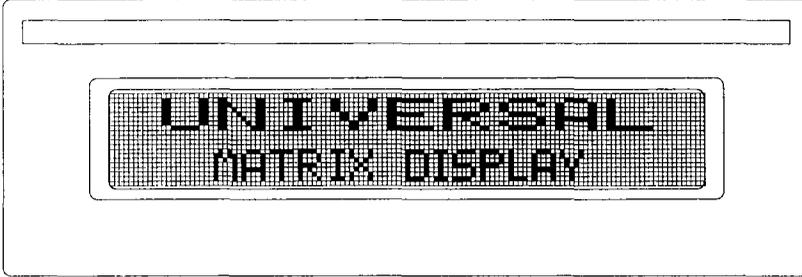


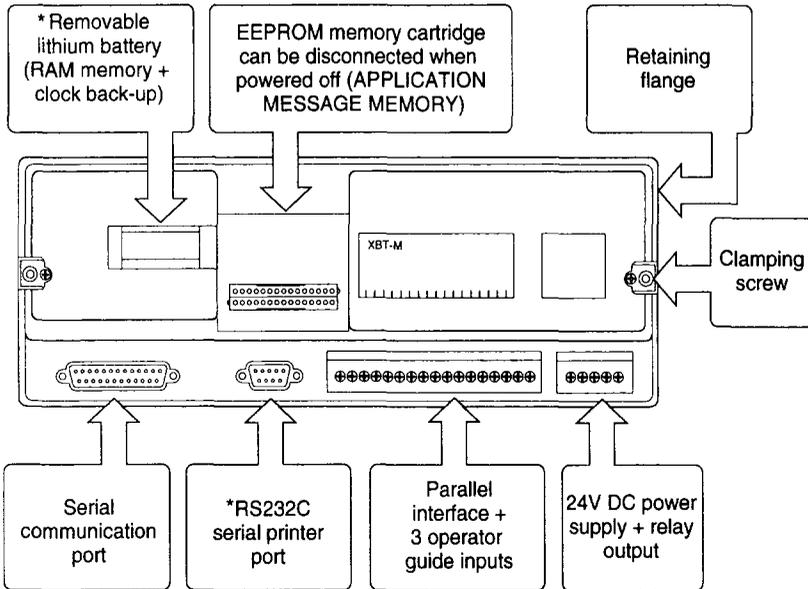
5 Programming the XBT-M terminal

5.1 Summary of operation

The XBT-M is a message box type terminal fitted with a fluorescent matrix display with 128 x 20 pixel resolution.



This terminal has a protected integral clock and a serial printer link. It can control the display of messages by discrete inputs and has an operator guide function controlled by three pushbuttons.

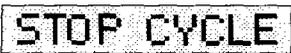
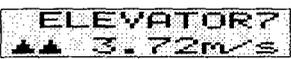


* XBT-M80411X only

5 Programming the XBT-M terminal

Summary of operation

Many types of display are possible and various sizes can be used. It is possible to scroll the message and use symbols set by the operator.
The XBT-M terminal can also display the value of variables in the form of histograms.

CHARACTER SIZE	DISPLAY	DISPLAY CAPACITY
DOUBLE SIZE		1 line of : <ul style="list-style-type: none">• 10 characters (h = 20 mm)• scrolling of 42 characters
DOUBLE HEIGHT		1 line of : <ul style="list-style-type: none">• 21 characters (h = 20 mm)• scrolling of 84 characters
DOUBLE WIDTH		2 lines of : <ul style="list-style-type: none">• 10 characters (h = 10 mm)• scrolling of 42 characters/line
SINGLE SIZE		2 independant lines of : <ul style="list-style-type: none">• 21 characters/line (h = 10 mm)• scrolling of 84 characters/line
DOUBLE WIDTH SINGLE SIZE		2 lines : Display combination of double width and single size characters

In addition to these functions the XBT-M terminal has an internal memory for storing the displayed messages. The contents of this log memory can be printed at a command from the operator or the control system.

The displayed messages may come directly from the control system linked to the terminal or can be called up from the terminal memory cartridge.

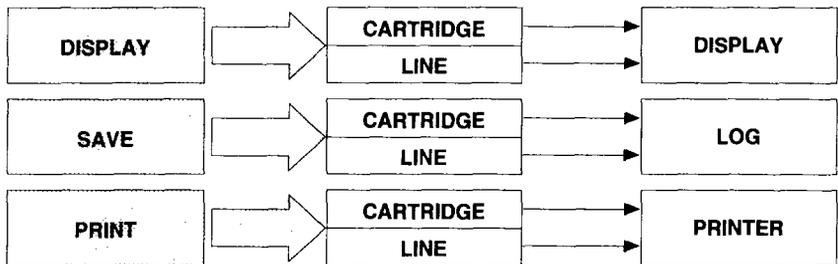
Its functions can be summarized as follows :

- data sources (integral memory or control system)
- destinations (display unit, log memory, printer)

Summary of operation

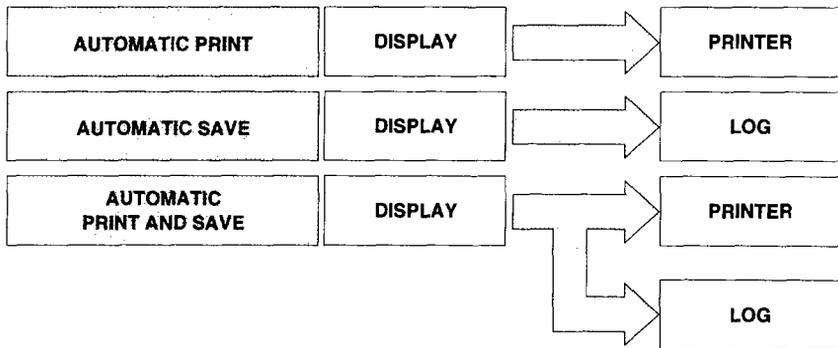
• **Using simple functions :**

A command initiates an action.



• **Using compound functions :**

A command initiates several actions.



• **Control system command**

XBT-M terminals support three types of serial communication (RS 232 C, RS 422/485, current loop) and can communicate using ASCII, ADJUST (Telemecanique) or UNITE (Telemecanique) communication protocols.

A 12 input parallel link is available for connecting to the discrete outputs of a control system and commands for the serial and parallel ports can be used simultaneously.

For further details on the functions of XBT-M terminals, refer to the guide "XBT-M : Multifunction matrix display" (ref. XBT XM800E).

5.2 Application development using XBT-L900

• Developing a new application

The XBT-M message box has a large number of functions and provides sophisticated operator dialogue. The complexity of developing an application for an XBT-M terminal using XBT-L900 software is dependent on the functions required by the application.

The entire method using all the terminal functions is described here.

Analysis of the application must enable a certain number of parameters to be defined, for example :

- communication protocol used
- creation of a special character font set
- use of macro-messages
- use of the operator guide
- number of application messages

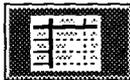
The number of messages used determines the size of the memory cartridge required for the application, taking account of the fact that XBT-L900 V 1.3 allows the size of the message list and therefore the associated memory cartridge to be modified during development.

The application development method consists of performing the following steps :

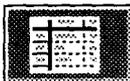
Creating a special character font set



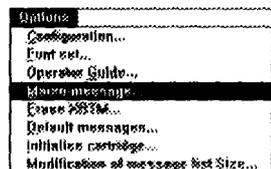
Creating a message list



Creating macro-messages

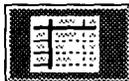


+

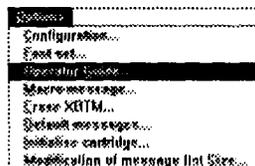


Application development using XBT-L900

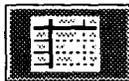
Creating an operator guide



+



Configuring the terminal



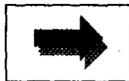
+



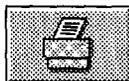
Saving the application



Transferring the application



Printing the application dossier



Naturally, the user should ignore any step corresponding to functions not used (special character font set, macro-messages, operator guide).

• Retrieving applications created using XBT-L900 V 1.2

Application files created using XBT-L900 V 1.2 can quite easily be retrieved in local mode. The work directory for the old application should be selected and the old files worked on. Changing the work directory in the "Character font set" function is also valid for lists of messages and enables an old version to be modified transparently.

5 Programming the XBT-M terminal

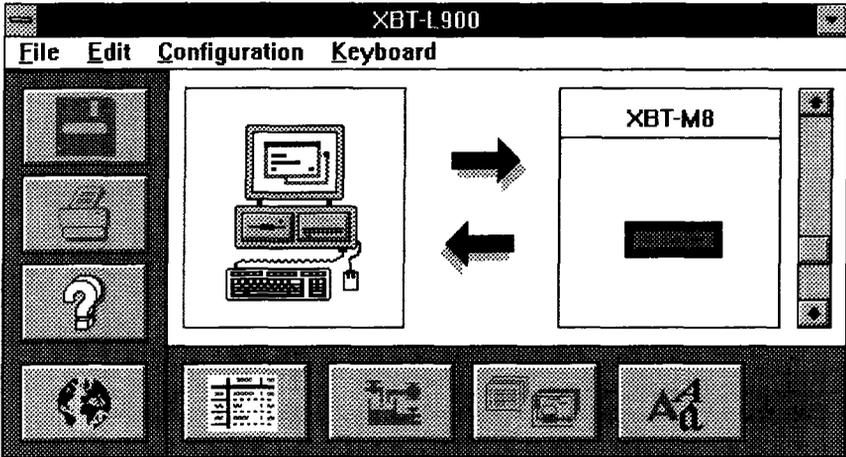
5.3 Creating the user's own font

The font set supplied with XBT-L900 V 1.3 for XBT-M terminals has 224 characters and is entitled default .xfn. If the user does not find the graphic or special characters he requires, it is possible to modify one or more characters in this font set or to create a new set using the default character font set as a basis.

The method of creation is very simple. The operator uses a grid of dots representing the character to be drawn and can draw the character pixel by pixel.

The creation procedure is as follows :

Select the XBT-M terminal from the main XBT-L900 window.



- Access the font set window : click on the font set icon :



- Open a font set :

for a new font set : click on "New"

for an existing font set : select the font set then click on "Open".

This accesses the character editor. First select the character to be modified using the scroll bar and the mouse.

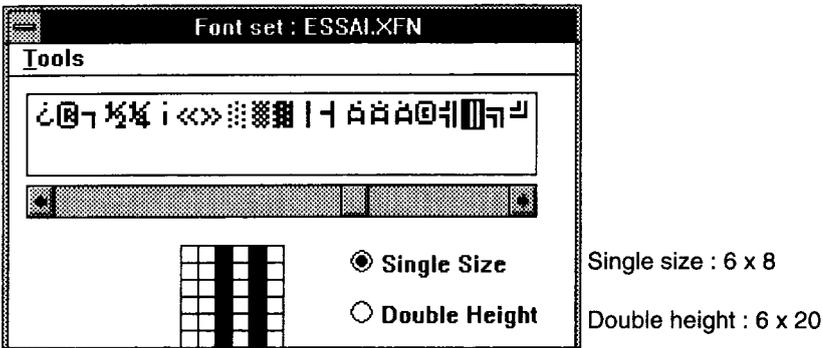
5 Programming the XBT-M terminal

Creating the user's own font

Characters can be drawn in single size or in double height, but they can be used in four authorized modes :

- single size
- double width
- double height
- double size

When creating a symbol needing more pixels it is possible to place several basic symbols side by side to create a macro-symbol (see example).



- Entering / modifying a character
To modify a character, proceed as follows :
 - Select the character **resolution** : Single size or Double height.
 - Bring the character into the window by using the **scroll bar**.
 - Select the character you wish to modify by clicking higher up, in the window located above the scroll bar. It then appears in reverse video.

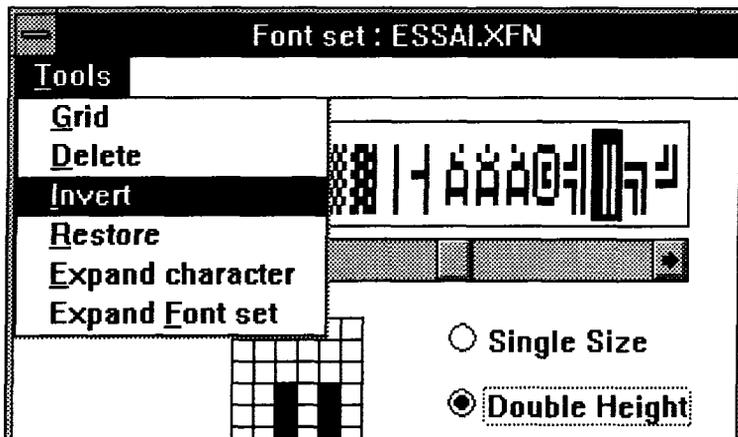
Using the grid, it is possible to modify each of the **pixels** which make up the character. To modify a pixel, click on it. To make the same modification to several pixels, click on the first pixel, then drag the mouse over all the other pixels you wish to modify, holding the mouse button down. Release the button once all these pixels have been modified.

It is also possible to use the **tools** (available in the window) to perform certain operations on the selected character, or on the complete font set.

Creating the user's own font

• Tools available

These commands are available in the "Tools" menu in the window.



- **Grid** : toggles the appearance of the grid in the character modification window
- **Delete** : the selected character is replaced by a blank character (all its pixels are white)
- **Invert** : the selected character is changed to reverse video (each black pixel is replaced by a white pixel and vice-versa).
- **Restore** : cancel the last modification made to the selected character.

The next two tools are only available in Double Height resolution on the XBT-M :

- **Expand character** : automatically draws the selected character, based on the same character previously created in Single Size resolution.

Use to :

- Change to single size,
- Create or modify a character,
- Change to double height,
- Select the Expand character command.

- **Expand font set** : automatically draws each character in the font set from the same character previously created in Single Size resolution.

Use to :

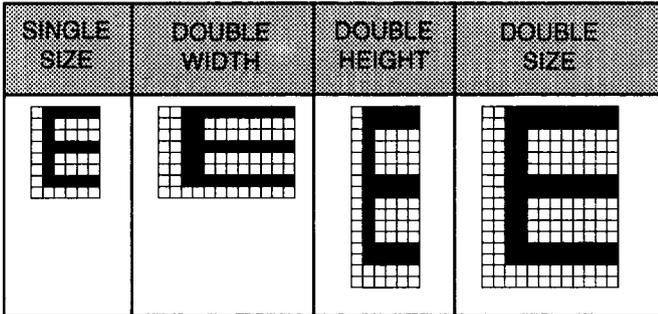
- Change to single size,
- Create or modify any characters in the font set which you wish to change,
- Change to double height,
- Select the Expand font set command.

5 Programming the XBT-M terminal

Creating the user's own font

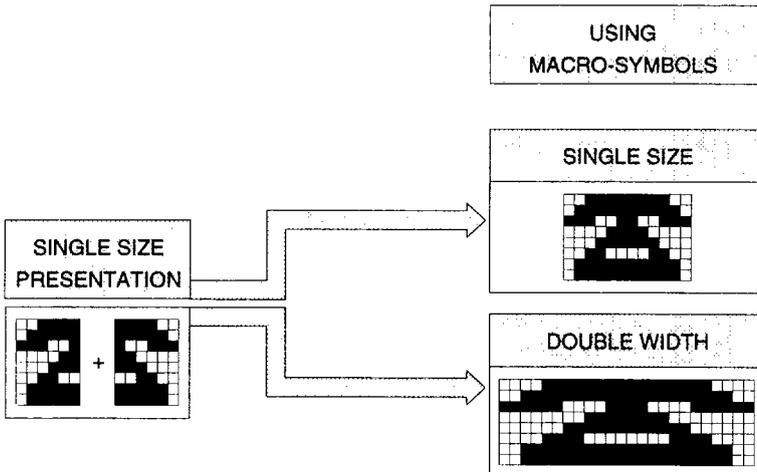
When a symbol is created, it can be displayed in the four display modes and can therefore be used in messages of various sizes.

Example of the display of a symbol created in single size and expanded to double height.



• Macro-symbols

As there are no inter character spaces, "macro-symbols" can be created in any display mode by placing characters side by side.



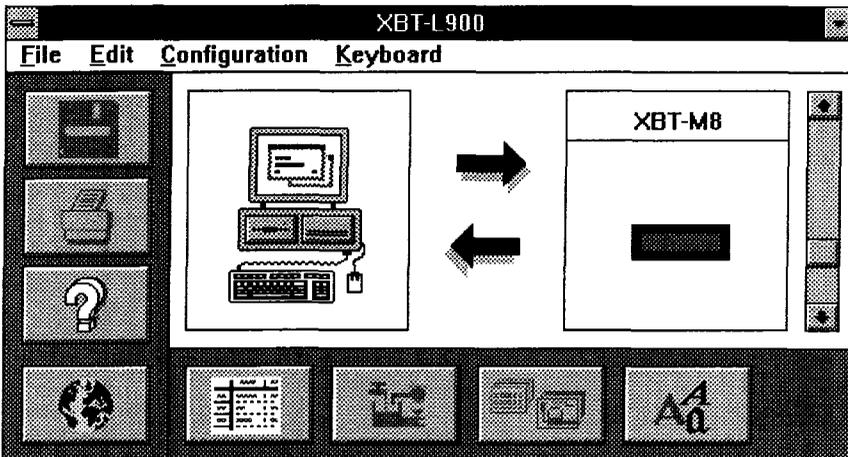
• Saving the font set

The font set is saved either by clicking on the diskette icon of the main XBT-L900 window, or by closing the font set window.

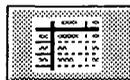
5.4 Creating the message list

To create a message list, start at the main XBT-L900 window (XBT-M terminal selected).

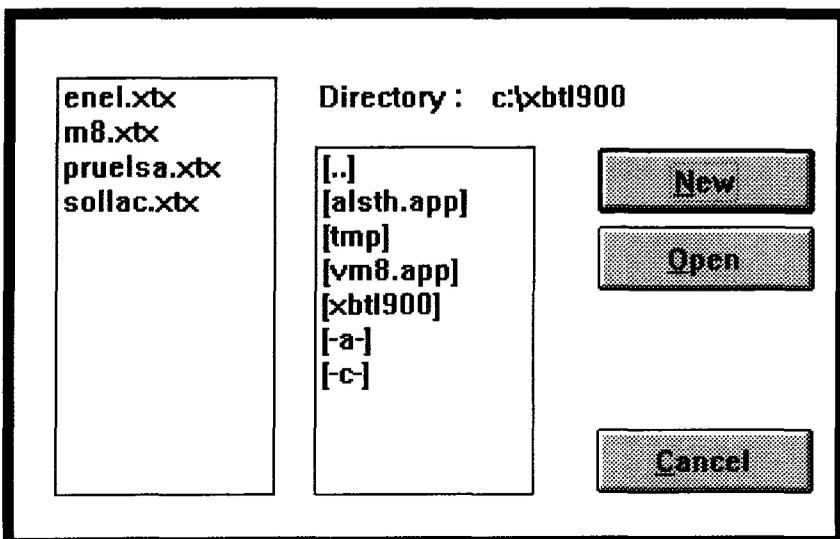
- Main window with XBT-M terminal selected



- Create a message list : click on icon



The window for opening a document appears.



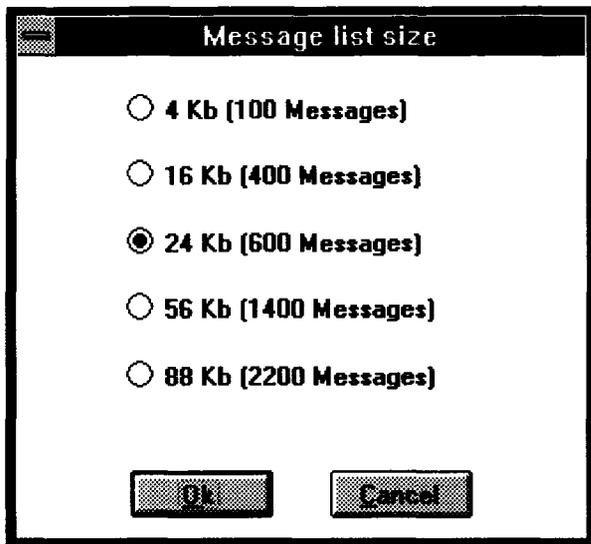
Creating the message list

• New message list

In the window for opening a document :

Click on "New" to create a new application or to open an existing file.

After clicking on "New", a window called "Message list size" appears :



A 24 K cartridge is selected by default. This cartridge corresponds to a list of 600 messages. When there is sufficient information about the application, a different cartridge size can be defined. The command "Modification of message list size" is used to change the size of the cartridge.

Warning:

The size of the message list may be limited by the memory available for Windows in the PC. If there is insufficient memory an error message appears and a smaller size must be selected, or more memory freed for Windows.

If there is insufficient memory to open an existing message list (file . xtx), the same error message appears and more memory must be freed for Windows.

If the size options in the "Message list size" window are greyed out, the size of the message list cannot be selected due to lack of memory available in Windows.

5 Programming the XBT-M terminal

Creating the message list

After clicking on "Ok" or opening an existing file, the "message list" grid appears :

Example : Sollac.txt

Message list - ALSTH.XTX									
Options									
Num	Texte	T	X	Y	Coeff	Var.	A	F	R
0000	Speed :	U	0	1	1	#	#	0	0
0001	Right Translation	U	0	1	1	#	#	0	0
0002	Left Translation	U	0	1	1	#	#	0	0
0003	Weight : ____ Kg	U	0	1	1	#	#	0	0
0004	ON	U	0	1	1	#	#	0	0

This list comprises the following parameters :

- NUM** allows a number to be associated with the message, and the number to be called up by a command from the control system
- TEXT** message text (21 single size alphanumeric characters) or length of the histogram
- TYPE** message type (V = fixed display, D = blinking display, H = histogram display)
- X** position of first character of message in the display unit ($0 \leq X \leq 84$), $X + \text{message length} \leq 84$
- Y** Select the display line (Y = 1 or 2 according to the size of characters (Y = A,B,C,D or E for histograms)
- A** Confirm parameters for updating the variables (A = 1 with updating, A = 2 without updating)
- C** variable conversion coefficient ($0.001 \leq C \leq 1$)
- V** Associated TSX 7 variable, in Uni-Te or ADJUST protocol
- F** size of message and histogram display (F = 1 double height display, F = 2 double width display, F = 3 double size display)
- R** Number of network to which the PLC is connected
- S** Station number (PLC address)
- G** Gate number (Uni-Telway addressing)
- U** Module address (slot in the I/O rack)
- W** Channel number (Uni-Telway device address)

For further details on using message parameters in an XBT-M terminal, refer to the user guide "XBT-M : Multifunction display" ref. XBT XM800E.

5 Programming the XBT-M terminal

Creating the message list

• Entering data

- The various parameters can be entered using the mouse and the keyboard
- The parameter to be entered is shown in bold
- To move around the grid, click once on the selected parameter
- To move around using the keyboard use the arrow keys, →, ↑, ↓. Confirm selection of a message parameter by pressing .

Important :

Once a message parameter has been selected, entering a single character will delete the whole of any message field and allow a new message to be defined.

To modify an existing message, the cursor must be placed at the end of the message by pressing F2 or the  key (deletes the preceding character).

Any message definition or movement is then performed from the cursor position.

A syntax check is performed on each parameter, and it is not possible to proceed to the next parameter until the current parameter has been correctly constructed.

Moving from one line to another can only take place if the defined message is coherent. If not, a message is displayed which tells the operator the source of the error.

Message list - ALSTH.X1X									
Options									
Cond. reject : (U = 'Bit') & (L # 1)									
Num	Texte	T	X	Y	Coeff	Var.	A	F	R
0001	Right Translation	U	0	1	1	#	#	0	0
0002	Left Translation	U	0	1	1	B10	#	0	0
0003	Weight : ____ Kg	U	0	1	1	#	#	0	0
0004	ON	U	0	1	1	#	#	0	0
0005	OFF	U	0	1	1	#	#	0	0

When using the keyboard, confirming the final message parameter automatically brings up the next message.

Notes :

- The operator can call up the "Help Menu" (on-line system help) at any time for details concerning the window in use.
- For information about the significance, the limits and the use of any parameters associated with a message, refer to the user guide "XBT-M : Multifunction matrix display" ref. XBT XM800E.

5 Programming the XBT-M terminal

Creating the message list

- **Selection of the font set** (only possible with the mouse)

One of the main advantages of the XBT-M terminal is that the matrix display can display ASCII messages and symbols at the same time. These symbols must be created using a special font set which has been saved.

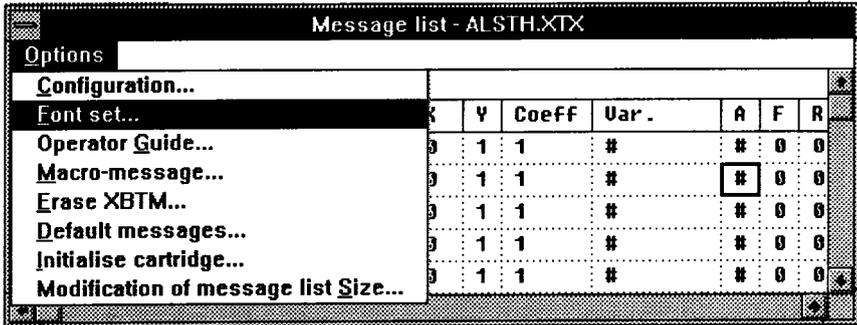
In the message text field, it is possible to use characters which cannot be accessed from the keyboard, or to use characters in a font set which has previously been created (see Section 5.3).

The XBT-M supports a default font set of 224 single size characters and a default font set of 224 double height characters (both these font sets are stored in the same file).

- When parameter F of the selected message is 0 or 2, the single size font set is displayed.
- When parameter F of the selected message is 1 or 3, the double height font set is displayed.

When a font set or special character is used in a message, the font set used to display the message can be selected.

The "Options" menu in the message list window accesses selection of the font set.



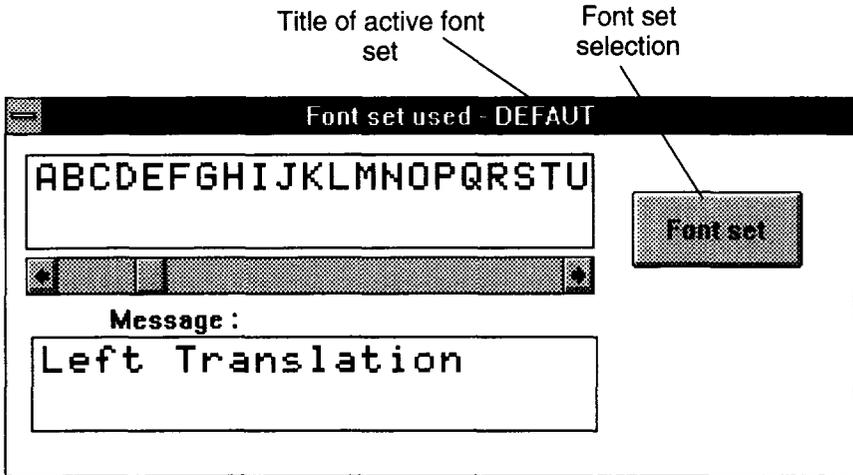
This function enables special user-defined characters to be used in a message. The defined font set is the same for the whole message list.

5 Programming the XBT-M terminal

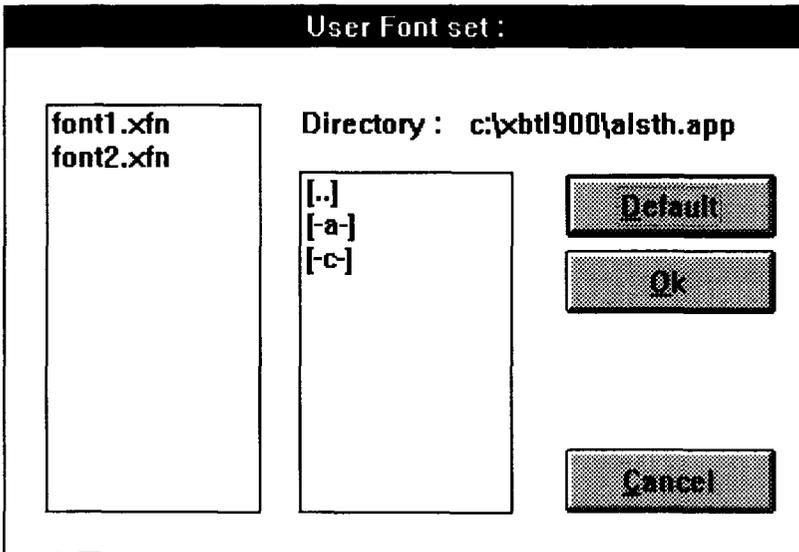
Creating the message list

Selecting the font set :

Click on the **FONT SET** button in the active "Font set" window, then select the required font set.



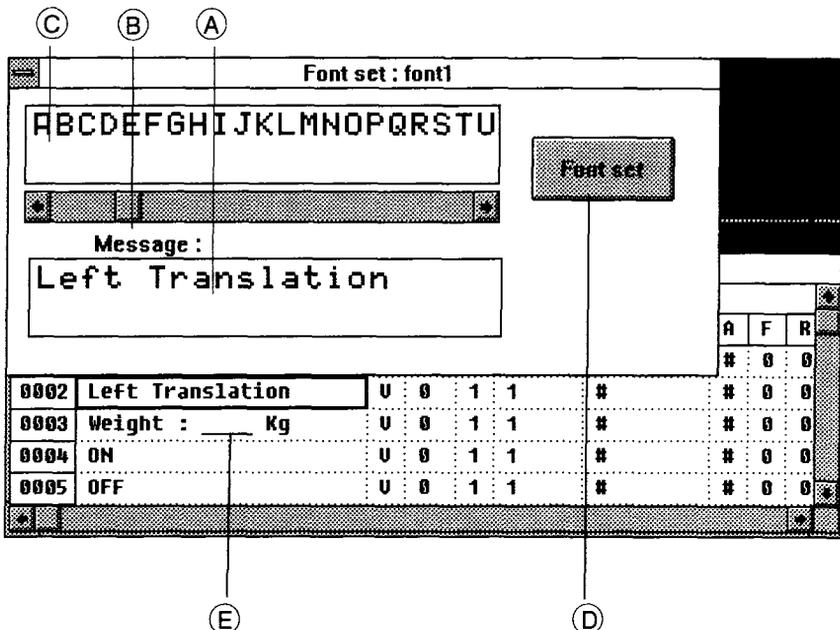
Select the .xfn file containing the font set to be used for display of messages



5 Programming the XBT-M terminal

Creating the message list

The font set window appears :



- (A) Zoom of message currently being edited.
- (B) Scroll bar for the selected font set.
- (C) Window displaying characters for selection/entry.
- (D) Selection of font set.
- (E) Current message.

Entering characters in the displayed font set :

With the Message list and active Font set windows both open :

- Click on message field F and select the format in which you wish it to be displayed.
- Click on the message text field.
- Type in the characters which can be accessed from the keyboard (these appear in the zoom of the active Font set window).
- Click in the active Font set window.
- Use the scroll bar to bring the required character into view.
- Click on the required character, which then appears both in the zoom, and in the text field of the message list.
- Click again in the message text field.
- **TYPE F2 BEFORE CONTINUING TO ENTER FROM THE KEYBOARD.**

5 Programming the XBT-M terminal

Creating the message list

Comment :

Characters which cannot be displayed by the microcomputer show up as black squares in the message text field. To see how it will actually look, leave the active Font set window open, and click on the message text field. The message appears in the zoom window exactly as it will be displayed.

Confirming the active font set

When a special font set is selected in the message list to be used for one or more messages, the last font set that has been used is confirmed.

The XBT-M only manages one 224 character user-defined font set. This means that all the active symbols in an application must be located in the same font set.

This font set is transferred to the XBT-M when the message list is transferred.

Saving the message list

The message list is saved on closing, or by clicking on the diskette icon of the main XBT-L900 screen.

5.5 Creating macro-messages

A simple message in the message list has a display field of 21 single size characters. Sometimes data or operator instructions above this size have to be displayed.

In this case, the XBT-M terminal can use an 84 character display buffer to manage a function for scrolling the messages, which can link the messages together to make up a macro-message.

Creating a macro-message :

The message list should be open and completed with the messages which are to be displayed. A macro-message is made up of a string of messages (8 maximum) linked together by their numbers.

To create a macro-message, select the first message in the macro-message in the message list (eg : message N°4). Open the macro-messages window using the "Options" menu in the message list and the "Macro-message" command.



Creating macro-messages

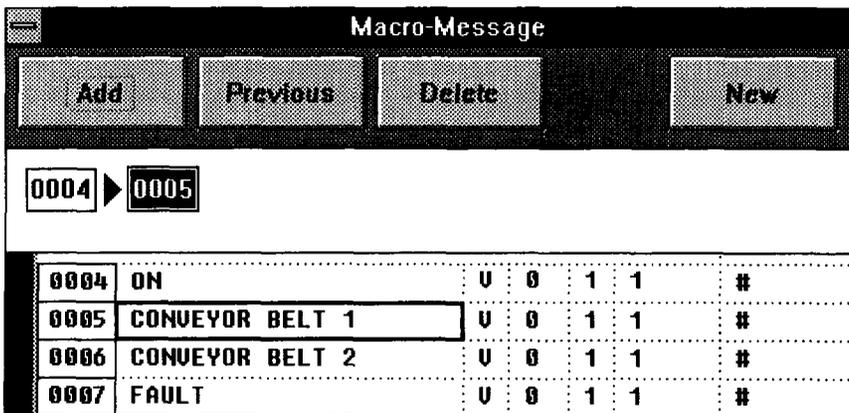
The "Macro-message" window appears with the number of the selected message. This window has 4 commands which are used to create the macro-message.



Add

Select from the message list the next message to be added and click on "Add".

This selection is made using the mouse on one of the fields in the message.



The macro-message is constructed in this way, with up to 8 messages (size of the macro-messages window). The "Add" command enables a message to be inserted into a macro-message using the following procedure :

- select the message to be inserted from the message list
- select the number of the message in the macro-message window after which the additional message is to be inserted
- click on "Add"

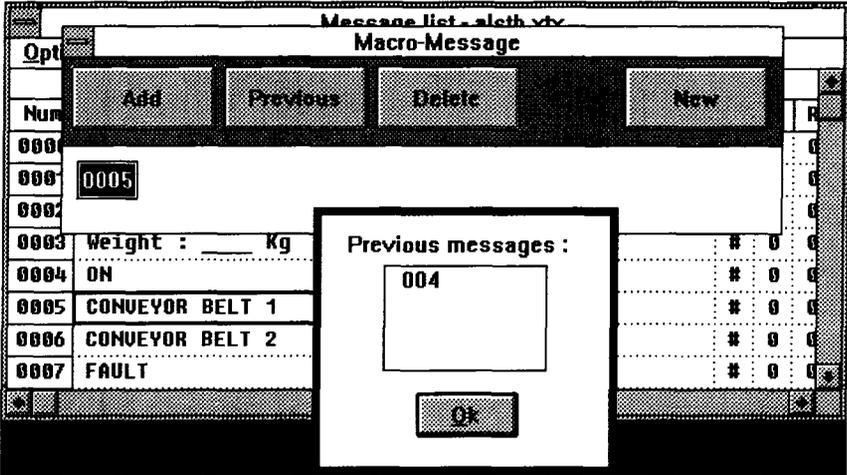
Creating macro-messages

Previous

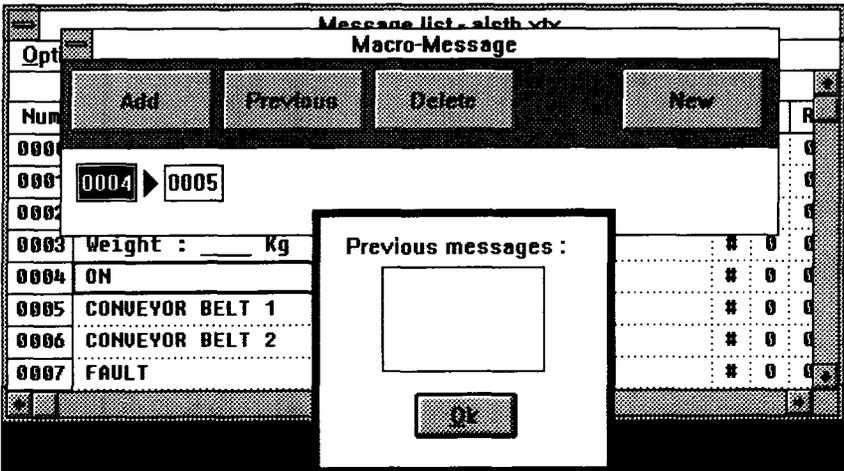
This command checks that the first message in a macro-message has been selected, while the macro-message is being displayed.

Example :

- message 5 in the message list is selected, the "Macro-message" window is open, the "Previous" command shows that the macro-message does not start at 5.



- Close the "Macro-message" window, select message N°4 in the message list, open the "Macro-message" window, click on "Previous" and see that the macro-message starts at 4.

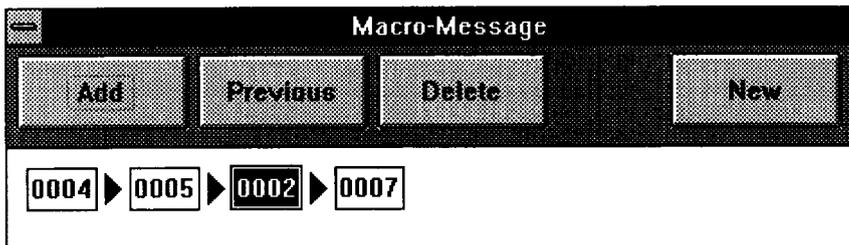


Creating macro-messages

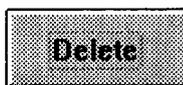
Delete

To delete a message from a macro-message, select it in the "Macro-message" window, and click on "Delete". If this message is not the last one in the macro-message, a link with the following message is created.

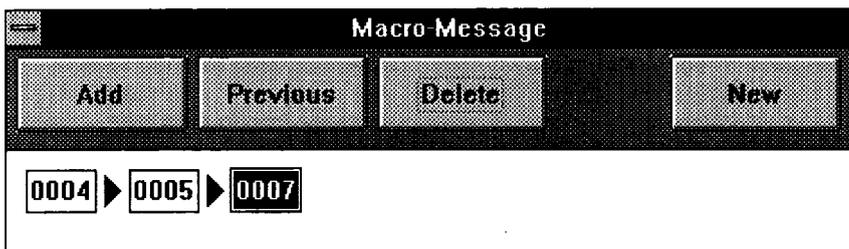
Example : Deleting message N° 2



Select the message to be deleted



The selected message is deleted.



The new macro-message starts at message N°4, contains message N°5 and ends at message N°7.

Warning :

Deletion cannot be undone. If a mistake is made, the "Add" command must be used to insert the deleted message.

Creating macro-messages

New

This command enables a new macro-message to be created using the following procedure :

- select the first message of the macro-message to be created from the list of messages
- click on "New" and create the associations using the "Add" command

The "New" command also enables existing macro-messages to be displayed. When a message number in the message list has been selected and "New" has been clicked on, the message will appear in the "Macro-message" window if it is already a macro-message.

If this happens, check that it is the first message in the macro-message by using the "Previous" command.

• Saving macro-messages

The macro-messages are linked to the open message list.

MACRO-MESSAGES MUST BE DEFINED BEFORE SAVING THE MESSAGE LIST
THEY WILL BE SAVED AT THE SAME TIME AS THE MESSAGE LIST

5.6 Creating the operator guide

The operator guide is a structured set of messages defined during the creation of the application. It is intended to help the operator. Special keys are used to move around the message tree structure, or to implement necessary actions under the control of the control system depending on how far advanced the process is.

Operator guide structure

The operator guide comprises messages or standard macro-messages from the message list with two additional parameters (Item and Level). These create the links between the messages which make up the operator guide.

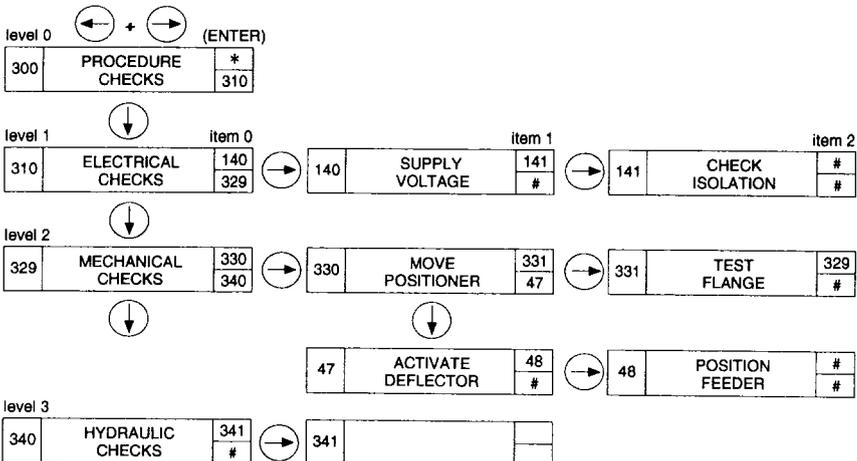
When creating the operator guide, it is useful to display these links to create the structure of the operator guide.

N°	TEXT + PARAMETERS	ITEM
		LEVEL

When creating the operator guide using XBT-L900, the Item and Level parameters are automatically calculated by the software as a function of the structure defined for the operator guide. The links between messages are automatically created by the software.

Three pushbuttons, or commands transmitted by the control system, are used to enter or move around the operator guide. For clarity in the following examples, the pushbuttons are used. The result is identical to the commands transmitted by the control system.

Example of operator guide structure :



Creating the operator guide

The operator moves around the operator guide either horizontally on one level item by item or vertically level by level.

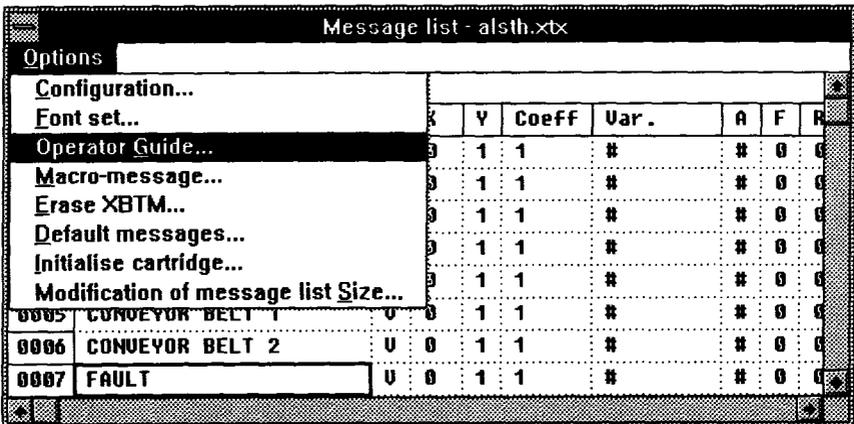
The following commands are used to move around:

GUIDE ACTIONS	OPERATOR ACTIONS	COMMENT
ENTER	← + →	At the ITEM or LEVEL message which = *
CANCEL	←	Cancels last operation
NEXT ITEM	→	Move to last possible item
NEXT LEVEL	↓	Move to last level of guide
PREVIOUS LEVEL	← + → ⇔ ↑	Can return to level 0
EXIT	← + → = ↑	From level 0

For further details on using the operator guide, refer to the user guide "XBT-M : Multifunction Matrix Display" (ref. XBT XM800E) Section 1.7.

• **Entry of operator guide**

Entry of the operator guide comes after entry of messages and macro-messages. The operator guide editor is accessed by the "Options" menu in the "Message list" window.



Creating the operator guide

• Creating the operator guide

The first message in the operator guide should be selected from the message list using the mouse, then the structure of the guide is created using the "Add H" or "Add V" commands.

The next message is then selected from the message list, and it is entered in the operator guide in the same way.

The same procedure is used for all messages in the operator guide.

The first message in an operator guide can only have one link.

Messages are represented in the guide by a box containing the number of the corresponding message. Messages are selected by clicking on them with the mouse. The selected message appears in reverse video and it is at this point that the commands "Add H", "Add V" and "Delete" are available.

When a branch of the operator guide cannot be represented on screen (overlapping with another branch), the access arrow is greyed out. To make the missing branch appear, double-click on the box containing a greyed out arrow.

A message that is already used in the operator guide or is part of a macro-message is represented by a shaded box. The "Add H" and "Add V" commands do not work on this type of message.

These three commands are used to create the structure of the operator guide :



Add H -> ITEM

This command enables the operator guide to be extended horizontally. It adds horizontally (Item) the message selected from the message list to the operator guide which is being set up.

Add V -> LEVEL

This command enables the operator guide to be extended vertically. It adds vertically (Level) the message selected from the message list to the operator guide which is being set up.

Delete

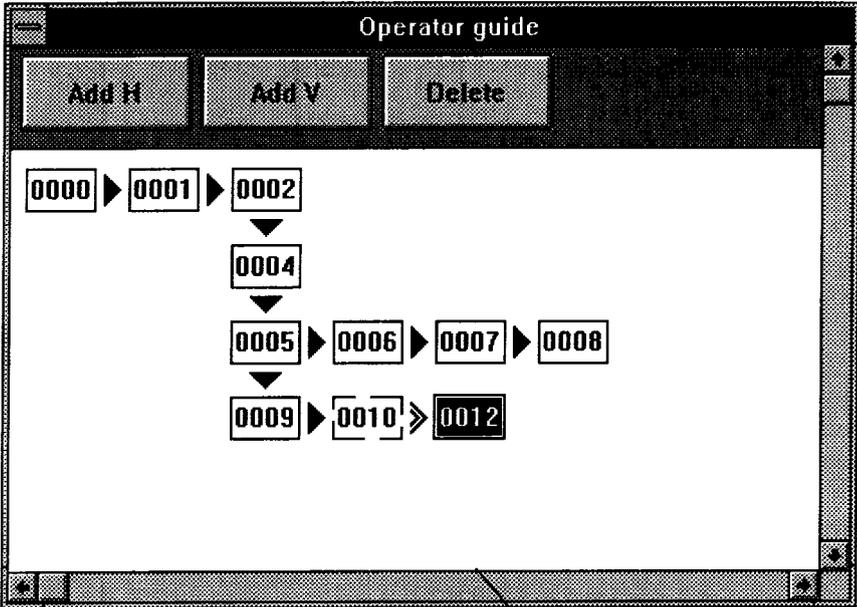
This command deletes the selected message from the operator guide which is being set up. Warning : this operation can wipe out an entire branch of the operator guide and cannot be cancelled.

5 Programming the XBT-M terminal

Creating the operator guide

Using macro-messages in the operator guide

Macro-messages can be used in the user guide. A macro-message is represented by its first and its last message, linked by a double arrow.



Macro-message
10 -> 12

The macro-message is selected from the message list by the number of its first message. The commands used are the same as those used for messages.

A macro-message in the operator guide is selected by the number of its last message.

example : **0010** >> **0012** for the macro-message from 10 to 12.

To delete a message from a macro-message :

- Select it by clicking on its box
- Click on Delete.

Warning : this operation can wipe out an entire branch of the operator guide which is directly linked to the deleted message.

5 Programming the XBT-M terminal

Creating the operator guide

Displaying the operator guide

- Open the operator guide window.
- Double-click on the boxes containing a greyed out arrow. To view the whole of the operator guide window, it may be necessary to use the scroll bars.

Saving the operator guide

Only one operator guide is linked to the message list.

THE OPERATOR GUIDE MUST BE DEFINED BEFORE SAVING THE
MESSAGE LIST
IT WILL BE SAVED AT THE SAME TIME AS THE MESSAGE LIST

Operator guide characteristics

The operator guide is available on XBT-M 80411X terminals. Its maximum size is 12 levels and 93 items. Control system commands or pushbuttons linked directly to the XBT-M terminal, and activated by the operator, are used to move through the items and levels.

5.7 Configuration - Messages displayed by default

• Configuration

Configuring the XBT-M terminal enables the operating parameters to be set. For certain parameters this configuration can be performed in local mode. Connection to the XBT-M terminal is necessary to test the other adjustment parameters, such as screen brightness.

Parameters configured in local mode

- Communication protocol used
- Configuration of the serial operating link (link with the control system)
- Selection of the printing operation
- Configuration of the serial printer link
- Display language for the XBT-M terminal system messages
- Selection of messages displayed by default
- Configuration of the display unit
- Clock update

• Accessing the configuration

The configuration is accessed from the "Message list" window. Select "Configuration" in the pull-down "Options" menu.

	K	Y	Coeff	Var.	A	F	R
0005 CONVEYOR BELT 1	U	0	1	1	#	#	0
0006 CONVEYOR BELT 2	U	0	1	1	#	#	0
0007 FAULT	U	0	1	1	#	#	0

5 Programming the XBT-M terminal

Configuration - Messages displayed by default

The "XBT-M8 configuration" window appears :

XBT-M8 Configuration

LINE :
Protocol : UNI-TE ASCII
Speed : 9600 Stop : 1 2
Format : 7 bits 8 bits
Parity : Odd

AUXILIARY LINE :
Printing : With None
Speed : 9600 Stop : 1 2
Format : 7 bits 8 bits
Parity : Odd
Conn. : RS232 RS232 modem
Terminator : CR LF CR
 UNI-TE address printing

DISPLAY CONFIGURATION :
Blinking : [Medium]
Scrolling : [Medium]
Brightness : [Medium]
 Test

LANGUAGE : English

FUNCTION MODES : Simple

CLOCK :
Date : 14 / 10 / 93
Time : 12 : 43 : 47

Ok Cancel

This window has 6 information blocks to be filled in.

Serial operating link configuration menu

- select the protocol (Uni-Te or ASCII)
- serial operating link parameters

Auxiliary line configuration menu (printer on XBT-M80411X)

- printing operation

"With" printing authorizes the copying of messages and transparent printing (refer to the XBT-M installation guide : Multifunction display unit ref. XBT XM800E section 5.4, 6.4 or 7.4 depending on the protocol selected).

Select the "CR" terminator if the printer is configured for auto-LF, if not select CR LF (line feed generated by the XBT-M terminal).

To print the UNI-TE address (Uni-Te protocol only) : click in the box to select or deselect printing of the UNI-TE client address (station connected to the XBT-M terminal where the terminal looks for the value of the variable).

5 Programming the XBT-M terminal

Configuration - Messages displayed by default

- serial printer link parameters

speed (from 110 to 9600 bauds)

number of stop bits (1 or 2)

number of data bits (1 or 2)

parity bit (even, odd or without)

RS 232 (No management of service signals, pins 2-3-7 only)

RS 232 Modem (Management of service signals for the RTS, CTS, DSR, DTR data flow control, complete version of the RS 232 C cable)

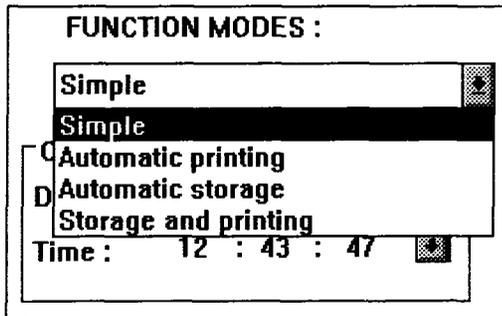
To ensure correct printing these parameters must be identical in the configuration of the printer used and in the XBT-M terminal.

Language selection menu

Select the language in which the XBT-M system messages will be displayed (8 languages available : English, French, Spanish, Italian, Russian, German).

Compound function (XBT-M80411X only)

The operating modes menu is used to select the type of printing and saving.



- Simple

No message is printed systematically, all orders to print come from the control system.

- Automatic printing

All messages displayed on the XBT-M terminal are systematically sent to the printer ("With" printing in the configuration).

- Automatic saving

All displayed messages are saved to the log, and there is no systematic printing.

5 Programming the XBT-M terminal

Configuration - Messages displayed by default

- Saving and printing

All displayed messages are saved to the log and systematically printed. This mode corresponds to automatic saving and automatic printing.

Window for adjusting the date and the time of the clock

This function is used to adjust the date and time of the internal clock in the XBT-M terminal. The date and time are initialized by the integral clock in the PC when the window is opened.

CLOCK :			
Date :	14	/	10 / 93
Time :	12	:	43 : 47

Select the item to be modified and use the arrows to alter its value. The clock in the XBT-M terminal is initialized to this value when the configuration is transferred.

Window for adjusting the display parameters

This function is used to adjust the legibility of the display according to the conditions of use.

DISPLAY CONFIGURATION :	
Blinking :	
Scrolling :	
Brightness :	
<input type="radio"/> Test	

This window is used to adjust how quickly the lamps blink, message scrolling speed and the brightness of the display. If the XBT-M terminal is connected to a PC, pressing "Test" will immediately show the result of the modifications.

5 Programming the XBT-M terminal

Configuration - Messages displayed by default

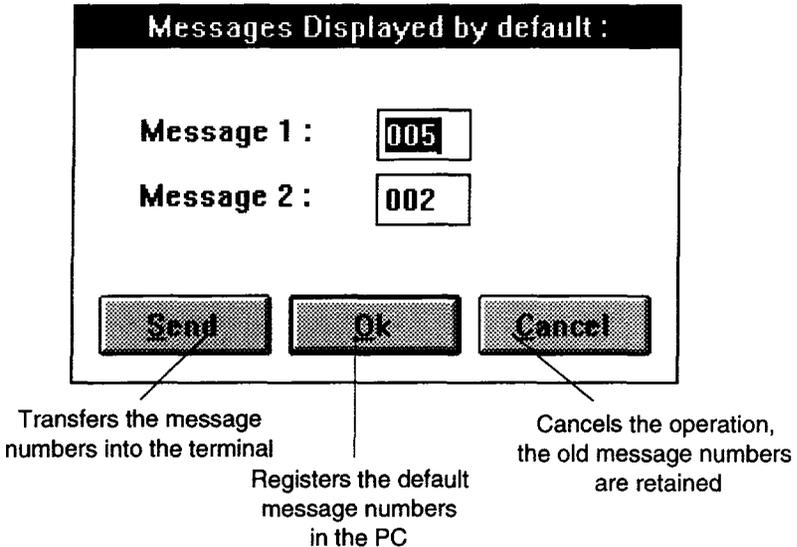
• Messages displayed by default

The user can define one or two messages to be displayed by default on power-up (if these two messages are not defined, the XBT-M displays "RUNNING" mode on the first line and the time on the second line for XBT-M80411X).

Selection is accessed from the "Message list" window.

Select "Default Messages" in the Options menu.

The "Messages Displayed by Default" window appears :



To define the messages :

Click on the "Message 1" or "Message 2" entry zones, then enter the message number using the keyboard.

The display parameters defined in the selected message (s) are implemented, in particular the display format.

Warning :

When a message list or a configuration is transferred, this data is not sent to the XBT-M terminal. To display the default messages when the terminal is powered up, the default messages displayed must be "Exported" after the application has been transferred.

5 Programming the XBT-M terminal

5.8 Saving the application

Saving an application consists of saving the two files containing the application developed for the XBT-M to the PC disk (hard disk or diskette).

- the message list and configuration data
- the special font set defined by the user

Saving these files is always done in the same way, using one of three methods.

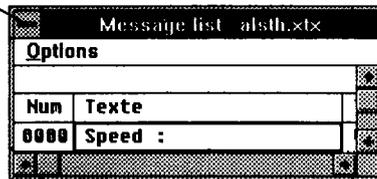
- select the "Save" or "Save as" commands in the "File" menu of the main XBT-L900 window

- click on the diskette icon in the main XBT-L900 window



- close the window by double-clicking on the system menu box

This method does not allow the file name to be changed.



A document can be **saved** using its current name or it can be **saved as** a different name.

The current name is the name of the document being worked on.

This name appears in the title bar of the window, after "Message list".

Above example : sollac.txt

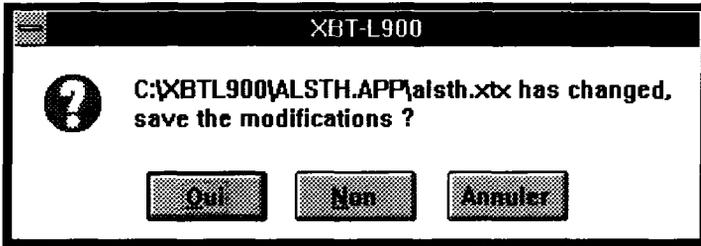
The "Save" command in the "File" menu of the main XBT-L900 window saves the file under its current name, without asking for confirmation. The old file is overwritten by the new one.

Double-clicking on the system menu box enables the user (after confirmation) to close the window and save the modifications, to cancel the operation and leave the window open, or to close the window without saving the modifications.

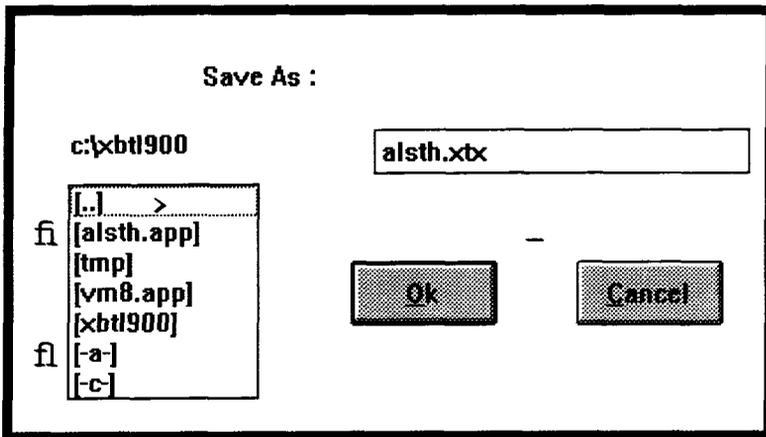
5 Programming the XBI-M terminal

Saving the application

Confirmation window :



The directory and the name under which the file is saved can be changed by using the "Save as" command in the "File" menu, or by clicking on the diskette icon of the main XBT-L900 window.



- \ Current directory
- \ Return to c: directories
- / Select directory
- ^ Select volume
- ~ File name
- Confirm/cancel

5.9 Printing and transferring the application

• Printing

In order to print out an application a message list must be open. The printing functions are accessed either by clicking on the printer icon (yellow) of the main XBT-L900 screen, or by selecting "Print" in the "File" menu.

The application is printed in the following format by default :

- Configuration of communication link
- Message list
- Macro-messages and operator guide

It is possible to print only part of the message list by selecting the zone to be printed. Use the mouse to select as follows :

- select the first message (click on the message number)
- drag down using the left hand mouse button until reaching the last message required.

The following message appears during printing :



If a problem occurs during printing, check the printer configuration in the WINDOWS configuration control panel (Main Group).

Printing and transferring the application

• Transferring from PC -> XBT-M (Export)

The XBT-M terminal must be in "Running" mode and connected to the PC via the serial link for all transfer operations. The configuration parameters of the PC <-> XBT-M serial link are defined in the "Configuration" menu of the main XBT-L900 window.

To transfer an application created using XBT-L900 to an XBT-M terminal proceed as follows :

- initialize the cartridge (optional)
- delete the messages (optional)
- transfer the message list
- transfer the special font set
- transfer the configuration
- transfer the default messages

- Initializing the cartridge

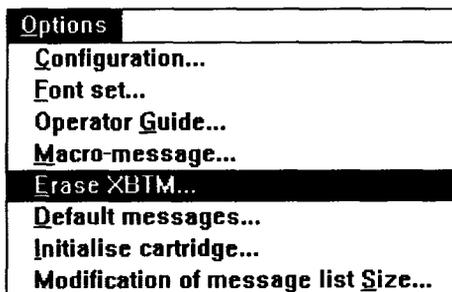
New cartridges must be initialized. Otherwise this operation is to initialize the memory and ensure that the application only contains the elements transferred after initialization.

The operation is executed by the "Initialise Cartridge" command in the "Options" menu in the message list.

- Deleting messages

This operation deletes the contents of the stored message list from the XBT-M terminal memory. If the open message list is smaller than the XBT-M terminal cartridge, there is a partial deletion limited to the message list. The messages to be deleted can be selected from the message list using the mouse.

This operation is implemented by the "Erase XBT-M" command in the "Options" menu in the message list.



5 Programming the XB I-M terminal

Printing and transferring the application

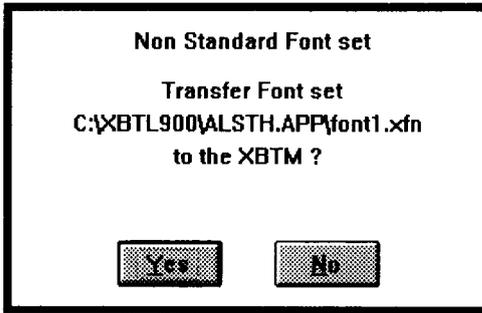
- Transferring the message list

This transfer is only possible if the message list is open and if its size corresponds to the size of the XBT-M memory cartridge. A partial transfer is possible by selecting the messages to be transferred.

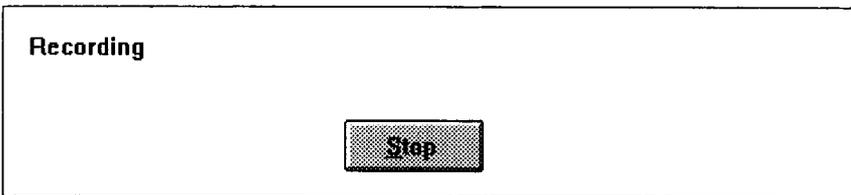
Transfer is accessed by clicking on the arrow :



There are two possible situations : if the message list uses the default font set, the messages are sent to and saved by the terminal.
If the message list uses a font set other than the default set, the software suggests transferring the relevant font set automatically.



A window showing the various stages of the transfer is displayed. This enables the user to follow the progress of the transfer and warns him of any problems.



5 Programming the XBT-M terminal

Printing and transferring the application

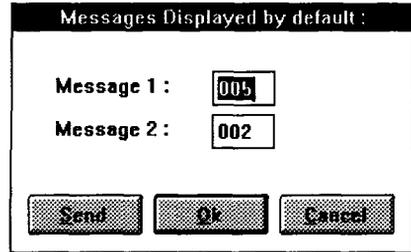
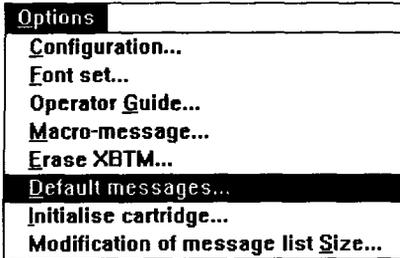
- Transferring the configuration

To transfer the configuration the message list and the configuration window should be open. The transfer is initiated by clicking on the arrow.

- Transferring the default messages

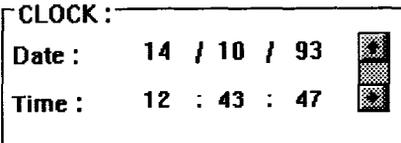
If the message numbers are defined in the "Messages displayed by default" window, these numbers must be transferred to the XBT-M terminal. On the next power-up these two messages will then be displayed instead of "RUNNING" appearing on the first line and the time on the second line.

This operation is performed by selecting "Default Messages" in the "Options" menu in the message list, and by clicking on the "Export" button.

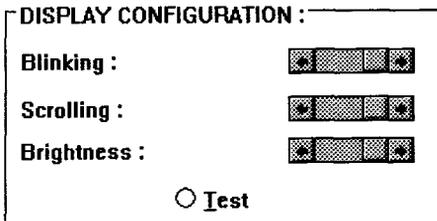


- Adjusting the display unit and the clock

The display unit and the date and time of the clock can be adjusted when the XBT-M terminal is connected to a PC. These adjustments can be made from the "Configuration" window and are transferred to the XBT-M terminal at the same time as the configuration.



Changing the clock



Adjusting and testing the display unit

Printing and transferring the application

• Transferring from XBT-M -> PC (Import)

Transfers can be made from an XBT-M terminal to a PC. A special font set (import implemented in font set mode) or a message list can be imported.

The message list must be empty and must be the same size or larger than the list located in the XBT-M terminal.

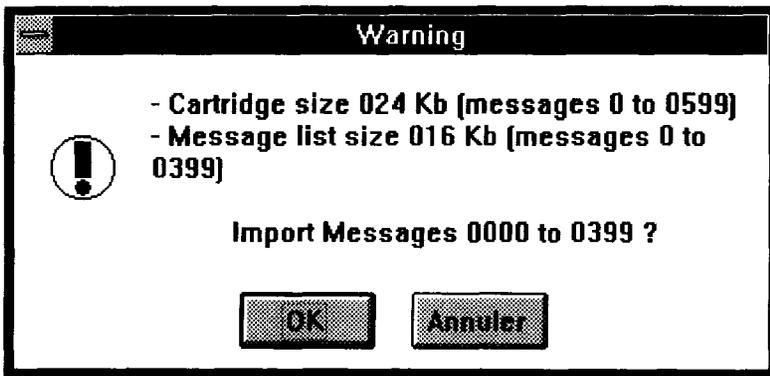
If the open list is smaller than the message list in the terminal, only a partial transfer is implemented.

Example :

Size of cartridge in XBT-M terminal : 24 Kb, 600 messages

Size of message list open on PC : 400 messages on a 16 Kb cartridge.

The operator is then warned that only messages 0 to 399 will be transferred.



It is also possible for the user to transfer only selected messages. Use the mouse to select the block of messages to be transferred from the message list, then initiate the transfer.

Communication error

If there is a problem in communicating with the XBT-M terminal a window is displayed indicating the cause of the problem. If this happens, the configuration of the communication link ("Configuration" then "Communication" menu of the main XBT-L900 screen) and the connection of the XBT-M and PC using an XBT-Z915, 905 or 9052 cable should be checked.

The "COM 1:" or "COM 2:" communication ports should also be checked to make sure they correspond to those in use.