



Stage Line[®]

LED-LAUFSCHRIFT-ANZEIGE MOVING MESSAGE DISPLAY



PML-60R

Bestellnummer 37.2270

PML-70COL

Bestellnummer 38.2280

PML-100R

Bestellnummer 37.0940

PML-100COL

Bestellnummer 37.0930



BEDIENUNGSANLEITUNG • INSTRUCTION MANUAL

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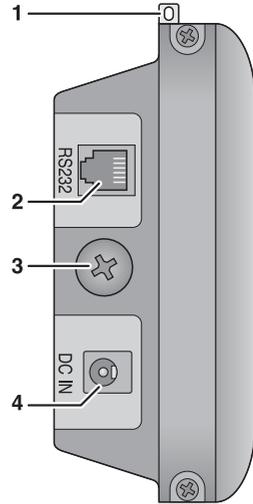
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1 Applications

The LED displays can visualize texts and plain graphics on a matrix of 7×120 LEDs (PML-100...) or 7×80 LEDs (PML-60/70...). While the PML-100R and the PML-60R only provide red LEDs, the PML-100COL and PML70-COL allow for visualizations in red, green and orange. The displays can be operated via the infrared remote control supplied or via USB using a computer. Up to 26 messages can be saved on the display. The messages may be arranged in any order desired and may be endowed with various effects to arouse attention. The integrated clock allows for a time-controlled display or for the display of date and time. An internal buffer battery keeps the data entered and ensures that the clock continues working for up to 30 days after the power supply has been disconnected. The PC program allows users to create their own graphics and special characters.

2 Safety Notes

These units (display and power supply unit) correspond to all relevant directives of the EU and are therefore marked with CE.

WARNING The power supply unit uses dangerous mains voltage. Leave servicing to skilled personnel only. Inexpert handling may result in electric shock.



Please observe the following items in any case:

- The units are suitable for indoor use only. Protect them against dripping water and splash water, high air humidity and heat (admissible ambient temperature range $0 - 40^\circ\text{C}$).
- Do not operate the display and immediately disconnect the mains plug from the socket
 1. if the units or the mains cable are visibly damaged,
 2. if a defect might have occurred after a unit was dropped or suffered a similar accident,
 3. if malfunctions occur.In any case the units must be repaired by skilled personnel.
- Never pull the mains cable to disconnect the mains plug from the socket, always seize the plug.
- For cleaning only use a dry, soft cloth; never use water or chemicals.

- No guarantee claims for the units and no liability for any resulting personal damage or material damage will be accepted if the units are used for other purposes than originally intended, if they are not correctly connected or operated, or if they are not repaired in an expert way. Likewise, no liability will be accepted for data loss caused by operating errors or by a defect or for any consequential damage of this data loss.

GB



If the unit is to be put out of operation definitively, take it to a local recycling plant for a disposal which is not harmful to the environment.

3 Setting the Display into Operation

3.1 Mounting

To mount the display to a wall, for example, use the mounting brackets supplied. Remove the two screws (3) located on the left and right side of the display and then use them to fasten the display to the mounting brackets.

Alternatively, suspend the display by means of the two eyes (1) located on the left and right side of the display. The eyes glide out of the display when the display is turned.

WARNING Install the display safely and expertly. When installing the display at a place where people may walk or sit under it, equip its mounting with an additional security mechanism to prevent it from dropping or make sure that the mounting cannot get disengaged.



3.2 Inserting batteries into the remote control

The battery compartment is located on the bottom side of the remote control.

- 1) Press the locking latch of the battery compartment in the direction of the arrow and open the cover.
- 2) Insert two batteries of AA size. Observe the polarity (indicated in the battery compartment).
- 3) Replace the cover and have the latch engaged.

3.3 Connecting the computer

For remote-controlled operation or setup of the display via a computer, connect the computer by means of the adapter cable supplied. Connect the RJ14 plug to the jack RS232 (2) of the display, and connect the USB plug to a USB port of the computer.

Note: To make sure that no transmission errors occur, only use extension cables with signal amplification.

3.4 Mains connection

Connect the low-voltage plug of the power supply unit (provided with the display) to the port DC IN (4) and connect the power supply unit to a mains socket (230 V~/50 Hz), using the mains cable. This will switch on the display. The system information (unit type, data transmission rate, address/ID number, firmware version) will be briefly shown one after the other and then the message most recently selected will appear.

3.5 Installing the PC software

The installation of the control program supplied requires a PC equipped with the *Windows 98*, *Windows ME*, *Windows NT*, *Windows 2000*, *Windows XP* operating system or later, a memory of at least 32 MB and a USB interface. To install the PC software, insert the CD supplied, and then click "Install Software" on the "Welcome" screen that automatically appears. If the "Welcome" screen fails to appear, start the installation program SETUP.EXE on the CD supplied and follow the instructions of the installation program.

Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

3.5.1 Installing the USB driver

The connection via the USB interface requires a special driver which simulates a serial interface for the control program. If no appropriate driver is installed on the computer, install the driver from the CD supplied.

4 Operation

The display may be operated either via the infrared remote control supplied or via a computer on which the control program supplied is installed. The control program provides some additional functions, e.g. for creating user-defined graphics or special characters.

4.1 Operation via IR remote control

To operate the display via the infrared remote control supplied, align the infrared remote control with the infrared sensor located next to the LED field. The display acknowledges each command it receives from the remote control with a beep.

4.1.1 Switching on/off

The display is always switched on once it has been connected to the power supply. To switch the display on or off via the remote control, press the button [ON/OFF].

4.1.2 Displaying date and time

To alternately display the current date and time instead of the message, press the button [TIME/DATE]. To return to the message display, press the button [ESC].

Date and time adjustment  chapter 4.1.7.1

4.1.3 Quick text entry

To quickly and comfortably enter a one-line text:

- 1) If the date/time display is active, press the button [ESC] to deactivate it.
- 2) Press the button [Q-PROG].
- 3) Enter the text ( chapter 4.1.3.1)
- 4) Press [ENTER] to complete the text entry. The text entry automatically appears on the display.

4.1.3.1 Text entry

The text (max. 200 characters) is entered by means of the character buttons [A] to [Z]. Use the button [SHIFT] to switch between uppercase characters (cursor appears as: "I"), lowercase characters ("i"), numerals/special characters (white button labelling, "1") and other special characters (green button labelling, "J").

For some characters, variants are available. To select the variants of a specific character, press the appropriate character and then (repeatedly) press the button [EUROP-CHAR]:

Character	Variants	Character	Variants
A	À Á Â Ã Ä Å Æ	a	à á â ã ä å æ
B	ß		
C	Ç	c	ç
D	Ð		
E	È É Ê Ë	e	è é ê ë
I	Ì Í Î Ï	i	ì í î ï
N	Ñ	n	ñ
O	Ò Ó Ô Õ	o	ò ó ô õ
P	Ð	p	þ
U	Ú Û Ü	u	ù ú û
Y	ÿ Ý	y	ÿ ý

Note: With the PC software, users can overwrite the variants with their user-defined characters and then retrieve them via the remote control.

To enter a space character, press [SPACE]; to delete the last character, press [DEL].

To change the font style (standard: 5 × 7, condensed: 4 × 7 or bold: 6 × 7 ⇒ pixels per character: horizontal × vertical), press [FONT]; to change the text colour and/or the background colour, press [COLOR].

4.1.4 Saving texts with effects

26 texts, each with defined fade-in and fade-out effect, display time and fade-in/fade-out speed, can be saved as messages on the display. The texts can be displayed individually or combined in any order.

- 1) If the date/time display is active, press the button [ESC] to deactivate it.
- 2) Press the button [PROG]. “PROG (↑/↓/→/←)” is displayed.
- 3) Press [↓]. The storage location “PAG A” is displayed.
- 4) Press [→]. “A” is displayed in bold.
- 5) Press [↑] or [↓] to select the storage location (A to Z) and then press [ENTER] to confirm.

Note: A quick text entry (☞ chapter 4.1.3) will overwrite storage location A.

- 6) Enter the text (☞ chapter 4.1.3.1) or no text (if one of the predefined welcome texts are to be displayed) and press [ENTER] to confirm. “→ IMMEDIATE” is displayed.
- 7) Press [↑] or [↓] to select the fade-in effect or one of the predefined welcome texts (“Welcome” or “Hello World”) and then press [ENTER] to confirm. “← IMMEDIATE” is displayed.

The following fade-in effects are available:

IMMEDIATE	immediate text display without any fade-in effect
XOPEN	fade-in from the centre to the corners
CURTAIN UP	fade-in from the bottom to the top
CURTAIN DOWN	fade-in from the top to the bottom
SCROLL LEFT	scroll-in from right to left
SCROLL RIGHT	scroll-in from left to right
VOPEN	fade-in from the centre to the top and to the bottom
VCLOSE	fade-in from the top and the bottom to the centre
SCROLL UP	scroll-in from the bottom to the top
SCROLL DOWN	scroll-in from the top to the bottom
SNOW	dots dropping from the top (like snow)
TWINKLE	twinkle effect with changing colours
BLOCK MOVE	scroll-in of blocks from the right
RANDOM	random appearance of the individual pixels
HELLO WORLD	text “Hello World” in handwriting font style
WELCOME	text “Welcome” in handwriting font style

Note: If the text is longer than the display, use the fade-in effect “SCROLL LEFT” to show the entire text.

- 8) Press [↑] or [↓] to select the fade-out effect and then press [ENTER] to confirm. “STAY 00.5 Sec” is displayed.

The following fade-out effects are available:

IMMEDIATE	the text disappears without any effect
XOPEN	fade-out from the centre to the corners
CURTAIN UP	fade-out from the bottom to the top
CURTAIN DOWN	fade-out from the top to the bottom
SCROLL LEFT	scroll-out to the left
SCROLL RIGHT	scroll-out to the right
VOPEN	fade-out from the centre to the top and to the bottom
VCLOSE	fade-out from the top and the bottom to the centre
SCROLL UP	scroll-out to the top
SCROLL DOWN	scroll-out to the bottom
HOLD	the text stays on the display

- 9) Press [↑] or [↓] to select the display time (0.5 to 25 seconds) for the text and then press [ENTER] to confirm. “SPEED0” is displayed.
- 10) Press [↑] or [↓] to select the fade-in/fade-out speed (0 to 3) and then press [ENTER] to confirm. The message is saved and can be displayed (☞ chapter 4.1.5).

4.1.5 Displaying messages

To display one or multiple messages that have been saved:

- 1) If the date/time display is active, press the button [ESC] to deactivate it.
- 2) Press the button [RUN-PAGE].
- 3) Use the buttons [A] to [Z] to enter the storage locations of the messages in the order in which they are to appear on the display. Use the button [DEL] to correct wrong entries.
- 4) Press [ENTER] to complete the entry.

All messages selected are briefly displayed and then repeatedly appear on the display according to the parameters that have been defined. If a storage location does not contain any message, the error message "EMPTY Page" will be displayed.

4.1.6 Time-controlled display

Five independent programs allow for the automatic display of saved messages at specific times. To create a program:

- 1) If the date/time display is active, press the button [ESC] to deactivate it.
- 2) Press the button [PROG]. "PROG (↑/↓/→/←)" is displayed.
- 3) Press [↓] twice. The program location "SCH A" is displayed.
- 4) Press [→]. "A" is displayed in bold.
- 5) Press [↑] or [↓] to select the storage location (A to E) and then press [ENTER] to confirm. "SYR00" (= starting year) is displayed.
- 6) Set the year for the start time. Press [↑] or [↓] to set the individual digits and press [←] or [→] to go to another position. Press [ENTER] to confirm.

Proceed in the same way to enter the month "SMO", the day "SDY", the hour "SHR" and the minute "SMI" for the start time.

Then proceed in the same way to enter the year "TYR", the month "TMO", the day "TDY", the hour "THR" and the minute "TMI" which define the point of time until which the display is to be shown.

- 7) An asterisk * is displayed. Use the buttons [A] to [Z] to enter the storage locations of the messages in the order in which they are to appear on the display. Use the button [DEL] to correct wrong entries.
- 8) Press [ENTER] to complete the entry.

4.1.7 System settings

4.1.7.1 Setting date and time

- 1) If the date/time display is active, press the button [ESC] to deactivate it.
- 2) Press the button [FUNCT]. "SETUP (↑↓→←)" is displayed.
- 3) Press [↓] repeatedly until "YR:" is displayed.
- 4) To change the number of the year, press [→]. Set the number of the year. Press [↑] or [↓] to set the individual digits and press [←] or [→] to go to another position. Press [ENTER] to confirm.
- 5) Press [↓]; "MTH" is displayed. To change the month, press [→], set the month and then press [ENTER] to confirm.
- 6) Press [↓]; "DAY" is displayed. To change the day, press [→], set the day and then press [ENTER] to confirm.
- 7) Press [↓]; "HR:" is displayed. To change the hour, press [→], set the hour and then press [ENTER] to confirm.
- 8) Press [↓]; "MIN" is displayed. To change the minute, press [→], set the minute and then press [ENTER] to confirm.
- 9) Press [ESC] to exit the setting menu.

The setting can be cancelled at any time with [ESC].

4.1.7.2 Changing the brightness

- 1) If the date/time display is active, press the button [ESC] to deactivate it.
- 2) Press [FUNCT]. "SETUP (↑↓→←)" is displayed.
- 3) Press [↓] repeatedly until "BR:" is displayed.
- 4) To change the brightness, press [→]. Press [↑] or [↓] to select the brightness: A = 100 %, B = 75 %, C = 50 %, D = 25 %
Press [ENTER] to confirm.
- 5) Press [ESC] to exit the setting menu.

The setting can be cancelled at any time with [ESC].

4.1.7.3 Changing the unit address (IP)

To distinguish multiple units, each unit may be assigned an individual ID/address:

- 1) If the date/time display is active, press the button [ESC] to deactivate it.
- 2) Press the button [FUNCT]. "SETUP (↑↓→←)" is displayed.
- 3) Press [↓] repeatedly until "ADD" along with the current address is displayed.

- 4) To change the address, press the button [→]. Press the button [↑] or [↓] to adjust a digit (hexadecimal) or press [←] or [→] to go to another position. Press [ENTER] to confirm.
 - 5) Press [ESC] to exit the setting menu.
- The setting can be cancelled at any time with [ESC].

4.1.7.4 Resetting the display

All display settings can be reset to their factory settings. This will delete all messages, display programs and settings the user may have defined. The clock setting and the unit address, however, will be kept.

- 1) If the date/time display is active, press the button [ESC] to deactivate it.
- 2) Press the button [FUNC]. "SETUP (↑↓→←)" is displayed.
- 3) Press [↓]. "CLEAR ALL Y?" is displayed.
- 4) To reset to the factory settings, press [ENTER] or, to cancel the procedure, press [ESC].

4.2 Operation via a computer

Start the control program NewSign [...].EXE on the PC. The window "Sign Color" (☞ fig. 2) appears.

- 1) Select the display type used:
TRIPLE COLOR for PML-100COL/70COL or SINGLE COLOR for PML-100R/60R.
- 2) If this selection shall not have to be made every time the program is started, remove the tick next to "Show when program starts" (this setting can also be made via the program menu: "Functions" ▶ Show Color Setting...).
- 3) Click "OK" to close the window.



② Window "Sign Color"

4.2.1 Setting the interface

Select the appropriate interface so that the program can transfer data to the display.

- 1) Activate the menu item File ▶ Set COM... and then, from the list, select the number of the interface that the USB driver simulates for the program.
- 2) Click "OK" to confirm.

The appropriate settings of the operating system can, for example, be found under ▶ Control Panel ▶ System Properties (Hardware) ▶ Device Manager ▶ Ports (COM and LPT).

It reads, for example: "USB to UART [...] (COM3)"

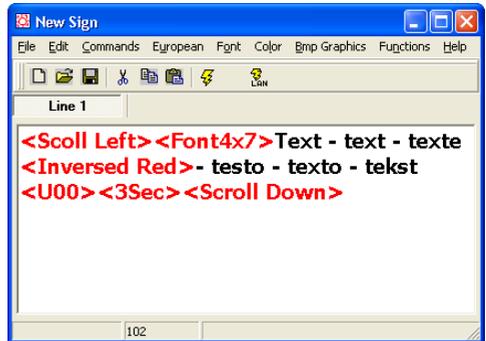
If the computer has assigned a COM number higher than 8 to the interface, the COM number must be manually changed to a number between 1 and 8 (e.g. via ▶ Properties ▶ Port Settings ▶ Advanced ...).

The transmission parameters must be set for the interface as follows (e.g. via ▶ Properties ▶ Port Settings):

bits per seconds:	9600
data bits:	8
parity:	none
stop bits:	1
flow control:	Xon/Xoff

4.2.2 Entering a message and transferring it to the display

In the text window, enter the text to be displayed (☞ fig. 3). The bottom of the window indicates the number of characters that have been entered. If the user tries to enter more than 210 characters, a message will appear informing the user that the maximum number of characters has been reached.



③ Main window with text

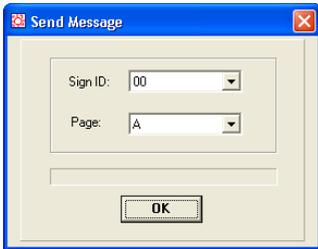
The menu allows the user to include formatting instructions (☞ chapter 4.2.3), special characters (☞ chapter 4.2.4), date and time (☞ chapter 4.2.5),

graphics (☞ chapter 4.2.6) or fade-in, fade-out or display effects (☞ chapter 4.2.7). The formatting instructions (shown in red and included in angle brackets) define how the text is to be displayed. To modify a formatting instruction, either change the appropriate parameter (if known) in the angle brackets or delete the formatting instruction along with its angle brackets and add a new formatting instruction via the menu.

As with other programs (e. g. word processing), the menu or the appropriate icon in the toolbar allows the user to copy marked passages of text (Edit ▶ Copy/📄), cut them (Edit ▶ Cut/✂️) or delete them (Edit ▶ Delete). Copied or cut passages of text can be inserted (File ▶ Paste/📄).

To transfer the entered message to a display that is connected to the same computer:

- 1) Activate the menu item “Function ▶ Send Message...” or click the appropriate button 📧. The window “Send Message” appears (☞ fig. 4).



④ Window “Send Message”

- 2) Select the unit ID (Sign ID) (“00” will select all units) and the storage location (page) for the text and then click “OK” to confirm. The message is saved on the display.

Transferring messages via a computer network ☞ chapter 4.2.9.

4.2.3 Text formatting

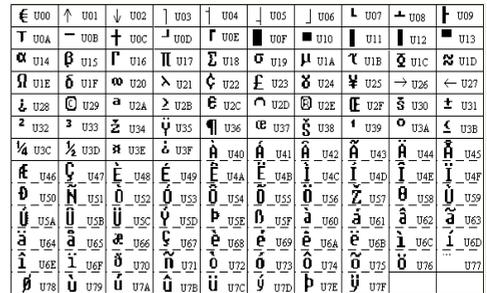
Unlike the text entry via remote control where the formatting always applies to the entire text, text entry via the computer allows the user to change the formatting within the text by including the appropriate formatting instruction at the text location desired.

Use the menu “Font” to change the font style (standard: 5 × 7, condensed: 4 × 7 or bold: 6 × 7); use the menu “Color” to change the text colour and/or background colour.

4.2.4 Special characters

Special characters that cannot be directly entered via the keyboard may be inserted via the menu:

- 1) Activate the menu item “European ▶ European Char”. The window “European Char Form” with a character map appears (☞ fig. 5).
- 2) Click the special character desired. The code is shown right next to the character.
- 3) Click “Insert” to insert the code of the special character into the text.
- 4) If required, select additional special characters and insert them into the text.
- 5) Click “Cancel” to close the window.

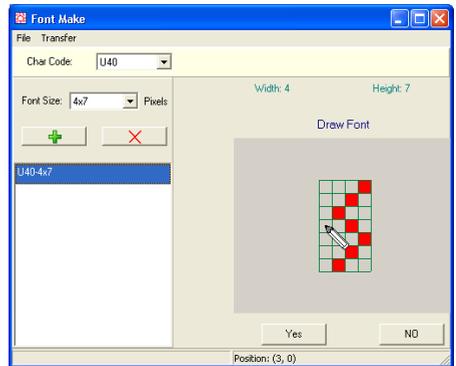


⑤ Special character map

4.2.4.1 User-defined special characters

If the special characters desired are not included in the character map, users may define up to 64 characters of their own.

- 1) Activate the menu item “European ▶ User Font Make...”. The window “Font Make” appears (☞ fig. 6).



⑥ Window “Font Make”

- 2) From the list "Char Code", select the character code for the new character. In the character map (see fig. 5), the new character will replace the character that was previously assigned to the code selected.
- 3) From the list "Font Size", select the font style for which the character is to be created.
- 4) Use the button **+** to add an entry to the list.
- 5) Click this new list entry. A grid with the size of the font style selected appears on the right-hand side of the window.
- 6) Click the fields of the grid to add or delete pixels.
- 7) To delete all pixels, click "NO". To adopt the character, click "Yes". A miniature sample of the character is now shown next to the list entry.
- 8) To create the character for another font style, repeat this procedure from step 3) onwards. To create another character, repeat this procedure from step 2) onwards.
- 9) To delete a list entry, select the appropriate list entry, click the button **X** located above the list and then confirm the confirmation message.
- 10) To transfer all created special characters to the display, activate the menu item "Transfer **▶** Transfer to Sign...". The window "Transfer Font To Sign" appears.
- 11) From the list "Sign ID", select the address of the display (or "00" to select all displays) and then either click "Transfer" to start the transfer or click "Cancel" to cancel the procedure.
- 12) All user-defined special characters can be saved on the computer via the menu item "File **▶** Save Font..." and can be loaded via the menu item "File **▶** Open Font...".
- 13) Use the menu item "File **▶** Quit" to exit the window "Font Make".

4.2.4.2 Resetting special characters

All user-defined characters may be replaced by the predefined special characters:

- 1) Activate the menu item "European **▶** Recall Default Font". The window "Confirm" appears.
- 2) From the list "Sign ID", select the address of the display (or "00" to select all displays) and then either click "Yes" to start the transfer or click "No" to cancel the procedure.

The special characters both in the storage of the display and in the map "European Char Form" are reset to the predefined settings (see fig. 5).

4.2.5 Displaying date or time, reproducing an acoustic signal

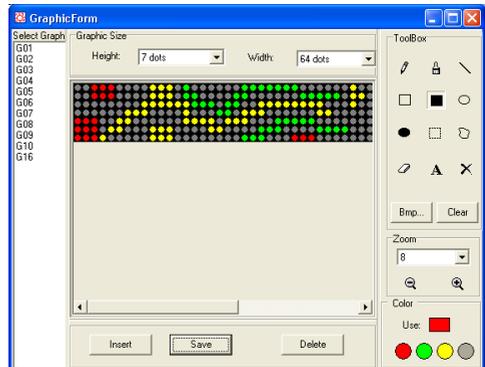
To insert the current time into a text, activate the menu item "Commands **▶** Special Function **▶** Time". To insert the current date, activate the menu item "Commands **▶** Special Function **▶** Date".

For an acoustic signal to sound while the message is being displayed, activate the menu item "Commands **▶** Special Function **▶** Bell **▶**"; in the last menu branch, select the duration of the acoustic signal: 0.5 to 2 seconds.

4.2.6 Graphics

In addition to text, plain graphics can be displayed. Users can import graphics or create their own graphics with the program. Up to 16 graphics can be loaded into a display:

- 1) Activate the menu item "Bmp Graphics **▶** Edit Graphic...". The window "Graphic Form" appears (see fig. 7).



- ⑦ Window "Graphic Form"
- 2) Select the height and the width for the graphic. The maximum graphic size is equal to the size that can be shown on the display.
- 3) To change the size of the view, use the field beneath "Zoom" (1 x ... 8 x).
- 4) Click one of the circles beneath "Color" to select the colour desired. The colour currently selected is shown in the square right above the circles.
- 5) Under "Toolbox", the following graphic drawing functions are available:

-  point or freehand line, thin
-  freehand line, thick
-  straight line
-  rectangle

-  rectangle, filled
-  ellipse
-  ellipse, filled
-  selection frame, rectangle
left mouse button to move the selection frame; right mouse button: to insert the selection frame
-  selection frame, freehand
left mouse button to move the selection frame; right mouse button: to insert the selection frame
-  pixel deletion
-  add text:
 1. click in the graphic area
 2. enter text
 3. select the font "Font Selection [...]"
 4. define the height
 5. click "OK" to confirm
 6. position with the left mouse button
 7. insert with the right mouse button

 colour fill of the entire graphic

To delete all pixels you have drawn, click "Clear".

Click "Bmp..." to open the window "Bmp Save Load". This window provides: the option "Export Bmp..." which allows users to export a bitmap file to the computer; the option "Import Bmp..." which allows users to import a bitmap file.

- 6) To save a graphic so that it can be used on the display, click "Save". In the window "Select Graphi Name", select the storage location (G00 to G16) for the graphic and then click "OK" to confirm. If a graphic has already been saved with this number, a warning message will appear. Click "Yes" to confirm the overwrite or "No" to cancel.
- 7) To edit a graphic, select the appropriate graphic number from the list "Select Graph".
- 8) To delete a graphic saved, select the appropriate number from the list "Select Graph" and then click "Delete". A confirmation message appears; to confirm the deletion, click "Yes", or, to cancel the procedure, click "No".
- 9) To insert a graphic saved into a message, select the appropriate graphic number from the list "Select Graph" and then click "Insert". A graphic reference is inserted in the text window (see fig. 3) and the window "Graphic Form" is closed.

4.2.7 Fade-in and fade-out effects, display options

Many options are available to facilitate an attractive and varied display design, i. e. users can, for example, define how the text appears, how long it is shown and how it disappears (description of the fade-in and fade-out effects see chapter 4.1.4).

- 1) To define the fade-in effect, activate the menu item "Commands ▶ Leading Effect ▶"; in the last menu branch, select the type of the effect and then insert it at the beginning of the message.

Note: If the text is longer than the display, use the fade-in effect "SCROLL LEFT" to show the entire text.

The options

"Leading Effect ▶ Welcome ▶ Hello World" and "Leading Effect ▶ Welcome ▶ Welcome" will display predefined welcome texts instead of a text entered.

If no fade-in effect is defined, "Scroll Left" will be applied by default.

- 2) To define the speed of the fade-in and fade-out effect, activate the menu item "Commands ▶ Move Speed...". In the window "Move Speed", set the speed between slow (0) to fast (3) and then click "OK" to confirm.

If no speed is defined, "fast" will be applied by default.

- 3) Activate the menu item "Commands ▶ Display Effect ▶"; in the last menu branch, define if the message shall be blinking or not ("Normal" = default).

- 4) To define the duration of the message display, activate the menu item "Command ▶ Display Time...". In the window "Move Speed", set the display duration (0.5 to 25 seconds) and then click "OK" to confirm.

If no display duration is defined, a duration of 1 second will be applied by default.

- 5) If a message is to be displayed with a certain offset from the left border, activate the menu item "Commands ▶ Special Function ▶ Column...". In the window "Set Starting Column", set the offset desired (number of LED columns), click "OK" to confirm and insert the offset before the appropriate text.

- 6) To define the fade-out effect, activate the menu item, "Commands ▶ Closing Effects ▶"; in the last menu branch, select the type of effect and insert it at the end of the message.

If no fade-out effect is defined, "Scroll Left" will be applied by default.

4.2.8 Saving, loading or creating a message

As with other programs (e. g. word processing), the menu or the appropriate icon in the toolbar allows the user to save created messages on the computer (File ▶ Save.../ ) , load saved messages (File ▶ Open.../ ) or create a new message (File ▶ New/ ) .

The file extension “.nsn” is automatically appended while the messages are being saved.

4.2.9 Sending a message via a network

If the display is connected to a computer which is part of a network, another computer on the network will be able to send a text to the display. For this purpose, the display must be defined as the local printer on the computer to which the display is connected.

- Use the standard driver “Generic/Text Only” as the printer driver.
- Select the COM port that simulates the driver for the program as the interface ( chapter 4.2.1).
- In the “Printer Properties”, select the option “Print directly to the printer” so that print jobs are not processed by the printer spooler of the operating system.
- Share the printer with the network so that it can be accessed by other computers on the network.

Every computer on the network on which the program is installed can now send a text to the display:

- 1) Start the program.
- 2) Enter the text desired into the text field ( chapter 4.2.2) or load it from a file ( chapter 4.2.8).
- 3) Click the icon  “Send via Network” located above the text field.
- 4) Select the unit address “Sign ID” (“00” will select all units) and the storage location “Page” for the text and then click “OK” to confirm.
- 5) In the window “Print”, select the name of the printer created and then confirm your selection.

The text on the display will be immediately updated if the display is currently showing the message of the storage location selected.

4.2.10 Displaying messages

To call up one or more messages saved on the display:

- 1) Activate the menu item “Functions ▶ Link Pages To Run...”. The window “Link Pages” appears ( fig. 8).



⑧ Window “Link Pages”

- 2) Select the unit ID from the list “Sign ID” (“00” will select all units).
- 3) In the field beneath “Page”, enter the storage locations of the messages in the order in which the messages are to be shown on the display (a ... z or A ... Z).
- 4) Click “OK” to confirm. The instructions are transferred to the display and executed there.

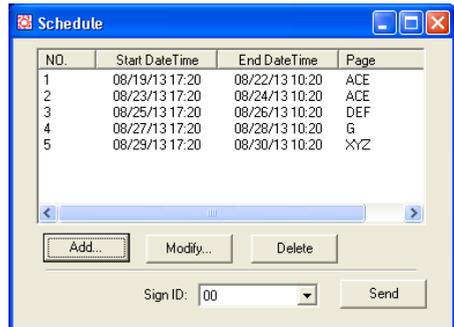
Once the transmission has been completed, a confirmation message appears.

It is also possible to display a single message via the menu item “Functions ▶ Run Page...”.

4.2.11 Time-controlled message display

Five independent programs allow for the automatic display of saved messages at specific times.

- 1) Activate the menu item “Functions ▶ Display by Schedule...”. The window “Schedule” appears ( fig. 9).



⑨ Window “Schedule”

- GB** 2) To add a new display program, click “Add...”
The window “Schedule-Add” appears (☞ fig. 10).

If the user tries to create more than 5 programs, an error message will appear.

⑩ Window “Schedule-Add”

- 3) Under “Start Date Time”, enter the date and the time for the start of the display period desired. Observe the format (month/day/year – each with two digits) when entering the date.
- 4) Under “End Date Time”, enter the date and the time for the end of the display period desired.
- 5) In the field “Page”, enter the storage locations of the messages in the order in which the messages are to be shown on the display (a ... z or A ... Z).
- 6) Click “OK” to confirm your entries. The display program is now included in the table (☞ fig. 9).

Note: The table does not include the programs of the display storage; it only includes the programs that have been created since the PC software was started.

- 7) If desired, add further display programs (☞ step 2).
- 8) To change a display program, select the appropriate program from the table and click “Modify...”. In the window “Schedule Modify”, change the data and then click “OK” to confirm your changes or click “Cancel” to reject them.
- 9) Select the unit address from the list “Sign ID” (“00” will select all units).
- 10) Click “Send” to transfer the data to the display. Programs that already exist in the display storage will be overwritten. Once the transmission has been completed, a confirmation message will appear.

4.2.12 System settings

4.2.12.1 Setting date and time

- 1) Activate the menu item “Functions ▶ Set Clock...”. The window “Set Clock” appears.
- 2) Select the unit address from the list “Sign ID” (“00” will select all units).
- 3) Next to “Date”, enter the date, and next to “Time”, enter the time.
- 4) Click “OK” to confirm your entries, or click “Cancel” to cancel the procedure.

Once the transmission has been completed, a confirmation message will appear.

4.2.12.2 Changing the brightness

- 1) Activate the menu item “Functions ▶ Set Brightness...”. The window “Set Brightness” appears.
- 2) Select the unit address from the list “Sign ID” (“00” will select all units).
- 3) Select the brightness desired from the list “Brightness” (100 %, 75 %, 50 %, 25 %).
- 4) Click “OK” to confirm your entries, or click “Cancel” to cancel the procedure.

Once the transmission has been completed, a confirmation message will appear.

4.2.12.3 Changing the unit address (ID)

- 1) Activate the menu item “Functions ▶ Set ID...”. The window “Set Sign ID” appears.
- 2) Select the future unit address from the list “Sign ID” and click “OK” to confirm.
- 3) In the confirmation window, click “Yes” to confirm your selection, or click “No” to cancel the procedure.

Once the transmission has been completed, a confirmation message will appear.

4.2.12.4 Deleting messages from the display

- 1) Activate the menu item “Functions ▶ Delete Page...”. The window “Delete Page” appears.
- 2) Select the unit address from the list “Sign ID” (“00” will select all units).
- 3) Tick the boxes next to the storage locations (page A to page Z) that are to be deleted from the display.
- 4) Click “OK” to confirm your selections, or click “Cancel” to cancel the procedure.

Once the transmission has been completed, a confirmation message will appear.

4.2.12.5 Deleting display programs from the display

- 1) Activate the menu item "Functions ▶ Delete Schedule...". The window "Delete Schedule" appears.
- 2) Select the unit address from the list "Sign ID" ("00" will select all units).
- 3) Tick the boxes next to the display programs that are to be deleted from the display.
- 4) Click "OK" to confirm your selections, or click "Cancel" to cancel the procedure.

Once the transmission has been completed, a confirmation message will appear.

4.2.12.6 Resetting the display

To delete all the messages, display programs and settings (except the time setting and the unit address) the user has saved on the display:

- 1) Activate the menu item "Functions ▶ Delete All...". The window "Delete All" appears.
- 2) Select the unit address from the list "Sign ID" ("00" will select all units).
- 3) Click "OK" to confirm your selection, or click "Cancel" to cancel the procedure.

Once the transmission has been completed, a confirmation message will appear.

5 Specifications

Number of LEDs

PML-100COL:	840, red/green
PML-100R:	840, red
PML-70COL:	560, red/green
PML-60R:	560, red

Power supply: 12 V $\overline{=}$, via power supply unit provided and connected to 230 V~/50 Hz

Dimensions

PML-100R, -100COL: . .	1000 × 110 × 45 mm
PML-70COL, -60R:	700 × 110 × 45 mm

Weight

PML-100R, -100COL: . .	2 kg
PML-70COL, -60R:	1.2 kg

Subject to technical modification.

