

AXEL Platine Terminal

Ethernet TCP/IP Models

User's Guide

May 1997 - Ref.: TCPUE105/701-2

The reproduction or the translation of this material, in part or whole, is strictly prohibited. For additional information, please contact:

AXEL
Zone d'activité d'Orsay-Courtabœuf
16 Avenue du Québec
BP 728
91962 LES ULIS Cedex France
Tel.: (33) 1 69 28 27 27
Fax: (33) 1 69 28 82 04

The information in this document is subject to change without notice. AXEL assumes no responsibility for any errors that may appear in this document.

All trademarks and registered trademarks are the property of their respective holders.

© - 1995-1997 - AXEL - All Rights Reserved.

1 - TCP/IP SET-UP	1
2 - TERMINAL SET-UP	4
2.1 - GENERAL FEATURES.....	5
2.1.1 - Enter Terminal Set-Up Mode.....	5
2.1.2 - Set-Up Screens.....	6
2.1.3 - Predefined Set-Up.....	6
2.1.4 - Local and Global Parameters.....	6
2.1.5 - Exit Set-Up.....	7
2.2 - SCREEN.....	8
2.2.1 - Screen Field.....	8
2.2.2 - Screen Saver Field.....	9
2.2.3 - Enhanced Screen Operating Mode Field.....	9
2.2.4 - Enhanced Mode for this Session Field.....	10
2.2.5 - Number of Lines Field.....	9
2.2.6 - Number of Columns Field.....	10
2.2.7 - Scrolling Field.....	10
2.2.8 - Wrap End of Line Field.....	10
2.2.9 - CR = CR+LF Field.....	11
2.2.10 - Cursor Field.....	11
2.2.11 - Overscan Color Field.....	11
2.3 - KEYBOARD.....	12
2.3.1 - Keycodes Field.....	12
2.3.2 - Character Set Field.....	13
2.3.3 - National Keyboard Field.....	13
2.3.4 - "Backspace" Key Value Field.....	14
2.3.5 - "." Key Value Field.....	14
2.3.6 - "CAPS" Key Mode Field.....	15
2.3.7 - Compose Accented Characters Field.....	15
2.3.8 - "Num" LED Initialization Field.....	15
2.3.9 - Beep Field.....	16
2.3.10 - Repetition Key Delay Field.....	16
2.3.11 - Repetition Key Speed Field.....	16
2.4 - AUX1 PORT CONFIGURATION (25-PIN).....	17
2.4.1 - Operating Mode Field.....	17
2.4.2 - Baud Rate Field.....	18
2.4.3 - Data Format Field.....	18
2.4.4 - Handshake for Transmission Field.....	19
2.4.5 - Test Device Presence Field.....	19
2.4.6 - Handshake for Reception Field.....	20

2.5 - AUX2 PORT CONFIGURATION (RJ45)	21
2.5.1 - Operating Mode Field	21
2.5.2 - Baud Rate Field.....	22
2.5.3 - Data Format Field	22
2.5.4 - Handshake for Transmission Field.....	23
2.5.5 - Test Device Presence Field.....	23
2.5.6 - Handshake for Reception Field.....	23
2.6 - TERMINAL MODES	25
2.6.1 - Local Mode.....	25
2.6.2 - SETUP Language Field	26
2.6.3 - Default Auxiliary Port Field.....	26
2.6.4 - AUX1 Port Service Field.....	26
2.6.5 - AUX2 Port Service Field.....	28
2.6.6 - Parallel Port Service Field.....	29
2.6.7 - Emulation Field	31
2.6.8 - End Transparent Mode Sequence Field.....	32
2.6.9 - Monitor Mode Field.....	32
2.6.10 - Host Programmable Terminal Parameters Field	32
2.6.11 - Video Attribute Coloring Mode Field	32
2.7 - TABULATIONS.....	35
2.8 - FUNCTION KEYS.....	36
2.9 - CANCEL MODIFICATIONS	37
2.10 - RESTORE SAVED SETUP.....	38
2.11 - PREDEFINED SET-UP	38
2.12 - EXIT WITHOUT SAVING	39
2.13 - SAVE AND EXIT.....	39
2.14 - DISPLAY REVISION.....	40
2.15 - MULTISESSION.....	40
3 - TERMINAL COMMANDS	43
3.1 - ANSI EMULATIONS	44
3.2 - VT220, HFT AND VT AS400 EMULATIONS.....	52
3.4 - SM94XX PERSONALITIES.....	59

APPENDIX.....	64
A.1 - NATIONAL KEYBOARDS	65
A.2 - CHARACTER SETS.....	77
A.2.1 - ANSI and SM94xx EMULATIONS.....	77
A.2.2 - VT220, HFT and VT AS400 EMULATIONS.....	85
A.3 - PROGRAMMING KEYS	89
A.3.1 - ANSI EMULATIONS	89
A.3.2 - VT220 EMULATION.....	95
A.3.3 - VT AS400 EMULATION.....	97
A.3.4 - HFT EMULATION.....	100
A.3.5 - SM94xx EMULATIONS.....	102
A.4 - COMPOSITE CHARACTERS.....	ERREUR! SIGNET NON DÉFINI.

- 1 -
TCP/IP SET-UP

This chapter gives a quick description of the features and use of the AXEL Platine terminal TCP/IP set-up mode.

The TCP/IP set-up mode is used to:

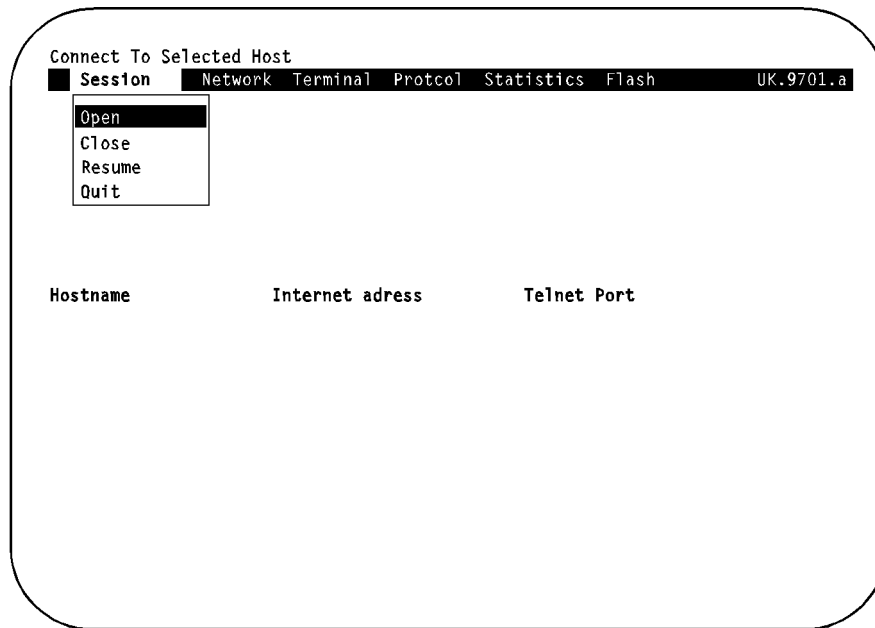
- assign an Internet address matching the network topology,
- define the network environment accessible from this Platine terminal (Telnet hosts, routers, etc),
- associate a host with each Platine terminal session,
- enable the print server feature,
- open and close connections,
- optimize the TCP/IP protocol and
- display statistics relating to the TCP/IP protocol.

The following command sequence is used to enter TCP/IP Set-Up:



Note: Use the <*> key on the numeric keypad.

The TCP/IP Set-Up screen appears as follows:



Move through the menu with arrow keys. Information, relating to each command selected, will automatically be displayed at the bottom of the screen.

To confirm the selected command, press the **<RETURN>** key.

To exit the menu, select the **'Quit'** command or press the **<ESC>** key.

Refer to the *Installing TCP/IP Platine Terminals on UNIX Systems* manual for a detailed description of the various options of TCP/IP set-up mode.

- 2 -
TERMINAL SET-UP

This chapter describes the features and use of the AXEL Platine terminal set-up mode.

2.1 - GENERAL FEATURES

Each AX3000 Ethernet model provides up to 8 separate sessions. These sessions have independent set-up parameters (emulation, function keys, video attributes, etc).

The set-up mode allows individual set-up of any of the eight available sessions. A propagation option is available to copy the configuration of the current session to the 7 other sessions.

2.1.1 - Enter Terminal Set-Up Mode

The following key sequence puts the Platine terminal in set-up mode:



Note: Terminal Set-Up must be done only during an active session (active login or prompt).

In terminal set-up mode, the active keystrokes are:

- <F1> to <F12>: select a set-up screen, exit set-up mode, etc
- **Vertical arrow keys**: select a parameter from a set-up screen
- <SPACE>: modify a parameter value
- <RETURN>: select a parameter value

2.1.2 - Set-Up Screens

The Platine terminal set-up is based on selectable displays, here called set-up screens. Each set-up screen is associated with a function key:

- <F1>: Screen
- <F2>: Keyboard
- <F3>: AUX1 Auxiliary Port
- <F4>: AUX2 Auxiliary Port
- <F5>: Terminal Modes
- <F6>: Tabulations
- <F7>: Function Keys

Each set-up screen displays a list of features and lets you select or modify them. Vertical arrow keys are used to select a feature and the spacebar is used to change the value.

<F8> to <F12> function keys are available for others functions (exit set-up, selection of a predefined set-up, etc).

2.1.3 - Predefined Set-Up

AXEL's built-in predefined set-ups automatically set all standard terminal parameters to match the selected operating system.

Press the <F10> function key to use this feature. Then select the appropriate operating system.

The use of predefined set-ups ensures a **fast** and **reliable** installation.

2.1.4 - Local and Global Parameters

A session is characterised by two types of terminal parameters:

- local parameters are specific to a single session (example: number of lines),
- global parameters apply to ALL sessions (example: national keyboard).

Note: in set-up mode, the global parameters are indicated by a star placed at the beginning of the label.

When the value of a local parameter is changed, the other sessions are not affected, unless the propagation option is selected on exiting set-up.

When the value of a global parameter is changed, the other sessions are affected, even if the propagation option is not selected.

2.1.5 - Exit Set-Up

You can exit set-up mode in either of two ways:

- **<F11> or <Esc>** (exit without saving): the modifications are stored until the terminal is switched off. The last saved set-up (<F12>) will be used when the terminal is next switched on.
- **<F12>** (exit and save): the modifications are stored in non-volatile memory and applied when the terminal is next switched on.

Note: when the propagation option is set, the terminal parameters of the current session are updated when exiting set-up mode. Terminal parameters of any other session, however, will not be updated until that session begins.

2.2 - SCREEN

This set-up screen is used to define monitor display characteristics. It is the first screen to appear when you enter set-up mode, or can be reached from any other screen in set-up mode by pressing the <F1> key:

AXEL TERMINAL SETUP : SESSION No 1	
F1 SCREEN	F8 CANCEL MODIFICATIONS
F2 KEYBOARD	F9 RESTORE SAVED SETUP
F3 AUX1 PORT CONFIGURATION (25 pts)	F10 PREDEFINED SETUP
F4 AUX2 PORT CONFIGURATION (RJ45)	F11 EXIT WITHOUT SAVING
F5 TERMINAL MODES	F12 EXIT AND SAVE
F6 TABULATIONS	Alt+F1 REVISION DISPLAY
F7 FUNCTION KEYS	Alt+F2 MULTISESSION
* Screen	Color
* Screen Saver	No
* Enhanced Screen Operating Mode	Underline
Enhanced Mode for this Session	yes
Number of Lines	24 + 1 Message Line
Number of Columns	80
Scrolling	Yes
Wrap End of Line	No
CR = CR+LF	No
Cursor	Underline
Overscan Color	No
▼ ▲ : Parameter Selection	SPACE : Change Parameter Value

- Notes:**
- Fields headed by a star (*) indicate global parameters.
 - No star indicates local parameters (refer to chapter 2.1.4).
 - This screen is an example only. Fields may be set to other values.

2.2.1 - Screen Field

This field sets the type of VGA monitor. Four values are available:

- **Colour**,
- **Grey Levels** (for displaying colour applications on a black and white VGA monitor),
- **Black and White**,
- **Paper White** (white background and black foreground).

2.2.2 - Screen Saver Field

If the terminal is inactive for a predefined number of minutes, the screen saver feature automatically turns off the monitor display, although the monitor remains powered-up. This protects the monitor from damage from “screen burn”. Three values are available:

- **no**: screen saver feature not used. Note that by selecting this option, the life of the monitor may be reduced.
- **xx minutes**: the display is turned off after xx minutes. The display is restored when either the keyboard is used or data is received from the host.
- **xx minutes keyboard only**: the display is turned off after xx minutes. The display is only restored when the keyboard is used.

Note: to enable the screen saver, enter the number of minutes and confirm with the <RETURN> key.

2.2.3 - Enhanced Screen Operating Mode Field

Some video attributes are not available on a VGA monitor. The enhanced screen operating mode allows use of an additional attribute (underline or double size).

Note: when this additional attribute is used, the bold attribute cannot be used.

This global parameter controls the additional attribute. There are three possible values:

- **No**: standard mode
- **Underline**: in standard mode, only monochrome VGA monitors display underlines. This mode allows underlined characters to be displayed on a colour VGA monitor.
- **Double Size Characters**: escape sequences in ANSI or VT emulation allow the size of characters to be controlled.

If the enhanced mode is set (for all 8 sessions), this mode must be enabled for each session (see below).

2.2.4 - Enhanced Mode for this Session Field

This local parameter enables or disables enhanced mode (see above) for the current session. There are two possible values:

- **Yes**: enhanced mode enabled for this session,
- **No**: enhanced mode disabled for this session,

Note: this parameter is not available when the 'Enhanced Screen Operating Mode' field is set to 'No'.

2.2.5 - Number of Lines Field

Two values are available:

- **25 Lines**: one 25-line screen region.
- **24 + 1 Message Line**: 2 screen regions. The first region has 24 data lines, the second one has 1 data line. An escape sequence is used to select either of these two independent regions as the main display.

2.2.6 - Number of Columns Field

Two values are available:

- **80** columns,
- **132** columns.

2.2.7 - Scrolling Field

Two values are available:

- **Yes**: a character received, after the text cursor has reached the bottom margin, automatically scrolls the display upwards.
- **No**: any character received, after the text cursor has reached the bottom margin, overwrites the first character position of the first line.

2.2.8 - Wrap End of Line Field

Two values are available:

- **Yes**: a character received, after the text cursor has reached the right margin, automatically appears in the first character position of the next line.

- **No**: a character received, after the text cursor has reached the right margin, overwrites the last character position of the current line.

2.2.9 - CR = CR+LF Field

Two values are available:

- **Yes**: the carriage-return character (ASCII 0Dhex) is mapped to a carriage-return plus a line-feed character (ASCII 0Dhex plus 0Ahex).
- **No**: no specific processing is done when the carriage-return character (ASCII 0Dhex) is received.

2.2.10 - Cursor Field

Three blinking cursor styles are available:

- **Line**,
- **Half-block**,
- **Block**.

2.2.11 - Overscan Colour Field

Two values are available:

- **No**: no overscan (black colour).
- **Yes**: the overscan colour is selected from 64 choices. Use <+> and <-> keys to select the desired overscan colour. The hexadecimal value of the selected overscan colour (between 00hex and 3Fhex) is displayed.

2.3 - KEYBOARD

This set-up screen is used to define keyboard characteristics. It appears when you press the <F2> key within set-up mode:

AXEL TERMINAL SETUP : SESSION No 1																					
F1 SCREEN	F8 CANCEL MODIFICATIONS																				
F2 KEYBOARD	F9 RESTORE SAVED SETUP																				
F3 AUX1 PORT CONFIGURATION (25 pts)	F10 PREDEFINED SETUP																				
F4 AUX2 PORT CONFIGURATION (RJ45)	F11 EXIT WITHOUT SAVING																				
F5 TERMINAL MODES	F12 EXIT AND SAVE																				
F6 TABULATIONS	Alt+F1 REVISION DISPLAY																				
F7 FUNCTION KEYS	Alt+F2 MULTISESSION																				
<table border="0"> <tr> <td>Keycodes</td> <td>ASCII</td> </tr> <tr> <td>Character Set</td> <td>PC international (437)</td> </tr> <tr> <td>* National Keyboard</td> <td>US</td> </tr> <tr> <td>* "Backspace" Key Value</td> <td>BS (08h)</td> </tr> <tr> <td>* "." Key Value (Numeric Pad)</td> <td>.</td> </tr> <tr> <td>Compose Accentuate Characters</td> <td>No</td> </tr> <tr> <td>* "Num" Led Initialization</td> <td>Off</td> </tr> <tr> <td>* Beep</td> <td>Long</td> </tr> <tr> <td>* Repetition Key Delay</td> <td>Medium (500 ms)</td> </tr> <tr> <td>* Repetition Key Rate</td> <td>Medium</td> </tr> </table>		Keycodes	ASCII	Character Set	PC international (437)	* National Keyboard	US	* "Backspace" Key Value	BS (08h)	* "." Key Value (Numeric Pad)	.	Compose Accentuate Characters	No	* "Num" Led Initialization	Off	* Beep	Long	* Repetition Key Delay	Medium (500 ms)	* Repetition Key Rate	Medium
Keycodes	ASCII																				
Character Set	PC international (437)																				
* National Keyboard	US																				
* "Backspace" Key Value	BS (08h)																				
* "." Key Value (Numeric Pad)	.																				
Compose Accentuate Characters	No																				
* "Num" Led Initialization	Off																				
* Beep	Long																				
* Repetition Key Delay	Medium (500 ms)																				
* Repetition Key Rate	Medium																				
▼ ▲ : Parameter Selection	SPACE : Change Parameter Value																				

- Notes:**
- Fields headed by a star (*) indicate global parameters.
 - No star indicates local parameters (refer to chapter 2.1.4).
 - This screen is an example only. Fields may be set to other values.

2.3.1 - Keycodes Field

A keyboard may be monitored in two ways:

- **ASCII:** in this mode, one or more characters are sent per keystroke. For example, the ASCII character 'a' (61hex) is sent when you press the <A> key on its own and the ASCII character 'A' (41hex) is sent when you press the <Shift> and <A> keys simultaneously. This is a very simple method of monitoring. However it leaves some keys (for example

<Shift> and <Alt>) 'dumb' and useless when they are pressed on their own.

- **Scancode:** Different characters may be sent when the key is depressed and when it is released. These characters are determined by the location and the state (up or down) of the key. The mapping, between a key location and an ASCII character, is done by the host computer. In scancode mode **all** the keys can be used, both alone and in combinations.

2.3.2 - Character Set Field

The character set to be used is selected through this field (refer to Appendix A.2). The available character sets depend on the current emulation:

	Emulation		
	ANSI	VT, HFT	SM94xx
PC International (437)	✓		
PC Multilingual (850)	✓		
PC Portuguese (860)	✓		
ISO Latin (8859)	✓		
ISO Latin (8859-SG): ISO 8859 character set plus 64 characters issued from the code page 437.	✓		
National 7-bit: 7-bit character set. Some characters of this character set depend on the national keyboard (refer to Appendix A.2).	✓	✓	✓
DEC Multinational		✓	
SM9400			✓

2.3.3 - National Keyboard Field

This field appears when ASCII mode is selected (refer to the description of the 'Keycodes' Field). With ASCII mode, it is necessary to set the keyboard language, because the terminal needs to associate a key with a letter. (For example, the letter <A> is not located in the same place on an AZERTY keyboard as on a QWERTY keyboard).

Eleven national keyboards are available (for more information, refer to Appendix A.1). When you press **<SPACE>**, the following list appears. Use the vertical arrow keys and **<RETURN>** to select a language).

U.S.
U.K.
French
German
Spanish
Swiss (Ge)
Swiss (Fr)
Belgium
Italian
Portuguese
Dutch

2.3.4 - "Backspace" Key Value Field

This field only appears when ASCII mode is selected (refer to the description of the 'Keycodes' Field). It permits a choice of ASCII character to be mapped to the backspace key. Two values are available:

- **BS (08hex)**,
- **DEL (7Fhex)**.

2.3.5 - "." Key Value Field

This field only appears when ASCII mode is selected (refer to the description of the 'Keycodes' Field). It permits a choice of ASCII character to be mapped to the '.' key on the numeric keypad. Two values are available:

- . (dot: 2Ehex),
- , (comma: 2Chex).

2.3.6 - "CAPS" Key Mode Field

This field only appears when ASCII mode is selected (refer to the description of the 'Keycodes' Field). It sets the CAPS LOCK to behave in one of two alternative ways:

- **Caps Lock:** only the alphabetical keys are affected. If the <Shift> key is not used, the upper case letter is sent when an alphabetic key is pressed and the unshifted (lower) character is sent by other keys. When the <Shift> key is held down, pressing an alphabetic key sends the corresponding lower case letter but pressing a non-alphabetic key sends the corresponding shifted (upper) character. To unlock this mode press the <CAPS> key.
- **Shift Lock:** all the keys send either the corresponding upper case letter or the shifted (upper) character. To unlock this mode press a <Shift> key.

2.3.7 - Compose Accented Characters Field

This field only appears when ASCII mode is selected (refer to the description of the 'Keycodes' Field) and when the character set selected is not 'ISO 7-bit'.

To get diacritical characters, two keystrokes are needed. The first one is the modifier (^, ~, ", etc.) and the second one is the character itself (a, n, y, etc).

This feature can be set with the following parameter values:

- **no:** no specific processing is done for the modifier character
- **local:** composite characters are locally process by the AX3000
- **remote:** a special ASCII code is associated with each modifier character. These special ASCII codes allow the operating system to process composite characters (see `mapchan` on SCO UNIX).

For more information refer to Appendix A.4.

2.3.8 - "Num" LED Initialisation Field

Lights the NUM Keyboard LED when the AX3000 is switched on. Two values:

- **On,**
- **Off.**

2.3.9 - Beep Field

The terminal is able to sound a bell. This field allows the bell to be enabled or disabled and sets the duration of the bell sound:

- **No**: no bell,
- **Short**: 10 millisecs approx.,
- **Long**: 40 millisecs approx.

2.3.10 - Repetition Key Delay Field

Select the automatic repetition delay when a key is held down. This is the delay before the key starts to auto-repeat:

- **Low (250 millisecs)**,
- **Medium (500 millisecs)**,
- **High (1 second)**.

2.3.11 - Repetition Key Speed Field

Select the automatic repetition speed when a key is held down:

- **low**,
- **medium**,
- **high**.

2.4 - AUX1 PORT CONFIGURATION (25-PIN)

This set-up screen is used to configure the AUX1 port for use with a printer or other device. It appears when you press the <F3> key in set-up mode:

AXEL TERMINAL SETUP : SESSION No 1	
F1 SCREEN	F8 CANCEL MODIFICATIONS
F2 KEYBOARD	F9 RESTORE SAVED SETUP
F3 AUX1 PORT CONFIGURATION (25 pts)	F10 PREDEFINED SETUP
F4 AUX2 PORT CONFIGURATION (RJ45)	F11 EXIT WITHOUT SAVING
F5 TERMINAL MODES	F12 EXIT AND SAVE
F6 TABULATIONS	Alt+F1 REVISION DISPLAY
F7 FUNCTION KEYS	Alt+F2 MULTISESSION
<p>* Operating Mode Printer</p> <p>* Baud Rate 9600 bauds</p> <p>* Data Format 8 bits, 1 Stop, No parity</p> <p>* Handshake for Transmission XON/XOFF (11h/13h)</p> <p>* Test Device Presence No</p>	
<p>⬇ ⬆ : Parameter Selection SPACE : Change Parameter Value</p>	

- Notes:** - This screen is for example only. Fields may be set to other values.
 - Within this screen, all the fields are global parameters.

2.4.1 - Operating Mode Field

The two possible uses of this serial port are:

- **Printer:** data flow takes place only from the AX3000 to the serial peripheral (however handshaking from the peripheral to the AX3000 is performed). This option is not suitable for printers which require bi-directional data flow (e.g. postscript printers).
- **Bi-directional Device:** bi-directional communication. Used to control peripherals such as bar code readers, touch screens and printers that require bi-directional data flow.

Note: Processing of incoming data depends on the service associated with the port:

- **none:** if AUX1 is the 'Default Auxiliary Port', input data is stored in the keyboard buffer of the active session,
- **rtty, tty** or **rtelnet:** input data is processed by the associated service. On UNIX systems this is the AXEL ttyd server, axttyd server or the telnetd daemon.

2.4.2 - Baud Rate Field

This field is used to set the baud rate between the Platine terminal and the serial peripheral. When you press **<SPACE>** the following list appears. Use the vertical arrow keys and the **<RETURN >** key to select a baud rate:

300
1200
2400
4800
9600
19200
38400
57600
115200

2.4.3 - Data Format Field

This field is used to select the format of data bytes transferred between the Platine terminal and the serial peripheral. When you press **<SPACE>** the following list appears. Use the vertical arrow keys and the **<RETURN >** key to select a baud rate:

7 Bits, 1 Stop, No parity
7 Bits, 1 Stop, Even Parity
7 Bits, 1 Stop, Odd Parity
8 Bits, 1 Stop, No parity
8 Bits, 1 Stop, Even Parity
8 Bits, 1 Stop, Odd Parity

2.4.4 - Handshake for Transmission Field

This handshake is used between the Platine terminal and the serial peripheral to regulate the data flow. When the peripheral is not able to receive more data (because its input buffer is full), the peripheral sends a signal to stop the transfer of data from the Platine terminal. The peripheral restarts the transfer when it is ready to receive more input data.

Handshaking can be accomplished either by hardware (known as DTR because it changes the voltage on the DTR pin) or software (either XON/XOFF or XPC).

Press **<SPACE>** to display the handshake list. Use the vertical arrow keys and the **<RETURN>** key to select the required handshake:

None
DTR
XON/XOFF (11h/13h)
XPC (65h/67h)

2.4.5 - Test Device Presence Field

Software handshaking (XON/XOFF or XPC) does not test whether the peripheral is present. Data is lost if the peripheral is not present or switched off. This field enables this test to be performed so that data is only sent when the peripheral is ready.

Two values are available:

- **No**: the test is not performed,
- **CTS**: the CTS signal is used to perform this test.

Notes: - When enabling device presence testing, check your cable (refer to *Installation Guide*) to ensure that the CTS pin is connected .
- Do not use this test with DTR handshaking.

2.4.6 - Handshake for Reception Field

This field only appears when the serial port is used as a bi-directional port (refer to the description of the 'Operating Mode' Field).

This handshake is used between the Platine terminal and the serial peripheral to regulate the data flow. When the Platine terminal is not able to receive more data (because its input buffer is full), the Platine terminal sends a signal to stop the transfer of data from the peripheral. The Platine terminal restarts the transfer when it is ready to receive more input data.

Handshaking can be accomplished either by hardware (known as DTR because it changes the voltage on the DTR pin) or by software (either XON/XOFF or XPC).

Press **<SPACE>** to display the handshake list. Use the vertical arrow keys and the **<RETURN>** key to select the required handshake:

None
DTR
XON/XOFF (11h/13h)
XPC (65h/67h)

2.5 - AUX2 PORT CONFIGURATION (RJ45)

This set-up screen is used to configure the AUX2 port for use with a printer or other device. It appears when you press the <F4> key in set-up mode:

AXEL TERMINAL SETUP : SESSION No 1													
F1 SCREEN	F8 CANCEL MODIFICATIONS												
F2 KEYBOARD	F9 RESTORE SAVED SETUP												
F3 AUX1 PORT CONFIGURATION (25 pts)	F10 PREDEFINED SETUP												
F4 AUX2 PORT CONFIGURATION (RJ45)	F11 EXIT WITHOUT SAVING												
F5 TERMINAL MODES	F12 SAVE AND EXIT												
F6 TABULATIONS	Alt+F1 REVISION DISPLAY												
F7 FUNCTION KEYS	Alt+F2 MULTISESSION												
<table border="0"> <tr> <td>* Operating Mode</td> <td>Bidirectional Device</td> </tr> <tr> <td>* Baud Rate</td> <td>9600 bauds</td> </tr> <tr> <td>* Data Format</td> <td>8 bits, 1 Stop, No parity</td> </tr> <tr> <td>* Handshake for Transmission</td> <td>XON/XOFF (11h/13h)</td> </tr> <tr> <td>* Test Device Presence</td> <td>No</td> </tr> <tr> <td>* Handshake for Reception</td> <td>XON / XOFF (11h/13h)</td> </tr> </table>		* Operating Mode	Bidirectional Device	* Baud Rate	9600 bauds	* Data Format	8 bits, 1 Stop, No parity	* Handshake for Transmission	XON/XOFF (11h/13h)	* Test Device Presence	No	* Handshake for Reception	XON / XOFF (11h/13h)
* Operating Mode	Bidirectional Device												
* Baud Rate	9600 bauds												
* Data Format	8 bits, 1 Stop, No parity												
* Handshake for Transmission	XON/XOFF (11h/13h)												
* Test Device Presence	No												
* Handshake for Reception	XON / XOFF (11h/13h)												
<table border="0"> <tr> <td>↑ ↓ : Parameter Selection</td> <td>SPACE : Change Parameter Value</td> </tr> </table>		↑ ↓ : Parameter Selection	SPACE : Change Parameter Value										
↑ ↓ : Parameter Selection	SPACE : Change Parameter Value												

- Notes:** - This screen is for example only. Fields may be set to other values.
 - Within this screen, all the fields are global parameters.

2.5.1 - Operating Mode Field

The two possible uses of this serial port are:

- **Printer:** data flow takes place only from the AX3000 to the serial peripheral (however handshaking from the peripheral to the AX3000 is performed). This option is not suitable for printers which require bi-directional data flow (e.g. postscript printers).
- **Bi-directional Device:** bi-directional communication. Used to control peripherals such as bar code readers, touch screens and printers that require bi-directional data flow.

Note: Processing of incoming data depends on the service associated with the port:

- **none:** if AUX1 is the 'Default Auxiliary Port', input data is stored in the keyboard buffer of the active session,
- **rtty, tty** or **rtelnet:** input data is processed by the associated service. On UNIX systems this is the AXEL ttyd server, axttyd server or the telnetd daemon.

2.5.2 - Baud Rate Field

This field is used to set the baud rate between the Platine terminal and the serial peripheral. When you press **<SPACE>** the following list appears. Use the vertical arrow keys and the **<RETURN >** key to select a baud rate:

300
1200
2400
4800
9600
19200
38400
57600
115200

2.5.3 - Data Format Field

This field is used to select the format of data bytes transferred between the Platine terminal and the serial peripheral. When you press **<SPACE>** the following list appears. Use the vertical arrow keys and the **<RETURN >** key to select a baud rate:

7 Bits, 1 Stop, No parity
7 Bits, 1 Stop, Even Parity
7 Bits, 1 Stop, Odd Parity
8 Bits, 1 Stop, No parity
8 Bits, 1 Stop, Even Parity
8 Bits, 1 Stop, Odd Parity

2.5.4 - Handshake for Transmission Field

This handshake is used between the Platine terminal and the serial peripheral to regulate the data flow. When the peripheral is not able to receive more data (because its input buffer is full), the peripheral sends a signal to stop the transfer of data from the Platine terminal. The peripheral restarts the transfer when it is ready to receive more input data.

Handshaking can be accomplished either by hardware (known as DTR because it changes the voltage on the DTR pin) or software (either XON/XOFF or XPC).

Press **<SPACE>** to display the handshake list. Use the vertical arrow keys and the **<RETURN>** key to select the required handshake:

None
DTR
XON/XOFF (11h/13h)
XPC (65h/67h)

2.5.5 - Test Device Presence Field

Software handshaking (XON/XOFF or XPC) does not test whether the peripheral is present. Data is lost if the peripheral is not present or switched off. This field enables this test to be performed so that data is only sent when the peripheral is ready.

Two values are available:

- **No**: the test is not performed,
- **CTS**: the CTS signal is used to perform this test.

Notes: - When enabling device presence testing, check your cable (refer to *Installation Guide*) to ensure that the CTS pin is connected .
- Do not use this test with DTR handshaking.

2.5.6 - Handshake for Reception Field

This field only appears when the serial port is used as a bi-directional port (refer to the description of the 'Operating Mode' Field).

This handshake is used between the Platine terminal and the serial peripheral to regulate the data flow. When the Platine terminal is not able to receive more data (because its input buffer is full), the Platine terminal sends a signal to stop the transfer of data from the peripheral. The Platine terminal restarts the transfer when it is ready to receive more input data.

Handshaking can be accomplished either by hardware (known as DTR because it changes the voltage on the DTR pin) or by software (either XON/XOFF or XPC).

Press **<SPACE>** to display the handshake list. Use the vertical arrow keys and the **<RETURN>** key to select the required handshake:

None
DTR
XON/XOFF (11h/13h)
XPC (65h/67h)

2.6 - TERMINAL MODES

This set-up screen is used to define the terminal modes. It appears when you press the <F5> key in set-up mode:

AXEL TERMINAL SETUP : SESSION No 1																					
F1 SCREEN	F8 CANCEL MODIFICATIONS																				
F2 KEYBOARD	F9 RESTORE SAVED SETUP																				
F3 AUX1 PORT CONFIGURATION (25 pts)	F10 PREDEFINED SETUP																				
F4 AUX2 PORT CONFIGURATION (RJ45)	F11 EXIT WITHOUT SAVING																				
F5 TERMINAL MODES	F12 EXIT AND SAVE																				
F6 TABULATIONS	Alt+F1 REVISION DISPLAY																				
F7 FUNCTION KEYS	Alt+F2 MULTISESSION																				
<table> <tr> <td>* SETUP Language</td> <td>US</td> </tr> <tr> <td>* Default Auxiliary Port</td> <td>Parallel</td> </tr> <tr> <td>* AUX1 Port Service</td> <td>None</td> </tr> <tr> <td>* AUX2 Port Service</td> <td>None</td> </tr> <tr> <td>* Parallel Port Service</td> <td>None</td> </tr> <tr> <td>Emulation</td> <td>VT220</td> </tr> <tr> <td>End Transparent Mode Sequence</td> <td>ESC [4i</td> </tr> <tr> <td>Monitor Mode</td> <td>No</td> </tr> <tr> <td>Host Programmable Terminal Parameters</td> <td>Yes</td> </tr> <tr> <td>Video Attribute Coloring Mode</td> <td>No</td> </tr> </table>		* SETUP Language	US	* Default Auxiliary Port	Parallel	* AUX1 Port Service	None	* AUX2 Port Service	None	* Parallel Port Service	None	Emulation	VT220	End Transparent Mode Sequence	ESC [4i	Monitor Mode	No	Host Programmable Terminal Parameters	Yes	Video Attribute Coloring Mode	No
* SETUP Language	US																				
* Default Auxiliary Port	Parallel																				
* AUX1 Port Service	None																				
* AUX2 Port Service	None																				
* Parallel Port Service	None																				
Emulation	VT220																				
End Transparent Mode Sequence	ESC [4i																				
Monitor Mode	No																				
Host Programmable Terminal Parameters	Yes																				
Video Attribute Coloring Mode	No																				
<table> <tr> <td>▼ ▲ : Parameter Selection</td> <td>SPACE : Change Parameter Value</td> </tr> </table>		▼ ▲ : Parameter Selection	SPACE : Change Parameter Value																		
▼ ▲ : Parameter Selection	SPACE : Change Parameter Value																				

- Notes:**
- Fields headed by a star (*) indicate global parameters.
 - No star indicates local parameters (refer to chapter 2.1.4).
 - This screen is an example only. Fields may be set to other values.

2.6.1 - Local Mode

When Local Mode is activated, characters entered from the keyboard are locally processed and displayed by the Platine terminal. The Platine terminal processes and displays data received from the host.

When the Local Mode is disabled (the standard mode of working), characters entered at the keyboard are sent to the host computer and the Platine terminal processes and displays data received from the host.

To enable (or disable) Local Mode, use the following key combination:

<Ctrl><Alt><Shift><L>

Note: the value of this parameter is not retained after the terminal is switched off (i.e. when the Platine terminal is switched back on, Local Mode is not re-activated).

2.6.2 - SETUP Language Field

This field selects the language used to display set-up screens. Two languages are available:

- **English,**
- **National** (depending on the firmware: **French, German, Spanish, Portuguese**)

2.6.3 - Default Auxiliary Port Field

One of the three auxiliary ports should be selected as the default printer port (to perform hardcopy printing or printing by escape sequences):

- **None,**
- **AUX1** (25-pin auxiliary port),
- **AUX1** (RJ45 auxiliary port),
- **Parallel** (parallel port).

Note: Escape sequences can be used to select either the default printer port or a required port (AUX1, AUX2 or parallel). For more information, refer to Chapter 2.

2.6.4 - AUX1 Port Service Field

The AUX1 port can also be controlled by a network server. Press **<SPACE>** to select a service or to modify the current service characteristics.

If the current service is `printd`, `rtty`, `rcmd` or `lpd`, the following dialog box appears:

Service	: printd
TCP Port	: 2048
Filter	: none

Press **<SPACE>** again to change the service. The following menu appears:

```
None
printd
rtty
lpd
rcmd
rtelnet
tty
```

Note: if the current service is `None`, `rtelnet` or `tty`, the menu appears immediately and the dialog box is omitted.

The following services are available:

- **None:** the port is only controlled by escape sequences
- **printd:** uni-directional service. Unix service associated: `printd`
- **rtty:** bi-directional service. Unix service associated: `tttyd`
- **lpd:** the port is controlled by `lpd` (a standard UNIX print service)
- **rcmd:** the port is controlled by `rcmd` (a standard UNIX service). Printing can be performed through this service
- **rtelnet:** this service allows a serial terminal to be controlled. The port must be set as a bi-directional port (**<F3>** set-up screen) and a UNIX host must be associated with it (TCP/IP Set-Up)
- **tty:** bi-directional service. Unix service associated: `axttyd`

Within the menu, use the vertical arrow keys to select the proper service and press **<RETURN>**. The following dialog box appears:

```
Service : lpd
PRN Name: aux1
Filter  : NL=CR+NL
```

Within this dialog box, use the vertical arrow keys to select a field, use **<SPACE>** to modify a field value and press **<RETURN>** to confirm.

According to the selected service, a **PRN name** (`lpd` and `rcmd`) or a **TCP port** number (`printd` and `rtty`) can be given to the port.

The **Filter** field (only available with `lpd`, `printd` and `rtty`) allows line feed (NL) to be mapped to carriage return plus line feed (CR NL). 0Ah is mapped to 0Dh 0Ah.

Note: Each of the 3 auxiliary ports of a Platine terminal must have different TCP port numbers (or PRN names).

2.6.5 - AUX2 Port Service Field

The AUX2 port can also be controlled by a network server. Press **<SPACE>** to select a service or to modify the current service characteristics.

If the current service is `printd`, `rtty`, `rcmd` or `lpd`, the following dialog box appears:

```
Service : printd
TCP Port : 2048
Filter  : none
```

Press **<SPACE>** again to change the service. The following menu appears:

```
None
printd
rtty
lpd
rcmd
rtnet
tty
```

Note: if the current service is `None`, `rtnet` or `tty`, the menu appears immediately and the dialog box is omitted.

The following services are available:

- **None:** the port is only controlled by escape sequences
- **printd:** uni-directional service. Unix service associated: `printd`
- **rtty:** bi-directional service. Unix service associated: `tttyd`
- **lpd:** the port is controlled by `lpd` (a standard UNIX print service)

- **rcmd**: the port is controlled by `rcmd` (a standard UNIX service). Printing can be performed through this service
- **rtelnet**: this service allows a serial terminal to be controlled. The port must be set as a bi-directional port (<F3> set-up screen) and a UNIX host must be associated with it (TCP/IP Set-Up)
- **tty**: bi-directional service. Unix service associated: `axttyd`

Within the menu, use the vertical arrow keys to select the proper service and press <RETURN>. The following dialog box appears:

```
Service : lpd
PRN Name: aux2
Filter  : NL=CR+NL
```

Within this dialog box, use the vertical arrow keys to select a field, use <SPACE> to modify a field value and press <RETURN> to confirm.

According to the selected service, a **PRN name** (`lpd` and `rcmd`) or a **TCP port** number (`printd` and `rtty`) can be given to the port.

The **Filter** field (only available with `lpd`, `printd` and `rtty`) allows line feed (NL) to be mapped to carriage return plus line feed (CR NL). 0Ah is mapped to 0Dh 0Ah.

Note: Each of the 3 auxiliary ports of a Platine terminal must have different TCP port numbers (or PRN names).

2.6.6 - Parallel Port Service Field

The parallel port can also be controlled by a network server. Press <SPACE> to select a service or to modify the current service characteristics.

If the current service is `printd`, `rtty`, `rcmd` or `lpd`, the following dialog box appears:

```
Service : printd
TCP Port : 2048
Filter  : none
```

Press **<SPACE>** again to change the service. The following menu appears:

```
None
printd
rtty
lpd
rcmd
tty
```

Note: if the current service is `None` or `tty`, the menu appears immediately and the dialog box is omitted.

The following services are available:

- **None:** the port is only controlled by escape sequences,
- **printd:** the port is controlled by the unidirectional print service (associated with the AXEL `printd` server),
- **rtty:** the port is controlled by the bi-directional `rtty` service (associated with the AXEL `ttyd` server),
- **lpd:** the port is controlled by `lpd` (a standard UNIX print service),
- **rcmd:** the port is controlled by `rcmd` (a standard UNIX service). Printing can be performed through this service.
- **tty:** bi-directional service. Unix service associated: `axttyd`

Within the menu, use the vertical arrow keys to select the proper service and press **<RETURN>**. The following dialog box appears:

```
Service : lpd
PRN Name: parallel
Filter  : NL=CR+NL
```

Within this dialog box, use the vertical arrow keys to select a field, use **<SPACE>** to modify a field value and press **<RETURN>** to confirm.

According to the selected service, a **PRN name** (`lpd` and `rcmd`) or a **TCP port** number (`printd` and `rtty`) can be given to the port.

The **Filter** field (only available with `lpd`, `printd` and `rtyy`) allows line feed (NL) to be mapped to carriage return plus line feed (CR NL). 0Ah is mapped to 0Dh 0Ah.

Note: Each of the 3 auxiliary ports of a Platine terminal must have different TCP port numbers (or PRN names).

2.6.7 - Emulation Field

This field selects the required emulation. The following emulations are available. Press **<SPACE>** to display the emulation list. Use the vertical arrow keys and the **<RETURN>** key to select the required emulation:

ANSI
ANSI DOS
UNIX SCO 3.2.2
UNIX SCO 3.2.4
SCO OPENSERVER
XENIX SCO
UNIX SVR4
ANSI INTERACTIVE
ANSI RS 6000
ANSI MOS
ANSI DATA GENERAL
VT220
VT AS400
HFT
SM9400
SM9412

Note: SM9400 and SM9412 are only available with a special firmware.

The best way to select the required emulation is to use the 'Predefined Set-Up' screen (**<F10>** key). Then all terminal parameters are automatically set for the selected emulation.

2.6.8 - End Transparent Mode Sequence Field

Display data and printer data are sent from the host computer to the main terminal serial port. The terminal identifies the data as printer information, when it is preceded with a 'Start Transparent Mode Sequence' escape code and ended by a 'End Transparent Mode Sequence' escape code.

It is possible to enter the 'End Transparent Mode Sequence' code from the terminal keyboard. This field indicates the ASCII character string required. The first character is always the Esc character (1Bh).

2.6.9 - Monitor Mode Field

The monitor mode is used to examine the data received by the AX3000:

- **No**: monitor mode disabled.
- **Yes, Hexadecimal Value**: monitor mode is enabled and displays the hexadecimal value of received ASCII characters.
- **Yes, Symbols**: monitor mode is enabled and displays the received ASCII characters themselves.

2.6.10 - Host Programmable Terminal Parameters Field

Many terminal parameters can be set from the host computer, by use of escape sequences (for further information, refer to Chapter 3). This feature may be prohibited to avoid undesirable side-effects:

- **Yes**: terminal parameters can be set with escape sequences,
- **No**: terminal parameter escape sequences are not processed by the AX3000.

2.6.11 - Video Attribute Colouring Mode Field

The embedded colouring feature allows colour display of monochrome applications. The Platine terminal performs the colouring process by generating a background colour and a foreground colour for each monochrome character attribute or graphics character.

This field enables or disables the colouring feature:

- **No**: disable colouring feature,

- **Yes (press <RETURN> to set colours):** enable colouring feature. The background colour, plus a foreground colour for each monochrome character attribute or graphics character, are set through the Colouring Mode Set-Up screen.

Press the <RETURN> key to display the Colouring Mode Set-Up screen:

AXEL TERMINAL SETUP : SESSION No 1		
F1 SCREEN	F8 CANCEL MODIFICATIONS	
F2 KEYBOARD	F9 RESTORE SAVED SETUP	
F3 AUX1 PORT CONFIGURATION (25 pts)	F10 PREDEFINED SETUP	
F4 AUX2 PORT CONFIGURATION (RJ45)	F11 EXIT WITHOUT SAVING	
F5 TERMINAL MODES	F12 EXIT AND SAVE	
F6 TABULATIONS	Alt+F1 REVISION DISPLAY	
F7 FUNCTION KEYS	Alt+F2 MULTISESSION	
Normal	AbCdEfG	Foreground
Reverse	AbCdEfG	
Underline	AbCdEfG	
Graphic characters	⌂⌂⌂	
↓ ↑ : Attribute Selection + - : Colors SPACE : Foregr./Backgr. Echap : Exit		

The 4 colouring attributes are:

- **Normal:** no video attribute.
- **Reverse:** the reverse video attribute
- **Underline:** the underline video attribute
- **Graphics Character:** VT emulations: for the 'DEC Special Graphics' character set, characters in the range 6Ah to 78h.
others: for the 437, 850 and 860 character sets, characters in the range B0h to DFh. For the 8859 character set, characters in the range 80h to 9Fh

Use <↑> and <↓> to select a colouring attribute and the <SPACE> key to change the colour (foreground and background). <+> and <-> keys are used to select the colour (8 colours for the background, 16 colours for the foreground). Use the <Esc> key to return to the previous set-up screen.

2.7 - TABULATIONS

This set-up screen is used to set the tab stop spacings for each session. It appears when you press the <F6> key in set-up mode:

AXEL TERMINAL SETUP : SESSION No 1	
F1 SCREEN	F8 CANCEL MODIFICATIONS
F2 KEYBOARD	F9 RESTORE SAVED SETUP
F3 AUX1 PORT CONFIGURATION (25 pts)	F10 PREDEFINED SETUP
F4 AUX2 PORT CONFIGURATION (RJ45)	F11 EXIT WITHOUT SAVING
F5 TERMINAL MODES	F12 EXIT AND SAVE
F6 TABULATIONS	Alt+F1 REVISION DISPLAY
F7 FUNCTION KEYS	Alt+F2 MULTISESSION
<p style="text-align: center;">10 20 30 40 50 60 70</p> <p style="text-align: center;">.....▲.....▲.....▲.....▲.....▲.....▲.....▲.....▲.....</p>	
<p>◀ ▶ : Move Cursor Left/Right SPACE : Set/Clear Tab Stop</p>	

Note: this screen is for example only. Fields may be set to other values.

By default, tab stops are set at every eighth character column. There is one tab stop field for each column on the screen display. The screen display can be 80 or 132 columns wide, depending on the number of columns set (see the Number of Columns Field in the Screen Set-Up screen).

Use the horizontal arrow key to move the field cursor. Press <SPACE> to set or clear a tab stop.

2.8 - FUNCTION KEYS

This set-up screen is used for each session to define the values generated by the function keys. Function keys can only be user-defined in ASCII mode.

The Function Key Set-Up screen appears when you press the **<F7>** key in set-up mode:

0% 20% 40% 60% 80% 100%

☒ Space Used for Active Session
☑ Space Used for Active Session

User defined function key feature is not available in scancode mode.
F1 - Default Value for Highlighted Function Key
F2 - Default Value for All Function Keys
Esc = Exit

F1	-	→	[M
F2	-	→	[N
F3	-	→	[O
F4	-	→	[P
F5	-	→	[Q
F6	-	→	[R
F7	-	→	[S
F8	-	→	[T
F9	-	→	[U
F10	-	→	[V

| **|** : Parameter Selection **SPACE** : Change Parameter Value

Note: this screen is for example only. Fields may be set to other values.

The programmable key list applies only to the selected emulation. The list includes the function keys (used alone or in combination with **<Alt>**, **<Ctrl>** or **<Shift>** keys) and the keypad keys.

Use the vertical arrow keys to select the function (or keypad) key required. Press **<SPACE>** to change the key value. Enter the function key string. All ASCII characters are available (from 00hex to FFhex).

Note: to enter a character by its ASCII code, press <Alt>, enter the **decimal** ASCII code from the numeric keypad, and then release the <Alt> key.

The following three control keys are available:

- <F4>: save modifications.
- <F5>: restore previous value.
- <F6>: backspace.

Note: when a predefined set-up is selected, function keys are set to default values (for more information, refer to Appendix A.3).

Function Key Memory Usage:

The amount of memory used by the redefined function keys is shown by the indicator located at the top of the screen.

Memory is used for a function key definition whenever the function key value differs from the default value.

Sometimes, when you exit set-up, the Platine terminal will sound 5 'beeps'. This indicates insufficient memory for all the function key definitions. It is aggravated when the configuration for one session is duplicated to the other sessions.

Note: This problem may be overcome by decreasing the number of available sessions, through TCP/IP Set-Up.

2.9 - CANCEL MODIFICATIONS

Pressing the <F8> key, while in set-up mode, cancels all modifications made since you entered set-up mode. Confirmation is required (use <RETURN > and <SPACE> keys).

2.10 - RESTORE SAVED SETUP

Pressing the <F11> key, while in set-up mode, restores the last set-up to have been saved with the <F12> key. Confirmation is needed (use <RETURN > and <SPACE> keys).

2.11 - PREDEFINED SET-UP

Press the <F10> key to select the required Predefined Set-Up:

```
ANSI
ANSI DOS
UNIX SCO 3.2.2
UNIX SCO 3.2.4
SCO OPENSERVER
XENIX SCO
UNIX SVR4
ANSI INTERACTIVE
ANSI RS 6000
ANSI MOS
ANSI DATA GENERAL
VT220
VT AS400
HFT
SM9400
SM9412
```

Note: SM9400 and SM9412 are only available with a special firmware.

Use vertical arrow keys and the <RETURN > key to select a predefined set-up.

Selection of a predefined set-up resets all terminal parameters to the predefined set-up default values. Terminal parameters can then be further adjusted, using the appropriate set-up screens, accessed via the function keys <F1> to <F7>.

2.12 - EXIT WITHOUT SAVING

Press the <F11> key to exit set-up mode without saving modifications.

After exiting set-up mode with this command, all modifications to the state of the Platine terminal will be retained, but only until the terminal is switched off.

2.13 - SAVE AND EXIT

Press the <F12> key to exit set-up mode and save modifications.

You will be asked if you wish to duplicate the current configuration to the other sessions. To answer, use <RETURN > and <SPACE> keys. The two available answers are:

- **NO**: only the current session is updated.
- **YES**: all x sessions are updated (x is the number of sessions selected through the TCP/IP Set-Up).

Confirmation is requested (use <RETURN > and <SPACE> keys).

After exiting set-up mode with this command, all modifications to the state of the Platine terminal will be retained, even after the terminal is switched off.

Note: when the propagation option is set, the terminal parameters of the current session are updated when exiting set-up mode. However, the terminal parameters for each of the other sessions will not be updated until the respective session is opened.

2.14 - DISPLAY REVISION

Press the <Alt><F1> keys to display the firmware revision. The revision format is as follows:

```
HHx.BVy.yy/TYPE.LG.zzzz.x
```

where: HH is the AX3000 hardware

FK: flash equipment (download available)

RK: rom equipment (download not available)

x is the AX3000 board revision number (currently 3)

BVy.yy is the AX3000 boot code version (currently BV1.1a)

TYPE is the firmware type (TCP, SERIAL, etc.)

LG is the default set-up language (FR, SP, GE, UK, etc.)

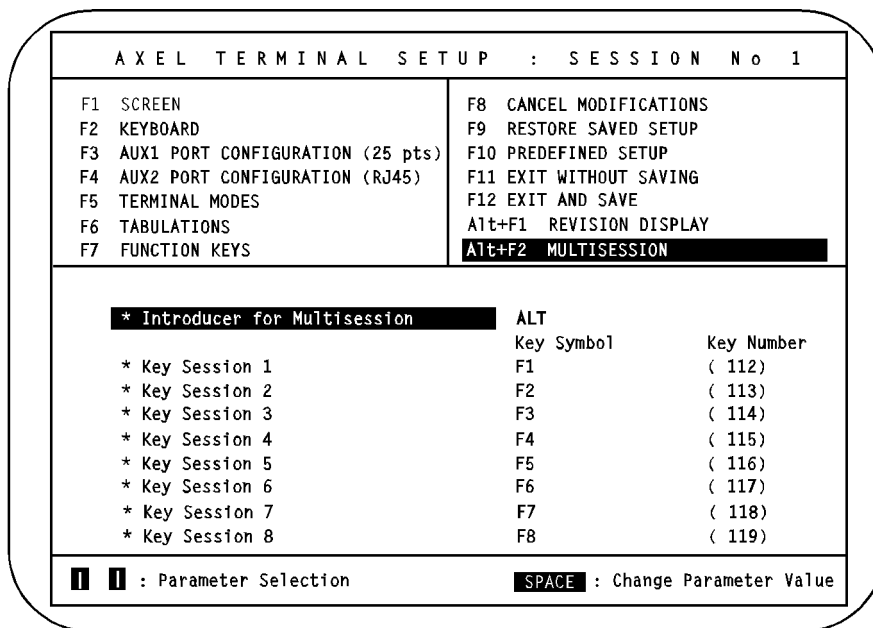
zzzz is the version of the firmware (currently 9701)

x is the index of the firmware version (a, b, c, etc.)

For example: FK3.BV1.1a/TCP.FR.9701.a

2.15 - MULTISESSION

This set-up screen is used to set the keystrokes to move between the Platine terminal's eight sessions. It appears when you press <Alt><F2> in set-up mode:



A multi-session keystroke is composed by:

- one or more modifier keys for all the sessions,
- one proper key for each session.

Seven modifier key combinations are available: SHIFT, CTRL, ALT, ALT + SHIFT, CTRL + SHIFT, CTRL + ALT and CTRL + ALT + SHIFT

Note: when a keystroke is used both within the Function Keys Screen Set-Up (<F7>) and within the Multi-session Screen Set-Up (<Alt><F2>), the multi-session feature has priority.

**- 3 -
TERMINAL COMMANDS**

This chapter describes supported terminal commands for each personality.

The Platine terminal supports many personalities (emulations):

- ANSI personalities (UNIX systems),
- VT220, HFT and VT AS400 emulations,
- SM9400 and SM9412 personalities (special firmware).

3.1 - ANSI EMULATIONS

An ANSI personality is selected through any of these predefined set-ups:

- ANSI
- UNIX SCO 3.2.4
- UNIX SVR4
- ANSI MOS
- ANSI DOS
- UNIX SCO 3.2.4
- ANSI INTERACTIVE
- ANSI DATA GENERAL
- UNIX SCO 3.2.2
- XENIX SCO
- ANSI RS6000

Terminal Command Formats are as follows:

- xxh**
- xx Hexadecimal ASCII character (example: 1Bh is 27 decimal).
- Esc x**
- Esc 1Bh character
- x ASCII character (greater than 20h)
- CSI P... F**
- CSI **Esc [** ASCII characters (1Bh and 5Bh)
- P... ANSI command parameters. Parameters are separated by a semicolon character (3Bh).
- F Final character

- Notes:** - a CSI sequence contains only 1 unprintable ASCII character (smaller than 20h). All other characters are printable (greater than 20h).
 - For the 4 SCO emulations, 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 right	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 @

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
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
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 l**
Display 25 data lines	CSI < 1 l
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 for 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	
Enable monitor mode	Esc U	
Disable monitor mode	Esc X	
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 < 1 M*	
Pn = 0: disable mouse	Pn = 1: local mode	Pn = 2: raw mode
Double-size characters (if set through the set-up)	CSI < Pn P 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	

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	

* For more information, refer the concerned literature

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

Printing Control Sequences

Default auxiliary port: CSI < Po F
 Po = 1: AUX1 port Po = 2: AUX2 port Po = 3: parallel port
 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
 Po = 0: default port Po = 1: AUX1 port Po = 2: AUX2 port Po = 3: parallel port

Programming Function Keys

ANSI mode: Esc Q Code Terminator Message Terminator

- Code: function key (<F1> = 0 (30h) ... <F61> = l (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>**

* Yellow for ANSI RS6000 personality

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
Save current colour setting	CSI = Y
Restore saved colour setting	CSI = Z

Reports

AX3000 Identification (IP address)	CSI < a
Response: xxx.xxx.xxx.xxx <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 á	CSI 25m
Bold	Esc ç	CSI 1m
Set foreground colour to x and background colour to y	Esc ê x y	CSI 3x;4ym
x and y available values:		
0: black	1: red	2: green
3: brown	4: blue	5: magenta
6: cyan	7: white	
Delete current line	Esc ë	CSI M
Insert a line of null characters	Esc è	CSI L
Enable message line (25 Th line)	Esc ì	CSI <1E
Enable main screen (24 lines)	Esc î	CSI <0E
Delete a character	Esc ï	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

3.2 - VT220, HFT AND VT AS400 EMULATIONS

Terminal Commands Formats are as follows:

xxh

xx Hexadecimal ASCII character (example: 1Bh is 27 decimal).

Esc x

Esc 1Bh character

x ASCII character (greater than 20h)

CSI P... F

CSI **Esc [** ASCII characters (1Bh and 5Bh)

P... ANSI command parameters. Parameters are separated by a semicolon character (3Bh).

F Final character

Note: a CSI sequence contains only one unprintable ASCII character (smaller than 20h). All other characters are printable (greater than 20h).

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
Define 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 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	

* The last character in this sequence is a lowercase L

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	
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 1	CSI U
Enable view number 2	CSI V
Save current cursor position	Esc 7
Restore cursor to saved position	Esc 8
Disable colouring feature	CSI < 0 G
Enable colouring feature	CSI < 1 G
Set colours for 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	Pn = 1: turn the LED on

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

Printing Control Sequences

Select the default printer port:	CSI < Po F	
Po = 1: AUX1	Po = 2: AUX2	Po = 3: 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	
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)	Ps2 = 0: 8-bit controls (level 2 only)
Ps1 = 62: level 2 (VT220)	Ps2 = 1: 7-bit controls
	Ps2 = 2: 8-bit controls (level 2 only)

Reports

AX3000 Identification (IP address)	CSI < a	
Response: xxx.xxx.xxx.xxx <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**

3.4 - SM94XX PERSONALITIES

A SM94xx personality is selected through two predefined set-ups:

- SM9400
- SM9412

Terminal Command Formats are as follows:

- xxh**
- xx Hexadecimal ASCII character (example: 1Bh is 27 decimal).
- Esc x**
- Esc 1Bh character
- x ASCII character (greater than 20h)
- CSI P... F**
- CSI **Esc [** ASCII characters (1Bh and 5Bh)
- P... ANSI command parameters. Parameters are separated by a semicolon character (3Bh).
- F Final character

Notes: a CSI sequence contains only 1 unprintable ASCII character (smaller than 20h). All other characters are printable (greater than 20h).

Controlling the Cursor

Cursor right	18h
Cursor left	19h
Cursor up	1Ah
Cursor right Pn columns	CSI Pn C
Cursor left Pn columns	CSI Pn D
Cursor up Pn lines	CSI Pn A
Cursor down Pn lines	CSI Pn B
Cursor to line Pn1 (1..24) column Pn2 (1..132)	CSI Pn1;Pn2 H
Cursor to line Pn1 (0..23) column Pn2 (0..131)	Esc G Pn1+20h Pn2+20h
Cursor to line Pn1 (0..23) column Pn2 (0..131)	Esc G Pn1+20h Pn2+20h
Cursor to line 1 column 1 (upper left corner)	1Dh
Cursor to start of next line	1Eh
Cursor down (scroll if necessary)	0Ah
Cursor down (no scroll)	0Bh
Cursor to start of line	0Dh
Cursor block (Ps=2) or cursor line (Ps=4)	Esc n Ps

Editing

Delete characters before cursor position	Esc T
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
Insert Pn null characters beginning at cursor position	CSI Pn @
Insert Pn lines of null characters beginning at cursor line	CSI Pn L
Erase current line	0Fh
Clear screen from cursor to end of screen (if backspace=SM9400)	08h
Clear screen	0Ch
Scroll down Pn lines	CSI Pn T
Scroll up Pn lines	CSI Pn S
Scroll left Pn columns	CSI Pn 20h @
Scroll right Pn columns	CSI Pn 20h A

Controlling the Terminal

Sound bell	07h
Terminal mode on	CSI = Ps;...Ps h
Ps = 0: autowrap mode off	
Ps = 1: enable vertical scrolling	
Ps = 4: disable cursor	
Ps = 5: character attribute mode	
Ps = 6: set 132-column display	
Terminal mode on	CSI Ps;...Ps h
Ps = 3: monitor mode on	
Ps = 4: insert character mode	
Terminal mode off	CSI = Ps;...Ps l *
Ps = 0: autowrap mode on	
Ps = 1: disable vertical scrolling	
Ps = 4: enable cursor	
Ps = 5: line attribute mode	
Ps = 6: set 80-column display	
Terminal mode off	CSI Ps;...Ps l
Ps = 3: monitor mode off	
Ps = 4: overwrite character mode	
switch off display	Esc E
Switch on display	Esc F

* The last character in this sequence and in the next sequence is a lowercase L

Lock keyboard	Esc A
Unlock keyboard	Esc B
Control codes can be entered on keyboard	Esc O
Control codes can not be entered on keyboard	Esc N
Save AX3000 set-up	Esc ! 2
Restore AX3000 set-up	Esc ! 3

Controlling Screen Areas

A screen area is defined by its upper left corner (PI1,Pc1) and its lower right corner (PI2,Pc2).

Co-ordinates are in range 0 to 23 (lines) and 0 131 (columns)

Save a screen area	CSI PI1;Pc1;PI2;Pc2 u
Restore a screen area	CSI PI1;Pc1 | *
Save a screen area and restore a previously saved screen area (i.e. swap two areas). P3=0: cursor position not modified / P3=1: cursor position restored	CSI PI1;Pc1;PI2;Pc2 }

Controlling Character Attributes

Definition (if CSI=5h)	CSI Ps;...Ps m
Ps = 0: all attributes off	
Ps = 2: dim	
Ps = 4: underline (only monochrome VGA monitor)	
Ps = 5: blinking	
Ps = 7: reverse video	
Ps = 8: blank	

Controlling Liner Attributes

Definition (if CSI=5l)	Esc v Ps
Ps = @: Normal	
Ps = A: Underline	
Ps = B: Blink	
Ps = C: Underline + Blink	
Ps = D: Reverse	
Ps = E: Reverse + Underline	
Ps = F: Reverse + Blink	
Ps = G: Reverse + Blink + Underline	
Ps = H: Dim	
Ps = I: Dim + Underline	
Ps = J: Dim + Blink	

* The ASCII code of the last character is 7Ch

Ps = K: Dim + Blink + Underline
 Ps = L: Dim + Reverse
 Ps = M: Dim + Reverse + Underline
 Ps = N: Dim + Reverse + Blink
 Ps = O: Dim + Reverse + Blink + Underline
 Ps = P: Invisible

User Defined Keys

IN2 mode:

Define a function key:

Esc K 0 Code Terminator Message Terminator

- Code: function key

<F1>=@, <F2>=A, <F3>=B...<F12>=K

<Shift><F1>=', <Shift><F2>=a, <Shift><F3>=b...<Shift><F12>=c

- Terminator: one character (>20h)

- Message: key definition (any character except Terminator).

Example: **ESC K 0 @ amenu**, <F1> sends **menu**

Restore default values:

Esc K 8 Code 0Dh

- Code: function key (see above). If Code is not present all the function keys are reset.

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>**

Printing Control Sequences

Enable local printing mode	10h
Disable local printing mode	1Ch

Box and line drawings

Esc m Ps Pc1 PI1 Pc2 PI2

- Ps: function code

Ps=D: draw a vertical line

Ps=@: draw a horizontal line

Ps=H: draw a box

Ps=\$: erase a vertical line

Ps=: erase a horizontal line

Ps=: erase a box

- Pc1 PI1 Pc2 PI2: co-ordinate object. Lines (0..23) Columns (0..131). 20h is added

Example: draw a box. Upper left corner (5,5) lower right corner (40,15)

Esc m H % % H /

Terminal request

Terminal status Esc e

Response: 000 y C0h 0Dh

- y is the local printer status (60h: not ready / 62h: ready)

Cursor position Esc H

Response: Pc PI C0h 0Dh

(subtract 20h to Pc and PI)

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**

APPENDIX

The parts of this section provide information about:

- the available national keyboards,
- the available character sets,
- the default values for programming keys corresponding to the selected predefined set-up.
- dead keys.

A.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

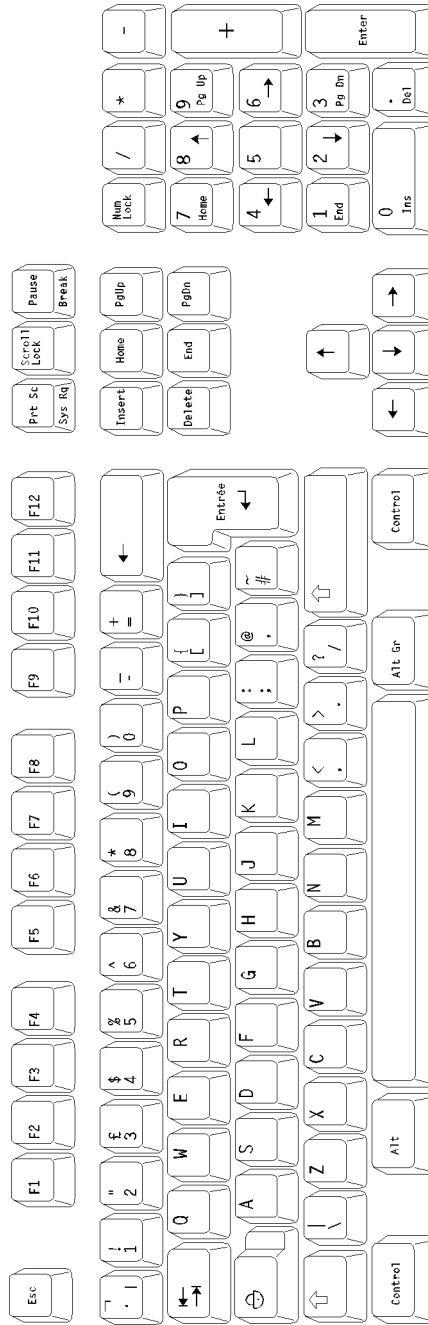
The national keyboard selection is done through the Terminal Set-Up (<F2> option).

These 11 national keyboard layouts are described in the following.

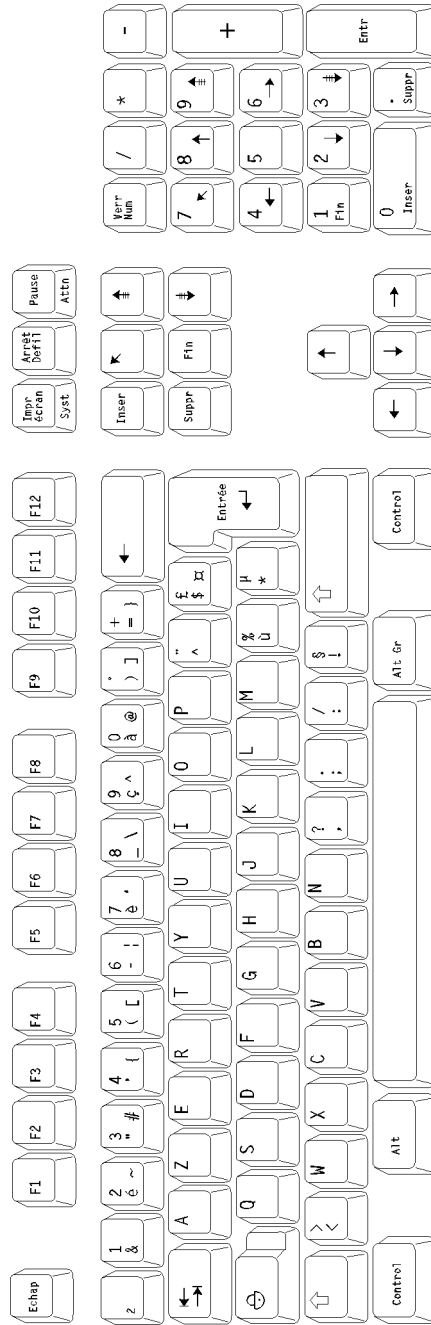
U.S.A.



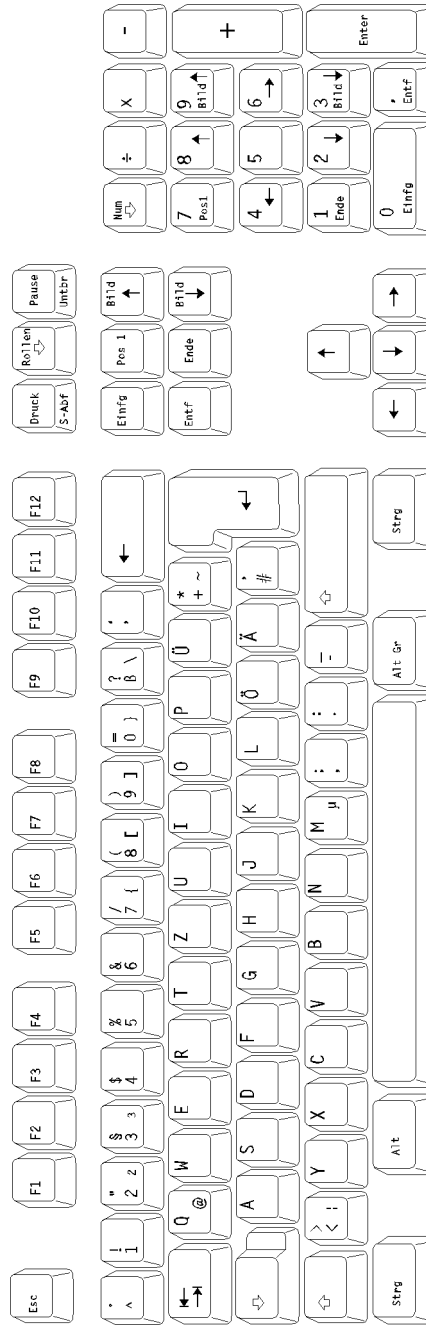
U.K.



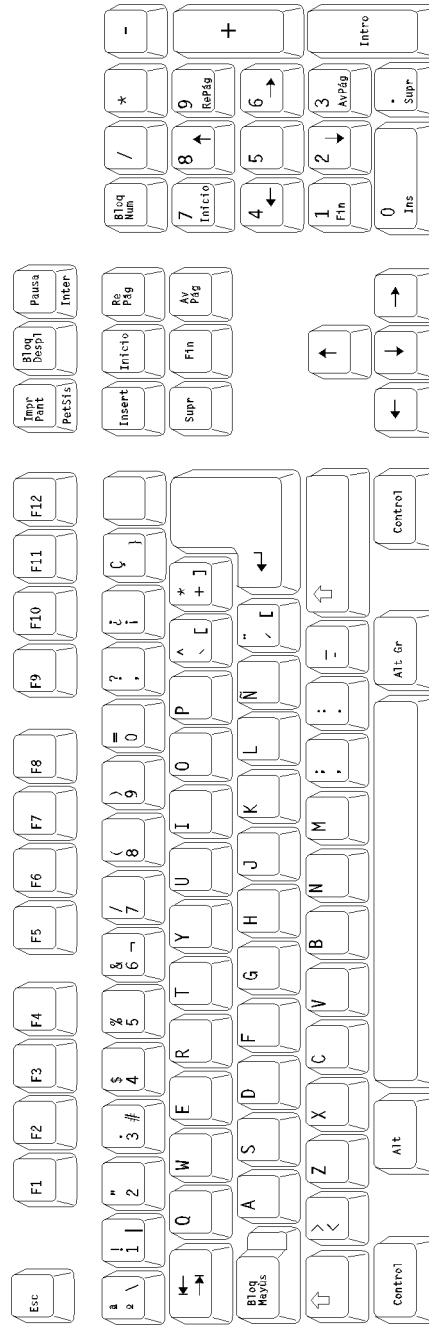
FRANCE



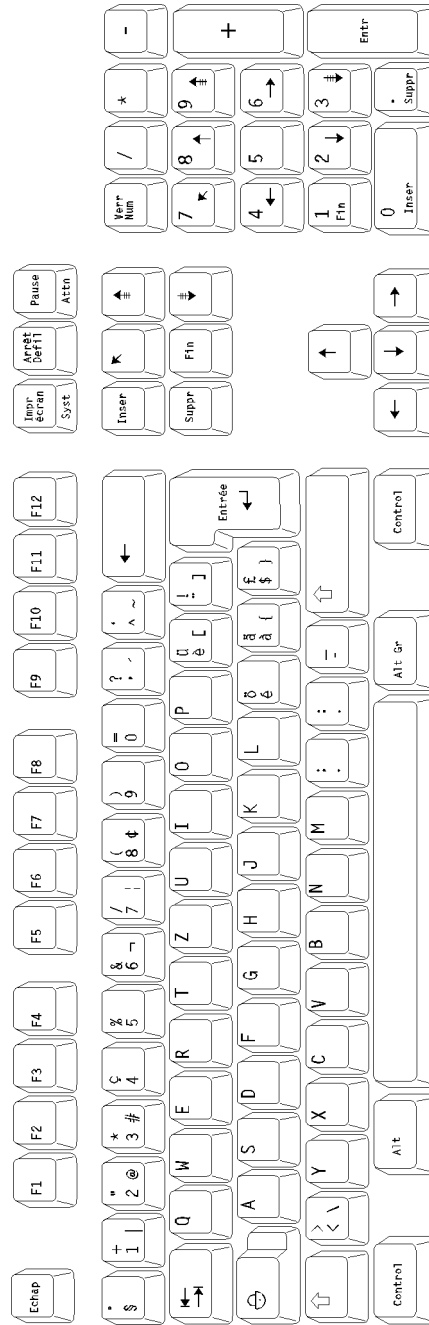
GERMANY



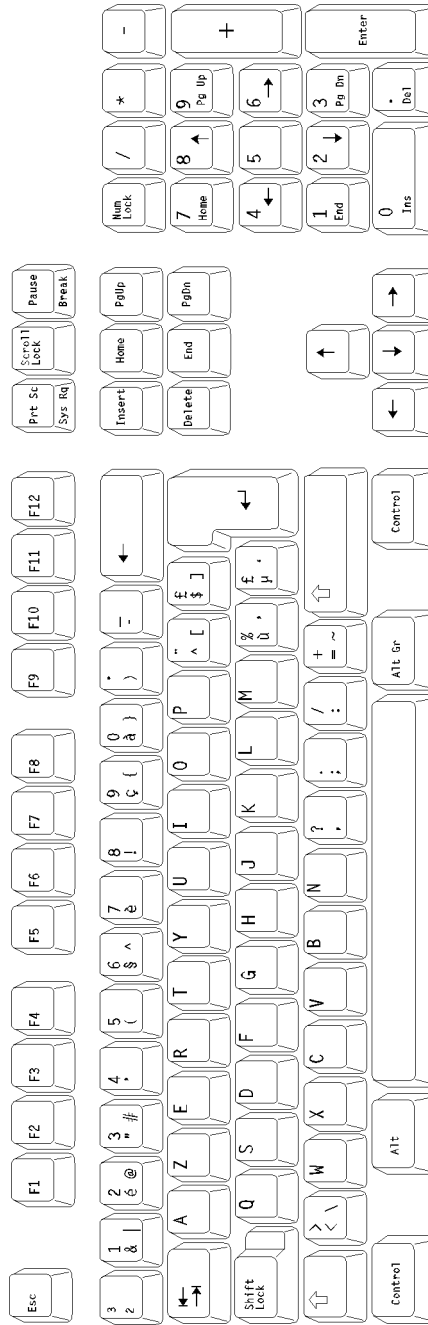
SPAIN



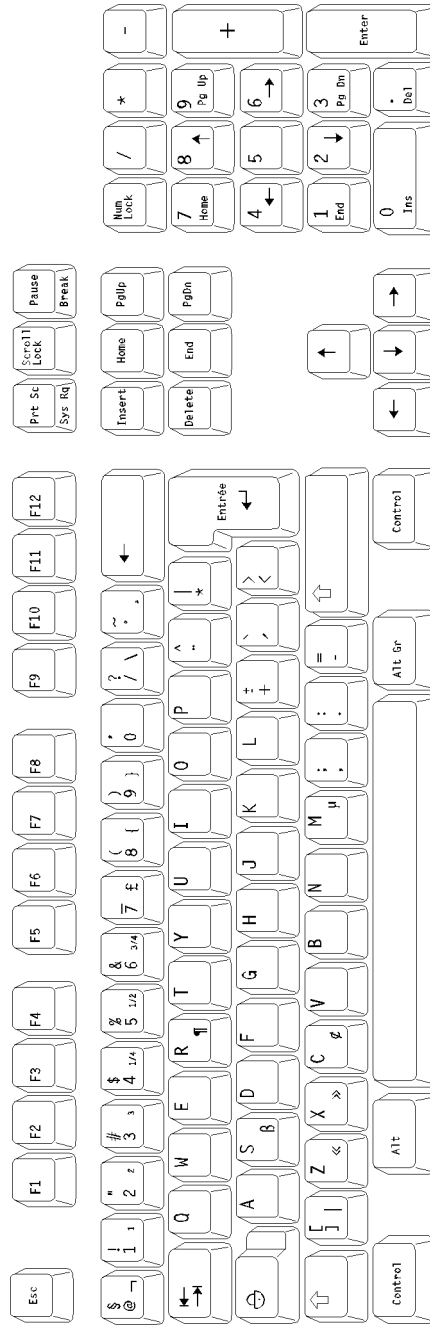
SWITZERLAND (French)



BELGIUM



DUTCH



A.2 - CHARACTER SETS

The Platine terminal supports many character sets. The available character sets depend on the selected personality. Two different types of personality (emulation) are available:

- ANSI and SM94xx emulations,
- VT220, HFT and VT AS400 emulations.

The following table codes show all the characters in the available character sets. For each character, the decimal, hexadecimal and octal values are given:

character	A	41	hexadecimal value
		65	decimal value
		101	octal value

A.2.1 - ANSI and SM94xx EMULATIONS

The following character sets are available with these personalities:

- PC International 437,
- PC Multilingual 850,
- PC Portuguese 860,
- ISO Latin (8859) only for ANSI emulations,
- ISO Latin (8859-SG) only for ANSI emulations,
- National ISO 7-Bit,
- SM9400 only for SM94xx emulation.

The required character set is selected through the Terminal Set-Up (<F2> option).

Note: depending on the emulation used, the ASCII characters from 80h to 9Fh of the ISO Latin 8859 character set differ. For ANSI RS/6000 emulation they are blank characters. For the other emulations, they are listed below.

PC-437 :

	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 8	↑	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 9	↓	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 59 72	J	4A 74 112	Z	5A 81 132	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 81 133	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 82 134	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 83 135	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 84 136	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 85 137	o	6F 111 157	Δ	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	L	C0 192 300	ll	D0 208 320	α	E0 224 340	≡	F0 240 360
1	ü	81 129 201	æ	91 145 221	í	A1 161 241	◻	B1 177 261	l	C1 193 301	ll	D1 209 321	β	E1 225 341	±	F1 241 361
2	é	82 130 202	Æ	92 146 222	ó	A2 162 242	◻	B2 178 262	l	C2 194 302	ll	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	l	C3 195 303	ll	D3 211 323	Π	E3 227 343	≤	F3 243 363
4	ä	84 132 204	ö	94 148 224	ñ	A4 164 244	l	B4 180 264	-	C4 196 304	l	D4 212 324	Σ	E4 228 344	|	F4 244 364
5	à	85 133 205	ò	95 149 225	Ñ	A5 165 245	l	B5 181 265	+	C5 197 305	l	D5 213 325	σ	E5 229 345	J	F5 245 365
6	â	86 134 206	û	96 150 226	æ	A6 166 246	ll	B6 182 266	l	C6 198 306	ll	D6 214 326	μ	E6 230 346	÷	F6 246 366
7	ç	87 135 207	ù	97 151 227	ø	A7 167 247	ll	B7 183 267	l	C7 199 307	ll	D7 215 327	τ	E7 231 347	≈	F7 247 367
8	è	88 136 210	ÿ	98 152 230	ı	A8 168 250	l	B8 184 270	ll	C8 200 310	l	D8 216 330	φ	E8 232 350	°	F8 248 370
9	ë	89 137 211	Ö	99 153 231	ı	A9 169 251	ll	B9 185 271	ll	C9 201 311	l	D9 217 331	⊙	E9 233 351	•	F9 249 371
A	è	8A 138 212	Û	9A 154 232	ı	AA 170 252	ll	BA 186 272	ll	CA 202 312	l	DA 218 332	Ω	Ea 234 352	`	Fa 250 372
B	ï	8B 139 213	ç	9B 155 233	½	AB 171 253	ll	BB 187 273	ll	CB 203 313	◼	DB 219 333	ø	Eb 235 353	√	Fb 251 373
C	î	8C 140 214	£	9C 156 234	¼	AC 172 254	ll	BC 188 274	ll	CC 204 314	◼	DC 220 334	∞	Ec 236 354	n	Fc 252 374
D	ì	8D 141 215	¥	9D 157 235	ı	AD 173 255	ll	BD 189 275	=	CD 205 315	l	DD 221 335	∅	Ed 237 355	²	Fd 253 375
E	Ä	8E 142 216	₣	9E 158 236	«	AE 174 256	l	BE 190 276	ll	CE 206 316	l	DE 222 336	ε	Ee 238 356	■	Fe 254 376
F	Å	8F 143 217	f	9F 159 237	»	AF 175 257	l	BF 191 277	ll	CF 207 317	◼	DF 223 337	∩	EF 239 357	▵	Ff 255 377

PC-850 :

	0	1	2	3	4	5	6	7								
0	0 0	▶	10 16 20	SP	20 32 40	0	30 40 60	@	40 64 100	P	50 80 120	`	60 96 140	p	70 112 160	
1	☺	1 1	◀	11 17 21	!	21 31 41	1	31 41 61	A	41 65 101	Q	51 81 121	a	61 97 141	q	71 113 161
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	!!	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	¶	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	§	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	↕	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	■	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	↑	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	↓	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	→	1A 26 32	*	2A 42 52	:	3A 59 72	J	4A 74 112	Z	5A 80 132	j	6A 106 152	z	7A 122 172
B	♂	B 11	←	1B 27 33	+	2B 43 53	;	3B 59 73	K	4B 75 113	[	5B 81 133	k	6B 107 153	{	7B 123 173
C	♀	C 12	¬	1C 28 34	,	2C 44 54	<	3C 60 74	L	4C 76 114	\	5C 82 134	l	6C 108 154	|	7C 124 174
D	ƒ	D 13	↔	1D 29 35	-	2D 45 55	=	3D 61 75	M	4D 77 115	]	5D 83 135	m	6D 109 155	}	7D 125 175
E	♫	E 14	▲	1E 30 36	.	2E 46 56	>	3E 62 76	N	4E 78 116	^	5E 84 136	n	6E 110 156	~	7E 126 176
F	*	F 15	▼	1F 31 37	/	2F 47 57	?	3F 63 77	O	4F 79 117	_	5F 85 137	o	6F 111 157	Δ	7F 127 177

	8	9	A	B	C	D	E	F								
0	Ç	80 128 200	É	90 144 220	á	A0 160 240	☐	80 176 260	L	C0 192 300	ø	D0 208 320	Ó	E0 224 340	-	F0 240 360
1	ü	81 129 201	æ	91 145 221	í	A1 161 241	☐	81 177 261	±	C1 193 301	Ð	D1 209 321	ß	E1 225 341	±	F1 241 361
2	é	82 130 202	Æ	92 146 222	ó	A2 162 242	☐	82 178 262	T	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	|	83 179 263	†	C3 195 303	Ë	D3 211 323	Ò	E3 227 343	¼	F3 243 363
4	à	84 132 204	ö	94 148 224	ñ	A4 164 244	†	84 180 264	-	C4 196 304	È	D4 212 324	õ	E4 228 344	¶	F4 244 364
5	à	85 133 205	ö	95 149 225	Ñ	A5 165 245	Á	85 181 265	†	C5 197 305	É	D5 213 325	Ö	E5 229 345	§	F5 245 365
6	ã	86 134 206	û	96 150 226	æ	A6 166 246	Â	86 182 266	ã	C6 198 306	Í	D6 214 326	µ	E6 230 346	÷	F6 246 366
7	ç	87 135 207	ù	97 151 227	ø	A7 167 247	À	87 183 267	Ã	C7 199 307	Î	D7 215 327	þ	E7 231 347	¸	F7 247 367
8	ê	88 136 210	ÿ	98 152 230	ç	A8 168 250	©	88 184 270	Ł	C8 200 310	İ	D8 216 330	þ	E8 232 350	°	F8 248 370
9	ë	89 137 211	ÿ	99 153 231	®	A9 169 251	¶	89 185 271	Œ	C9 201 311	Ĵ	D9 217 331	Ú	E9 233 351	¨	F9 249 371
A	è	8A 138 212	ÿ	9A 154 232	¬	AA 170 252	¶	8A 186 272	Œ	CA 202 312	Œ	DA 218 332	Û	EA 234 352	·	FA 250 372
B	ï	8B 139 213	ø	9B 155 233	¼	AB 171 253	¶	8B 187 273	Œ	CB 203 313	■	DB 219 333	Ü	EB 235 353	1	FB 251 373
C	î	8C 140 214	£	9C 156 234	¼	AC 172 254	¶	8C 188 274	Œ	CC 204 314	■	DC 220 334	Ý	EC 236 354	2	FC 252 374
D	ì	8D 141 215	ø	9D 157 235	ı	AD 173 255	ç	8D 189 275	=	CD 205 315	ı	DD 221 335	Ý	ED 237 355	3	FD 253 375
E	Ā	8E 142 216	x	9E 158 236	«	AE 174 256	¥	8E 190 276	¶	CE 206 316	ı	DE 222 336	-	EE 238 356	■	FE 254 376
F	Ā	8F 143 217	f	9F 159 237	»	AF 175 257	₯	8F 191 277	¶	CF 207 317	■	DF 223 337	'	EF 239 357		FF 255 377

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	◀	21 17 21	!	31 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 8	↑	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 9	↓	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	A	3A 59 72	J	4A 74 112	Z	5A 84 132	j	6A 106 152	z	7A 122 172
B	♂	B 11 13	←	1B 27 33	+	2B 43 53	B	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	C	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	D	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	E	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	F	3F 63 77	O	4F 79 117	_	5F 95 137	o	6F 111 157	Δ	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	L	C0 192 300	ll	D0 208 320	α	E0 224 340	≡	F0 240 360
1	ù	81 129 201	À	81 145 221	í	A1 161 241	◻	B1 177 261	l	C1 193 301	ll	D1 209 321	β	E1 225 341	±	F1 241 361
2	é	82 130 202	È	82 146 222	ó	A2 162 242	◻	B2 178 262	l	C2 194 302	ll	D2 210 322	Γ	E2 226 342	≥	F2 242 362
3	â	83 131 203	ô	83 147 223	ú	A3 163 243	|	B3 179 263	l	C3 195 303	ll	D3 211 323	Π	E3 227 343	≤	F3 243 363
4	ã	84 132 204	õ	84 148 224	ñ	A4 164 244	l	B4 180 264	-	C4 196 304	l	D4 212 324	Σ	E4 228 344	|	F4 244 364
5	à	85 133 205	ò	85 149 225	ñ	A5 165 245	l	B5 181 265	+	C5 197 305	l	D5 213 325	σ	E5 229 345	J	F5 245 365
6	Á	86 134 206	Ú	86 150 226	æ	A6 166 246	ll	B6 182 266	l	C6 198 306	ll	D6 214 326	μ	E6 230 346	÷	F6 246 366
7	ç	87 135 207	ù	87 151 227	ø	A7 167 247	ll	B7 183 267	ll	C7 199 307	ll	D7 215 327	τ	E7 231 347	≈	F7 247 367
8	è	88 136 210	ì	88 152 230	¿	A8 168 250	l	B8 184 270	ll	C8 200 310	ll	D8 216 330	φ	E8 232 350	°	F8 248 370
9	Ê	89 137 211	Ï	89 153 231	Ò	A9 169 251	ll	B9 185 271	ll	C9 201 311	ll	D9 217 331	⊙	E9 233 351	•	F9 249 371
A	è	8A 138 212	Û	8A 154 232	↳	AA 170 252	ll	BA 186 272	ll	CA 202 312	ll	DA 218 332	Ω	EA 234 352	·	FA 250 372
B	í	8B 139 213	ç	8B 155 233	¼	AB 171 253	ll	BB 187 273	ll	CB 203 313	ll	DB 219 333	ø	EB 235 353	√	FB 251 373
C	Ô	8C 140 214	£	8C 156 234	¼	AC 172 254	ll	BC 188 274	ll	CC 204 314	ll	DC 220 334	∞	EC 236 354	n	FC 252 374
D	ì	8D 141 215	Ù	8D 157 235	ì	AD 173 255	ll	BD 189 275	=	CD 205 315	ll	DD 221 335	∅	ED 237 355	²	FD 253 375
E	Ã	8E 142 216	Pₜ	8E 158 236	«	AE 174 256	ll	BE 190 276	ll	CE 206 316	ll	DE 222 336	ε	EE 238 356	■	FE 254 376
F	Â	8F 143 217	Ó	8F 159 237	»	AF 175 257	l	BF 191 277	ll	CF 207 317	ll	DF 223 337	∩	EF 239 357	∆	FF 255 377

ISO latin
(8859) :

	0	1	2	3	4	5	6	7
0	0 0	10 16	20 32	30 48	40 64	50 80	60 96	70 112
1	1 1	11 17	21 33	31 49	41 65	51 81	61 97	71 113
2	2 2	12 18	22 34	32 50	42 66	52 82	62 98	72 114
3	3 3	13 19	23 35	33 51	43 67	53 83	63 99	73 115
4	4 4	14 20	24 36	34 52	44 68	54 84	64 100	74 116
5	5 5	15 21	25 37	35 53	45 69	55 85	65 101	75 117
6	6 6	16 22	26 38	36 54	46 70	56 86	66 102	76 118
7	7 7	17 23	27 39	37 55	47 71	57 87	67 103	77 119
8	8 8	18 24	28 40	38 56	48 72	58 88	68 104	78 120
9	9 9	19 25	29 41	39 57	49 73	59 89	69 105	79 121
A	A 10	1A 26	2A 42	3A 58	4A 74	5A 90	6A 106	7A 122
B	B 11	1B 27	2B 43	3B 59	4B 75	5B 91	6B 107	7B 123
C	C 12	1C 28	2C 44	3C 60	4C 76	5C 92	6C 108	7C 124
D	D 13	1D 29	2D 45	3D 61	4D 77	5D 93	6D 109	7D 125
E	E 14	1E 30	2E 46	3E 62	4E 78	5E 94	6E 110	7E 126
F	F 15	1F 31	2F 47	3F 63	4F 79	5F 95	6F 111	7F 127

	8	9	A	B	C	D	E	F
0	80 128	90 144	A0 160	100 160	C0 192	D0 208	E0 240	F0 240
1	81 129	91 145	A1 161	101 161	C1 193	D1 209	E1 241	F1 241
2	82 130	92 146	A2 162	102 162	C2 194	D2 210	E2 242	F2 242
3	83 131	93 147	A3 163	103 163	C3 195	D3 211	E3 243	F3 243
4	84 132	94 148	A4 164	104 164	C4 196	D4 212	E4 244	F4 244
5	85 133	95 149	A5 165	105 165	C5 197	D5 213	E5 245	F5 245
6	86 134	96 150	A6 166	106 166	C6 198	D6 214	E6 246	F6 246
7	87 135	97 151	A7 167	107 167	C7 199	D7 215	E7 247	F7 247
8	88 136	98 152	A8 168	108 168	C8 200	D8 216	E8 248	F8 248
9	89 137	99 153	A9 169	109 169	C9 201	D9 217	E9 249	F9 249
A	8A 138	9A 154	AA 170	10A 170	CA 202	DA 218	EA 250	FA 250
B	8B 139	9B 155	AB 171	10B 171	CB 203	DB 219	EB 251	FB 251
C	8C 140	9C 156	AC 172	10C 172	CC 204	DC 220	EC 252	FC 252
D	8D 141	9D 157	AD 173	10D 173	CD 205	DD 221	ED 253	FD 253
E	8E 142	9E 158	AE 174	10E 174	CE 206	DE 222	EE 254	FE 254
F	8F 143	9F 159	AF 175	10F 175	CF 207	DF 223	EF 255	FF 255

**ISO latin
(8859-SG):**

	0	1	2	3	4	5	6	7
0	α 0 0 0	10 16 20 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 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 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 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 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 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 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 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 8	18 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 9	19 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 1A 17 19	* 2A 42 52	: 3A 58 72	J 4A 74 112	Z 5A 84 132	j 6A 106 152	z 7A 122 172
B	ε B 11 13	1B 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 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 1D 29 35	- 2D 45 55	= 3D 61 75	M 4D 77 115	] 5D 93 135	m 6D 109 155	} 7D 125 175
E	Pł E 14 16	1E 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 F 15 17	1F 1F 31 37	/ 2F 47 57	? 3F 63 77	O 4F 79 117	_ 5F 95 137	o 6F 111 157	đ 7F 127 177

	8	9	A	B	C	D	E	F
0	L 80 128 200	ll 90 144 220	À 100 160 240	° 110 176 260	À 120 192 300	Đ 130 208 320	à 140 224 340	đ 150 240 360
1	ł 81 129 201	ł 91 145 221	ı 101 161 241	± 111 177 261	Á 121 193 301	Ñ 131 209 321	á 141 225 341	ñ 151 241 361
2	ł 82 130 202	ł 92 146 222	ı 102 162 242	2 112 178 262	Â 122 194 302	Ò 132 210 322	â 142 226 342	ò 152 242 362
3	ł 83 131 203	ł 93 147 223	£ 103 163 243	3 113 179 263	Ã 123 195 303	Ó 133 211 323	ã 143 227 343	ó 153 243 363
4	ł 84 132 204	ł 94 148 224	¤ 104 164 244	´ 114 180 264	Ä 124 196 304	Ô 134 212 324	ä 144 228 344	ô 154 244 364
5	ł 85 133 205	ł 95 149 225	¥ 105 165 245	µ 115 181 265	Å 125 197 305	Õ 135 213 325	å 145 229 345	õ 155 245 365
6	ł 86 134 206	ł 96 150 226	ı 106 166 246	¶ 116 182 266	Æ 126 198 306	Ö 136 214 326	æ 146 230 346	ö 156 246 366
7	ł 87 135 207	ł 97 151 227	§ 107 167 247	· 117 183 267	Ç 127 199 307	×	ç 137 215 327	÷ 147 247 367
8	ł 88 136 210	ł 98 152 230	¨ 108 168 250	˘ 118 184 270	È 128 200 310	Ø 138 216 330	è 148 232 350	ø 158 248 370
9	ł 89 137 211	ł 99 153 231	© 109 169 251	ı 119 185 271	É 129 201 311	Ù 139 217 331	é 149 233 351	ù 159 249 371
A	ł 90 138 212	ł 100 154 232	ª 110 170 252	º 120 186 272	Ê 130 202 312	Ú 140 218 332	ê 150 234 352	ú 160 250 372
B	ł 91 139 213	ł 101 155 233	« 111 171 253	» 121 187 273	Ë 131 203 313	Û 141 219 333	ë 151 235 353	û 161 251 373
C	ł 92 140 214	ł 102 156 234	¼ 112 172 254	½ 122 188 274	Ì 132 204 314	Ü 142 220 334	ì 152 236 354	ü 162 252 374
D	ł 93 141 215	ł 103 157 235	½ 113 173 255	¾ 123 189 275	Í 133 205 315	Ý 143 221 335	í 153 237 355	ý 163 253 375
E	ł 94 142 216	ł 104 158 236	¾ 114 174 256	¾ 124 190 276	Î 134 206 316	Þ 144 222 336	î 154 238 356	þ 164 254 376
F	ł 95 143 217	ł 105 159 237	¿ 115 175 257	¿ 125 191 277	Ï 135 207 317	ß 145 223 337	ï 155 239 357	ÿ 165 255 377

National ISO 7-Bit:

Many characters of the National ISO 7-Bit set are dependent of the national keyboard selected through the Terminal Set-Up.

This is the character set associated to the US keyboard:

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

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	¨
Germany	#	§	Ä	Ö	Ü	^	_	ä	ö	ü	ß	
Italy	£	§	°	ç	é	^	_	ù	à	ò	è	ì
Spain	£	§	ı	Ñ	ı	^	_	ˆ	ˆ	ñ	ç	~
Switzerland	ù	à	é	ç	ê	î	è	ô	ä	ö	ü	û
Portugal	#	@	Ä	Ç	Ö	^	_	`	ã	ç	õ	~

SM9400 :

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

	8	9	A	B	C	D	E	F
0	80 128 200	90 144 220	Å 160 240	æ 176 260	ø 192 300	ƒ 208 320	ŕ 224 340	F0 240 360
1	81 129 201	91 145 221	Ä 161 241	ç 177 261	œ 193 301	l 209 321	| 225 341	F1 241 361
2	82 130 202	92 146 222	Æ 162 242	é 178 262	ú 194 302	ƒ 210 322	L 226 342	F2 242 362
3	83 131 203	93 147 223	Ç 163 243	è 179 263	ù 195 303	ƒ 211 323	- 227 343	F3 243 363
4	84 132 204	94 148 224	È 164 244	ê 180 264	û 196 304	ƒ 212 324	l 228 344	F4 244 364
5	85 133 205	95 149 225	Ë 165 245	ë 181 265	ü 197 305	ƒ 213 325	l 229 345	F5 245 365
6	86 134 206	96 150 226	Ö 166 246	í 182 266	ß 198 306	ƒ 214 326	ƒ 230 346	F6 246 366
7	87 135 207	97 151 227	Ø 167 247	î 183 267	µ 199 307	ƒ 215 327	ƒ 231 347	F7 247 367
8	88 136 210	98 152 230	Œ 168 250	ï 184 270	° 200 310	ƒ 216 330	ƒ 232 350	F8 248 370
9	89 137 211	99 153 231	Ł 169 251	ı 185 271	§ 201 311	ƒ 217 331	ƒ 233 351	F9 249 371
A	8A 138 212	9A 154 232	Ů 170 252	ı̇ 186 272	± 202 312	ƒ 218 332	ƒ 234 352	FA 250 372
B	8B 139 213	9B 155 233	Á 171 253	ñ 187 273	ı̇ 203 313	ƒ 219 333	ƒ 235 353	FB 251 373
C	8C 140 214	9C 156 234	À 172 254	ó 188 274	¿ 204 314	→ 220 334	ƒ 236 354	FC 252 374
D	8D 141 215	9D 157 235	Â 173 255	ò 189 275	£ 205 315	← 221 335	ƒ 237 355	FD 253 375
E	8E 142 216	9E 158 236	Ã 174 256	ô 190 276	• 206 316	↑ 222 336	ƒ 238 356	FE 254 376
F	8F 143 217	9F 159 237	Ä 175 257	ö 191 277	Ä 207 317	↓ 223 337	ƒ 239 357	FF 255 377

A.2.2 - VT220, HFT and VT AS400 EMULATIONS

The VT emulations allow to build a 8-bit character set (256 characters) from two 7-bit character sets (128 characters).

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

A 8-bit character set is composed by:

- 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 Graphics.

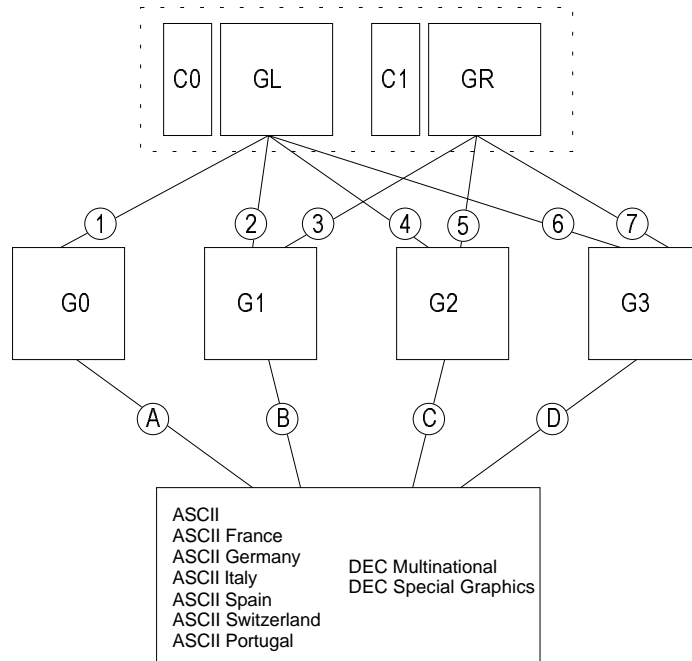
To use character sets, the following operations are done:

- 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 Terminal 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 used
keyboard)
GR, G1, G2 and G3: unknown

The following drawing shows the designating and mapping character set mechanisms:



The following escape sequences allow to designate and to map character sets (where Ps encoded the character set):

- | | |
|----------------------|-------------------|
| (A): Esc (Ps | (1): 0Fh |
| (B): Esc) Ps | (2): 0Eh |
| (C): Esc * Ps | (3): Esc ~ |
| (D): Esc + Ps | (4): Esc n |
| | (5): Esc } |
| | (6): Esc o |
| | (7): Esc \| |

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

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	~
Germany	#	§	Ä	Ö	Ü	^	_	`	ä	ö	ü	ß
Italy	£	§	°	ç	é	^	_	ù	à	ò	è	ì
Spain	£	§	ı	Ñ	ı	^	_	`	°	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	¿	D0 208 320	à	E0 224 340	ÿ	F0 240 360
1		81 129 201	PU1	91 145 221	ì	±	B1 177 261	Á C1 193 301	Ñ	D1 209 321	á	E1 225 341	ÿ	F1 241 361
2		82 130 202	PU2	92 146 222	ç	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	£	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	¥	´	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	¥	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	¢	¶	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	§	.	B7 183 267	Ç C7 199 307	Ø	D7 215 327	ç	E7 231 347	œ	F7 247 367
8	HTS	88 136 210		98 152 230	¤	¿	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	©	¡	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	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	«	»	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	¼	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	½	½	BD 189 275	Í CD 205 315	Ý	DD 221 335	í	ED 237 355	ý	FD 253 375
E	SS2	8E 142 216	PM	9E 158 236	¾	¾	BE 190 276	Î CE 206 316	ÿ	DE 222 336	î	EE 238 356	ÿ	FE 254 376
F	SS3	8F 143 217	APC	9F 159 237	¿	¿	BF 191 277	Ï CF 207 317	ß	DF 223 337	ï	EF 239 357	ÿ	FF 255 377

DEC Special Graphics (C0 & GL)

	0	1	2	3	4	5	6	7
0	NUL	DLE	SP	0	@	P	♦	-
1	SOH	DC1	!	1	A	Q	#	-
2	STX	DC2	"	2	B	R	¥	-
3	ETX	DC3	#	3	C	S	£	-
4	EOT	DC4	\$	4	D	T	¢	†
5	ENQ	NAK	%	5	E	U	₣	‡
6	ACK	SYN	&	6	F	V	°	±
7	BEL	ETB	'	7	G	W	±	‡
8	BS	CAN	(	8	H	X	¶	‡
9	HT	EM	)	9	I	Y	¥	≤
A	LF	SUB	*	:	J	Z	ƒ	≥
B	VT	ESC	+	;	K	[	ƒ	∏
C	FF	FS	,	<	L	\	ƒ	≠
D	CR	GS	-	=	M	]	ƒ	£
E	SO	RS	.	>	N	^	ƒ	.
F	SI	US	/	?	O	_	ƒ	.

A.3 - PROGRAMMING KEYS

AXEL's built-in predefined 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 61 programming keys (48 function keys plus the numeric keypad) are updated in this way.

Default values for the programming keys for ANSI and VT220 emulations are listed in the tables on the following pages.

Note: 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.

A.3.1 - ANSI EMULATIONS

The following pages list the default values for the programming keys corresponding to each ANSI emulation.

**ANSI, ANSI DOS, UNIX SCO 3.2.2, UNIX SCO 3.2.4, SCO OPENSERVR
XENIX SCO and ANSI DATA GENERAL:**

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		7Fh

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		7Fh

ANSI INTERACTIVE / UNIX SVR4:

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

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	lFh
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		7Fh

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		7Fh

NON PROGRAMMING FUNCTION KEYS:

For all the ANSI emulations, an additional 12 function keys are available. It is not possible to modify the values of these keys:

Keystroke	Value
Alt+F1	Esc [<a
Alt+F2	Esc [<b
Alt+F3	Esc [<c
Alt+F4	Esc [<d
Alt+F5	Esc [<e
Alt+F6	Esc [<f
Alt+F7	Esc [<g
Alt+F8	Esc [<h
Alt+F9	Esc [<i
Alt+F10	Esc [<j
Alt+F11	Esc [<k
Alt+F12	Esc [<l

Note: in ANSI DATA GENERAL emulation, the <Enter> keys (main keypad and numeric keypad) send the ASCII code 0Ah (with the other ANSI emulation, these keys send the ASCII code 0Dh).

A.3.2 - VT220 EMULATION

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	Esc OT
F26	Shift+F2	Esc OU
F27	Shift+F3	Esc OV
F28	Shift+F4	Esc OW
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	---

Note: F37 to F48 are also accessed through <Ctrl><Fx>

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		Application Mode
		Locked	Unlocked	
---	<*>	*	*	Esc O1
F52	<->	-	-	Esc Om
F61	<.>	.	.	Esc On
F60	<0>	0	Esc q	Esc Op
F57	<1>	1	Esc [5~	Esc Oq
F58	<2>	2	Esc [B	Esc Or
F59	<3>	3	Esc [U	Esc Os
F53	<4>	4	Esc [D	Esc Ot
F54	<5>	5	5	Esc Ou
F55	<6>	6	Esc [C	Esc Ov
F49	<7>	7	Esc [2~	Esc Ow
F50	<8>	8	Esc [A	Esc Ox
F51	<9>	9	Esc [V	Esc Oy
---	<Return>	CR or CR+LF	CR or CR+LF	Esc OM
F56	<+>	+	+	+
---	</>	/	/	/

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

The editing keypad:

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

A.3.3 - VT AS400 EMULATION

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	Alt+F1	Esc !
F14	Alt+F2	Esc @
F15	Alt+F3	Esc #
F16	Alt+F4	Esc \$
F17	Alt+F5	Esc %
F18	Alt+F6	Esc ^
F19	Alt+F7	Esc &
F20	Alt+F8	Esc *
F21	Alt+F9	Esc (
F22	Alt+F10	Esc)
F23	Alt+F11	Esc _
F24	Alt+F12	Esc +

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
	7Fh
<End>	---
<PgDn>	Ctrl F

The following keystroke are available in VT AS400 emulation. It is not possible to modify these keys:

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

A.3.4 - HFT EMULATION

Function keys:

N°	Keys	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		Esc [P	delete

The following keystroke are available in HFT emulation. It is not possible to modify these keys:

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

A.3.5 - SM94xx EMULATIONS**SM9400:**

N°	Key	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°	Key	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	<Insert>	8Fh
F61		8Dh
F62	<Esc>	1Bh

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

SM9412:

N°	Key	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	88h
F24	Shift+F12	0Ah
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°	Key	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	---
F62	<Esc>	0Eh

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

Description of the numeric keypad, the editing keypad and the cursor keypad for SM9412 emulations:

Numeric keypad:

No	key	keypad Locked	keypad Unlocked	
			key alone	key + Shift
F49	<7>	37h	85h 1Ah 81h	37h
F50	<8>	38h	1Ah	38h
F51	<9>	39h	85h 19h 81h	39h
F52	<+>	2Dh	2Dh	2Dh
F53	<4>	34h	19h	34h
F54	<5>	35h	35h	35h
F55	<6>	36h	18h	36h
F56	<->	2Bh	2Bh	2Bh
F57	<1>	31h	85h 0Bh 81h	31h
F58	<2>	32h	0B	32h
F59	<3>	33h	85h 18h 81h	33h
F60	<0>	30h	8Fh	30h
F61	<.>	2Eh	8Dh	2Eh

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
	8Dh
<End>	83h 18h 81h
<PgDn>	85h 18h 81h

A.4 - COMPOSITE CHARACTERS

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

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 accentuate characters' set-up parameter (<F2> in the terminal Set-Up).

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 (only available with ANSI emulations).

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.

A.4.1 - Standard Processing

When this method is used (`Compose accented 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-850	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.

A.4.2 - 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: $\hat{+} + \hat{+} = \hat{+}$).
- 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-850	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 ÄËÏÖÜ	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

A.4.3 - Remote Processing

For this method (only available in ANSI emulation), 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-850	PC-860	8859
Circumflex accent (^)	B0h	B0h	B0h	90h
Dieresis (¨)	B1h	B1h	B1h	91h
Paragraph (§)	B2h	F5h	B2h	A7h

Germany	Character Set			
	PC-437	PC-850	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-850	PC-860	8859
Paragraph (§)	B2h	F5h	B2h	A7h
Cube (³)	C0h	FCh	C0h	B3h

Spain	Character Set			
	PC-437	PC-850	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-850	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

AXEL

Zone d'activité d'Orsay-Courtabœuf
16 Avenue du Québec - BP 728 - 91962 LES ULIS Cedex
Tel.: (33) 1 69 28 27 27 - Fax: (33) 1 69 28 82 04