E0 224 340	F0 F0 240 360
1	81 129 201	91 145 221	Ä A1 161 241	ç B1 177 261	œ C1 193 301	┗ D1 209 321	│ E1 225 341	F1 F1 241 361
2	82 130 202	92 146 222	Æ A2 162 242	é B2 178 262	ú C2 194 302	┣ D2 210 322	└ E2 226 342	F2 F2 242 362
3	83 131 203	93 147 223	Ç A3 163 243	è B3 179 263	ù C3 195 303	┣ D3 211 323	─ E3 227 343	F3 F3 243 363
4	84 132 204	94 148 224	É A4 164 244	ê B4 180 264	û C4 196 304	┏ D4 212 324	┼ E4 228 344	F4 F4 244 364
5	85 133 205	95 149 225	Ñ A5 165 245	ë B5 181 265	ü C5 197 305	┗ D5 213 325	├ E5 229 345	F5 F5 245 365
6	86 134 206	96 150 226	Ö A6 166 246	í B6 182 266	ß C6 198 306	┗ D6 214 326	┣ E6 230 346	F6 F6 246 366
7	87 135 207	97 151 227	Ø A7 167 2A7	ì B7 183 267	µ C7 199 307	▪ D7 215 327	▪ E7 231 347	F7 F7 247 367
8	88 136 210	98 152 230	Œ A8 168 250	î B8 184 270	° C8 200 310	┣ D8 216 330	E8 232 350	F8 F8 248 370
9	89 137 211	99 153 231	Ŀ A9 169 251	ï B9 185 271	§ C9 201 311	▮ D9 217 331	E9 233 351	F9 F9 249 371
A	8A 138 212	9A 154 232	Ü AA 170 252	ŀ BA 186 272	± CA 202 312	▬ DA 218 332	EA 234 352	FA FA 250 372
B	8B 139 213	9B 155 233	á AB 171 253	ñ BB 187 273	¡ CB 203 313	┏ DB 219 333	EB 235 353	FB FB 251 373
C	8C 140 214	9C 156 234	à AC 172 254	ó BC 188 274	¿ CC 204 314	→ DC 220 334	EC 236 354	FC FC 252 374
D	8D 141 215	9D 157 235	â AD 173 255	ò BD 189 275	£ CD 205 315	← DD 221 335	ED 237 355	FD FD 253 375
E	8E 142 216	9E 158 236	å AE 174 256	ô BE 190 276	¨ CE 206 316	↑ DE 222 336	EE 238 356	FE FE 254 376
F	8F 143 217	9F 159 237	ä AF 175 257	ö BF 191 277	Ã CF 207 317	↓ DF 223 337	EF 239 357	FF FF 255 377

Special Graphics :

0		0 0 0		10 16 20		20 32 40	0	30 48 60	_	40 64 100	)	50 80 120	0	60 96 140		70 112 160
1		1 1 1		11 17 21	^	21 33 41	1	31 49 61		41 65 101		51 81 121	1	61 97 141	─	71 113 161
2		2 2 2		12 18 22	`	22 34 42	2	32 50 62		42 66 102		52 82 122	2	62 98 142	■	72 114 162
3		3 3 3		13 19 23		23 35 43	3	33 51 63		43 67 103		53 83 123	3	63 99 143	■	73 115 163
4		4 4 4		14 20 24		24 36 44	4	34 52 64		44 68 104	B	54 84 124	4	64 100 144	├	74 116 164
5		5 5 5		15 21 25		25 37 45	5	35 53 65		45 69 105	E	55 85 125	5	65 101 145	┤	75 117 165
6		6 6 6		16 22 26	X	26 38 46	6	36 54 66	[	46 70 106	=	56 86 126	6	66 102 146	┴	76 118 166
7		7 7 7		17 23 27		27 39 47	7	37 55 67	]	47 71 107		57 87 127	7	67 103 147	┬	77 119 167
8		8 8 10		18 24 30		28 40 50	8	38 56 70		48 72 110		58 88 130	8	68 104 150	│	78 120 170
9		9 9 11		19 25 31		29 41 51	9	39 57 71		49 73 111		59 89 131	9	69 105 151		79 121 171
A		A 10 12		1A 26 32		2A 42 52		3A 58 72		4A 74 112		5A 90 132	┘	6A 106 152	┐	7A 122 172
B		B 11 13		1B 27 33		2B 43 53		3B 59 73		4B 75 113		5B 91 133	┐	6B 107 153	┘	7B 123 173
C		C 12 14		1C 28 34		2C 44 54		3C 60 74	C	4C 76 114		5C 92 134	┌	6C 108 154	└	7C 124 174
D		D 13 15		1D 29 35		2D 45 55		3D 61 75	W	4D 77 115		5D 93 135	└	6D 109 155	┌	7D 125 175
E		E 14 16		1E 30 36		2E 46 56		3E 62 76		4E 78 116		5E 94 136	┼	6E 110 156	▉	7E 126 176
F		F 15 17		1F 31 37		2F 47 57		3F 63 77	(	4F 79 117		5F 95 137		6F 111 157		7F 127 177

3.2 - VT FAMILY

The VT220 emulation allows a 8-bit character set (256 characters) to be built from two 7-bit character sets (128 characters).

These 7-bit character sets are composed of 32 non-display control characters (called C0 and C1) and 94 display characters (called GL and GR).

A 8-bit character set is composed of:
- C0: control characters (ASCII codes from 00h to 1Fh),
- GL: graphic left (ASCII codes from 20h to 7Fh),
- C1: control characters (ASCII codes from 80h to 9Fh),
- GR: graphic right (ASCII codes from A0h to FFh).

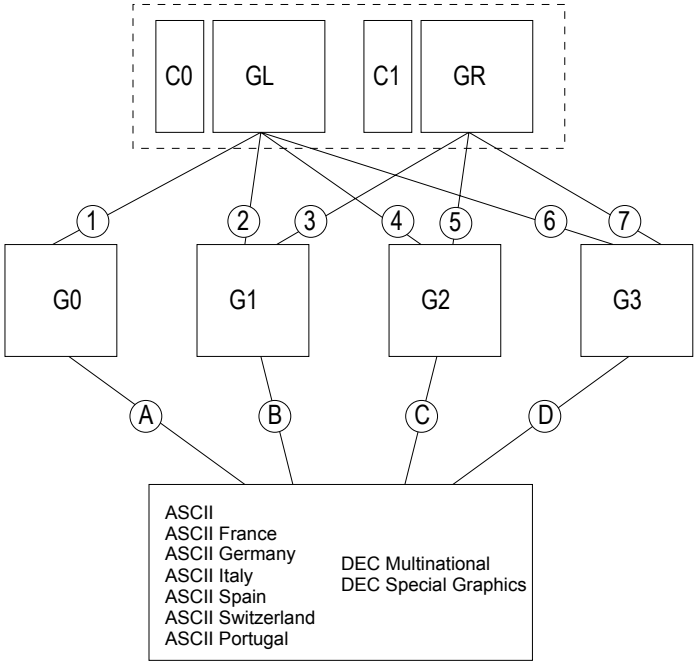
The Platine terminal provides nine 7-bit character sets (described in the following pages):
- ASCII,
- 6 national replacement character sets (NRCs),
- DEC Multinational,
- DEC Special Graphic.

To use character sets, the following operations are performed:
- Map 4 character sets to the 4 available tables (G0, G1, G2 and G3).
- Map two tables (G0, G1, G2 or G3) to GL and GR.

When the AX3000 is switched on, the GL, GR, G0, G1, G2 and G3 tables are initialised according to the character set selected through the AX3000 Set-Up:

- **DEC Multinational:** GL and G0: ASCII set,
  GR, G1, G2 and G3: DEC Multinational set.
- **National ISO 7-BIT:** GL and G0: NRCs (according to the selected keyboard)
  GR, G1, G2 and G3: unknown

The following diagram shows the mechanisms for designating and mapping character sets:



The following escape sequences are used to designate and map character sets (where x represents the character set code):

(A): Esc (x
(B): Esc) x
(C): Esc * x
(D): Esc + x

(1): 0Fh
(2): 0Eh
(3): Esc ~
(4): Esc n
(5): Esc }
(6): Esc o
(7): Esc |

x values: Ps = B (ASCII) Ps = R (French) Ps = < (DEC multinational)
Ps = K (German) Ps = Y (Italian) Ps = 0 (DEC special graphics)
Ps = Z (Spanish) Ps = = (Swiss) Ps = %6 (Portuguese)

The following describes the 9 available character sets (these sets can be mapped either to GL or GR):

ASCII
(C0 & GL)

	0		1		2		3		4		5		6		7	
0	NUL	0 0 0	DLE	10 16 20	SP	20 32 40	0	30 48 60	@	40 64 100	P	50 80 120	`	60 96 140	p	70 112 160
1	SOH	1 1 1	DC1	11 17 21	!	21 33 41	1	31 49 61	A	41 65 101	Q	51 81 121	a	61 97 141	q	71 113 161
2	STX	2 2 2	DC2	12 18 22	"	22 34 42	2	32 50 62	B	42 66 102	R	52 82 122	b	62 98 142	r	72 114 162
3	ETX	3 3 3	DC3	13 19 23	#	23 35 43	3	33 51 63	C	43 67 103	S	53 83 123	c	63 99 143	s	73 115 163
4	EOT	4 4 4	DC4	14 20 24	$	24 36 44	4	34 52 64	D	44 68 104	T	54 84 124	d	64 100 144	t	74 116 164
5	ENQ	5 5 5	NAK	15 21 25	%	25 37 45	5	35 53 65	E	45 69 105	U	55 85 125	e	65 101 145	u	75 117 165
6	ACK	6 6 6	SYN	16 22 26	&	26 38 46	6	36 54 66	F	46 70 106	V	56 86 126	f	66 102 146	v	76 118 166
7	BEL	7 7 7	ETB	17 23 27	'	27 39 47	7	37 55 67	G	47 71 107	W	57 87 127	g	67 103 147	w	77 119 167
8	BS	8 8 10	CAN	18 24 30	(	28 40 50	8	38 56 70	H	48 72 110	X	58 88 130	h	68 104 150	x	78 120 170
9	HT	9 9 11	EM	19 25 31	)	29 41 51	9	39 57 71	I	49 73 111	Y	59 89 131	i	69 105 151	y	79 121 171
A	LF	A 10 12	SUB	1A 26 32	*	2A 42 52	:	3A 58 72	J	4A 74 112	Z	5A 90 132	j	6A 106 152	z	7A 122 172
B	VT	B 11 13	ESC	1B 27 33	+	2B 43 53	;	3B 59 73	K	4B 75 113	[	5B 91 133	k	6B 107 153	{	7B 123 173
C	FF	C 12 14	FS	1C 28 34	,	2C 44 54	<	3C 60 74	L	4C 76 114	\	5C 92 134	l	6C 108 154	¦	7C 124 174
D	CR	D 13 15	GS	1D 29 35	-	2D 45 55	=	3D 61 75	M	4D 77 115	]	5D 93 135	m	6D 109 155	}	7D 125 175
E	SO	E 14 16	RS	1E 30 36	.	2E 46 56	>	3E 62 76	N	4E 78 116	^	5E 94 136	n	6E 110 156	~	7E 126 176
F	SI	F 15 17	US	1F 31 37	/	2F 47 57	?	3F 63 77	O	4F 79 117	_	5F 95 137	o	6F 111 157		7F 127 177

This table shows the characters in each NRC set that differ from the ASCII set:

	Hexadecimal code of the replaced characters											
	23	40	5B	5C	5D	5E	5F	60	7B	7C	7D	7E
France	£	à	°	ç	§	^	_	`	é	ù	è	¨
U.K	£	@	[	\	]	^	_	`	{	|	}	~
Germany	#	§	Ä	Ö	Ü	^	_	`	ä	ö	ü	ß
Italy	£	§	°	ç	é	^	_	ù	à	ò	è	ì
Spain	£	§	¡	Ñ	¿	^	_	`	°	ñ	ç	~
Switzerland	ù	à	é	ç	ê	î	è	ô	ä	ö	ü	û
Portugal	#	@	Ã	Ç	Õ	^	_	`	ã	ç	õ	~

DEC Multinational
(C1 & GR)

	8		9		A		B		C		D		E		F	
0		80 128 200	DCS	90 144 220		A0 160 240	°	B0 176 260	À	C0 192 300	Ŝ	D0 208 320	à	E0 224 340	Ŝ	F0 240 360
1		81 129 201	PU1	91 145 221	¡	A1 161 241	±	B1 177 261	Á	C1 193 301	Ñ	D1 209 321	á	E1 225 341	ñ	F1 241 361
2		82 130 202	PU2	92 146 222	¢	A2 162 242	²	B2 178 262	Â	C2 194 302	Ò	D2 210 322	â	E2 226 342	ò	F2 242 362
3		83 131 203	STS	93 147 223	£	A3 163 243	³	B3 179 263	Ã	C3 195 303	Ó	D3 211 323	ã	E3 227 343	ó	F3 243 363
4	IND	84 132 204	CCH	94 148 224	Ŝ	A4 164 244	Ŝ	B4 180 264	Ä	C4 196 304	Ô	D4 212 324	ä	E4 228 344	ô	F4 244 364
5	NEL	85 133 205	MW	95 149 225	¥	A5 165 245	µ	B5 181 265	Å	C5 197 305	Õ	D5 213 325	å	E5 229 345	õ	F5 245 365
6	SSA	86 134 206	SPA	96 150 226	Ŝ	A6 166 246	¶	B6 182 266	Æ	C6 198 306	Ö	D6 214 326	æ	E6 230 346	ö	F6 246 366
7	ESA	87 135 207	EPA	97 151 227	§	A7 167 2A7	·	B7 183 267	Ç	C7 199 307	Œ	D7 215 327	ç	E7 231 347	œ	F7 247 367
8	HTS	88 136 210		98 152 230	¤	A8 168 250	Ŝ	B8 184 270	È	C8 200 310	Ø	D8 216 330	è	E8 232 350	ø	F8 248 370
9	HTJ	89 137 211		99 153 231	©	A9 169 251	¹	B9 185 271	É	C9 201 311	Ù	D9 217 331	é	E9 233 351	ù	F9 249 371
A	VTS	8A 138 212		9A 154 232	ª	AA 170 252	º	BA 186 272	Ê	CA 202 312	Ú	DA 218 332	ê	EA 234 352	ú	FA 250 372
B	PLD	8B 139 213	CSI	9B 155 233	«	AB 171 253	»	BB 187 273	Ë	CB 203 313	Û	DB 219 333	ë	EB 235 353	û	FB 251 373
C	PLU	8C 140 214	ST	9C 156 234	Ŝ	AC 172 254	¼	BC 188 274	Ì	CC 204 314	Ü	DC 220 334	ì	EC 236 354	ü	FC 252 374
D	RI	8D 141 215	OSC	9D 157 235	Ŝ	AD 173 255	½	BD 189 275	Í	CD 205 315	Ÿ	DD 221 335	í	ED 237 355	ÿ	FD 253 375
E	SS2	8E 142 216	PM	9E 158 236	Ŝ	AE 174 256	Ŝ	BE 190 276	Î	CE 206 316	Ŝ	DE 222 336	î	EE 238 356	Ŝ	FE 254 376
F	SS3	8F 143 217	APC	9F 159 237	Ŝ	AF 175 257	¿	BF 191 277	Ï	CF 207 317	ß	DF 223 337	ï	EF 239 357		FF 255 377

DEC Special Graphic
(C0 & GL)

	0		1		2		3		4		5		6		7	
0	NUL	0 0 0	DLE	10 16 20	SP	20 32 40	0	30 48 60	@	40 64 100	P	50 80 120	♦	60 96 140	-	70 112 160
1	SOH	1 1 1	DC1	11 17 21	!	21 33 41	1	31 49 61	A	41 65 101	Q	51 81 121	▒	61 97 141	-	71 113 161
2	STX	2 2 2	DC2	12 18 22	"	22 34 42	2	32 50 62	B	42 66 102	R	52 82 122	␉	62 98 142	-	72 114 162
3	ETX	3 3 3	DC3	13 19 23	#	23 35 43	3	33 51 63	C	43 67 103	S	53 83 123	␌	63 99 143	_	73 115 163
4	EOT	4 4 4	DC4	14 20 24	$	24 36 44	4	34 52 64	D	44 68 104	T	54 84 124	␍	64 100 144	├	74 116 164
5	ENQ	5 5 5	NAK	15 21 25	%	25 37 45	5	35 53 65	E	45 69 105	U	55 85 125	␊	65 101 145	┤	75 117 165
6	ACK	6 6 6	SYN	16 22 26	&	26 38 46	6	36 54 66	F	46 70 106	V	56 86 126	°	66 102 146	┴	76 118 166
7	BEL	7 7 7	ETB	17 23 27	'	27 39 47	7	37 55 67	G	47 71 107	W	57 87 127	±	67 103 147	┬	77 119 167
8	BS	8 8 10	CAN	18 24 30	(	28 40 50	8	38 56 70	H	48 72 110	X	58 88 130	␤	68 104 150	│	78 120 170
9	HT	9 9 11	EM	19 25 31	)	29 41 51	9	39 57 71	I	49 73 111	Y	59 89 131	␋	69 105 151	≤	79 121 171
A	LF	A 10 12	SUB	1A 26 32	*	2A 42 52	:	3A 58 72	J	4A 74 112	Z	5A 90 132	┘	6A 106 152	≥	7A 122 172
B	VT	B 11 13	ESC	1B 27 33	+	2B 43 53	;	3B 59 73	K	4B 75 113	[	5B 91 133	┐	6B 107 153	Π	7B 123 173
C	FF	C 12 14	FS	1C 28 34	,	2C 44 54	<	3C 60 74	L	4C 76 114	\	5C 92 134	┌	6C 108 154	≠	7C 124 174
D	CR	D 13 15	GS	1D 29 35	-	2D 45 55	=	3D 61 75	M	4D 77 115	]	5D 93 135	└	6D 109 155	£	7D 125 175
E	SO	E 14 16	RS	1E 30 36	.	2E 46 56	>	3E 62 76	N	4E 78 116	^	5E 94 136	┼	6E 110 156	·	7E 126 176
F	SI	F 15 17	US	1F 31 37	/	2F 47 57	?	3F 63 77	O	4F 79 117		5F 95 137	⎺	6F 111 157		7F 127 177

3.3 - WYSE FAMILY

The WYSE emulation allows a 8-bit character set (256 characters) to be built from two 7-bit character sets (128 characters). A 8-bit character set is composed of:

- a primary set (ASCII codes from 00h to 7Fh),
- a secondary set (ASCII codes from 80h to FFh),

The AX3000 provides seven 7-bit character sets (described in the following pages):

- Native Mode,
- Multinational
- Standard ASCII
- PC Equivalent
- Graphics 2
- Graphics 1
- Graphics 3

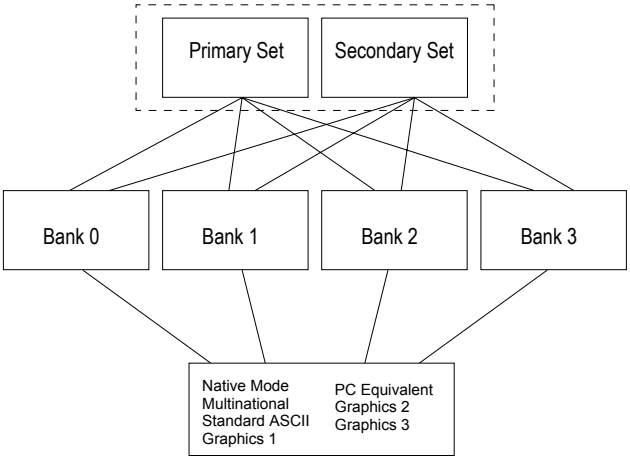
To use character sets, the following operations are performed:

- Map 4 character sets to the 4 available banks (0 to 3).
- Map two banks to the primary and the secondary sets.

When the AX3000 is switched on, the primary and the secondary sets are initialised according to the character set selected through the Terminal Set-Up:

- **WYSE 60:** primary set = native mode, secondary set = multinational.
- **National ISO 7-BIT:** primary set = native mode.

The following diagram shows the mechanisms for designating and mapping character sets:



Native Mode

	0		1		2		3		4		5		6		7	
0		0 0 0	┬	10 16 20	SP	20 32 40	0	30 48 60	@	40 64 100	P	50 80 120	`	60 96 140	p	70 112 160
1	SH	1 1 1	└	11 17 21	!	21 33 41	1	31 49 61	A	41 65 101	Q	51 81 121	a	61 97 141	q	71 113 161
2	SX	2 2 2	┌	12 18 22	"	22 34 42	2	32 50 62	B	42 66 102	R	52 82 122	b	62 98 142	r	72 114 162
3	EX	3 3 3	┐	13 19 23	#	23 35 43	3	33 51 63	C	43 67 103	S	53 83 123	c	63 99 143	s	73 115 163
4	ET	4 4 4	├	14 20 24	$	24 36 44	4	34 52 64	D	44 68 104	T	54 84 124	d	64 100 144	t	74 116 164
5	EQ	5 5 5	┘	15 21 25	%	25 37 45	5	35 53 65	E	45 69 105	U	55 85 125	e	65 101 145	u	75 117 165
6	AK	6 6 6	│	16 22 26	&	26 38 46	6	36 54 66	F	46 70 106	V	56 86 126	f	66 102 146	v	76 118 166
7	BL	7 7 7		17 23 27	'	27 39 47	7	37 55 67	G	47 71 107	W	57 87 127	g	67 103 147	w	77 119 167
8	BS	8 8 10	┼	18 24 30	(	28 40 50	8	38 56 70	H	48 72 110	X	58 88 130	h	68 104 150	x	78 120 170
9	HT	9 9 11	┤	19 25 31	)	29 41 51	9	39 57 71	I	49 73 111	Y	59 89 131	i	69 105 151	y	79 121 171
A	LF	A 10 12	─	1A 26 32	*	2A 42 52	:	3A 58 72	J	4A 74 112	Z	5A 90 132	j	6A 106 152	z	7A 122 172
B	VT	B 11 13		1B 27 33	+	2B 43 53	;	3B 59 73	K	4B 75 113	[	5B 91 133	k	6B 107 153	{	7B 123 173
C	FF	C 12 14	═	1C 28 34	,	2C 44 54	<	3C 60 74	L	4C 76 114	\	5C 92 134	l	6C 108 154	¦	7C 124 174
D	CR	D 13 15	┴	1D 29 35	-	2D 45 55	=	3D 61 75	M	4D 77 115	]	5D 93 135	m	6D 109 155	}	7D 125 175
E	SO	E 14 16	╫	1E 30 36	.	2E 46 56	>	3E 62 76	N	4E 78 116	^	5E 94 136	n	6E 110 156	~	7E 126 176
F	SI	F 15 17		1F 31 37	/	2F 47 57	?	3F 63 77	O	4F 79 117	_	5F 95 137	o	6F 111 157		7F 127 177

Multinational

	0		1		2		3		4		5		6		7	
0	Ç	0 0 0	É	10 16 20	á	20 32 40		30 48 60	└	40 64 100	╨	50 80 120	α	60 96 140	≡	70 112 160
1	ü	1 1 1	æ	11 17 21	í	21 33 41		31 49 61	┴	41 65 101	╤	51 81 121	ß	61 97 141	±	71 113 161
2	é	2 2 2	Æ	12 18 22	ó	22 34 42		32 50 62	┬	42 66 102	╥	52 82 122	Γ	62 98 142	≥	72 114 162
3	â	3 3 3	ô	13 19 23	ú	23 35 43	│	33 51 63	├	43 67 103	╙	53 83 123	π	63 99 143	≤	73 115 163
4	ä	4 4 4	ö	14 20 24	ñ	24 36 44	┤	34 52 64	─	44 68 104	╘	54 84 124	Σ	64 100 144	⌠	74 116 164
5	à	5 5 5	ò	15 21 25	Ñ	25 37 45	╡	35 53 65	┼	45 69 105	╒	55 85 125	σ	65 101 145	⌡	75 117 165
6	å	6 6 6	û	16 22 26	ª	26 38 46	╢	36 54 66	╞	46 70 106	╓	56 86 126	µ	66 102 146	÷	76 118 166
7	ç	7 7 7	ù	17 23 27	º	27 39 47	╖	37 55 67	╟	47 71 107	╫	57 87 127	τ	67 103 147	≈	77 119 167
8	ê	8 8 10	ÿ	18 24 30	¿	28 40 50	╕	38 56 70	╚	48 72 110	╪	58 88 130	Φ	68 104 150	°	78 120 170
9	ë	9 9 11	Ö	19 25 31	⌐	29 41 51	╣	39 57 71	╔	49 73 111	┘	59 89 131	Θ	69 105 151	·	79 121 171
A	è	A 10 12	Ü	1A 26 32	¬	2A 42 52	║	3A 58 72	╩	4A 74 112	┌	5A 90 132	Ω	6A 106 152	·	7A 122 172
B	ï	B 11 13	¢	1B 27 33	½	2B 43 53	╗	3B 59 73	╦	4B 75 113	▉	5B 91 133	δ	6B 107 153	√	7B 123 173
C	î	C 12 14	£	1C 28 34	¼	2C 44 54	╝	3C 60 74	╠	4C 76 114	▄	5C 92 134	∞	6C 108 154	n	7C 124 174
D	ì	D 13 15	¥	1D 29 35	¡	2D 45 55	╜	3D 61 75	═	4E 78 116	▌	5D 93 135	φ	6D 109 155	2	7D 125 175
E	Ä	E 14 16	P_t	1E 30 36	«	2E 46 56	╛	3E 62 76	╬	4E 78 116	▐	5E 94 136	ε	6E 110 156	■	7E 126 176
F	Å	F 15 17	ƒ	1F 31 37	»	2F 47 57	┐	3F 63 77	╧	4F 79 117	▀	5F 95 137	∩	6F 111 157		7F 127 177

PC Equiv.

	0		1		2		3		4		5		6		7	
0		0 0 0		10 16 20	SP	20 32 40	0	30 48 60	@	40 64 100	P	50 80 120	`	60 96 140	p	70 112 160
1		1 1 1		11 17 21	!	21 33 41	1	31 49 61	A	41 65 101	Q	51 81 121	a	61 97 141	q	71 113 161
2		2 2 2		12 18 22	"	22 34 42	2	32 50 62	B	42 66 102	R	52 82 122	b	62 98 142	r	72 114 162
3		3 3 3		13 19 23	#	23 35 43	3	33 51 63	C	43 67 103	S	53 83 123	c	63 99 143	s	73 115 163
4		4 4 4		14 20 24	$	24 36 44	4	34 52 64	D	44 68 104	T	54 84 124	d	64 100 144	t	74 116 164
5		5 5 5		15 21 25	%	25 37 45	5	35 53 65	E	45 69 105	U	55 85 125	e	65 101 145	u	75 117 165
6		6 6 6		16 22 26	&	26 38 46	6	36 54 66	F	46 70 106	V	56 86 126	f	66 102 146	v	76 118 166
7		7 7 7		17 23 27	'	27 39 47	7	37 55 67	G	47 71 107	W	57 87 127	g	67 103 147	w	77 119 167
8		8 8 10		18 24 30	(	28 40 50	8	38 56 70	H	48 72 110	X	58 88 130	h	68 104 150	x	78 120 170
9		9 9 11		19 25 31	)	29 41 51	9	39 57 71	I	49 73 111	Y	59 89 131	i	69 105 151	y	79 121 171
A		A 10 12		1A 26 32	*	2A 42 52	:	3A 58 72	J	4A 74 112	Z	5A 90 132	j	6A 106 152	z	7A 122 172
B		B 11 13		1B 27 33	+	2B 43 53	;	3B 59 73	K	4B 75 113	[	5B 91 133	k	6B 107 153	{	7B 123 173
C		C 12 14		1C 28 34	,	2C 44 54	<	3C 60 74	L	4C 76 114	\	5C 92 134	l	6C 108 154	¦	7C 124 174
D		D 13 15		1D 29 35	-	2D 45 55	=	3D 61 75	M	4D 77 115	]	5D 93 135	m	6D 109 155	}	7D 125 175
E		E 14 16		1E 30 36	.	2E 46 56	>	3E 62 76	N	4E 78 116	^	5E 94 136	n	6E 110 156	~	7E 126 176
F		F 15 17		1F 31 37	/	2F 47 57	?	3F 63 77	O	4F 79 117	_	5F 95 137	o	6F 111 157		7F 127 177

ASCII std.

	0		1		2		3		4		5		6		7	
0		0 0 0		10 16 20	SP	20 32 40	0	30 48 60	@	40 64 100	P	50 80 120	`	60 96 140	p	70 112 160
1	SH	1 1 1		11 17 21	!	21 33 41	1	31 49 61	A	41 65 101	Q	51 81 121	a	61 97 141	q	71 113 161
2	SX	2 2 2		12 18 22	"	22 34 42	2	32 50 62	B	42 66 102	R	52 82 122	b	62 98 142	r	72 114 162
3	EX	3 3 3		13 19 23	#	23 35 43	3	33 51 63	C	43 67 103	S	53 83 123	c	63 99 143	s	73 115 163
4	ET	4 4 4		14 20 24	$	24 36 44	4	34 52 64	D	44 68 104	T	54 84 124	d	64 100 144	t	74 116 164
5	EQ	5 5 5		15 21 25	%	25 37 45	5	35 53 65	E	45 69 105	U	55 85 125	e	65 101 145	u	75 117 165
6	AK	6 6 6		16 22 26	&	26 38 46	6	36 54 66	F	46 70 106	V	56 86 126	f	66 102 146	v	76 118 166
7	BL	7 7 7		17 23 27	'	27 39 47	7	37 55 67	G	47 71 107	W	57 87 127	g	67 103 147	w	77 119 167
8	BS	8 8 10		18 24 30	(	28 40 50	8	38 56 70	H	48 72 110	X	58 88 130	h	68 104 150	x	78 120 170
9	HT	9 9 11		19 25 31	)	29 41 51	9	39 57 71	I	49 73 111	Y	59 89 131	i	69 105 151	y	79 121 171
A	LF	A 10 12		1A 26 32	*	2A 42 52	:	3A 58 72	J	4A 74 112	Z	5A 90 132	j	6A 106 152	z	7A 122 172
B	VT	B 11 13		1B 27 33	+	2B 43 53	;	3B 59 73	K	4B 75 113	[	5B 91 133	k	6B 107 153	{	7B 123 173
C	FF	C 12 14		1C 28 34	,	2C 44 54	<	3C 60 74	L	4C 76 114	\	5C 92 134	l	6C 108 154	¦	7C 124 174
D	CR	D 13 15		1D 29 35	-	2D 45 55	=	3D 61 75	M	4D 77 115	]	5D 93 135	m	6D 109 155	}	7D 125 175
E	SO	E 14 16		1E 30 36	.	2E 46 56	>	3E 62 76	N	4E 78 116	^	5E 94 136	n	6E 110 156	~	7E 126 176
F	SI	F 15 17		1F 31 37	/	2F 47 57	?	3F 63 77	O	4F 79 117	_	5F 95 137	o	6F 111 157		7F 127 177

Graphics 1

	0	1	2	3	4	5	6	7
0	0 0 0	10 16 20	20 32 40	0	30 48 60	40 64 100	50 80 120	0	60 96 140	▌	70 112 160
1	1 1 1	11 17 21	21 33 41	1	31 49 61	41 65 101	51 81 121	1	61 97 141	─	71 113 161
2	2 2 2	12 18 22	22 34 42	2	32 50 62	42 66 102	52 82 122	2	62 98 142	▄	72 114 162
3	3 3 3	13 19 23	23 35 43	3	33 51 63	43 67 103	53 83 123	3	63 99 143	▄	73 115 163
4	4 4 4	14 20 24	24 36 44	4	34 52 64	44 68 104	54 84 124	4	64 100 144	├	74 116 164
5	5 5 5	15 21 25	25 37 45	5	35 53 65	45 69 105	55 85 125	5	65 101 145	┤	75 117 165
6	6 6 6	16 22 26	26 38 46	6	36 54 66	46 70 106	56 86 126	6	66 102 146	┴	76 118 166
7	7 7 7	17 23 27	27 39 47	7	37 55 67	47 71 107	57 87 127	7	67 103 147	┬	77 119 167
8	8 8 10	18 24 30	28 40 50	8	38 56 70	48 72 110	58 88 130	8	68 104 150	│	78 120 170
9	9 9 11	19 25 31	29 41 51	9	39 57 71	49 73 111	59 89 131	9	69 105 151		79 121 171
A	A 10 12	1A 26 32	2A 42 52		3A 58 72	4A 74 112	5A 90 132	┘	6A 106 152		7A 122 172
B	B 11 13	1B 27 33	2B 43 53		3B 59 73	4B 75 113	5B 91 133	┐	6B 107 153		7B 123 173
C	C 12 14	1C 28 34	2C 44 54		3C 60 74	4C 76 114	5C 92 134	┌	6C 108 154		7C 124 174
D	D 13 15	1D 29 35	2D 45 55		3D 61 75	4D 77 115	5D 93 135	└	6D 109 155		7D 125 175
E	E 14 16	1E 30 36	2E 46 56		3E 62 76	4E 78 116	5E 94 136	┼	6E 110 156	▉	7E 126 176
F	F 15 17	1F 31 37	2F 47 57		3F 63 77	4F 79 117	5F 95 137	▌	6F 111 157		7F 127 177

Graphics 2

	0	1	2	3	4	5	6	7
0	0 0 0	10 16 20	20 32 40		30 48 60	┌	40 64 100	┬	50 80 120	─	60 96 140		70 112 160
1	1 1 1	11 17 21	21 33 41		31 49 61		41 65 101		51 81 121		61 97 141		71 113 161
2	2 2 2	12 18 22	22 34 42		32 50 62		42 66 102		52 82 122		62 98 142		72 114 162
3	3 3 3	13 19 23	23 35 43		33 51 63		43 67 103		53 83 123		63 99 143		73 115 163
4	4 4 4	14 20 24	24 36 44		34 52 64	┐	44 68 104	┤	54 84 124	│	64 100 144		74 116 164
5	5 5 5	15 21 25	25 37 45		35 53 65		45 69 105		55 85 125		65 101 145		75 117 165
6	6 6 6	16 22 26	26 38 46		36 54 66		46 70 106		56 86 126		66 102 146		76 118 166
7	7 7 7	17 23 27	27 39 47		37 55 67		47 71 107		57 87 127		67 103 147		77 119 167
8	8 8 10	18 24 30	28 40 50		38 56 70	└	48 72 110	├	58 88 130	┼	68 104 150		78 120 170
9	9 9 11	19 25 31	29 41 51		39 57 71		49 73 111		59 89 131		69 105 151		79 121 171
A	A 10 12	1A 26 32	2A 42 52		3A 58 72		4A 74 112		5A 90 132		6A 106 152		7A 122 172
B	B 11 13	1B 27 33	2B 43 53		3B 59 73		4B 75 113		5B 91 133		6B 107 153		7B 123 173
C	C 12 14	1C 28 34	2C 44 54		3C 60 74	┘	4C 76 114	┴	5C 92 134		6C 108 154		7C 124 174
D	D 13 15	1D 29 35	2D 45 55		3D 61 75		4D 77 115		5D 93 135		6D 109 155		7D 125 175
E	E 14 16	1E 30 36	2E 46 56		3E 62 76		4E 78 116		5E 94 136		6E 110 156		7E 126 176
F	F 15 17	1F 31 37	2F 47 57		3F 63 77		4F 79 117		5F 95 137		6F 111 157		7F 127 177

Graphics 3

	0	1	2	3	4	5	6	7
0	0 0 0	10 16 20	20 32 40	30 48 60	40 64 100	50 80 120	60 96 140	70 112 160
1	1 1 1	11 17 21	21 33 41	31 49 61	41 65 101	51 81 121	61 97 141	71 113 161
2	2 2 2	12 18 22	22 34 42	32 50 62	42 66 102	52 82 122	62 98 142	72 114 162
3	3 3 3	13 19 23	23 35 43	33 51 63	43 67 103	53 83 123	63 99 143	73 115 163
4	4 4 4	14 20 24	24 36 44	34 52 64	44 68 104	54 84 124	64 100 144	74 116 164
5	5 5 5	15 21 25	25 37 45	35 53 65	45 69 105	55 85 125	65 101 145	75 117 165
6	6 6 6	16 22 26	26 38 46	36 54 66	46 70 106	56 86 126	66 102 146	76 118 166
7	7 7 7	17 23 27	27 39 47	37 55 67	47 71 107	57 87 127	67 103 147	77 119 167
8	8 8 10	18 24 30	28 40 50	38 56 70	48 72 110	58 88 130	68 104 150	78 120 170
9	9 9 11	19 25 31	29 41 51	39 57 71	49 73 111	59 89 131	69 105 151	79 121 171
A	A 10 12	1A 26 32	2A 42 52	3A 58 72	4A 74 112	5A 90 132	6A 106 152	7A 122 172
B	B 11 13	1B 27 33	2B 43 53	3B 59 73	4B 75 113	5B 91 133	6B 107 153	7B 123 173
C	C 12 14	1C 28 34	2C 44 54	3C 60 74	4C 76 114	5C 92 134	6C 108 154	7C 124 174
D	D 13 15	1D 29 35	2D 45 55	3D 61 75	4D 77 115	5D 93 135	6D 109 155	7D 125 175
E	E 14 16	1E 30 36	2E 46 56	3E 62 76	4E 78 116	5E 94 136	6E 110 156	7E 126 176
F	F 15 17	1F 31 37	2F 47 57	3F 63 77	4F 79 117	5F 95 137	6F 111 157	7F 127 177

- 4 -
KEYBOARDS

This chapters provides a description of available national keyboards, a list of the default values for programming keys corresponding to the selected emulation and information about dead keys.

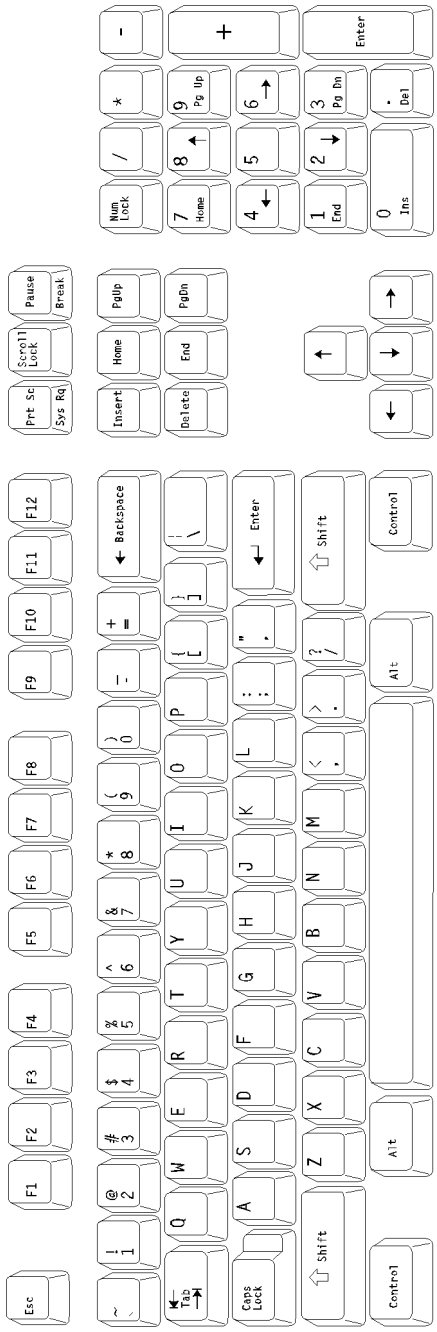
4.1 - NATIONAL KEYBOARDS

When a terminal is used in ASCII Mode, a national keyboard must be selected.

The AX3000 Platine terminal provides the following national keyboards:

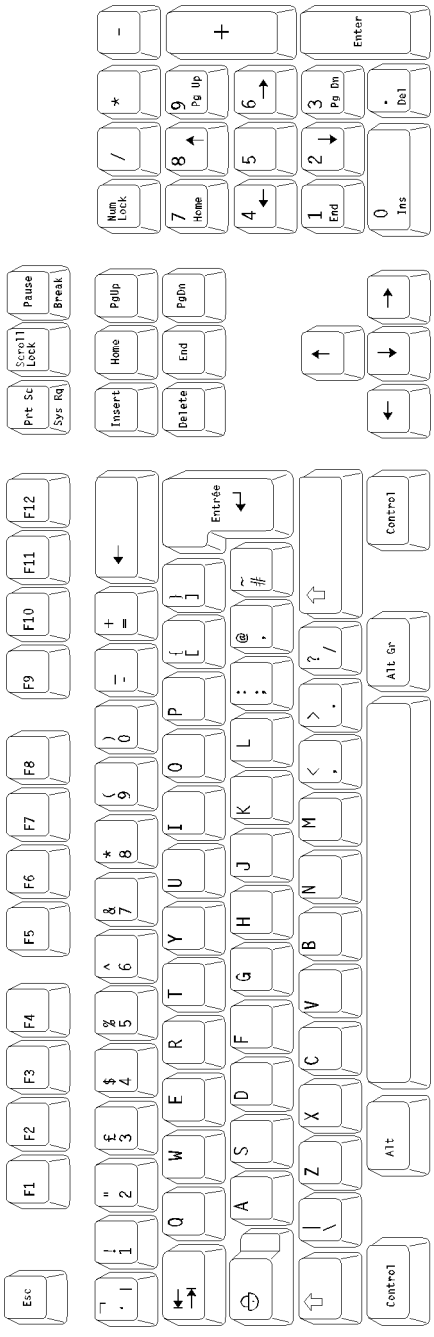
- USA
- United Kingdom
- France
- Germany
- Spain
- Switzerland (German)
- Switzerland (French)
- Belgium
- Italy
- Portugal
- Netherlands

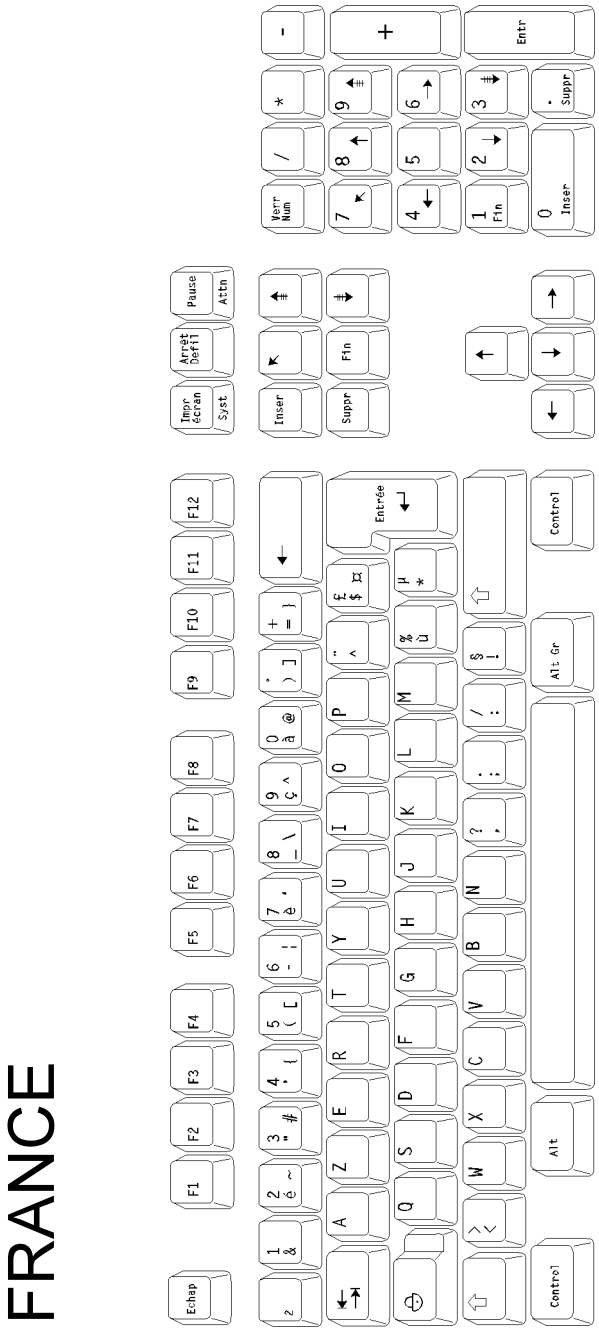
These 11 national keyboard layouts are described in the following.

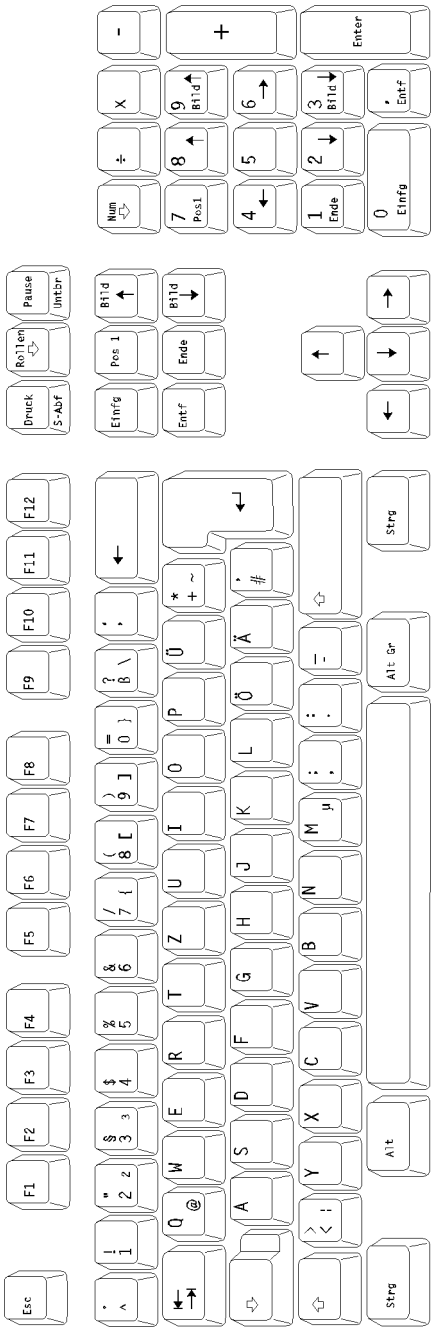

Esc
F1
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
F12
Prt Sc
Sys Rq
Scroll Lock
Pause
Break
Insert
Home
PgUp
Delete
End
PgDn
Num Lock
Backspace
Tab
Caps Lock
Enter
Shift
Control
Alt
Home
End
Ins
Del
Pg Up
Pg Dn
Enter

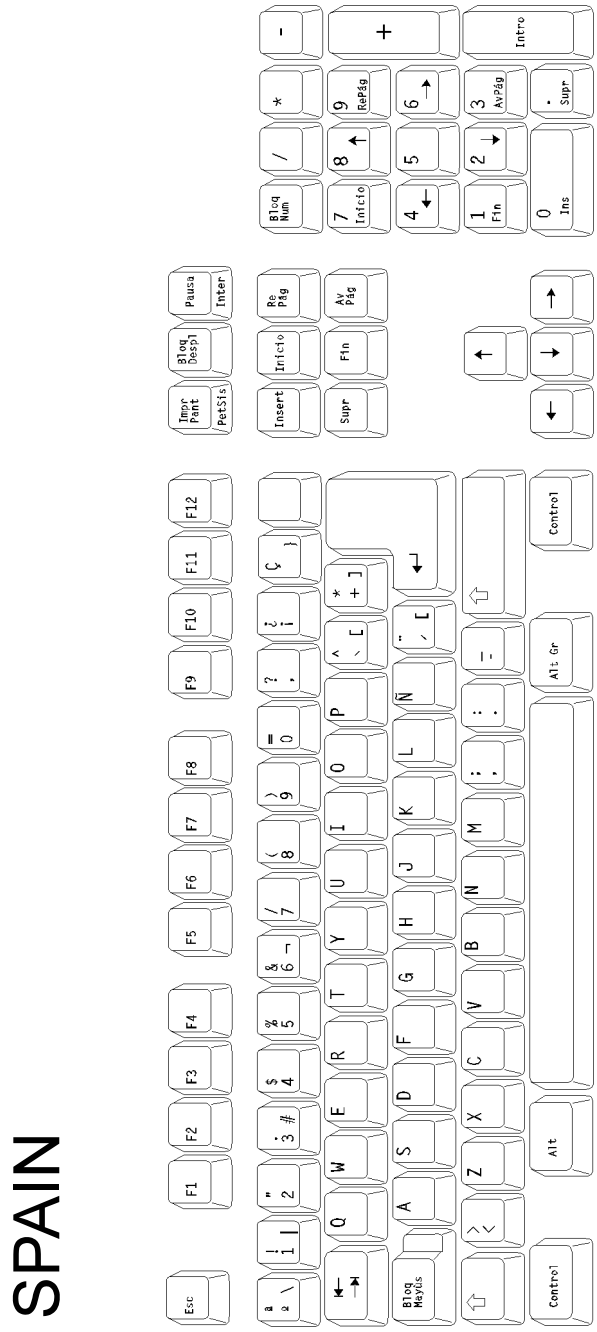
U.S.A.

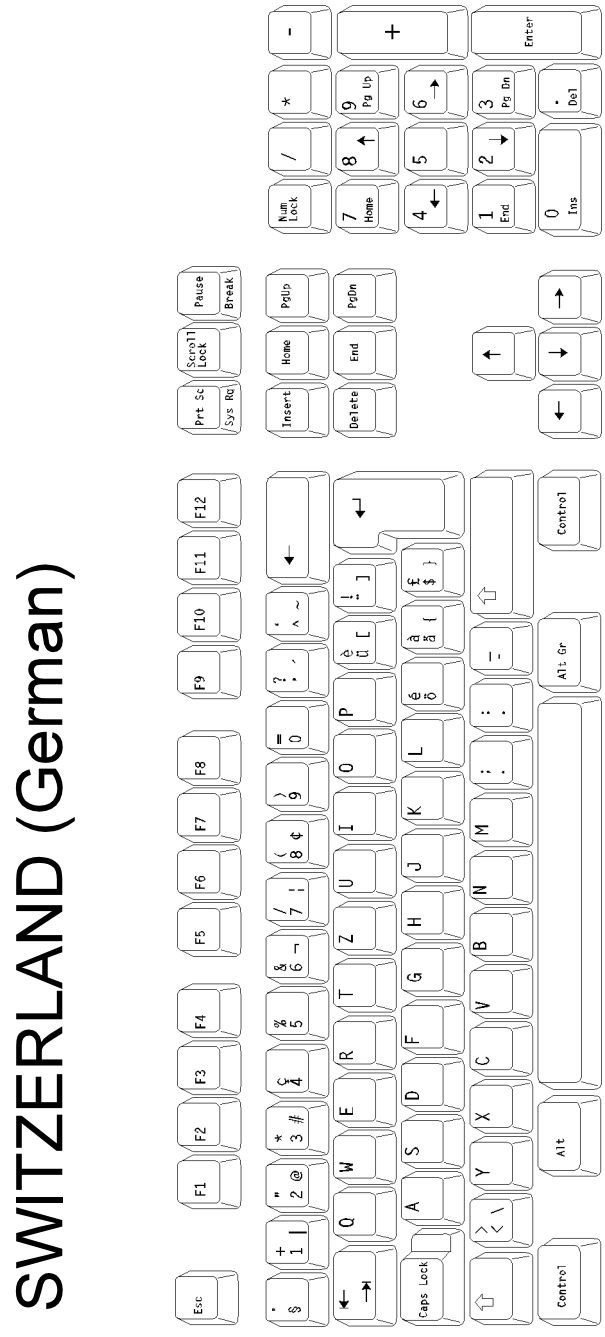
U.K.


Esc
F1
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
F12
Prt Sc
Sys Rq
Scroll Lock
Pause
Break
Insert
Home
PgUp
Delete
End
PgDn
Num Lock
Entrée
Control
Alt
Alt Gr
Enter
Pg Up
Pg Dn
Del
Ins

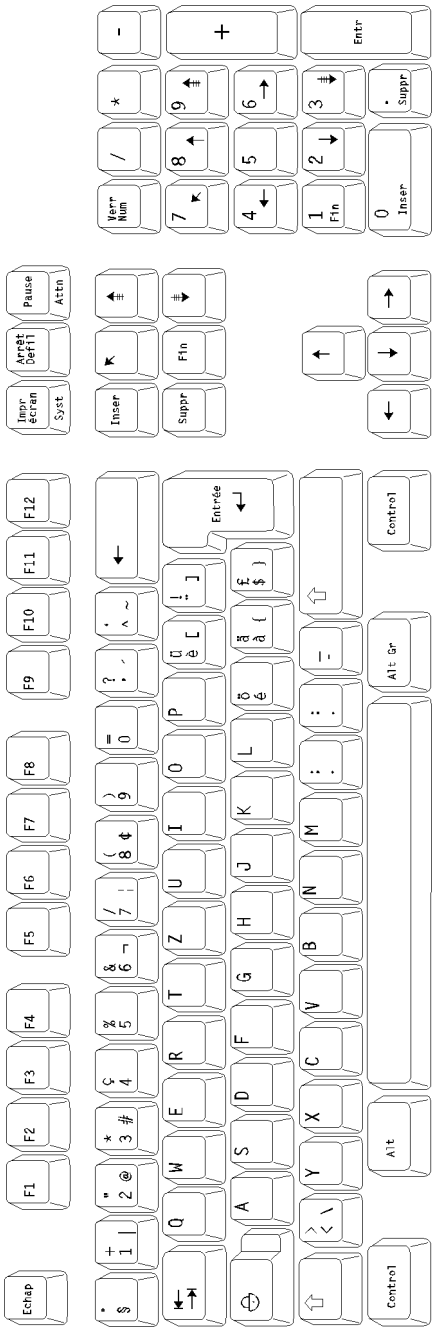

FRANCE
Echap
F1
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
F12
Impr écran
Syst
Arrêt Défil
Pause
Attn
Inser
Suppr
Fin
Verr Num
Entrée
Control
Alt
Alt Gr
Entr


GERMANY

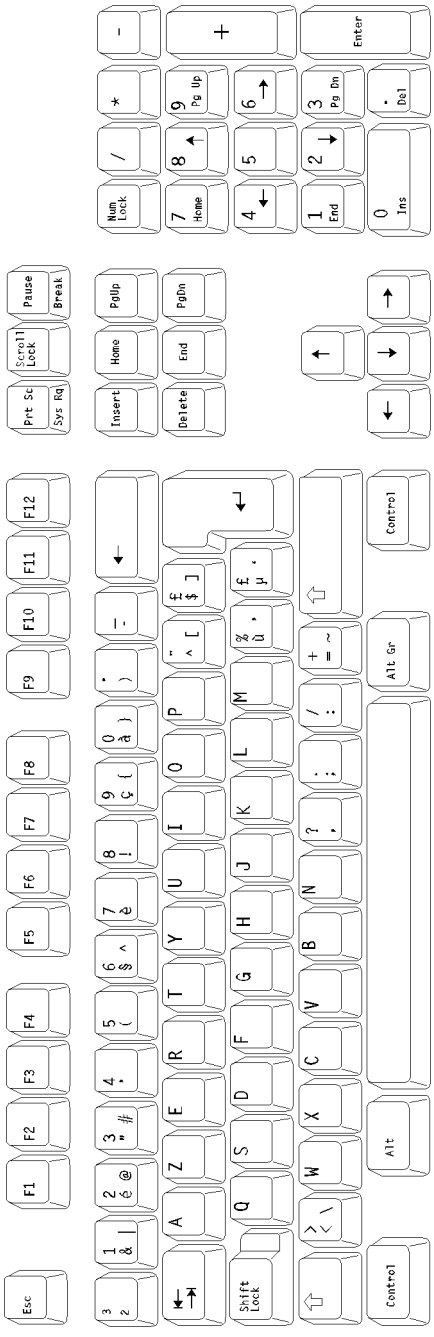

SPAIN
Esc
F1
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
F12
Impr Pant SysRq
Bloq Despl
Pausa
Insert
Inicio
Re Pág
Supr
Fin
Av Pág
Bloq Num
Intro
Control
Alt
Alt Gr
Bloq Mayús

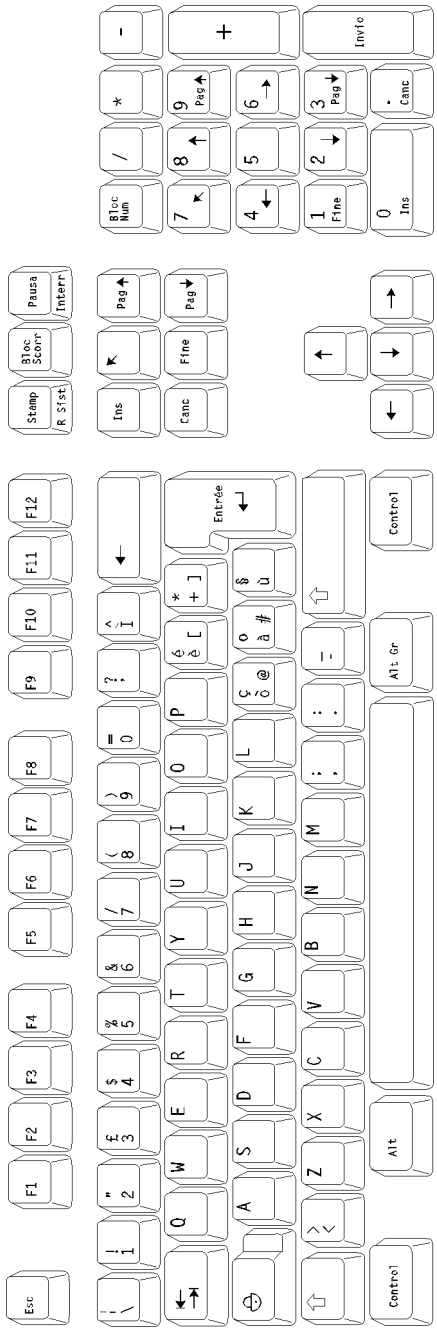

SWITZERLAND (German)

SWITZERLAND (French)

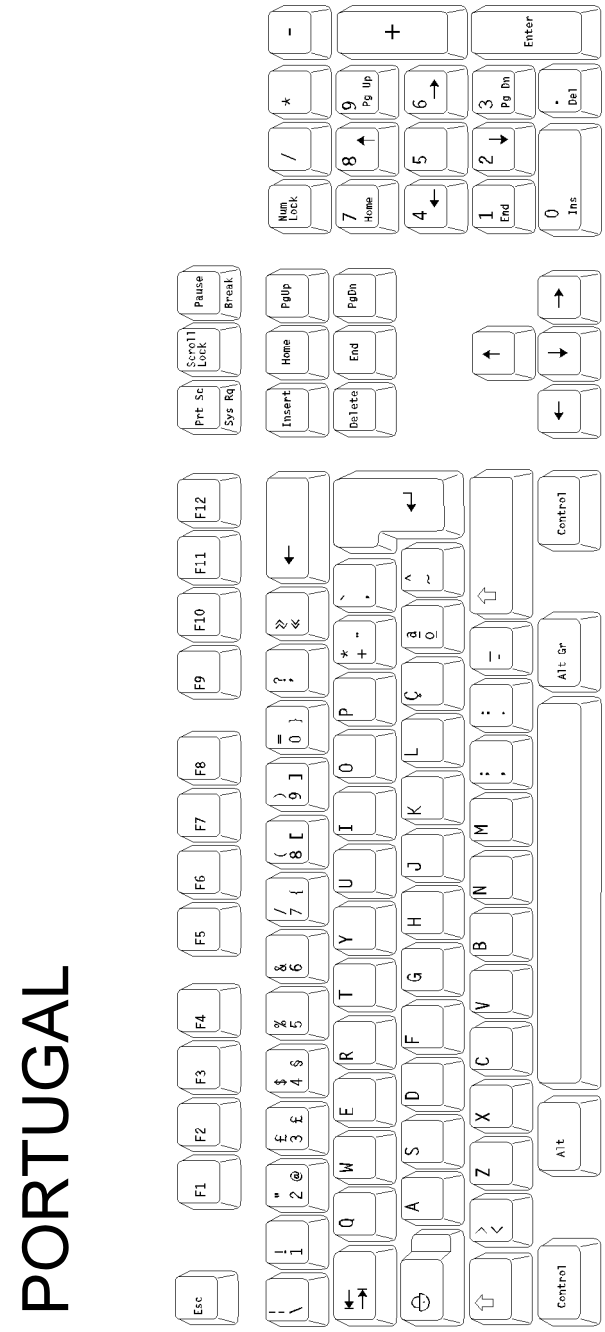


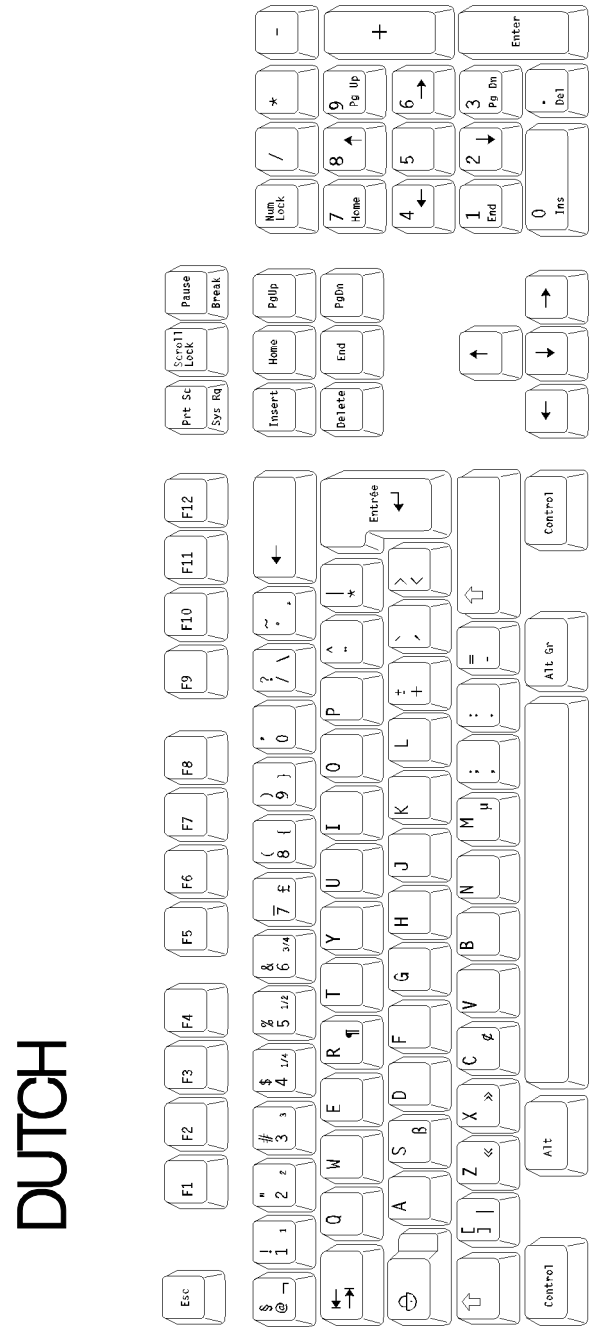
BELGIUM




Esc
F1
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
F12
Stamp
R Sist
Bloc Scorr
Pausa
Interr
Ins
Canc
Fine
Pag
Bloc Num
Entrée
Control
Alt
Alt Gr
Invio

ITALY


PORTUGAL


DUTCH
Esc
F1
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
F12
Prt Sc
Sys Rq
Scroll Lock
Pause
Break
Insert
Home
PgUp
Delete
End
PgDn
Num Lock
Enter
Entrée
Control
Alt
Alt Gr

4.2 - PROGRAMMING KEYS

AX3000's built-in **Predefined Configuration** set-ups automatically set all standard terminal parameters to match the selected operating system.

Automatic configuration sets both the 'standard' terminal parameters (emulation, number of lines, screen modes, etc) and also the values of the available programming function keys.

Up to 62 programming keys (48 function keys plus the numeric keypad and escape) are updated in this way.

Function Key Memory Usage

Follow these two rules:

- do not exceed 32 characters, maximum, per function key string.
- Serial model: do not exceed 255 characters, in total, to encode all the function key strings.
- TCP/IP model: do not exceed 255 characters, per session, to encode all the function key strings. Sometimes, when you exit set-up, the Platine terminal will sound 5 'beeps'. This indicates insufficient memory for all the function key definitions.

Serial AX3000 Multi-Session

The ANSI, VT and WYSE families offer the multi-session capability (through the axmscreen software). Twelve dedicated keystrokes are needed for the multi-session.

Notes:

- the multi-session keystrokes can be changed through the AX3000 Set-Up.
- when a keystroke is redefined through the AX3000 Set-Up and also used by the multi-session, the multi-session feature has priority.

The following table gives the 12 multi-session default keystrokes and the associated values (these values can not be changed):

label	Value	ANSI	VT, WYSE
session 1	Esc [<a	Alt+F1	Ctrl+F1
session 2	Esc [<b	Alt+F2	Ctrl+F2
session 3	Esc [<c	Alt+F3	Ctrl+F3
session 4	Esc [<d	Alt+F4	Ctrl+F4
session 5	Esc [<e	Alt+F5	Ctrl+F5
session 6	Esc [<f	Alt+F6	Ctrl+F6
session 7	Esc [<g	Alt+F7	Ctrl+F7
session 8	Esc [<h	Alt+F8	Ctrl+F8
who	Esc [<i	Alt+F9	Ctrl+F9
help	Esc [<j	Alt+F10	Ctrl+F10
quit	Esc [<k	Alt+F11	Ctrl+F11
exit	Esc [<l	Alt+F12	Ctrl+F12

TCP/IP AX3000 Multi-Session

No additional software is needed for the TCP/IP AX3000 multi-session. The default multi-session keystrokes are <Alt><Fx> (Fx represents whichever of the F1 to F12).

Notes:

- the multi-session keystrokes can be changed through the AX3000 Set-Up.
- when a keystroke is redefined through the AX3000 Set-Up and also used by the multi-session, the multi-session feature has priority.

Convention

in the following tables, the **'N°'** column is the function key number (AX3000's set-up), the **'Keystroke'** column is the associated keystroke and the '**Value'** column is the corresponding default value.

4.2.1 - ANSI Family

ANSI, ANSI DOS, UNIX SCO 3.2.2, UNIX SCO 3.2.4, SCO OPENSERVER and XENIX SCO

N°	Keystroke	Value
F1	F1	Esc [M
F2	F2	Esc [N
F3	F3	Esc [O
F4	F4	Esc [P
F5	F5	Esc [Q
F6	F6	Esc [R
F7	F7	Esc [S
F8	F8	Esc [T
F9	F9	Esc [U
F10	F10	Esc [V
F11	F11	Esc [W
F12	F12	Esc [X
F13	Shift+F1	Esc [Y
F14	Shift+F2	Esc [Z
F15	Shift+F3	Esc [a
F16	Shift+F4	Esc [b
F17	Shift+F5	Esc [c
F18	Shift+F6	Esc [d
F19	Shift+F7	Esc [e
F20	Shift+F8	Esc [f
F21	Shift+F9	Esc [g
F22	Shift+F10	Esc [h
F23	Shift+F11	Esc [i
F24	Shift+F12	Esc [j
F25	Ctrl+F1	Esc [k
F26	Ctrl+F2	Esc [l
F27	Ctrl+F3	Esc [m
F28	Ctrl+F4	Esc [n
F29	Ctrl+F5	Esc [o
F30	Ctrl+F6	Esc [p

N°	Keystroke	Value
F31	Ctrl+F7	Esc [q
F32	Ctrl+F8	Esc [r
F33	Ctrl+F9	Esc [s
F34	Ctrl+F10	Esc [t
F35	Ctrl+F11	Esc [u
F36	Ctrl+F12	Esc [v
F37	Ctrl+Shift+F1	Esc [w
F38	Ctrl+Shift+F2	Esc [x
F39	Ctrl+Shift+F3	Esc [y
F40	Ctrl+Shift+F4	Esc [z
F41	Ctrl+Shift+F5	Esc [[
F42	Ctrl+Shift+F6	Esc [@
F43	Ctrl+Shift+F7	Esc [\
F44	Ctrl+Shift+F8	Esc []
F45	Ctrl+Shift+F9	Esc [^
F46	Ctrl+Shift+F10	Esc [_
F47	Ctrl+Shift+F11	Esc [`
F48	Ctrl+Shift+F12	Esc [{
F49	<Home>	Esc [H
F50	<Up>	Esc [A
F51	<PgUp>	Esc [I
F52	<->	2Dh
F53	<Left>	Esc [D
F54	<5>	Esc [E
F55	<Right>	Esc [C
F56	<+>	2Bh
F57	<End>	Esc [F
F58	<Down>	Esc [B
F59	<PgDn>	Esc [G
F60	<Ins>	Esc [L
F61	<Del>	7Fh
F62	<Esc>	1Bh

ANSI RS6000

N°	Keystroke	Value
F1	F1	Esc [001q
F2	F2	Esc [002q
F3	F3	Esc [003q
F4	F4	Esc [004q
F5	F5	Esc [005q
F6	F6	Esc [006q
F7	F7	Esc [007q
F8	F8	Esc [008q
F9	F9	Esc [009q
F10	F10	Esc [010q
F11	F11	Esc [011q
F12	F12	Esc [012q
F13	Shift+F1	Esc [013q
F14	Shift+F2	Esc [014q
F15	Shift+F3	Esc [015q
F16	Shift+F4	Esc [016q
F17	Shift+F5	Esc [017q
F18	Shift+F6	Esc [018q
F19	Shift+F7	Esc [019q
F20	Shift+F8	Esc [020q
F21	Shift+F9	Esc [021q
F22	Shift+F10	Esc [022q
F23	Shift+F11	Esc [023q
F24	Shift+F12	Esc [024q
F25	Ctrl+F1	Esc [025q
F26	Ctrl+F2	Esc [026q
F27	Ctrl+F3	Esc [027q
F28	Ctrl+F4	Esc [028q
F29	Ctrl+F5	Esc [029q
F30	Ctrl+F6	Esc [030q

N°	Keystroke	Value
F31	Ctrl+F7	Esc [031q
F32	Ctrl+F8	Esc [032q
F33	Ctrl+F9	Esc [033q
F34	Ctrl+F10	Esc [034q
F35	Ctrl+F11	Esc [035q
F36	Ctrl+F12	Esc [036q

N°	Keystroke	Value
F49	<Home>	Esc [H
F50	<Up>	Esc [A
F51	<PgUp>	Esc [150q
F52	<->	2Dh
F53	<Left>	Esc [D
F54	<5>	Esc [E
F55	<Right>	Esc [C
F56	<+>	2Bh
F57	<End>	Esc [146q
F58	<Down>	Esc [B
F59	<PgDn>	Esc [154q
F60	<Ins>	Esc [139q
F61	<Del>	7Fh
F62	<Esc>	1Bh

ANSI INTERACTIVE / UNIX SVR4 / UNIXWARE 7

N°	Keystroke	Value
F1	F1	Esc OP
F2	F2	Esc OQ
F3	F3	Esc OR
F4	F4	Esc OS
F5	F5	Esc OT
F6	F6	Esc OU
F7	F7	Esc OV
F8	F8	Esc OW
F9	F9	Esc OX
F10	F10	Esc OY
F11	F11	Esc OZ
F12	F12	Esc OA
F13	Shift+F1	Esc Op
F14	Shift+F2	Esc Oq
F15	Shift+F3	Esc Or
F16	Shift+F4	Esc Os
F17	Shift+F5	Esc Ot
F18	Shift+F6	Esc Ou
F19	Shift+F7	Esc Ov
F20	Shift+F8	Esc Ow
F21	Shift+F9	Esc Ox
F22	Shift+F10	Esc Oy
F23	Shift+F11	Esc Oz
F24	Shift+F12	Esc Oa
F25	Ctrl+F1	Esc OP
F26	Ctrl+F2	Esc OQ
F27	Ctrl+F3	Esc OR
F28	Ctrl+F4	Esc OS
F29	Ctrl+F5	Esc OT
F30	Ctrl+F6	Esc OU

Note: with Unixware 7, the <+> and <-> keys are associated with 2Bh (+) and 2Dh (-)

N°	Keystroke	Value
F31	Ctrl+F7	Esc OV
F32	Ctrl+F8	Esc OW
F33	Ctrl+F9	Esc OX
F34	Ctrl+F10	Esc OY
F35	Ctrl+F11	Esc OZ
F36	Ctrl+F12	Esc OA
F37	Ctrl+Shift+F1	1Fh
F38	Ctrl+Shift+F2	---
F39	Ctrl+Shift+F3	Esc Or
F40	Ctrl+Shift+F4	Esc Os
F41	Ctrl+Shift+F5	Esc Ot
F42	Ctrl+Shift+F6	Esc Ou
F43	Ctrl+Shift+F7	Esc Ov
F44	Ctrl+Shift+F8	Esc Ow
F45	Ctrl+Shift+F9	Esc Ox
F46	Ctrl+Shift+F10	Esc Oy
F47	Ctrl+Shift+F11	Esc Oz
F48	Ctrl+Shift+F12	Esc Oa
F49	<Home>	Esc [H
F50	<Up>	Esc [A
F51	<PgUp>	Esc [V
F52	<->	Esc [S
F53	<Left>	Esc [D
F54	<5>	Esc [G
F55	<Right>	Esc [C
F56	<+>	Esc [T
F57	<End>	Esc [Y
F58	<Down>	Esc [B
F59	<PgDn>	Esc [U
F60	<Ins>	Esc [@
F61	<Del>	7Fh
F62	<Esc>	1Bh

ANSI MOS

N°	Keystroke	Value
F1	F1	Esc '
F2	F2	Esc a
F3	F3	Esc b
F4	F4	Esc c
F5	F5	Esc d
F6	F6	Esc e
F7	F7	Esc f
F8	F8	Esc g
F9	F9	Esc h
F10	F10	Esc i
F11	F11	Esc j
F12	F12	Esc k
F13	Shift+F1	Esc p
F14	Shift+F2	Esc q
F15	Shift+F3	Esc r
F16	Shift+F4	Esc s
F17	Shift+F5	Esc t
F18	Shift+F6	Esc u
F19	Shift+F7	Esc v
F20	Shift+F8	Esc w
F21	Shift+F9	Esc x
F22	Shift+F10	Esc y
F23	Shift+F11	Esc z
F24	Shift+F12	Esc {
F25	Ctrl+F1	Esc [k
F26	Ctrl+F2	Esc [l
F27	Ctrl+F3	Esc [m
F28	Ctrl+F4	Esc [n
F29	Ctrl+F5	Esc [o
F30	Ctrl+F6	Esc [p

N°	Keystroke	Value
F31	Ctrl+F7	Esc [q
F32	Ctrl+F8	Esc [r
F33	Ctrl+F9	Esc [s
F34	Ctrl+F10	Esc [t
F35	Ctrl+F11	Esc [u
F36	Ctrl+F12	Esc [v
F37	Ctrl+Shift+F1	Esc [w
F38	Ctrl+Shift+F2	Esc [x
F39	Ctrl+Shift+F3	Esc [y
F40	Ctrl+Shift+F4	Esc [z
F41	Ctrl+Shift+F5	Esc [@
F42	Ctrl+Shift+F6	Esc [[
F43	Ctrl+Shift+F7	Esc [\
F44	Ctrl+Shift+F8	Esc []
F45	Ctrl+Shift+F9	Esc [^
F46	Ctrl+Shift+F10	Esc [_
F47	Ctrl+Shift+F11	Esc [`
F48	Ctrl+Shift+F12	Esc [{
F49	<Home>	Esc [H
F50	<Up>	Esc [A
F51	<PgUp>	Esc [I
F52	<->	2Dh
F53	<Left>	Esc [D
F54	<5>	Esc [G
F55	<Right>	Esc [C
F56	<+>	2Bh
F57	<End>	Esc [F
F58	<Down>	Esc [B
F59	<PgDn>	Esc [G
F60	<Ins>	Esc [L
F61	<Del>	7Fh
F62	<Esc>	1Bh

LINUX

N°	Touches	Valeur
F1	F1	Esc [[A
F2	F2	Esc [[B
F3	F3	Esc [[C
F4	F4	Esc [[D
F5	F5	Esc [[E
F6	F6	Esc [17~
F7	F7	Esc [18~
F8	F8	Esc [19~
F9	F9	Esc [20~
F10	F10	Esc [21~
F11	F11	Esc [23~
F12	F12	Esc [24~
F13	Shift+F1	Esc [25~
F14	Shift+F2	Esc [26~
F15	Shift+F3	Esc [28~
F16	Shift+F4	Esc [29~
F17	Shift+F5	Esc [31~
F18	Shift+F6	Esc [32~
F19	Shift+F7	Esc [33~
F20	Shift+F8	Esc [34~
F21	Shift+F9	---
F22	Shift+F10	---
F23	Shift+F11	---
F24	Shift+F12	---
F25	Ctrl+F1	---
F26	Ctrl+F2	---
F27	Ctrl+F3	---
F28	Ctrl+F4	---
F29	Ctrl+F5	---
F30	Ctrl+F6	---

N°	Touches	Valeur
F31	Ctrl+F7	---
F32	Ctrl+F8	---
F33	Ctrl+F9	---
F34	Ctrl+F10	---
F35	Ctrl+F11	---
F36	Ctrl+F12	---
F37	Ctrl+Shift+F1	---
F38	Ctrl+Shift+F2	---
F39	Ctrl+Shift+F3	---
F40	Ctrl+Shift+F4	---
F41	Ctrl+Shift+F5	---
F42	Ctrl+Shift+F6	---
F43	Ctrl+Shift+F7	---
F44	Ctrl+Shift+F8	---
F45	Ctrl+Shift+F9	---
F46	Ctrl+Shift+F10	---
F47	Ctrl+Shift+F11	---
F48	Ctrl+Shift+F12	---
F49	<Home>	Esc [1~
F50	<Haut>	Esc [A
F51	<PgUp>	Esc [5~
F52	<->	2Dh
F53	<Gauche>	Esc [D
F54	<5>	Esc [G
F55	<Droite>	Esc [C
F56	<+>	2Bh
F57	<Fin>	Esc [4~
F58	<Bas>	Esc [B
F59	<PgDn>	Esc [6~
F60	<Insert>	Esc [2~
F61	<Suppr>	7Fh
F62	<Esc>	1Bh

ANSI SLNET

N°	Keystroke	Value
F1	F1	01h 31h
F2	F2	01h 32h
F3	F3	01h 33h
F4	F4	01h 34h
F5	F5	01h 35h
F6	F6	01h 36h
F7	F7	01h 37h
F8	F8	01h 38h
F9	F9	01h 39h
F10	F10	01h 30h
F11	F11	01h 2Dh
F12	F12	01h 3Dh
F13	Shift+F1	01h 73h 01h 31h 01h 73h
F14	Shift+F2	01h 73h 01h 32h 01h 73h
F15	Shift+F3	01h 73h 01h 33h 01h 73h
F16	Shift+F4	01h 73h 01h 34h 01h 73h
F17	Shift+F5	01h 73h 01h 35h 01h 73h
F18	Shift+F6	01h 73h 01h 36h 01h 73h
F19	Shift+F7	01h 73h 01h 37h 01h 73h
F20	Shift+F8	01h 73h 01h 38h 01h 73h
F21	Shift+F9	01h 73h 01h 39h 01h 73h
F22	Shift+F10	01h 73h 01h 30h 01h 73h
F23	Shift+F11	01h 73h 01h 2Dh 01h 73h
F24	Shift+F12	01h 73h 01h 3Dh 01h 73h

No default value is associated with other keystrokes:

- F25 to F35 (Ctrl+Fx)
- F36 to F48 (Ctrl+Shift+Fx)

Numeric Pad:

N°	Keystroke	Value
F49	<Home>	Esc [H
F50	<Up>	Esc [A
F51	<PgUp>	Esc [I
F52	<->	2Dh
F53	<Left>	Esc [D
F54	<5>	Esc [G
F55	<Right>	Esc [C
F56	<+>	2Bh
F57	<End>	Esc [F
F58	<Down>	Esc [B
F59	<PgDn>	Esc [G
F60	<Ins>	Esc [L
F61	<Del>	7Fh
F62	<Esc>	1Bh

Edit Pad:

Keystroke	Value
Insert	01h 69h
Home	01h 68h
Page Up	01h 75h
Delete	01h 64h
End	01h 65h
Page Down	01h 6Eh

Other keystrokes:

Keystroke	Value
Control	01h 63h
Alt	01h 61h
Shitft Tab	01h 74h

ANSI DATA GENERAL

All the function key values are the same than the ANSI ones. The only difference is the <CR> value. These key sends 0Ah instead of 0Dh.

4.2.2 - VT Family

VT family is composed by the VT220, HFT and VT AS400 emulation.

VT220

Function keys:

N°	Keystroke	Value
F1	F1	Esc OP
F2	F2	Esc OQ
F3	F3	Esc OR
F4	F4	Esc OS
F5	F5	Esc [16~
F6	F6	Esc [17~
F7	F7	Esc [18~
F8	F8	Esc [19~
F9	F9	Esc [20~
F10	F10	Esc [21~
F11	F11	Esc [23~
F12	F12	Esc [24~
F13	Alt+F1	Esc OP
F14	Alt+F2	Esc OQ
F15	Alt+F3	Esc OR
F16	Alt+F4	Esc OS
F17	Alt+F5	Esc [25~
F18	Alt+F6	Esc [26~
F19	Alt+F7	Esc [28~
F20	Alt+F8	Esc [29~
F21	Alt+F9	Esc [31~
F22	Alt+F10	Esc [32~
F23	Alt+F11	Esc [33~
F24	Alt+F12	Esc [34~

N°	Keystroke	Value
F25	Shift+F1	---
F26	Shift+F2	---
F27	Shift+F3	---
F28	Shift+F4	---
F29	Shift+F5	---
F30	Shift+F6	---
F31	Shift+F7	---
F32	Shift+F8	---
F33	Shift+F9	---
F34	Shift+F10	---
F35	Shift+F11	---
F36	Shift+F12	---
F37	Alt+Shift+F1	---
F38	Alt+Shift+F2	---
F39	Alt+Shift+F3	---
F40	Alt+Shift+F4	---
F41	Alt+Shift+F5	---
F42	Alt+Shift+F6	---
F43	Alt+Shift+F7	---
F44	Alt+Shift+F8	---
F45	Alt+Shift+F9	---
F46	Alt+Shift+F10	---
F47	Alt+Shift+F11	---
F48	Alt+Shift+F12	---

The keypad modes (numeric or application) and the cursor keypad modes (cursor or application) are selected through escape sequences.

Numeric keypad:

Key	Keypad Mode		Application Mode
	Locked	Unlocked	
<*>	*	*	Esc Ol
<->	-	-	Esc Om
<.>	.	.	Esc On
<0>	0	Esc q	Esc Op
<1>	1	Esc [5~	Esc Oq
<2>	2	Esc [B	Esc Or
<3>	3	Esc [U	Esc Os
<4>	4	Esc [D	Esc Ot
<5>	5	5	Esc Ou
<6>	6	Esc [C	Esc Ov
<7>	7	Esc [2~	Esc Ow
<8>	8	Esc [A	Esc Ox
<9>	9	Esc [V	Esc Oy
<Return>	CR or CR+LF	CR or CR+LF	Esc OM
<+>	+	+	+
</>	/	/	/

Cursor keypad:

Key	Cursor Mode	Application Mode
<Up>	Esc [A	Esc OA
<Down>	Esc [B	Esc OB
<Right>	Esc [C	Esc OC
<Left>	Esc [D	Esc OD

Editing keypad:

Key	Value
<Inser>	Esc [1~
<Home>	Esc [2~
<PgUp>	Esc [3~
<Del>	Esc [4~
<End>	Esc [5~
<PgDn>	Esc [6~

HFT

Function keys:

N°	Keystroke	Value
F1	F1	Esc [001q
F2	F2	Esc [002q
F3	F3	Esc [003q
F4	F4	Esc [004q
F5	F5	Esc [005q
F6	F6	Esc [006q
F7	F7	Esc [007q
F8	F8	Esc [008q
F9	F9	Esc [009q
F10	F10	Esc [010q
F11	F11	Esc [011q
F12	F12	Esc [012q
F13	Shift+F1	Esc [013q
F14	Shift+F2	Esc [014q
F15	Shift+F3	Esc [015q
F16	Shift+F4	Esc [016q
F17	Shift+F5	Esc [017q
F18	Shift+F6	Esc [018q
F19	Shift+F7	Esc [019q
F20	Shift+F8	Esc [020q
F21	Shift+F9	Esc [021q
F22	Shift+F10	Esc [022q
F23	Shift+F11	Esc [023q
F24	Shift+F12	Esc [024q
F62	Esc	1Bh

The following table lists the default value of the numeric keypad (or editing keypad and cursor keypad):

N°	PS2 Keyboard	Value	3270 Keyboard
F49	<Home>	Esc [H	home
F50	<Up>	Esc [A	up
F51	<Page Up>	Esc [150q	PA1
F53	<Left>	Esc [D	left
F55	<Right>	Esc [C	right
F57	<End>	Esc [146q	spaceof
F58	<Down>	Esc [B	down
F59	<PageDown>	Esc [154q	PA2
F60	<Insert>	Esc [139q	insert
F61	<Del>	Esc [P	delete

The following keystrokes are available in HFT emulation. It is not possible to modify their values:

PS2 Keyboard	Value	3270 Keyboard
<Ctrl right>	Esc [114q	Send
<Scroll Lock>	Esc [213q	Repls
<Pause>	Esc [217q	Clear screen
<Print Screen>	Esc [209q	Print screen
<Alt><Print Screen>	Esc [212q	System request
<Shift><Scroll Lock>	Esc [214q	Saves
<Shift><Tab>	Esc [Z	Backtab
<Shift><Up>	Esc [161q	uup
<Shift><Down>	Esc [164q	ddown
<Shift><right>	Esc [167q	rright
<Shift><left>	Esc [158q	lleft
<Ctrl><Print Screen>	Esc [211q	Attention
<Ctrl><left>	Esc [159q	PA3

VT AS400

Function keys:

N°	Keystroke	Value
F1	F1	Esc 1
F2	F2	Esc 2
F3	F3	Esc 3
F4	F4	Esc 4
F5	F5	Esc 5
F6	F6	Esc 6
F7	F7	Esc 7
F8	F8	Esc 8
F9	F9	Esc 9
F10	F10	Esc 0
F11	F11	Esc -
F12	F12	Esc =
F13	Shift+F1	Esc !
F14	Shift+F2	Esc @
F15	Shift+F3	Esc #
F16	Shift+F4	Esc $
F17	Shift+F5	Esc %
F18	Shift+F6	Esc ^
F19	Shift+F7	Esc &
F20	Shift+F8	Esc *
F21	Shift+F9	Esc (
F22	Shift+F10	Esc)
F23	Shift+F11	Esc _
F24	Shift+F12	Esc +
F62	<Esc>	1Bh

The keypad modes (numeric or application) and the cursor keypad modes (cursor or application) are selected through escape sequences.

Numeric keypad:

N°	Key	Keypad Mode	
		Locked	Unlocked
---	<*>	*	*
F52	<->	-	-
F61	<.>	.	7Fh
F60	<0>	0	Esc q
F57	<1>	1	Esc [5~
F58	<2>	2	Esc [B
F59	<3>	3	Esc [U
F53	<4>	4	Esc [D
F54	<5>	5	5
F55	<6>	6	Esc [C
F49	<7>	7	Esc [2~
F50	<8>	8	Esc [A
F51	<9>	9	Esc [V
---	<Return>	CR or CR+LF	CR or CR+LF
F56	<+>	+	+
---	</>	/	/

Cursor keypad:

Key	Cursor Mode
<Up>	Esc [A
<Down>	Esc [B
<Right>	Esc [C
<Left>	Esc [D

Editing keypad:

Key	Value
<Ins>	Esc I
<Home>	Ctrl O
<PgUp>	Ctrl U
<Del>	7Fh
<End>	---
<PgDn>	Ctrl F

The following keystrokes are available in VT AS400 emulation. It is not possible to modify their values:

Keystroke	Value	Label
<Print Screen>	Esc P	Print
<Tab>	09h	Field Avance
<Ctrl left>	Esc R	Error Reset
<Shift><F1>	Esc H	Help
<Shift><Return>	Esc 0Ah	New line
<Shift><Tab>	Esc 09h	Field Backspace
<Alt><Pause>	Esc A	Attention
<Alt><Print Screen>	Esc S	System request
<Alt><+> (numeric keypad)	Esc D	Duplicate
<Alt><-> (numeric keypad)	Esc M	Field Minus
<Alt><Home> (cursor keypad)	Ctrl E	Erase input
<Alt><Suppr> (cursor keypad)	Esc X	Field Exit
<Alt><Space>	Esc C	Clear screen
<Alt><Esc>	Ctrl T	Test Request
<Alt><Tab>	Esc T	Toggle indicators lights
<Alt><Return>	Esc L	Redraw screen

4.2.3 - WYSE Emulation

N°	Keystroke	Value
F1	F1	01h 40h 0Dh
F2	F2	01h 41h 0Dh
F3	F3	01h 42h 0Dh
F4	F4	01h 43h 0Dh
F5	F5	01h 44h 0Dh
F6	F6	01h 45h 0Dh
F7	F7	01h 46h 0Dh
F8	F8	01h 47h 0Dh
F9	F9	01h 48h 0Dh
F10	F10	01h 49h 0Dh
F11	F11	01h 4Ah 0Dh
F12	F12	01h 4Bh 0Dh
F13	Shift+F1	01h 60h 0Dh
F14	Shift+F2	01h 61h 0Dh
F15	Shift+F3	01h 62h 0Dh
F16	Shift+F4	01h 63h 0Dh
F17	Shift+F5	01h 64h 0Dh
F18	Shift+F6	01h 65h 0Dh
F19	Shift+F7	01h 66h 0Dh
F20	Shift+F8	01h 67h 0Dh
F21	Shift+F9	01h 68h 0Dh
F22	Shift+F10	01h 69h 0Dh
F23	Shift+F11	01h 6Ah 0Dh
F24	Shift+F12	01h 6Bh 0Dh
F25	Ctrl+F1	---
F26	Ctrl+F2	---
F27	Ctrl+F3	---
F28	Ctrl+F4	---
F29	Ctrl+F5	---
F30	Ctrl+F6	---

N°	Keystroke	Value
F31	Ctrl+F7	---
F32	Ctrl+F8	---
F33	Ctrl+F9	---
F34	Ctrl+F10	---
F35	Ctrl+F11	---
F36	Ctrl+F12	---
F37	Alt+F1	---
F38	Alt+F2	---
F39	Alt+F3	---
F40	Alt+F4	---
F41	Alt+F5	---
F42	Alt+F6	---
F43	Alt+F7	---
F44	Alt+F8	---
F45	Alt+F9	---
F46	Alt+F10	---
F47	Alt+F11	---
F48	Alt+F12	---
F49	<Home>	1Eh
F50	<Up>	0Bh
F51	<PgUp>	Esc J
F52	<->	2Dh
F53	<Left>	08h
F54	<5>	---
F55	<Right>	0Ch
F56	<+>	2Bh
F57	<End>	Esc T
F58	<Down>	0Ah
F59	<PgDn>	Esc K
F60	<Ins>	Esc q
F61	<Del> (numpad) <Del> (edit)	7Fh Esc W
F62	<Esc>	1Bh

4.2.4 - PCTERM Family

PCTERM, PCTERM THEOS, OS2 POLYMOD2

N°	Keystroke	Value
F1	F1	01h 40h 0Dh
F2	F2	01h 41h 0Dh
F3	F3	01h 42h 0Dh
F4	F4	01h 43h 0Dh
F5	F5	01h 44h 0Dh
F6	F6	01h 45h 0Dh
F7	F7	01h 46h 0Dh
F8	F8	01h 47h 0Dh
F9	F9	01h 48h 0Dh
F10	F10	01h 49h 0Dh
F11	F11	01h 4Ah 0Dh
F12	F12	01h 4Bh 0Dh
F13	Shift+F1	01h 60h 0Dh
F14	Shift+F2	01h 61h 0Dh
F15	Shift+F3	01h 62h 0Dh
F16	Shift+F4	01h 63h 0Dh
F17	Shift+F5	01h 64h 0Dh
F18	Shift+F6	01h 65h 0Dh
F19	Shift+F7	01h 66h 0Dh
F20	Shift+F8	01h 67h 0Dh
F21	Shift+F9	01h 68h 0Dh
F22	Shift+F10	01h 69h 0Dh
F23	Shift+F11	01h 6Ah 0Dh
F24	Shift+F12	01h 6Bh 0Dh
F25	Ctrl+F1	---
F26	Ctrl+F2	---
F27	Ctrl+F3	---
F28	Ctrl+F4	---
F29	Ctrl+F5	---
F30	Ctrl+F6	---

N°	Keystroke	Value
F31	Ctrl+F7	---
F32	Ctrl+F8	---
F33	Ctrl+F9	---
F34	Ctrl+F10	---
F35	Ctrl+F11	---
F36	Ctrl+F12	---
F37	Alt+F1	---
F38	Alt+F2	---
F39	Alt+F3	---
F40	Alt+F4	---
F41	Alt+F5	---
F42	Alt+F6	---
F43	Alt+F7	---
F44	Alt+F8	---
F45	Alt+F9	---
F46	Alt+F10	---
F47	Alt+F11	---
F48	Alt+F12	---
F49	<Home>	1Eh
F50	<Up>	0Bh
F51	<PgUp>	Esc J
F52	<->	2Dh
F53	<Left>	08h
F54	<5>	---
F55	<Right>	0Ch
F56	<+>	2Bh
F57	<End>	Esc T
F58	<Down>	0Ah
F59	<PgDn>	Esc K
F60	<Ins>	Esc q
F61	<Del>	7Fh
F62	<Esc>	1Bh

4.2.5 - SM94xx Family

SM9400

N°	Keystroke	Value
F1	F1	96h
F2	F2	90h
F3	F3	12h
F4	F4	93h
F5	F5	9Ch
F6	F6	1Bh
F7	F7	0Ch
F8	F8	95h
F9	F9	1Fh
F10	F10	17h
F11	F11	8Eh
F12	F12	91h
F13	Shift+F1	---
F14	Shift+F2	---
F15	Shift+F3	---
F16	Shift+F4	---
F17	Shift+F5	---
F18	Shift+F6	---
F19	Shift+F7	---
F20	Shift+F8	---
F21	Shift+F9	---
F22	Shift+F10	---
F23	Shift+F11	---
F24	Shift+F12	---
F25	Ctrl+F1	---
F26	Ctrl+F2	---
F27	Ctrl+F3	---
F28	Ctrl+F4	---
F29	Ctrl+F5	---
F30	Ctrl+F6	---
F31	Ctrl+F7	---
F32	Ctrl+F8	---
F33	Ctrl+F9	---
F34	Ctrl+F10	---

N°	Keystroke	Value
F35	Ctrl+F11	---
F36	Ctrl+F12	---
F37	Ctrl+Shift+F1	---
F38	Ctrl+Shift+F2	---
F39	Ctrl+Shift+F3	---
F40	Ctrl+Shift+F4	---
F41	Ctrl+Shift+F5	---
F42	Ctrl+Shift+F6	---
F43	Ctrl+Shift+F7	---
F44	Ctrl+Shift+F8	---
F45	Ctrl+Shift+F9	---
F46	Ctrl+Shift+F10	---
F47	Ctrl+Shift+F11	---
F48	Ctrl+Shift+F12	---
F49	<Home>	9Dh
F50	<Up>	1Ah
F51	<PgUp>	89h
F52	<->	2Dh
F53	<Left>	19h
F54	<5>	35h
F55	<Right>	18h
F56	<+>	2Bh
F57	<End>	0Eh
F58	<Down>	0Bh
F59	<PgDn>	8Ah
F60	<Ins>	8Fh
F61	<Del>	8Dh
F62	<Esc>	1Bh

<Tab>	09h
<Shift><Tab>	14h
<backspace>	08h
<Shift><backspace>	7Fh

SM9412

N°	Keystroke	Value
F1	F1	94h
F2	F2	85h
F3	F3	86h
F4	F4	81h
F5	F5	82h
F6	F6	83h
F7	F7	84h
F8	F8	87h
F9	F9	8Eh
F10	F10	91h
F11	F11	92h
F12	F12	0Ah
F13	Shift+F1	96h
F14	Shift+F2	90h
F15	Shift+F3	12h
F16	Shift+F4	93h
F17	Shift+F5	9Ch
F18	Shift+F6	1Bh
F19	Shift+F7	0Ch
F20	Shift+F8	95h
F21	Shift+F9	1Fh
F22	Shift+F10	17h
F23	Shift+F11	8Eh
F24	Shift+F12	91h
F25	Ctrl+F1	E8h
F26	Ctrl+F2	---
F27	Ctrl+F3	---
F28	Ctrl+F4	---
F29	Ctrl+F5	---
F30	Ctrl+F6	---
F31	Ctrl+F7	---
F32	Ctrl+F8	EDh
F33	Ctrl+F9	---
F34	Ctrl+F10	---
F35	Ctrl+F11	9Dh
F36	Ctrl+F12	0Ah

N°	Keystroke	Value
F37	Ctrl+Shift+F1	---
F38	Ctrl+Shift+F2	---
F39	Ctrl+Shift+F3	---
F40	Ctrl+Shift+F4	---
F41	Ctrl+Shift+F5	---
F42	Ctrl+Shift+F6	---
F43	Ctrl+Shift+F7	---
F44	Ctrl+Shift+F8	---
F45	Ctrl+Shift+F9	---
F46	Ctrl+Shift+F10	---
F47	Ctrl+Shift+F11	---
F48	Ctrl+Shift+F12	---
F49	<Home>	9Dh
F50	<Up>	1Ah
F51	<PgUp>	89h
F52	<->	2Dh
F53	<Left>	19h
F54	<5>	35h
F55	<Right>	18h
F56	<+>	2Bh
F57	<End>	0Eh
F58	<Down>	0Bh
F59	<PgDn>	8Ah
F60	<Ins>	8Fh
F61	<Del>	8Dh
F62	<Esc>	0Eh

<Shift><Esc>	1Bh
<Ctrl><Esc>	EBh
<Tab>	09h
<Shift><Tab>	14h
<Ctrl><Tab>	99h
<backspace>	08h
<Shift><backspace>	7Fh

Numeric keypad:

key	keypad Locked	keypad Unlocked	
		key alone	key + Shift
<7>	37h	37h	85h 1Ah 81h
<8>	38h	38h	1Ah
<9>	39h	39h	85h 19h 81h
<4>	34h	34h	19h
<5>	35h	35h	35h
<6>	36h	36h	18h
<1>	31h	31h	85h 0Bh 81h
<2>	32h	32h	0B
<3>	33h	33h	85h 18h 81h
<0>	30h	30h	8Fh
<.>	2Eh	2Eh	8Dh

Cursor keypad:

	key	key + shift
<up>	1Ah	89h
<down>	0Bh	8Ah
<right>	19h	8Bh
<left>	18h	8Ch

Editing keypad:

key	Value
<Inser>	8Fh
<Home>	83h 19h 81h
<PgUp>	85h 19h 81h
<Del>	8Dh
<End>	83h 18h 81h
<PgDn>	85h 18h 81h

4.2.6 - PROLOGUE Family

PROLOGUE 2/3, PROLOGUE 4/5 and TWIN SERVER

N°	Keystroke	Value
F1	F1	01h 80h 0Dh
F2	F2	01h 81h 0Dh
F3	F3	01h 82h 0Dh
F4	F4	01h 83h 0Dh
F5	F5	01h 84h 0Dh
F6	F6	01h 85h 0Dh
F7	F7	01h 86h 0Dh
F8	F8	01h 87h 0Dh
F9	F9	01h 88h 0Dh
F10	F10	01h 89h 0Dh
F11	Shift+F1	01h 8Ah 0Dh
F12	Shift+F2	01h 8Bh 0Dh
F13	Shift+F3	01h 8Ch 0Dh
F14	Shift+F4	01h 8Dh 0Dh
F15	Shift+F5	01h 8Eh 0Dh
F16	Shift+F6	01h 8Fh 0Dh
F17	Shift+F7	01h 90h 0Dh
F18	Shift+F8	01h 91h 0Dh
F19	Shift+F9	01h 92h 0Dh
F20	Shift+F10	01h 93h 0Dh
F21	Ctrl+F1	01h 94h 0Dh
F22	Ctrl+F2	01h 95h 0Dh
F23	Ctrl+F3	01h 96h 0Dh
F24	Ctrl+F4	01h 97h 0Dh
F25	Ctrl+F5	01h 98h 0Dh
F26	Ctrl+F6	01h 99h 0Dh
F27	Ctrl+F7	01h 9Ah 0Dh
F28	Ctrl+F8	01h 9Bh 0Dh
F29	Ctrl+F9	01h 9Ch 0Dh
F30	Ctrl+F10	01h 9Dh 0Dh

N°	Keystroke	Value
F31	Alt+F1	01h 9Eh 0Dh
F32	Alt+F2	01h 9Fh 0Dh
F33	Alt+F3	01h A0h 0Dh
F34	Alt+F4	01h A1h 0Dh
F35	Alt+F5	01h A2h 0Dh
F36	Alt+F6	01h A3h 0Dh
F37	Alt+F7	01h A4h 0Dh
F38	Alt+F8	01h A5h 0Dh
F39	Alt+F9	01h A6h 0Dh
F40	Alt+F10	01h A7h 0Dh

N°	Keystroke	Value
F49	<Home>	1Ch
F50	<Up>	0Bh
F51	<PgUp>	12h
F52	<->	2Dh
F53	<Left>	08h
F54	<5>	---
F55	<Right>	06h
F56	<+>	2Bh
F57	<End>	02h
F58	<Down>	05h
F59	<PgDn>	03h
F60	<Ins>	0Fh
F61	<Del>	7Fh
F62	<Esc>	1Bh

4.2.7 - QVT119+ Emulation

N°	Keystroke	Value
F1	F1	01h 40h 0Dh
F2	F2	01h 41h 0Dh
F3	F3	01h 42h 0Dh
F4	F4	01h 43h 0Dh
F5	F5	01h 44h 0Dh
F6	F6	01h 45h 0Dh
F7	F7	01h 46h 0Dh
F8	F8	01h 47h 0Dh
F9	F9	01h 48h 0Dh
F10	F10	01h 49h 0Dh
F11	F11	01h 4Ah 0Dh
F12	F12	01h 4Bh 0Dh
F13	Shift+F1	01h 60h 0Dh
F14	Shift+F2	01h 61h 0Dh
F15	Shift+F3	01h 62h 0Dh
F16	Shift+F4	01h 63h 0Dh
F17	Shift+F5	01h 64h 0Dh
F18	Shift+F6	01h 65h 0Dh
F19	Shift+F7	01h 66h 0Dh
F20	Shift+F8	01h 67h 0Dh
F21	Shift+F9	01h 68h 0Dh
F22	Shift+F10	01h 69h 0Dh
F23	Shift+F11	01h 6Ah 0Dh
F24	Shift+F12	01h 6Bh 0Dh
F25	Ctrl+F1	---
F26	Ctrl+F2	---
F27	Ctrl+F3	---
F28	Ctrl+F4	---
F29	Ctrl+F5	---
F30	Ctrl+F6	---

N°	Keystroke	Value
F31	Ctrl+F7	---
F32	Ctrl+F8	---
F33	Ctrl+F9	---
F34	Ctrl+F10	---
F35	Ctrl+F11	---
F36	Ctrl+F12	---
F37	Ctrl+Shift+F1	---
F38	Ctrl+Shift+F2	---
F39	Ctrl+Shift+F3	---
F40	Ctrl+Shift+F4	---
F41	Ctrl+Shift+F5	---
F42	Ctrl+Shift+F6	---
F43	Ctrl+Shift+F7	---
F44	Ctrl+Shift+F8	---
F45	Ctrl+Shift+F9	---
F46	Ctrl+Shift+F10	---
F47	Ctrl+Shift+F11	---
F48	Ctrl+Shift+F12	---
F49	<Home>	1Eh
F50	<Up>	0Bh
F51	<PgUp>	Esc J
F52	<->	2Dh
F53	<Left>	08h
F54	<5>	5
F55	<Right>	0Ch
F56	<+>	2Bh
F57	<End>	Esc T
F58	<Down>	0Ah
F59	<PgDn>	Esc K
F60	<Ins>	Esc r
F61	<Del>	7Fh
F62	<Esc>	1Bh

4.2.8 - TVI Emulation

N°	Keystroke	Value
F1	F1	00h
F2	F2	12h
F3	F3	13h
F4	F4	14h
F5	F5	02h
F6	F6	03h
F7	F7	01h
F8	F8	1Ch
F9	F9	1Dh
F10	F10	1Eh
F11	F11	1Fh
F12	F12	0Eh
F13	Shift+F1	00h
F14	Shift+F2	12h
F15	Shift+F3	13h
F16	Shift+F4	14h
F17	Shift+F5	02h
F18	Shift+F6	03h
F19	Shift+F7	01h
F20	Shift+F8	1Ch
F21	Shift+F9	1Dh
F22	Shift+F10	1Eh
F23	Shift+F11	1Fh
F24	Shift+F12	0Eh
F25	Ctrl+F1	---
F26	Ctrl+F2	---
F27	Ctrl+F3	---
F28	Ctrl+F4	---
F29	Ctrl+F5	---
F30	Ctrl+F6	---

N°	Keystroke	Value
F31	Ctrl+F7	---
F32	Ctrl+F8	---
F33	Ctrl+F9	---
F34	Ctrl+F10	---
F35	Ctrl+F11	---
F36	Ctrl+F12	---
F37	Ctrl+Shift+F1	---
F38	Ctrl+Shift+F2	---
F39	Ctrl+Shift+F3	---
F40	Ctrl+Shift+F4	---
F41	Ctrl+Shift+F5	---
F42	Ctrl+Shift+F6	---
F43	Ctrl+Shift+F7	---
F44	Ctrl+Shift+F8	---
F45	Ctrl+Shift+F9	---
F46	Ctrl+Shift+F10	---
F47	Ctrl+Shift+F11	---
F48	Ctrl+Shift+F12	---
F49	<Home>	1Eh
F50	<Up>	0Bh
F51	<PgUp>	Esc J
F52	<->	2Dh
F53	<Left>	08h
F54	<5>	5
F55	<Right>	0Ch
F56	<+>	2Bh
F57	<End>	Esc T
F58	<Down>	16h
F59	<PgDn>	Esc K
F60	<Ins>	Esc r
F61	<Del>	08h
F62	<Esc>	1Bh

4.2.9 - 3151 Emulation

N°	Keystroke	Value
F1	F1	Esc a 0Dh
F2	F2	Esc b 0Dh
F3	F3	Esc c 0Dh
F4	F4	Esc d 0Dh
F5	F5	Esc e 0Dh
F6	F6	Esc f 0Dh
F7	F7	Esc g 0Dh
F8	F8	Esc h 0Dh
F9	F9	Esc i 0Dh
F10	F10	Esc j 0Dh
F11	F11	Esc k 0Dh
F12	F12	Esc l 0Dh
F13	Shift+F1	Esc !a 0Dh
F14	Shift+F2	Esc !b 0Dh
F15	Shift+F3	Esc !c 0Dh
F16	Shift+F4	Esc !d 0Dh
F17	Shift+F5	Esc !e 0Dh
F18	Shift+F6	Esc !f 0Dh
F19	Shift+F7	Esc !g 0Dh
F20	Shift+F8	Esc !h 0Dh
F21	Shift+F9	Esc !i 0Dh
F22	Shift+F10	Esc !j 0Dh
F23	Shift+F11	Esc !k 0Dh
F24	Shift+F12	Esc !l 0Dh
F25	Ctrl+Shift+F1	Esc "a 0Dh
F26	Ctrl+Shift+F2	Esc "b 0Dh
F27	Ctrl+Shift+F3	Esc "c 0Dh
F28	Ctrl+Shift+F4	Esc "d 0Dh
F29	Ctrl+Shift+F5	Esc "e 0Dh
F30	Ctrl+Shift+F6	Esc "f 0Dh
F31	Ctrl+Shift+F7	Esc "g 0Dh
F32	Ctrl+Shift+F8	Esc "h 0Dh
F33	Ctrl+Shift+F9	Esc "i 0Dh
F34	Ctrl+Shift+F10	Esc "j 0Dh
F35	Ctrl+Shift+F11	Esc "k 0Dh
F36	Ctrl+Shift+F12	Esc "l 0Dh

N°	Keystroke	Value
F37	Ctrl+F1	---
F38	Ctrl+F2	---
F39	Ctrl+F3	---
F40	Ctrl+F4	---
F41	Ctrl+F5	---
F42	Ctrl+F6	---
F43	Ctrl+F7	---
F44	Ctrl+F8	---
F45	Ctrl+F9	---
F46	Ctrl+F10	---
F47	Ctrl+F11	---
F48	Ctrl+F12	---
F49	<Home>	Esc H
F50	<Up>	Esc A
F51	<PgUp>	Esc L 0dh
F52	<->	2Dh
F53	<Left>	Esc D
F54	<5>	5
F55	<Right>	Esc C
F56	<+>	2Bh
F57	<End>	Esc 2
F58	<Down>	Esc B
F59	<PgDn>	Esc I
F60	<Ins>	Esc P
F61	<Del>	Esc Q
F62	<Esc>	1Bh

Non-programmables Keys	
<Shift><Tab>	Esc 2
<Ctrl><1> (AP1)	Esc !m 0Dh
<Ctrl><2> (AP2)	Esc !n 0Dh
<Ctrl><3> (AP3)	Esc !o 0Dh
<Ctrl right>	Esc 8 0Dh

4.3 - COMPOSITE CHARACTERS

To enter a composite character, two keystrokes are needed. The first one is the modifier (^, ~, ¨, etc), the second one is the character itself (a, e, i, n, etc).

Example: press '^' then 'e' to get 'ê'.

Note: on the AX3000, composite characters are accented characters.

When the keyboard is in scancode mode, composite characters are handled by the operating system.

When the keyboard is in ASCII mode, composite characters can be handled either by the AX3000 or by the operating system. Select either method using the '`Compose Characters`' set-up parameter.

Three values are available for this set-up parameter:

- `no`: standard processing, to get accented characters, the operating system must map the keystroke pair to a single value,
- `local`: composite characters are locally processed by the AX3000,
- `remote`: special ASCII codes are associated with modifiers.

These three modes of processing are described in the following section. However note that the National ISO 7-bit character set is not covered, as it does not support composite characters.

4.3.1 - Standard Processing

When this method is used (`Compose Characters: no`), the AX3000 does not perform any special processing on the composite character modifier. The following table lists the ASCII codes, sent to the operating system, for the various character sets:

	Character Sets					
	PC-437	PC-85x	PC-860	8859	DEC	SM9400
Acute accent (')	27h	EFh	27h	B4h	27h	27h
Grave accent (`)	60h	60h	60h	60h	60h	60h
Circumflex accent (^)	5Eh	5Eh	5Eh	5Eh	5Eh	5Eh
Dieresis (¨)	22h	F9h	22h	A8h	22h	CEh
Tilde (~)	7Eh	7Eh	7Eh	7Eh	7Eh	7Eh
Paragraph (§)	15h	F5h	15h	A7h	A7h	C9h
Cube (³)	---	FCh	---	B3h	B3h	---
Cedilla (,)	2Ch	F7h	2Ch	F7h	2Ch	2Ch

Note: some symbols are not included in all characters sets. In such cases the AX3000 uses an ASCII code, to get a similar symbol. For example, with the character set 437, quotes are used for dieresis.

4.3.2 - Local Processing

When a composite character modifier is pressed (see table A.1) no character is sent to the operating system. The AX3000 waits for a second key to be pressed.

If the keystroke pair represents a valid symbol for the character set used (see table A.2), the ASCII code for this symbol is sent to the operating system.

If the symbol is not valid, a beep is sounded and the modifier is cancelled.

Notes: - when the spacebar is pressed after the modifier, or when the modifier is pressed twice, the ASCII code sent to the operating system is the modifier itself (example: ^ + ^ = ^).
- Some national keyboards (American, Italian and U.K.) do not support this feature.

	FR	GE	SP	BE	SW	PO	DU
Acute accent (')		✓	✓	✓	✓	✓	✓
Grave accent (`)		✓	✓	✓	✓	✓	✓
Circumflex accent (^)	✓		✓	✓	✓	✓	✓
Dieresis (¨)	✓		✓	✓	✓	✓	✓
Tilde (~)				✓	✓	✓	✓
Cedilla (,)							✓

Table A.1: valid modifiers for various national keyboards

	Character Sets					
	PC-437	PC-85x	PC-860	8859	DEC	SM9400
Acute accent (')	áéíóú É	áéíóú ÁÉÍÓÚ	áéíóú ÁÉÍÓÚ	áéíóú ÁÉÍÓÚ	áéíóú ÁÉÍÓÚ	áéíóú ÁÉÍÓÚ
Grave accent (`)	àèìòù	àèìòù ÀÈÌÒÙ	àèìòù ÀÈÌÒÙ	àèìòù ÀÈÌÒÙ	àèìòù ÀÈÌÒÙ	àèìòù ÀÈÌÒÙ
Circumflex accent (^)	âêîôû	âêîôû ÂÊÎÔÛ	âêô ÂÊÔ	âêîôû ÂÊÎÔÛ	âêîôû ÂÊÎÔÛ	âêîôû ÂÊÎÔÛ
Dieresis (¨)	äëïöü ÄÖÜ	äëïöü ÄËÏÖÜ	ü Ü	äëïöü ÄËÏÖÜ	äëïöü ÄËÏÖÜ	äëïöü ÄËÏÖÜ
Tilde (~)	ñ Ñ	ãõñ ÃÕÑ	ãõñ ÃÕÑ	ãõñ ÃÕÑ	ãõñ ÃÕÑ	ãõñ ÃÕÑ
Cedilla (,)	ç Ç	ç Ç	ç Ç	ç Ç	ç Ç	ç Ç

Table A.2: valid symbols for the various modifiers and character sets

4.3.3 - Remote Processing

For this method, the operating system requires special ASCII codes to act as the modifiers of composite characters.

Note: as the paragraph symbol (§) and the cube symbol (³) are missing from some character sets, these two symbols also require special ASCII codes.

The tables on the next page list the ASCII codes required for the various national keyboards and character sets.

France	Character Set			
	PC-437	PC-85x	PC-860	8859
Circumflex accent (^)	B0h	B0h	B0h	90h
Dieresis (¨)	B1h	B1h	B1h	91h
Paragraph (§)	B2h	F5h	B2h	A7h
Cube (³)	C0h	FCh	C0h	B3h

Germany	Character Set			
	PC-437	PC-85x	PC-860	8859
Acute accent (')	B3h	B3h	B3h	92h
Grave accent (`)	B4h	B4h	B4h	93h
Paragraph (§)	B2h	F5h	B2h	A7h
Cube (³)	C0h	FCh	C0h	B3h

Italy	Character Set			
	PC-437	PC-85x	PC-860	8859
Paragraph (§)	B2h	F5h	B2h	A7h
Cube (³)	C0h	FCh	C0h	B3h

Spain	Character Set			
	PC-437	PC-85x	PC-860	8859
Acute accent (')	B3h	B3h	B3h	92h
Grave accent (`)	B4h	B4h	B4h	93h
Circumflex accent (^)	B0h	B0h	B0h	90h
Dieresis (¨)	B1h	B1h	B1h	91h
Paragraph (§)	B2h	F5h	B2h	A7h
Cube (³)	C0h	FCh	C0h	B3h

Portugal / Switzerland Belgium / Netherlands	Character Set			
	PC-437	PC-85x	PC-860	8859
Acute accent (')	B3h	B3h	B3h	92h
Grave accent (`)	B4h	B4h	B4h	93h
Circumflex accent (^)	B0h	B0h	B0h	90h
Dieresis (¨)	B1h	B1h	B1h	91h
Tilde (~)	7Eh	B2h	7Eh	7Eh
Paragraph (§)	B2h	F5h	B2h	A7h
Cube (³)	C0h	FCh	C0h	B3h

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