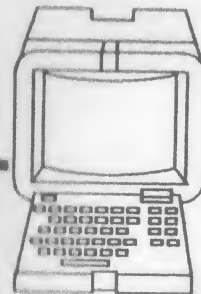


TERMINATEL 257

Triple standard

ADVANCED USER MANUAL

TELIC
▼
ALCATEL



TELIC
▼
ALCATEL

Presentation of the Terminatel 257

BEFORE YOU REMOVE THE MAIN CORD

- 1) The connection to the network must be disconnected before the plug is removed
- 2) The connection to the network must not be hardwired.

Terminatel 257 connections

Presentation of the Terminatel 257

C O N D I T I O N S O F U S E

If you do not have appropriate British Telecom standard sockets installed, you should make necessary arrangements as soon as possible.

If you have a private exchange with wiring not owned by British Telecom, contact the authorised maintainer of your exchange, if you want someone else to alter the wiring you must give the authorised maintainer of your exchange 14 days written notice.

Otherwise contact your local British Telecoms sales office. You can do this by phone or completing the attached form (you will find the address in the front of your telephone directory). British Telecom will be happy to supply details of installation and rental charges.

NOTES CONCERNING CONNECTIONS

- 1/ This apparatus is not suitable for connection to :
- shared service lines,
 - 1 + 1 carrier systems,
 - extension payphones.

This apparatus is suitable for connection to BT exchange lines with an associated telephone employing loop disconnect or DTMF signalling.

COMPATIBLE PABX's

This apparatus is approved for PABX's and that the supplier should be consulted for up to date lists of PABX's with which apparatus is compatible and that there is no guarantee of working in all circumstances. Any difficulties should be referred to the telephone supplier.

This apparatus is suitable for connection to a suitable PBX which returns secondary proceed indication.

This apparatus is suitable for connection to a Relevant Branch System, for a definition of an RBS refer to BS6789 section 6.1 clause 2.4.

Terminatel 257 connections

Presentation of the Terminatel 257

2/ This terminal has a REN value of 1

The REN relation to the performance of the apparatus when used in combination with other items of apparatus. The REN is a customer guide indicating approximately the maximum number of items of apparatus that can be connected simultaneously to an exclusive line, the total REN obtained by the summing of the REN values of each of the items of apparatus connected to the exclusive line should not exceed the maximum REN value of 4. This value includes any BT provided instrument of which is assumed to have a REN value of 1 unless otherwise stated.

A BS6312 style socket is provided on the rear of the terminal in order to connect an associated telephone for call establishment purposes.

A V28 Peripheral Port is provided for connection of associated apparatus.

WARNING ! connect only apparatus complying with BS6301 to there ports.

A voltage drop exists between the socket and the connection to the PSTN of 0,1 V at 40 mA.

WARNING ! interconnection directly or by way of other apparatus of ports marked in accordance with 5.2 with ports marked or not so marked may produce hazardous conditions on the network and that advice should be obtained from a competent engineer before such a connection is made.

WARNING !

- (1) The connection to the BT network must be unplugged before the earth is disconnected.
- (2) The connection to the BT network must not be hard wired.

3/ The approval of the modem for connection to the BT public switched network is INVALIDATED if the apparatus is subject to any modification in any material way not authorized by BABT or if it is used with or connected in :

- a/ internal software that has not been formally accepted by BABT,

Terminatel 257 connections

Presentation of the Terminatel 257

- b/ External control software or external control apparatus which causes the modem or associated call set up equipment to contravene the requirements of the standard set out in BABT/SITS/82/005S/D.

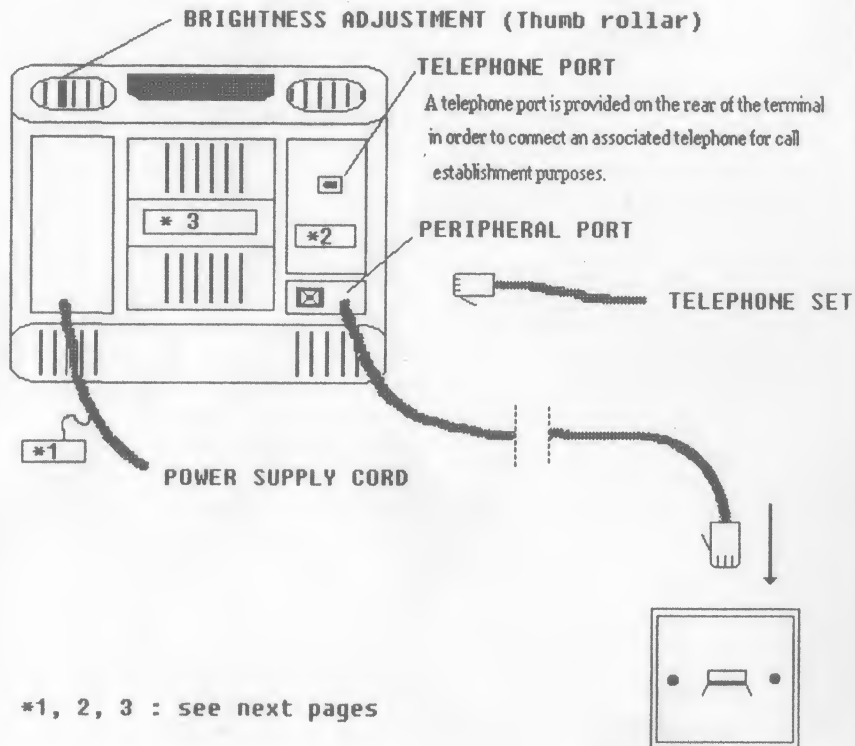
4/ This apparatus has been approved for the use of the following facilities :

- with an associated telephone,
- auto clear from the call originating end (loss of carrier signal),
- series connection.

Any other usage will invalidate the approval of the apparatus if as a result it then censes to comply with the standards against which approval was granted.

Terminatel 257 connections

Presentation of the Terminatel 257



The statement that must appear in the user guide which protects the V28 and telephone port must state "WARNING! Interconnection directly or by way of other apparatus of ports marked in accordance with 5.2 with ports marked or not so marked may produce hazardous conditions on the network and that advice should be obtained from a competent engineer before such a connection is made"


Terminatel 257 connections

Presentation of the Terminatel 257

FLEXIBLE CORD WARNING LABEL

If the sockets outlets in the home are not suitable for the plug supplied with this appliance, it should be cut off and an appropriate three pin plug fitted

Note : The plug severed from the mains lead must be destroyed as a plug with bared flexible cord is hazardous if engaged in a live socket outlet

Use a 5A fuse approved by ASTA to BS 1362, i.e. carries the  mark

Always replace the fuse cover, never use the plug with the fuse cover omitted

WARNING - THIS APPLIANCE MUST BE EARTHED

RELIANCE CORDS & CABLES LTD. an Agency Company of BICC, plc

*** 1 : Main cable sticker**

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code

Green and Yellow - Earth Blue - Neutral Brown - Live

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Green and Yellow must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol 

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured red

Terminatel 257 connections

Presentation of the Terminatel 257


* 2 : TELEPHONE CONNECTION STICKER

WARNING !
Connect only apparatus
complying with BS6301
to these port

* 3 : BAPT APPROVAL STICKER

APPROVED for connection to
telecommunication system specified in
the instructions for use subject
to the condition set out in them

Terminatel 257 - Triple Standard*Table of contents*

<i>Presentation of the Terminatel 257</i>	3
<i>Description of keyboard</i>	5
Key 	6
<i>Prestel standard</i>	7
<i>Teletel standard</i>	9
<i>Teletel standard in Videotex mode</i>	11
<i>Teletel standard mixed mode</i>	13
<i>Teleprocessing standard</i>	15
<i>Peripheral peri-processing connector, peripherals</i>	19
<i>Copy on printer, modem</i>	20
<i>Main control sequences</i> (CHANGE OF STANDARD OR TERMINATEL MODE)	21
<i>Glossary</i>	24
<i>List of controls</i>	25
<i>Keyboard in teleprocessing standard</i>	29
<i>Character sets</i>	30

Terminatel 257 - Triple Standard**Foreword**

This manual is intended for professionals who want to use the dual standard Minitel as a teleprocessing terminal, but is not to be considered as a substitute for the "Spécifications Techniques d'Utilisation du Minitel 1 Bistandard" (STUM 1B) available from:

CNET PARIS A

Département Documentation Technique

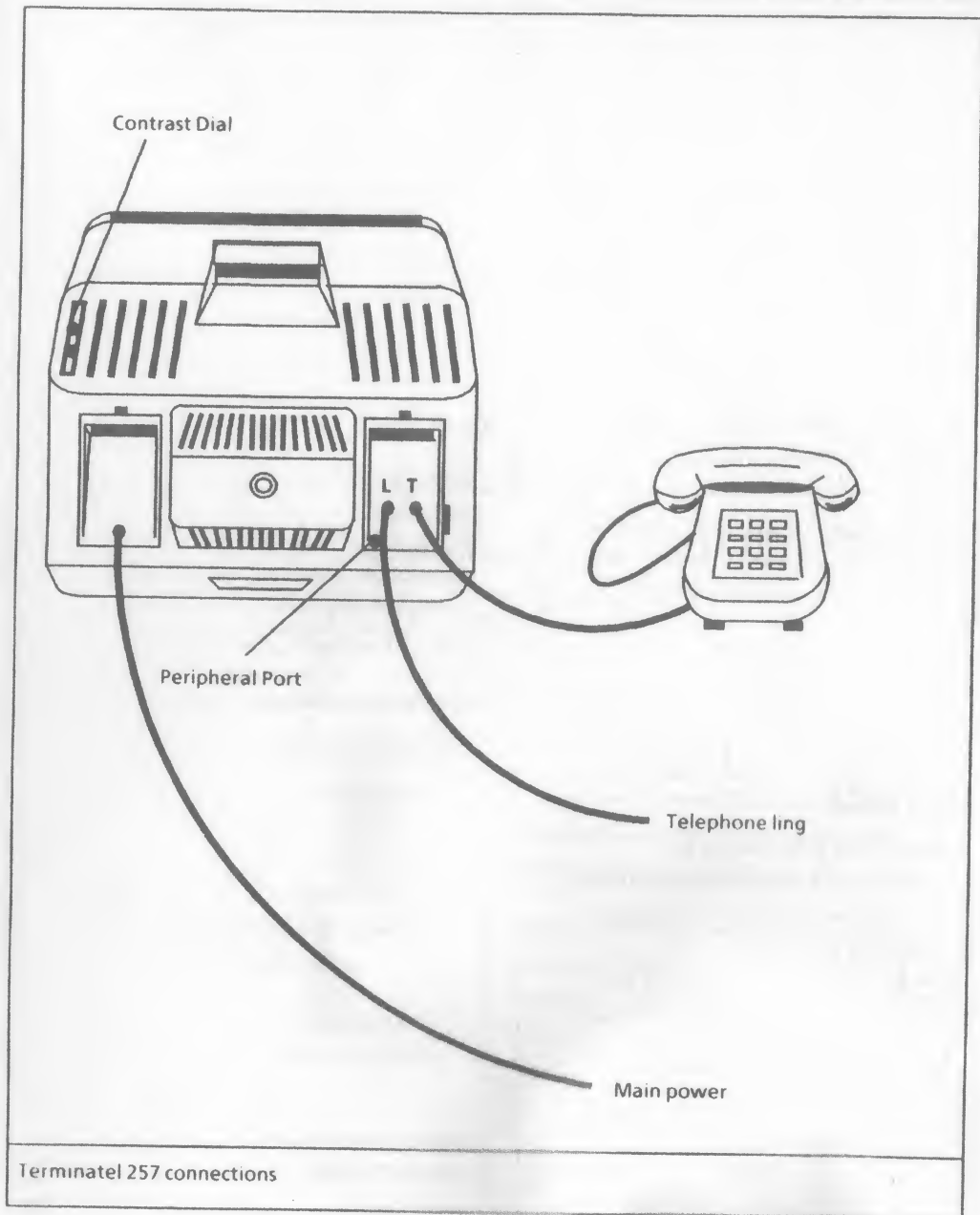
38-40 Avenue du Général Leclerc

92131 Issy-les-Moulineaux

FRANCE

Issue: Décembre 88

Copyright DACT/TELETEL

Presentation of the Terminatel 257

Presentation of the Terminatel 257

This Minitel* operates in three standards:

Prestel standard including:

- A videotex 40-column screen,
- A standard Minitel keyboard with Prestel function keys:
 F1 = *0#
 F2 = **
 F3 = *#
 F4 = *00
 F7 = #

Automatic repetition of the character by holding your finger on the key.

A teletel **standard including:

- A videotex mode characterized by:
 - a Videotex 40-column screen;
 - a standard Minitel keyboard with Teletel function keys ;
 - the possible utilisation of cursor control and editing keys

- A mixed mode characterized by:
 - an 80-column screen (standard ISO 6429) with the American ASCII character set.
 - a keyboard with activated keys for cursor control and editing, as well as Teletel function keys

A teleprocessing standard characterized by:

- an 80-column screen (standard ISO 6429) with American ASCII (screen capability 40 columns in the previously chosen set).
- a keyboard with activated cursor control and editing keys and whose Teletel function keys generate sequences other than CTRL those of the Teletel standard (encoding corresponds to the function keys of a teleprocessing terminal (PF1, PF2...)).

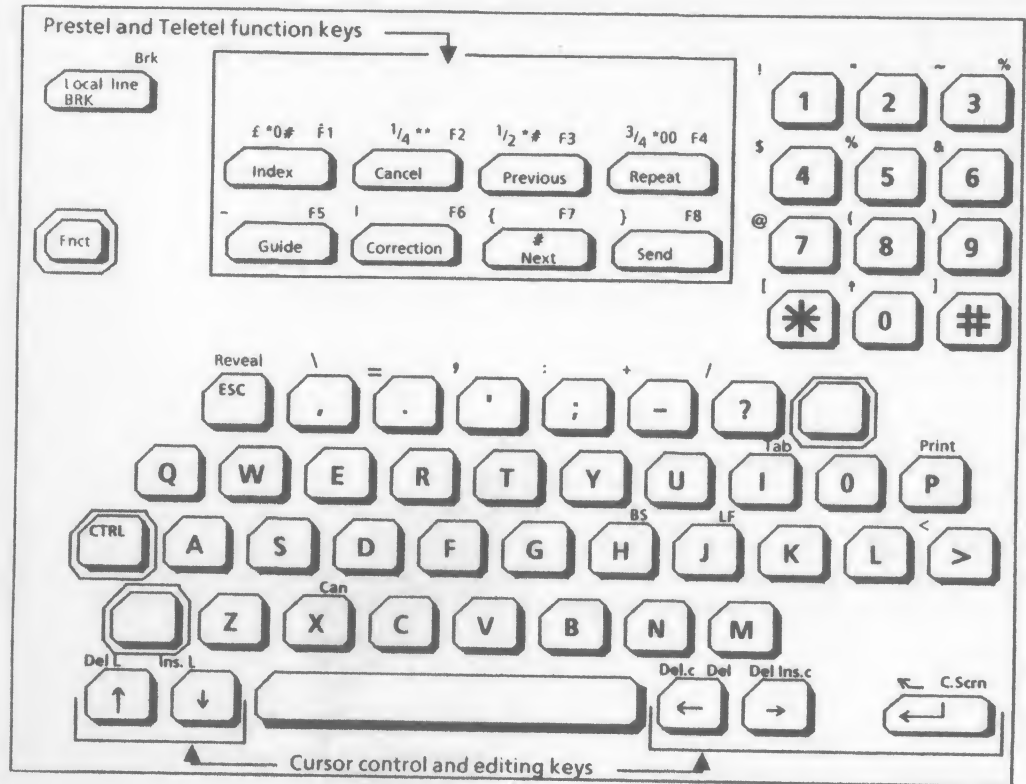
For all standards, the following are available:

- screen copy software to simplify printer connection,
- the detection of pending telephone calls during a teleprocessing transaction (for subscribers who have opted for this service, and if the exchange to which they are connected is adapted to it).

* Minitel. France Telecom Trademark

** TELETEL: name given to French interactive videotex system

Description of keyboard



The Terminatel standard keyboard is divided into:

- function keys
- writing keys (alphabetical, digital, punctuation and accentuation characters)
- cursor management and editing keys.



Each key can be used on its own or together with the key (circled in gold), or the key (circled in red).

Depending on the Teletel or teleprocessing

standard and the American ASCII set in the teleprocessing mode, some keys may have different significances (see page 29).

The characters engraved into the keys and placed above the keys in red and gold correspond to the Teletel standard.

Key 

The  key is a new Minitel key. The use of the  key combined with other keys on the keyboard is used for entering **commands** which change the state of the terminal:


- choice of standard
- modification of some parameters with the terminal concerning the keyboard, screen, modem and the peri-processing connector
- implementation of the screen copy.

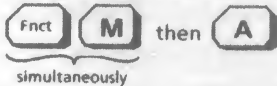
Remark:


On energizing, the terminal is always in the initial state of the Prestel standard in the Videotex mode.

Use of 

With a letter and a parameter

The  key when depressed at the same time as a letter, initializes a control, as listed in the appendix pages 25 to 28. When the two keys are released, it is necessary to specify the function desired by a parameter, while depressing a letter or a figure. For instance, to change to the teleprocessing standard:




NB: The controls entered with the  key are easily stored because the *simultaneously depressed letter is the initial of the Minitel section concerned with the order:*


- K = keyboard D = screen (display)
- T = transmission B = connector speed
- M = Mode (Baud)
- P = printing







Similarly, the third key calls out the function:

- R = return (for modem)
- A = American ASCII (for the ASCII set)
- S = change from upper case to lower case and


With a figure

When the  key is depressed at the same time as a figure from 0 to 9, in the teleprocessing standard, it generates sequences as listed in the following figure.



Sequences emitted by the key  followed by a figure from 0 to 9

 0	1/B	4/F	7/0	(Esc O p)
 1	1/B	4/F	7/1	(Esc O q)
 2	1/B	4/F	7/2	(Esc O r)
 3	1/B	4/F	7/3	(Esc O s)
 4	1/B	4/F	7/4	(Esc O t)
 5	1/B	4/F	7/5	(Esc O u)
 6	1/B	4/F	7/6	(Esc O v)
 7	1/B	4/F	7/7	(Esc O w)
 8	1/B	4/F	7/8	(Esc O x)
 9	1/B	4/F	7/9	(Esc O y)




With a non-scheduled key

When the  key is depressed at the same time as a key not provided for in the list of control combinations, or followed by a non-predicted parameter, the terminal emits an audible beep.








Remarks:

- An incomplete control is cancelled by the following action:
 -  key;
 - incorrect parameter
 - another control using the  key.
- Some controls are in the "flip-flop" mode, i.e. the same action causes the terminal to return to the previous state

Prestel Standard

The **Prestel mode**; this is the initial state of the terminal on energizing or   then 
simultaneously

Keyboard

Initial state	Modifications	Controls
The writing keys are in the upper case. Changeover to lower case means <i>simultaneously</i> depressing the  key and the corresponding letter.	Set the keyboard to the lower case mode.	  then  simultaneously
	Return to initial state (upper case mode)	  then  simultaneously

In basic Prestel mode six of the eight function keys are used to emulate the most frequently.


Used Prestel commands:

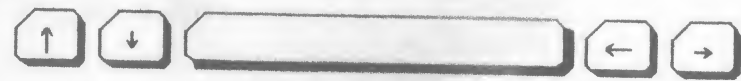
- F1 *0# Index (returns to the host computer index menu)
- F2 ** Cancel (cancel last request)
- F3 *# Previous (return to previous page transmitted)
- F4 *00 Repeat (retransmits current page)
- F6 BS Back Space to erase typed character
- F7 # Next (selects next page)

Local line connects/disconnects terminal from service or network. F5 & F8 are inactive.

With the communications protocol active, each function key generates a sequence that can be recognized by the host computer.

Prestel control keys:

- Control key  encircled in red.
- The control key provides access to the Prestel character CO (Del, LF, Clear, Screen etc.).
- Cursor keys (HT, UT, BS, LF, Space)



Reveal control (Fnct + Esc)

The masked character reveal function is accessed by using simultaneously the Fnct key + the Esc key.

Prestel Standard

For the Teletel standard using the control.

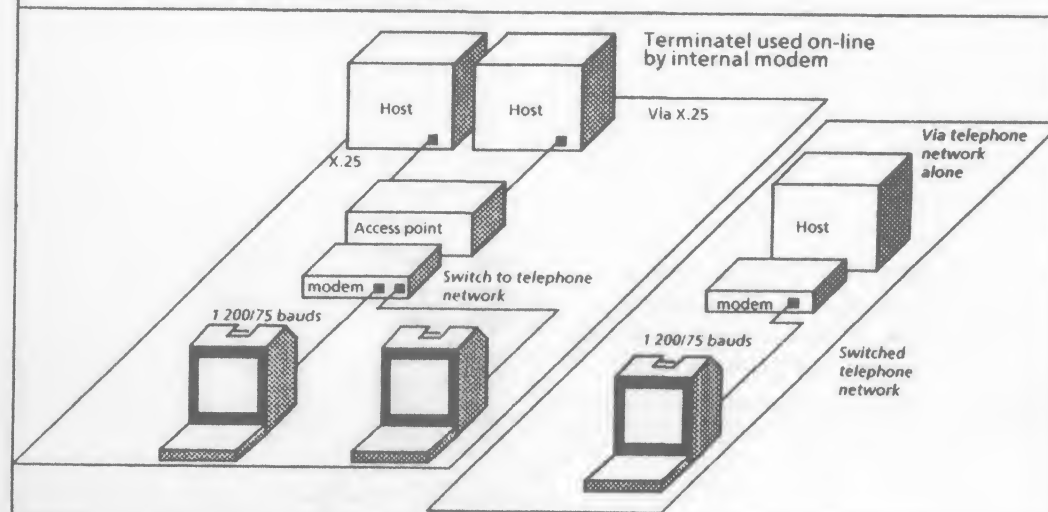


For the Teleprocessing standard using the control.

**Teletel Standard****Teletel standard**

Display standard: - Videotex in "Videotex mode"
- ISO 6429 in "mixed mode"

Communication protocol: Teletel

Link between Terminatel and distant hosts

The Terminatel can call a host

- either via the teletel access service
- or via the end-to-end switched telephone network.

As indicated in the operating instructions

Terminatel 257 "brochure":

- make the connections necessary (power supply, telephone connector, peripherals)
- switch on the terminal.

The letter LP should appear at the top right of the screen.

On energizing, your Minitel is in the Prestel standard mode (40-column screen).

The host or peripheral can switch your Minitel to the mixed mode which, in the Teletel standard, provides you with an 80-column screen and ASCII character set.

You can return to the Prestel mode standard using the control



Teletel Standard

You can return to the Teletel mode standard using the control



The particularity of the Teletel standard is the part played by function keys (Index ...), which is always the same, whether the Videotex or mixed mode is being used.

The Videotex mode enables you to consult teleprocessing services (electronic directory, Teletel services, ...). On energizing, the terminal is put into the initial Videotex mode Prestel standard. Using the controls activated with the key, some of the characteristics of the terminal can be changed.

Modifications can also be obtained using the controls sent to the dual standard Minitel 1 by the access point, the host or the peripheral (see pages 19 and 20).

Changeover to the mixed mode can only be controlled from the access point, host or peripheral. In this mode, the screen is at 80 columns with one character set (American ASCII). The , keys controlling the cursor and editing are activated.

The function keys are to Teletel standards.

Pages 10 to 18 give, by mode, a list of terminal characteristics in the initial state, the possible modifications and the associated controls. Some characteristics are common to both modes.

Teletel standard, Videotex or mixed mode function keys

The use of the Minitel function keys is indicated by the service you are consulting.

The utilization most often used is stipulated in the Terminatel 257 operating instructions brochure.

N.B.: Compatibility with PAD X3

To use the Minitel on Teletel standards in foreign countries via the PAD X3 facilities of data networks, an ISO 2022 type function key encoding option can be obtained by entering the control:



Return to Prestel type encoding is obtained by switching the Minitel on and off.

Teletel Standard in the Videotex mode

The Videotex mode is the state when using the control

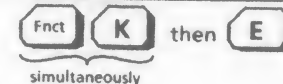


Keyboard

Initial state	Modifications	Controls
The writing keys are in the upper case. Changeover to lower case means simultaneously depressing the key and the corresponding letter.	Set the keyboard to the lower case mode.	then (simultaneously)
	Return to initial state (upper case mode)	then (simultaneously)

The cursor control and editing keys, the and keys alone are inactive, except for the carriage return fonction.

Activate the cursor and editing control keys and depress , . Depending on the consulted service, the utilization of these keys allows the cursor to be shifted, a carriage return, an insertion or deletion of a line or character.



Automatic repetition of the character by holding the finger on the key is also activated.

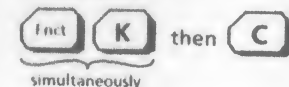
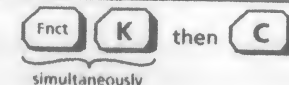
N.B. :
The editing functions are controlled by the service.

If the cursor control and editing keys are activated, the codes sent out (except for carriage return) will be sequences ISO 6429 (CSI sequences)

Send the CO set characters to control the cursor.

The editing functions are no longer available.

Return to initial state.



Screen

Initial state	Modifications	Controls
40-column display with Videotex attributes (alphamosaic characters, video inversion, under-lining...) in page mode.	Put screen into scroll mode	then (simultaneously)
	Return to page mode	then (simultaneously)

Teletel Standard in the Videotex mode

Modem
Initial state Modifications Controls

The transmit/receive speed is: 75/1200 Bauds

Return the modem to 75/1200 Bauds to have two Minitels communicate with one another (opposed mode)
This operation is only possible from the keyboard in the local mode.

When the modem is in the opposite mode, a small l replaces the capital L at the top right of the screen.

Return to the initial state

Controls: **Funct T** then **R** (simultaneously)

two times **Local Line** or **Funct M** then **T** (simultaneously)

Inactive error correction procedure (PCE) **Activate PCE**

Controls: **Funct T** then **C** (simultaneously)

Connector
Initial state Modifications Controls

The information from the modem and keyboard is sent to the peri-processing connector (see pages 17 and 18: peri-processing connector, peripherals and copy on printer)

Inhibit the connector. (standby)
This state is identified by the display of an S at the top right of the screen.

Return to the initial state

Controls: **Funct S** (simultaneously)

Modify the speed of exchanges by the connector.

300/300 **Funct B** then **3** (simultaneously)

1200/1200 **Funct B** then **1** (simultaneously)

4800/4800 **Funct B** then **4** (simultaneously)

Terminal
Initial state Modifications Controls

The echo is provided by the terminal in the local mode and by the access point or host in the on-line mode

Reverse the echo rule: inhibit the terminal echo in the local mode and activate the terminal echo in the on-line mode.

Return to initial state

Controls: **Funct M** then **E** (simultaneously)

Controls: **Funct M** then **E** (simultaneously)

Teletel Standard mixed mode

(controlled by host, access point or peripheral - see page 21)

Keyboard
Initial state Modifications Controls

The **Ctrl**, **Esc** cursor control and editing keys are activated (CSI sequences).

Return to Videotex keyboard

Return to initial state.

Writing in capitals (upper case)

Set keyboard to capitals mode

Return to initial state.

Controls: **Funct K** then **V** (simultaneously)

Controls: **Funct K** then **E** (simultaneously)

Controls: **Funct K** then **S** (simultaneously)

Controls: **Funct K** then **S** (simultaneously)

Screen
Initial state Modifications Controls

80-column screen with American ASCII character set. Scroll mode display

Put screen into page mode

Return to scroll mode.

Controls: **Funct D** then **P** (simultaneously)

Controls: **Funct D** then **S** (simultaneously)

Modem
Initial state Modifications Controls

The transmit/receive speed is: 75/1200 Bauds

Return the modem to 75/1200 Bauds to have two Minitels communicate together (opposite mode). This operation is only possible from the keyboard in the local mode.
When the modem is in the opposite mode, a small l replaces the capital L at the top right of the screen

Return to the initial state

Controls: **Funct T** then **R** (simultaneously)

two times **Local Line** or **Funct M** then **T** (simultaneously)

Inactive error correction procedure (PCE) **Activate PCE**

Controls: **Funct T** then **C** (simultaneously)

Teletel Standard mixed mode

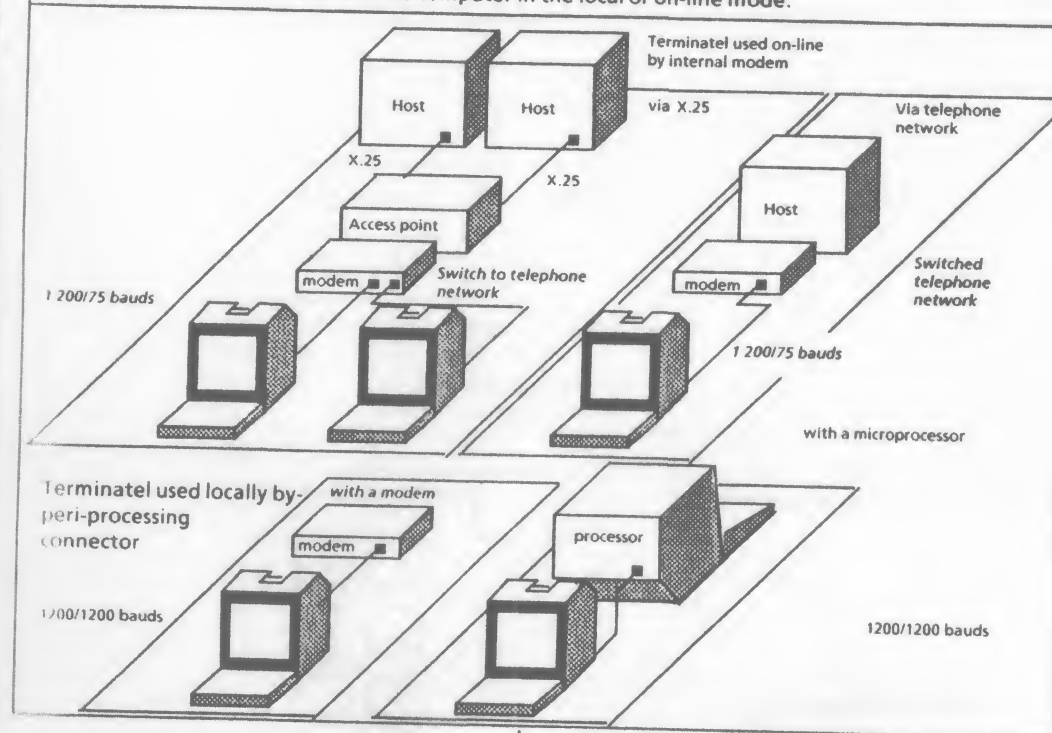
Connector Initial state	Modifications	Controls
The information from the modem and keyboard is sent to the peri-processing connector (see pages 19 and 20: peri-processing connector, peripherals and copy on printer)	Inhibit the connector. (standby) This state is identified by the display of an S at the top right of the screen.	Funct S simultaneously
	Return to the initial state	Funct S simultaneously
The standard speed of exchanges by the connector is 1200/1200 Bauds.	Modify the speed of exchanges by the connector.	
	300/300	Funct B then 3 simultaneously
	1200/1200	Funct B then 1 simultaneously
	4800/4800	Funct B then 4 simultaneously

Terminal Initial state	Modifications	Controls
The echo is given by the terminal in the local mode and by the host access point in the on-line mode.	Invert the echo rule: inhibit the terminal echo in the local mode and activate the terminal echo in the on-line mode.	Funct M then E simultaneously
	Return to initial state	Funct M then E simultaneously

Teleprocessing Standard

Display standard: ISO 6429 with American ASCII set. Communication protocol: the Teletel communication protocol is no longer active.

Links between the Terminal and the computer in the local or on-line mode.



As indicated in the "Terminal 257 operating instructions":

- make the necessary connections (power supply, telephone connector, peripherals);
- turn on the terminal. Letter L should appear at the top right of the screen;
- if you are working in the local mode, i.e. if your terminal is connected via a peri-processing connector to a microprocessor for instance, simultaneous bi-directional exchanges will be possible;
- if you are working on-line, i.e. if your terminal is connected via its internal modem to a remote host or access point, the peri-processing

connector will only allow unidirectional exchanges and will behave as an output interface for a printer.

If you are working in the local or on-line mode, changeover to the remote processing standard can be controlled:

- from the access point, host or peripheral (see page 21)
- or from the keyboard:

Funct M then **A** (American ASCII set)
simultaneously

Teleprocessing Standard

The teleprocessing standard enables you to consult data bases in accordance with standard ISO 6429. On entry into the teleprocessing standard, the terminal is in a defined initial state. By use of the controls obtained using the **Funct** key, you can modify some of the terminal characteristics.

In the teleprocessing standard, the Teletel function keys generate sequences which are different from the Teletel standard (encoding corresponds to the function keys of a teleprocessing terminal).

Codes emitted by function keys:				
Index	(PF1)	1/B	4/F	5/0
Cancel	(PF2)	1/B	4/F	5/1
Previous	(PF3)	1/B	4/F	5/2
Repeat	(PF4)	1/B	4/F	5/3
Send	(PF8)	1/B	4/F	4/D
Correction	(PF6)	1/B	4/F	6/C
Guide	(PF5)	1/B	4/F	6/D
Next	(PF7)	1/B	4/F	6/E

To obtain the codes corresponding to:		Press simultaneously on:
LF (line feed by one line)	0/A	ctrl J
BS (backspace)	0/8	ctrl H
TAB (horizontal tabulation)	0/9	ctrl I
VT (vertical tabulation)	0/B	ctrl K
DEL (delete character)	7/F	ctrl ←
CAN (delete line)	1/8	ctrl X
CR (carriage return)	0/D	←

Teleprocessing Standard

American ASCII set (80 columns per fault)



Keyboard

Initial state	Modifications	Controls
The writing keys are in the lower case mode. Change over to the upper case mode requires the simultaneous depressing of the key ⏏ and the corresponding letter.	Put the keyboard into the upper case mode.	Funct K then S <small>simultaneously</small>
	Return to initial state.	Funct K then S <small>simultaneously</small>

The cursor control and editing keys **ctrl** and **Esc** are active.

NB:
The editing functions are controlled by the service.

All the control characters or the CO set are available by combining action, on the **ctrl** key with some of the other keys of the keyboard (see page 14).

Screen

Initial state	Modifications	Controls
The screen is in the scroll mode, i.e. at the end of a screen page, it rolls up automatically (except for row 0) so that you can write beyond the screen limit.	Put the screen into the page mode.	Funct D then P <small>simultaneously</small>
	Return to the scroll mode.	Funct D then S <small>simultaneously</small>
The screen is a 80 column screen to ISO 6429 standard with the American ASCII set.	Put the screen into 40 columns (in the initially chosen set).	Funct D then C <small>simultaneously</small>
	Return to initial state	Funct D then C <small>simultaneously</small>

Teleprocessing Standard

Modem

Initial state	Modifications	Controls
The transmit-receive speed is: 75/1200 Bauds	Return to the modem at 75/1200 Bauds to have two terminals units communicate between one another (opposed mode). This operation is only possible from the keyboard in the local mode. The modem status is preserved on standard changeover.	Funct T then R simultaneously
<i>Remarks:</i> - The PCE, if activated to Teletel standards, remains on after changeover to the teleprocessing standard - No modem parameter is modified on changeover from one standard to another.	Return to the initial state	two times Connexion Fin

Connector

Initial state	Modifications	Controls
Terminal on local: two-way simultaneous exchanges (non-inhibited connector). Terminal on-line: unidirectional exchanges. The connection is then an output interface for a printer (connector inhibited).	Modify the connector inhibition state. (Standby) Inhibition of connector locally or disinhibition on line. Return to the initial state	Funct S simultaneously Funct S simultaneously
The standard speed of exchanges by the connector is 1200/1200 Bauds.	Modify the speed of exchanges using the connector. 300/300 1200/1200 4800/4800	Funct B then 3 simultaneously Funct B then 1 simultaneously Funct B then 4 simultaneously

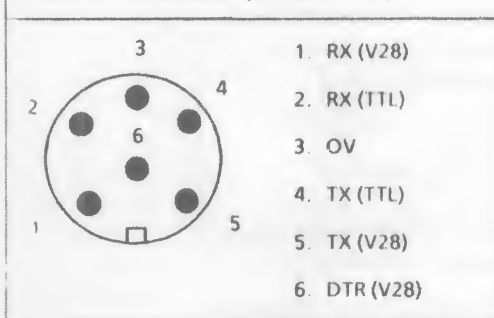
Terminal

Initial state	Modifications	Controls
The echo is by the terminal in the local mode and by the access point or the service in the on-line mode.	Invert the echo rule: inhibit the terminal in the local mode and activate the terminal echo in the on-line mode. Return to initial state Return to the Videotex mode Teletel standard.	Funct M then E simultaneously Funct M then E simultaneously Funct M then T simultaneously

Peripheral peri-processing connector

This is a DIN 6-pin connector, the electrical levels of which are of the RS 232 C and TTL type. Three transmit/receive channels (balanced) are available at 300, 1200 and 4800 Bauds. The peri-processing connector (or DIN connector) can be linked with a micro-computer, printer, memory card reader or any other peripheral.

PRINTER CONNECTOR (RS 232 C - TTL)

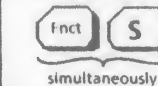


At teleprocessing standard

- If the terminal is on-line, exchanges by the connector are unidirectional. The connector, in this case, is designed to receive a printer.
- If the terminal is in the local mode, exchanges by the connector are bidirectional and simultaneous. Protocol controls on the connector are no longer available.

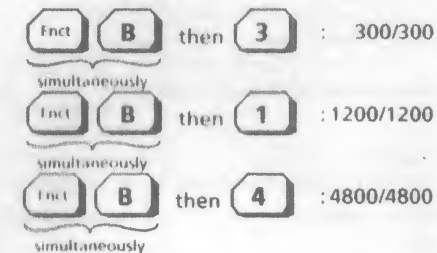
At Teletel standard

Exchanges by the connector are bidirectional and simultaneous. Depending upon which peripherals are on-line and which standard or mode is being used, it may be necessary to inhibit the connector. In this case, use the control:



Inhibition is suppressed using the same control.

The standard rate of exchanges by the connector is 1200-1200 Bauds. This rate can be modified by:



The change of rates is obtained by controlling a new selection.

Copy on printer, modem

Copy on printer

screen copy printout is a particular case of the utilization of a peripheral plugged into a periprocessing connector.

Situations vary according to the mode (Videotex or teleprocessing) and the type of printer you have available.

Videotex mode

If you have a Videotex compatible printer, i.e. reproducing semi-graphic characters with their attributes, follow the printer operating instructions.

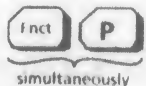
For both standards

If you have a standard printer, you can also copy a screen after inhibition of the connector by the controls indicated below. The graphics will be lost, as well as the Videotex attributes if you are in the Videotex mode.

To inhibit the connector:



To copy a screen (40 or 80 columns):



If the printer is working with an American ASCII set

To stop a copy underway, use the key.

NB.:

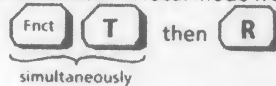
Whatever standard and type of printer being used, printout is limited to the displayed screen. In addition, printout is on 40 or 80 columns, depending on the choice you made previously for the screen format. Row 0 is not printed.

Modem

The modem operates by frequency modulation in accordance with CCITT recommendation V23. In its initial state, the internal modem receives information at a rate of 1200 Bauds and transmits at 75 Bauds. Transmit-receive exchanges are simultaneous in both directions; The modem is reversible and can therefore transmit at 1200 Bauds and receive at 75 Bauds.

There are two possibilities:

- Modem return to on-line mode from access points of host or peripheral
- Opposition of modem in local mode from keyboard.



or from peripheral.

Example of turn-around utilizations to Teletel standard

- **The use of terminal associated with a memory card reader**

The latter, considered as a peripheral, controls the return of the internal modem by transmitting a specific sequence

The card then sends the entire content of its memory toward the central computer.

Having acknowledged data reception, the distant computer sends, in turn, a sequence requesting the modem turn-around before transmitting an answer.

- **Use of terminal associated with a microcomputer**

Modem turn-around is particularly advantageous when the content of a floppy disk has to be sent, or a program remote-loaded, or text or data sent to another computer

Main control sequences

(Change of standard or Terminate mode)

Prestel standard

Changeover from Prestel standard to teleprocessing standard

Controls received		Acknowledgements		
		Transmitted sequences	Connector	Modem
Terminal in local	From connector		NO	NO
	From keyboard		NO	NO
Terminal on-line	From connector	1/B 5/B 3/F 7/B	NO	NO
	From keyboard		NO	NO

Change from Prestel standard to Videotex mode Teletel standard

Controls received		Acknowledgements		
		Transmitted sequences	Connector	Modem
Terminal in local	From connector		NO	NO
	From keyboard		NO	NO
Terminal on-line	From connector		NO	NO
	From keyboard		NO	NO

Main control sequences

(Change of standard or Terminate mode)

Teletel standard

In the Teletel standard, changeover to the mixed mode can only be controlled from an access point and from the host (by the modem) or peripheral (by the peri-processing connector).


Change from Videotex mode to mixed mode

	Controls received		Acknowledgements		
			Transmitted sequences	Connector	Modem
Terminal in local	From connector	1/B 3/A 3/2 7/D	1/3 7/0	●	
Terminal on-line	From modem	1/B 3/A 3/2 7/D	1/3 7/0	●	●
	From connector	1/B 3/A 3/2 7/D	1/3 7/0	●	●

Change from mixed mode to Videotex mode

	Controls received		Acknowledgements		
			Transmitted sequences	Connector	Modem
Terminal in local	From connector	1/B 3/A 3/2 7/E	1/3 7/1	●	
Terminal on-line	From modem	1/B 3/A 3/2 7/E	1/3 7/1	●	●
	From connector	1/B 3/A 3/2 7/E	1/3 7/1	●	●

Changeover from Teletel standard to Prestel standard

	Controls received		Acknowledgements		
			Transmitted sequences	Connector	Modem
	From keyboard				



Main control sequences

(Change of standard or Terminate mode)

Remote processing standard

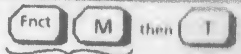

Changeover from the teletel standard to the remote processing standard can be achieved from the keyboard, but also from the access point and host (by the modem) or the peripheral (by the peri-processing connector).

Changeover from Teletel standard to teleprocessing standard

	Controls received		Acknowledgements		
			Transmitted sequences	Connector	Modem
Terminal in local	From connector	1/B 3/A 3/1 7/D *	1/B 5 B 3/F 7/A	●	
	From keyboard		1/B 5 B 3/F 7/A	●	
Terminal on-line	From modem	1/B 3/A 3/1 7/D *	1/B 5 B 3/F 7/A		●
	From connector	1/B 3/A 3/1 7/D *	no acknowledgement		
	From keyboard		no acknowledgement		

* This control causes changeover to the G0 set (American ASCII set); changeover from the G0 set (American ASCII set) to the G1 set (French ASCII set) is obtained by S0 (O/E) and return from G1 to G0 by SI (O/F).

Change from teleprocessing standard to Videotex mode Teletel standard

	Controls received		Acknowledgements		
			Transmitted sequences	Connector	Modem
Terminal in local	From connector	1/B 5/B 3/F 7/B	1/3 5/E	●	
	From keyboard		1/3 5/E	●	
Terminal on-line	From connector	1/B 5/B 3/F 7/B	1/3 5/E	●	●
	From keyboard		1/3 5/E	●	●

Glossary

ASCII

American Standard Code for Information Interchange. Standardized encoding of 7 bits for data transmission.

CCITT recommendation V23

Technical recommendation made by the comité consultatif International Télégraphique et téléphonique, a standardization organisme defining the characteristics of 1200/75 bauds asymmetric modems used by european Videotex terminals.

Baud

Unit of measurement of flow rates or telecommunications expressed in bits per second (bps).

Local echo

A local echo is active when the character entered on the keyboard is transmitted and displayed simultaneously and directly on the screen.

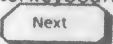
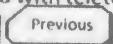





CSI (Command Sequence Introducer) set
Sequences of commands defined in standard ISO 6429

C0 set

Set of commands from the Videotex standard (CEPT 2).



Videotex mode

Teletel standard mode characterized by:

- a 40-column screen
- a standard Minitel keyboard with teletel function keys (  ...),
- possible utilization of the cursor management and editing keys (     keys) by keyboard extension

Mixed mode

Teletel standard mode characterized by:

- 80-column screen (standard ISO 6429) with 1 character sets (american ASCII)
- keyboard with the   keys, cursor control and editing validated, and also

including Teletel function keys (  ...).

Modem

The modem handles modulation and demodulation functions by converting the binary digital signals used by the Minitel microprocessor into modulated analog signals sent over the telephone line and vice versa.

ISO 6429 standard



International standard defined by the International Organization for Standardization regarding data processing systems.

Error correction procedure (ECP)

Procedure designed to correct errors due to telephone network perturbation during reception at 1200 Bauds.

Teleprocessing standard

Standard characterized by:

- 80-column screen (standard ISO 6429) with the american ASCII and the possibility of a 40-column screen in the previously chosen set
- a keyboard with   cursor control and editing keys validated and whose Teletel function keys generate sequences other than to Teletel standards (encoding corresponds to the function keys of a teleprocessing terminal PF1, PF2, ...).

















































Teletel standard

Standard comprising two modes: the Videotex mode and mixed mode.

List of controls: Prestel standard

Controls and definitions of parameters

On energizing, the terminal is in the Prestel standard and Videotex mode.

	Initial state	Modifications	Controls
Keyboard	Writing in upper case	Locking in lower case	  then 
		Return to initial state	  then 
	Cursor control and editing keys active.		
	Automatic repetition		
Screen	Screen in page mode	Screen in scroll mode	  then 
		Return to page mode	  then 
Modem	ECP inactive	Request for ECP activation	  then 
	Speed 1200/75 Bauds	Modem opposition at 75/1200 Bauds.	  then 
		Return to page mode	  then 
			Disconnection
Connector	All data sent to connector	Inhibit the connector (standby)	 
		Return to initial state	 
		Screen copy (after connector inhibition)	 
	Speed by 1200/1200 connector	Modify speed	  then 
		300/300	  then 
		1200/1200	  then 
		4800/4800	  then 
Terminal		Return to standard Videotex mode	  then 
Terminal		Return to teleprocessing standard	  then 
	Echo by terminal (local) or service (on-line)	Inhibit or request echo	  then 

List of controls: Videotex mode Teletel standard

Changeover to Teletel standard:
- Videotex mode Teletel standard



	Initial state	Modifications	Controls
Keyboard	Writing in upper case	Locking in lower case Return to initial state	
	Cursor control and editing keys inactive. No automatic repetition.	Activation of these keys: "Keyboard understood" Automatic repetition	
	CSI codes for editing keyboard.	C0 codes if "keyboard understood" Return to Videotex standard keyboard	
Screen	Screen in page mode	Screen in scroll mode Return to page mode	
	Modem	ECP inactive	Request for ECP activation
Speed 1200/75 Bauds		Modem opposition at 75/1200 Bauds. Return to page mode	 Disconnection
Connector		All data sent to connector	Inhibit the connector (standby) Return to initial state
		Screen copy (after connector inhibition)	
	Speed by 1200/1200 connector	Modify speed 300/300 1200/1200 4800/4800	
	Terminal		Return to standard Videotex mode
Echo by terminal (local) or service (on-line)		Inhibit or request echo	

List of controls: Mixed mode Teletel standard

	Initial state	Modifications	Controls
Keyboard	Keyboard with keys and cursor control active	Return to Videotex standard keyboard	
	Writing in lower case	Locking in lower case Return to initial state	
Screen	80-column screen scroll mode	Screen in scroll mode Return to initial state	
	Modem	ECP inactive	Request for ECP activation
Speed 1200/75 bauds		Modem opposition at 75/1200 bauds. Return to page mode	
Connector	All data sent to connector	Inhibit the connector (standby) Return to initial state	
		Screen copy (after connector inhibition)	
	Speed by 1200/1200 connector	Modify speed 300/300 1200/1200 4800/4800	
Terminal		Return to standard Videotex mode	
	Echo by terminal (local) or service (on-line)	Inhibit or request echo	

NB:
Commands given with the key are easily stored because the letters are the initials of the parts of the terminal concerned by the control
 K = keyboard D = screen (Display)
 T = transmission B = connector speed (baud)
 M = mode P = printout
 Similarly, the parameter refers to the function:
 R = Turn-around (for mode)
 A = ASCII, American (for the character set)
 S = upper case or lower case (keyboard shift)

List of controls: Teleprocessing standard
Controls and definition of parameters

Changeover to teleprocessing standard:

- American ASCII set (80 columns per fault)



	Initial state	Modifications	Controls
Keyboard	Writing in lower case	Locking in lower case	Fnct K then S
		Return to initial state	Fnct K then S
Screen	Screen in scroll mode	Screen in scroll mode	Fnct D then P
		Return to scroll mode	Fnct D then S
	80-column display	Screen in scroll mode	Fnct D then P
		Return to initial state	Fnct D then S
Connector	Connector not inhibited in local mode Connector inhibited on-line	Inhibition or disinhibition of connector (standby)	Fnct S
		Screen copy (after connector inhibition)	Fnct P
	Speed by 1200/1200 connector	Modify speed	Fnct B then 3
		300/300	Fnct B then 1
		1200/1200	Fnct B then 4
Terminal	Echo by terminal (local) or service (on-line)	Inhibit or request echo	Fnct T then E
		Return to Prestel standard mode	Fnct M then P

Keyboard in teleprocessing standard

	Action on keyboard Keyboard key	Display on screen or transmitted code					
		Alone		with () key	with (ctrl) key		
		UK ASCII set	French ASCII set	UK ASCII set	French ASCII set	UK ASCII set	French ASCII set
Function Keys	Send	1B	4F 4D	}	è		§
	Previous	1B	4F 52				
	Repeat	1B	4F 53				
	Guide	1B	4F 6D	\	ç		
	Cancel	1B	4F 51				£
	Index	1B	4F 50				
	Correction	1B	4F 6C				ç
	Next	1B	4F 6E	{	é		ç
	Local/Line	1B 29 34 0D	1B 29 34 0D				Break to connector or modem
	A to Z	Lower case	Upper case				01 to 1A
	SPACE BAR	Space	Space				Space
	, COMMA	,	,				1C
	. FULL STOP	.	.				1E
	' APOSTROPHE	'	'		ù		00
; SEMI COLON	;	;		"		0B	
- HYPHEN	-	-		+		1D	
: COLON	:	:		=		0A	
>	>	>		<		1F	
1	1	1		!			
2	2	2					
3	3	3		?			
4	4	4		\$			
5	5	5		%			
6	6	6		&			
7	7	7		@	à		
8	8	8		(
9	9	9)			
0	0	0					
*	*	*			n	o	
#	#	#			h		
Cursor control	→	1/B 5/B 4/3 Cursor right	1/B 5/B 3/4 6/B Start of character insertion 1/B 5/B 3/4 6/C End of character insertion				
	←	1/B 5/B 4/4 Cursor left	1/B 5/B 5/0 Delete character			7/F DEL	
	↑	1/B 5/B 4/1 Cursor up	1/B 5/B 4/D Delete line				
	↓	1/B 5/B 4/1 Cursor down	1/B 5/B 4/C Insert line				
	↵	0/1 Carriage return	1/B 5/B 4/8 Home			1/B 5/B 3/2 4/A Delete page	

