

Introduction

The Minitel 1B is a compact, standalone dual-standard Videotex/ASCII data terminal. It comprises a screen for displaying information and a keyboard for entering information and commands.

The Minitel 1B supports both Teletel Videotex and ASCII Data Communications to meet requirements in connecting to host computers using either standard.

Teletel Videotex standard

The Minitel 1B has two Videotex operating modes which differ in terms of how codes or sequences received for display are interpreted:

- In **Videotex Mode** the terminal displays 25 rows x 40 columns with Videotex decoding according to Profile 2 of the Conference of European Postal and Telecommunications Administrations (CEPT) standard. In this mode, operation of the Minitel 1B is identical to that of the Minitel 1 terminal.
- In **Mixed Mode** the terminal displays 25 rows x 80 columns with decoding according to ISO standard 6429. Full use is made of the extended, ASCII-type keyboard and also of the Videotex function keys. Two ASCII character sets are available: the North American set and the French set.

All transmission functions, terminal architecture and possibilities for connecting peripheral devices are identical in the two modes and operation is fully compatible with earlier versions of the Minitel terminal.

The default mode, selected when the Minitel 1B is switched on, is the Videotex Mode.

Switching from the Videotex Mode to the Mixed Mode, or vice-versa, can be controlled from a host computer, a Videotex Access Point or a peripheral device connected to the terminal.

ASCII Data Communications standard

The ASCII Data Mode allows a Minitel 1B to communicate with all ASCII computers and databases conforming to ISO standard 6429.

It conversely allows ASCII hosts to be connected to the Videotex network without modification to databases.

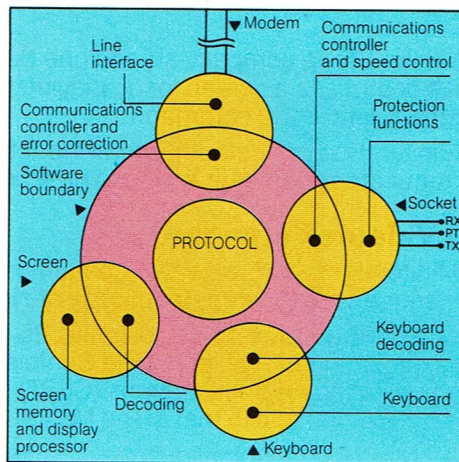
The ASCII Data Mode involves specific operating characteristics for all Minitel 1B modules: screen, keyboard, modem and peripheral device socket. The screen displays 40 rows x 80 columns with decoding according to ISO standard 6429. Two ASCII character sets are available: the North American set and the French set.

Minitel architecture

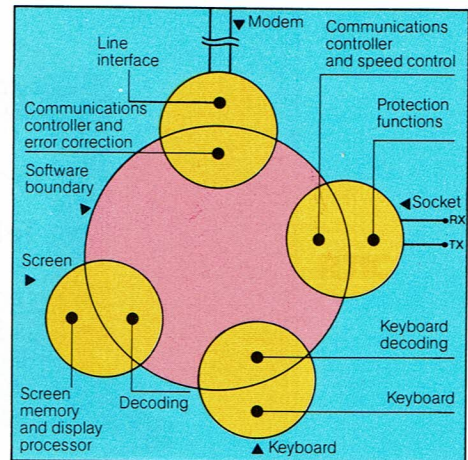
The architecture of the Minitel 1B terminal is identical to that of the Minitel 1. It has four subsystems or modules each comprising hardware and software:

- screen module for decoding and display of information;
- keyboard module;
- modem module for transfer of information between the terminal and the Videotex network;
- socket module for transfer of information between the terminal and peripheral devices.

In Teletel Videotex communications (Videotex Mode and Mixed Mode), these modules are all managed by a resident software layer called Protocol which switches data between the modules and controls certain functions. In ASCII Data communications, the paths followed by data are fixed and cannot be modified.



Minitel 1B architecture
in Teletel Videotex communications
(Videotex and Mixed Modes)



Minitel 1B architecture
in ASCII Data communications

Applications

The Minitel 1B can be used in three ways :

- In the Videotex Mode in the same way as a Minitel 1.
- In the ASCII Data Mode. It is then equivalent to a standard data terminal, allowing :
 - integration in a conventional data network ;
 - access to all ASCII services and databases in France and other countries ;
 - use in countries that have not adopted the Teletel Videotex standard ;
 - use as a telecommuting workstation in the homes of company employees ;
 - use as a transportable terminal by sales representatives and other mobile staff.
- In the Mixed Mode. The range of applications is particularly comprehensive in this mode, which combines features of the Teletel Videotex and ASCII Data Communications standards.

One of the most important features of the Minitel 1B is the ability to switch from one mode to another during the same session, in the local or on-line state, at the initiative of a peripheral device, the user, the Videotex network or a remote host, and in a totally transparent manner.

- **The Teletel Videotex standard supplies :**

- Minitel function keys for enhanced user friendliness ;
- Minitel Protocol for sophisticated management of peripheral devices, for modem inversion and for transmission error correction ;
- semigraphic display.

- **The ASCII Data Communications standard supplies :**

- 80-column display ;
- all the possibilities inherent to an AZERTY keyboard plus function key coding identical to that of business data terminals.

- **The Mixed Mode allows two new families of applications to be developed :**

- data communications applications that were previously impossible with Minitels because display was limited to 40 columns, whereas 80-column display is more frequent in business services. Such data applications can, within the same session, exploit the graphics and alphamosaic capabilities of 40-column Videotex display (logos, maps, diagrams, etc) ;
- existing Videotex applications enhanced by 80-column display (especially for tables).

The table below summarizes the operating characteristics of each terminal module in the three modes :

SCREEN MODULE		KEYBOARD MODULE	MODEM MODULE	SOCKET MODULE	MINITEL PROTOCOL	
Teletel Videotex standard	Videotex Mode per CEPT profile 2	- 40 Videotex columns (alpha-mosaic, double height, double size, etc.).	Minitel standard with Videotex function keys (Next, Return, etc.), uppercase mode by default	- 1,200/75 bit/s - CCITT V.23 with inversion facility - Facility to activate error correction procedure.	Full duplex exchanges	Active
	Mixed Mode	- 80 ASCII columns as per standard ISO 6429 (French set or American set); scrolling mode or page mode	ASCII "standard" with Ctrl, Esc, cursor control and editing keys, lowercase mode by default + Videotex function keys.			
ASCII Data Mode		- 80 ASCII columns as per standard ISO 6429 (French set or American set); scrolling mode - 40 ASCII columns possible.	ASCII "standard" with Ctrl, Esc, cursor control and editing keys, lowercase mode by default Videotex function keys generate sequences different to those in Videotex or Mixed Mode (codes correspond to function keys of a data communication terminal).	- 1,200/75 bit/s - CCITT V.23 - Error correction procedure and modem inversion function may be used if activated before terminal switched over to ASCII standard.	- Terminal connected to telephone line: simplex exchanges (printer output interface). - Terminal in local mode: full duplex exchanges.	Not active

New features

The successor to the Minitel 1, the Minitel 1B has the following enhancements in addition to supporting both the Teletel Videotex and ASCII standards:

- Screen hard copy to a printer connected at the peripheral device socket. Copying is initiated by the user or by a code sequence from a host computer or peripheral device. This function is available under both the Teletel Videotex and ASCII standards.
- Detection of call waiting tone sent by some telephone exchanges. This informs a terminal user that someone is attempting to call him. An appropriate message is displayed on the screen and the user's attention is attracted by an audible beep.
- Extended keyboard with cursor control and editing keys, "Ctrl" and "Esc" keys, and a "Fnct" key to modify the terminal configuration or activate special functions.
- 80-column screen display in the Videotex Mixed Mode and ASCII Data Mode.
- Provision for direct connection to an X.3 PAD concentrator.
- Ability to supply power to one or more peripheral devices through inclusion of a power feed connection to one pin of the peripheral device socket.

The remainder of this document first describes the characteristics common to the Teletel Videotex and ASCII standards (Part 1). It then describes in more detail features specific to the Videotex and Mixed Modes (Part 2) and to the ASCII Data Mode (Part 3).