LOGIJET T8-3

Operator's Manual

Edition 1.0prelM



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Table of Contents

Chapter		Page
1. Int	troduction	7
1.1. 1 2	General Description Fundamentals of Thermal Printing	7
1.3.	Conventions	9
1.4.	General Safety Regulations	11
2. In :	stallation	15
2.1.	Printer Unpacking	15
2.2.	Check List	17
2.3.	Printer Installation	18
2.4.	Printer Components	19
3. Ba	sic Operation Sequences	23
3.1.	Overview	23
4. Ho	andling of Consumables	25
4.1.	Winding Diagram	26
4.2.	Handling of Ribbon (Foil)	27
4.2.1.	Ribbon Loading	27
4.2.2.	Ribbon Removal	36
4.3.	Roll-Fed Media Handling	37
4.3.1.	Roll-fed Media Loading	37
4.3.2.	Media Removal	46
4.4.	Printhead Pressure Adjusting	47

Chapter		Page	
5. Op	peration and Menu Structure	51	
5.1.	Attaching the Printer to a Network/PC	51	
5.2.	Turning on the Printer	52	
5.3.	Control Panel View	53	
5.4.	Function of the Control Panel Elements	54	
5.5.	Configuration via the Control Panel	56	
5.6.	Menu Structure	58	
5.7.	Syntax of Diagrams	63	
6. Pa	nel Functions	64	
6.1.	Selecting and Adjusting the Sync Sensors	64	
6.1.1.	Selecting the Light Sensor Type (Gap or Reflex)	65	
6.1.2.	Checking and Adjusting the Sensors	66	
6.1.3.	Automatic Adjust of Sensor Current and Switching Threshold	68	
6.1.3.1	. Overview	68	
6.1.3.2	2. Example	69	
6.1.4.	Manual Adjusting of Sensor Current and Switching Threshold	70	
6.1.4.1	I. Reflex Sensor (Black Mark Sensor)	71	
6.1.4.2	2. Gap Sensor (Transparent Sensor)	73	
6.1.4.3	B. Example: Determining the Switching Threshold for a Label Material	75	
6.2.	Print Process Selecting	78	
6.3.	Ribbon Unwinding Setting (Ink Inside or Outside)	80	
6.4.	Media Setting (Material; Label or Continuous)	81	
6.5.	Adjusting the Zero Position of the Material Transport (Sync.Sens.Offset))	82	
6.6.	Page Length Adjustment	84	
6.6.1.	Starting the (Printer's) Measurement of Label Length	86	
6.6.2.	Configuration of Semiautomatic Label Length Measurement	86	
6.7.	Material Width Adjustment (Paper Width)	87	
6.8.	Configuration of Text Margins	89	
6.9.	Printing the Status Sheet	90	
6.10.	Printing the Font List	92	
6.11.	Hexdump Mode Activation	93	
6.12.	Normal Print Mode Activation (incl. FORM FEED)	94	
6.13.	Clearing the Input Buffer (Cancel Job)	95	

Chapter		Page
6.14.	Printing the Menu Page	96
6.15.	Generating Testsheets (Sliding Pattern)	97
6.16.	Print Direction Selection	98
6.17.	Data Interface Configuration	99
6.18.	Emulation Selection	100
6.19.	Display Language Selection	102
6.20.	Transparent Code Adjustment	103
6.21.	Selection of Memory Distribution (Input Buffer)	104
6.22.	Setting to Factory Default	105
6.23.	Font Selection	106
6.24.	Text Orientation Selection	109
6.25.	Symbol Code Selection	110
6.26.	Lines per Inch Setting (Line Spacing)	111
6.27.	Number of Characters per Inch Setting (Character Spacing)	112
6.28.	Print Speed Adjustment	113
6.29.	Density (Contrast) Setting	114
6.30.	Image Shifting to the X-Direction	115
6.31.	Image Shifting to the Y-Direction	117
6.32.	Peripheral Device Activation (Tear Off Edge, Cutter)	119
6.33.	Selecting the Tear Off Mode (Option: Cutting Mode)	122
6.34.	Adjusting the Tear Off Position (Option: Cutting Position)	124
6.35.	Selecting the Print Mode	126
6.36.	Configuration of Network Parameters (IP Address, e.g.)	129
7. O _l	perator Maintenance	133
7.1.	Printer Cleaning	133
711		104

7.1.1.	Printer Cabinet Cleaning	134
7.1.2.	Printhead Cleaning	135
7.1.3.	Platen Roller Cleaning	138
7.2.	Adjusting the Right Pressure Value	139

Chapter		Page
8. Tro	oubleshooting	140
8.1. 8.2. 8.3. 8.4.	Printer Error Messages Reduced Print Quality Incorrect Media Transport Print Repetition after an Error	141 145 147 149
9. Me	easures for Transport and Shipping (Repacking)	151
10. S	pecifications	153
11. Index		157

1. Introduction

1.1. General Description

The LOGIJET T8-3 is a multifunctional non-impact printer based on thermal print technology.

The device can be used for thermal transfer printing as well as for thermal direct printing. Because of its wide range of application, you can use it to print all kind of information as barcodes, alphanumerical characters and vector graphics e.g. .

This printer not only knows one device-specific page description language as standard thermal printers usually do, but most of the languages used in the industrial field and the well-known market standards of laserprinters, too.

For this printer options are available (for example, cutter).

The LOGIJET T8-3 printer is provided with a controller that is also used in SOLID laserprinters. So the advantages of the thermal print technology are combined with the flexibility of the "laserprinter intelligence".

The MICROPLEX printer controller has its integrated website, this allows a printer configuration via Ethernet. See <u>Networking</u> <u>Features of MICROPLEX Printers</u> for more information.

Data can be sent without programming expenditure from almost any software platform, because printer drivers are already available for this.

The capabilities featured include the MICROPLEX page description language IDOL. Using this language, complex tasks such as the creation of forms can be carried out by simple software commands (see separate IDOL manual).

The resolution is 300 dots per inch corresponding to about 12 dots per mm.

The print speed is up to 6 inch/second (up to 150mm/second). Roll-fed media as well as continuous-media can be printed on. The maximum processable width of media for the LOGIJET T8-3 is 241.3mm (9.5"). 219.5mm (8.64") of that are printable.

1.2. Fundamentals of Thermal Printing

The thermal print technology enables a quiet and fast print process with a high resolution output. The printhead produces the image by heating single elements (dots). So you need a special ribbon (thermal transfer printing) or a special kind of paper (thermal direct printing). While thermal transfer printing the dots touch the thermal ribbon so that the heating of particular dots leads to a partial melting of the ribbon. Due to the contact with a media (future carrier of the information, for example paper) this leads to a transfer of the image onto the media. While thermal direct printing the dots touch the thermal paper directly. The dyes and developers within the paper respond to the heat of particular dots, change their colour to black and so the wanted image emerges.

The printer LOGIJET T8-3 can be used for both methods of printing.

1.3. Conventions

	To find the requested information more quickly and to understand instructions more easily, the following conventions are used:
	This symbol refers to a possible source of danger. If you do not pay attention to this information, injuries may result, the function of the printer could be reduced or objects could be damaged.
	This symbol refers to important hints and suggestions on using the printer. Disregarding these hints might cause problems with the printer or within the environments.
	This symbol shows a key of the control panel. Such symbols will be used in this manual whenever keys have to be pressed in order to activate certain functions.
<u>blue colored text</u>	Link to another chapter or a different document. By clicking the blue colored text you'll enter the concerning chapter or document.
[Menu Level 1]	This symbol represents messages shown in the display (panel).

1.4. General Safety Regulations



This device produces, employs and possibly radiates high frequency energy. Because of this, incorrect installation can disturb radio communications.

This MICROPLEX product and its consumables are designed and tested according to strict safety standards.

Heeding the following instructions ensures secure operation:



- Please make sure your electricity source is appropriately grounded.
- Install the device on solid and level ground.
- Only trained staff are authorized to transport the equipment.

- Only use consumables which are specially developed for this device.



- Using unsuitable consumables may cause a reduction of output quality or damages to the device.
- Ensure no liquids get on or into the device.
- Do not remove any cover or safety device fastened by screws.
- Do not remove or bridge over any safety device.
- Do not push anything into the ventilation apertures.



- Never carry out installations, cleanings or maintenance operations which are not described in this manual. This should only be done by MICROPLEX authorized service personnel.



- Be careful when operating equipment with opened cover hoods (setting-up work or service). Rotating parts can cause injury, and it is also possible for hair, clothing, jewellery, etc. to be caught in the machinery.
 Ribbon and material should only be inserted and changed by specially instructed personnel.
- Optional device components may only be installed by authorized personnel, and in accordance with the appropriate assembly and usage regulations.
- The cutter may only be installed by trained personnel.
- Only attach or remove the printhead when the device is switched off.
 - After switching off the device, wait at least 3 minutes before removing the printhead.
- Only plug in or remove interface connectors when the device is switched off.



In order to disconnect the printer quickly from the main power in case of emergency please note the following:

- For connected printers with plugs, the power-outlet should be installed near the printer and easily within reach.
- For permanently connected printers, an easily accessible emergency power-off switch should be installed close to the printer.
- Please do not conceal any disconnect devices with the printer or other objects.
- After switching off the device, wait at least 15 seconds before the device is switched on again.
- Please follow all the information and hints directly attached to the device and/or described in this manual.



2. Installation

2.1. Printer Unpacking

- 1. Open the box and remove the accessory parts.
 - Hint: The shipping box etc. of your printer may differ in form and optic from the parts shown in the following 2 figures.



Fig. 2.1.a Printer in the shipping box

2. Take the printer and lift it out the box carefully. Get somebody to hold the box when removing the printer.



Take hold of the printer <u>from the bottom</u>. Do **not** use other parts of the printer (e.g. plastic parts at the printer's front or rear side ...) to lift the device!



Fig. 2.1.b Lifting the printer

- 3. Remove the foil covering the printer.
- 4. Place the printer onto a suitable base (see section 2.3).

Please retain the original packing materials in case the printer has to be transported in the future.

2.2. Check List

First of all place the printer and the accessories onto a level surface until the definitive location is chosen.

Please make sure that all items are included and that there are no defects.

Immediately inform your supplier of any damage. Open the cardboard box carefully and check the contents:

- 1. Printer LOGIJET T8-3
- 2. Power cord
- 3. Data cable (USB)
- 4. empty Ribbon Sleeve (Ribbon Core)
- 5. CD containing:
 - Operator's Manual for LOGIJET T8-3
 - Print drivers
 - IDOL Programming Manual



Fig. 2.2.a Printer with accessories

2.3. Printer Installation

- The chosen location should be well-ventilated, clean and dry.
- Damaging environmental factors such as metal vapors, oil mist, corroding lixivium or the like must not come into contact with the printer.
- Position the printer on solid and level ground.
- Do not exposure the printer to shocks or vibrations.
- The printer and socket have to be easily accessible.
- The printer should not be located near volatile or combustible materials (e.g. a curtain).
- The printer must be connected to an appropriate AC power source 120V AC/60 Hz (North America) or 230V/50 Hz (Europe, United Kingdom e.g.). The power source must be properly grounded. The socket and power cords must not be damaged.
- Use the printer only within the allowed fluctuation range of $\pm 10\%$.
- The voltage support must not be impaired by interference.
- In order to run the printer reliably, please maintain the following environmental conditions:

Temperature: +5°C to +40°C (operating) -40°C to +60°C (storage temperature) Relative atmospheric humidity: 20% to 85% (without condensation)

- Do not expose the printer to abrupt temperature changes (heating, window or air condition).
- The printer should not be exposed to direct sunlight.





2.4. Printer Components



Fig. 2.4.a Main view of the printer LOGIJET T8-3



Fig. 2.4.b Side view of the printer



Fig. 2.4.c Rear view of the printer



Fig. 2.4.d Detail: Interfaces of the LOGIJET T8-3



Fig. 2.4.e Inside View of the printer

22 Installation

3. Basic Operation Sequences

3.1. Overview





If the panel settings above shall be effective permanently (that means they do not have to be put in again after a printer OFF/ON) the setting values can be saved permanently by operating the ENTER key two times.

An output of the current setting values can be generated using the "Printing the Status Sheet" panel function (see section 6.9).

Detailed information on the operations above and to further functions of the printer LOGIJET T8-3 can be found in the following chapters.

4. Handling of Consumables



Pay attention to the following safety instructions and the instructions listed in section 1.5, too!

Safety instructions:

- The cutter (optional device of your printer) can cause injuries if the printer is operated incorrectly.
- There is a danger of fingers, hair, clothing, jewellery etc. being drawn into the machine in the vicinity of the material transport unit.
- Be careful when operating equipment with opened cover hoods (setting-up work or service). Rotating parts can cause injury, and it is possible for hair, clothing, jewellery, etc. to be caught in the machinery.
- Print material should only be inserted and changed by specially instructed personnel.



For thermal direct printing it is not allowed to load a ribbon to avoid damaging the printhead. Make sure your settings using the control panel and display respectively via interface (see chapter 5 and 6) fit to the printer implementation (ribbon inserted /not inserted).



Ribbon and material should only be inserted/exchanged by specially instructed personnel.

4.1. Winding Diagram



Fig. 4.1.a Winding directions of material and ribbon (here: ink outside the roll)

The diagram above shows the usual winding directions of material and ribbon.

Pay attention to the different ribbon roll winding directions described in section 4.2.1 Ribbon Loading. The figure above shows the winding directions for "Ink outside the roll" ribbons. Also pay attention to the instructions located on the inside of the printer hood.

4.2. Handling of Ribbon (Foil)

4.2.1. Ribbon Loading

If you want to operate the printer in the thermal transfer mode a printer ribbon has to be used (compare section 1.1).



Make sure you always use a printer ribbon being wider than the media to print on. In the case of printing on abrasive media printhead damaging can be avoided this way.

To set the ribbon go on like this:

- 1. Switch the printer to OFF LINE mode.
- 2. Open the printer hood completely.
- 3. Push the printhead release lever clockwise to open the print head mechanism.



Fig. 4.2.1.a Pushing the printhead release lever clockwise



Fig. 4.2.1.b Printer with opened (released) printhead

- 4. Take the ribbon roll and remove the protection foil, if necessary (by unwinding it and cutting it off).
- 5. Find out the right winding direction for your ribbon roll:



Fig. 4.2.1.c Schematic figures: Different ribbon roll winding directions

 Use the appropriate panel function to adjust the printer to the current winding direction.
 See section 6.3 Ribbon Unwinding Setting (Ink Inside or

Outside).

7. Slide the empty ribbon sleeve (ribbon core; extent of supply) onto the ribbon rewind spindle.
 Please note: The ribbon sleeve has to be mounted centered, use the scale on the rewind spindle for this operation.



Fig. 4.2.1.d Scales are located on the printers supply spindle



Fig. 4.2.1.e Empty ribbon sleeve mounted centered



Slide the ribbon roll onto the ribbon supply spindle.
 (Please note: it has to be mounted centered; compare step 6)

Fig. 4.2.1.f Ribbon roll mounted centered and endof foil already peeled of

9. Route the ribbon around the printhead without folds.



Fig. 4.2.1.g Foil already routed below the printhead



Please note: the ribbon has to be routed <u>above</u> the ribbon sensor (see the black part in the following figures).



Fig. 4.2.1.h Location of the ribbon sensor inside the printer (here still without ribbon)



Fig. 4.2.1.i Ribbon routed through the ribbon sensor slot in the right way

10. Route the ribbon to the rewind spindle and fasten it to the ribbon sleeve (turn up the ribbon once so that the adhesive part at the beginning of the ribbon can be used. Adhesive tape can be used, if need be).

Make sure that the ribbon rewind direction is correct. (Compare figure 4.2.1.c.)



- Fig. 4.2.1.j Routing the ribbon to the rewind spindle and fasten it
- 11. Wind the ribbon rewind spindle clockwise 3 to 5 rotations to tauten the ribbon.





Fig. 4.2.1.k Tautening the ribbon by winding the ribbon rewind spindle

- 12. Check that the ribbon has no folds and is running straight. If necessary, tauten the ribbon a little bit more by further winding of the ribbon rewind spindle. Finally the ribbon has to be firmly attached to the ribbon sleeve.
- Swivel the printhead mechanism back to its original position using both hands and making sure it clicks into place (force is needed).



Fig. 4.2.1.1 Swivelling the printhead mechanism with both hands down until it clicks into place

4.2.2. Ribbon Removal

The following steps are necessary if you want to switch from printing in the thermal transfer mode to printing in the thermal direct mode. In case only a used-up ribbon has to be removed the steps 5 and 6 have to be omitted.

- 1. Switch the printer to OFF LINE mode.
- 2. Open the the printer hood completely.
- 3. Push the printhead release lever clockwise to open the print head mechanism.
- 4. The core of a used-up ribbon can be removed by pulling it from the ribbon supply spindle.
- 5. If the inserted ribbon is not used-up, cut it close to the ribbon rewind spindle.
- 6. Rotate the ribbon supply spindle until the free end of the ribbon is winded up.



The unused ribbon can remain within the device until it is used for the next thermal transfer operation (if necessary protect the ribbon against unintentional unwinding). The ribbon has to be loaded as described in section 4.2.1.

- 7. Rotate the rewind spindle until the free end of the used-up ribbon is winded up.
- 8. Remove the used-up ribbon from the rewind spindle and dispose it according to the rules.

The media for thermal direct printing has to be loaded as described in section 4.3.1.
4.3. Roll-Fed Media Handling

4.3.1. Roll-fed Media Loading

To load roll-fed media for tear off respectively for further external processing go on like this:



The tear off roll-fed media is easier to insert if the end is gored before inserting as shown in the figure below (when using a new roll you should first remove the protection foil if necessary and discard one full turn of the media).



Fig. 4.3.1.a Goring the tear off roll-fed media

- 1. Switch the printer to OFF LINE mode.
- 2. Open the printer hood completely.



Fig. 4.3.1.b Opening the printer hood

3. Remove one label roll guide (the front one which is facing the viewer; the second label roll guide has to stay on the label supply spindle).



Fig. 4.3.1.c Removing one label roll guide

4. Move the remaining second label roll guide backwards on the lable supply spindle.



Fig. 4.3.1.d Movingthe secnd label roll guide backwards



Fig. 4.3.1.e Printers label roll supply spindle ready for the label roll

- 5. The media roll must turn counterclockwise when unwinding. Take the Tear off roll-fed media and hold it in the corresponding way.
- Slide the media roll onto the printer's label roll supply spindle. Please note: The media roll has to be mounted centered, use the scale on the supply spindle for this operation.



Fig. 4.3.1.f Sliding the media roll onto the label roll supply spindle and then centering the media roll

Reassemble the front label roll guide and move both guides towards the media roll.
 Please note: The media roll still has to be in a centered position on the label roll supply spindle after that.



Fig. 4.3.1.g Reassembling the front label roll guide



Fig. 4.3.1.h Moving both label roll guides towards the media roll

8. Take the free end of the label roll and route it towards the printhead as shown in the folling figure.



Fig. 4.3.1.i Routingthe free end towards the printhead

9. Push the printhead release lever clockwise to open the print head mechanism (compare figure 4.2.1.a, too).



Fig. 4.3.1.j Pushing the printhead release lever

10. Slide the material guide to its outermost position (maximum throughput width).



Fig. 4.3.1.k Adjusting the material guide to the maximum throughput width

 Feed the label material through the printer and out of the printer passing the media sensor (therefore you have to feed the label material through the "fork" of this sensor). Compare figure 2.4.e to locate this part of the printer.



- Fig. 4.3.1.1 Feeding the media out of the printer
- 12. Align the media in a centered position to ensure a straight transport.



- Fig. 4.3.1.m Centering the media inside the printer
- 13. Adjust the material guide to the current material widh without deforming the material (see the following figure and compare figure 4.3.1.k).



Fig. 4.3.1.n Adjusting the material guide to the current material

14. Please adjust the sensors of your printer to your current consumables:



Fig. 5.3.10 Preview: Position of the Sensors

15. **Details** are described in section 6.1.2 **Checking and Adjusting the Sensors** and in the following sections, where the associated panel functions are described. 16. Swivel the printhead mechanism back to its original position using both hands and making sure it clicks into place (force is needed).



Fig. 4.3.1.p Swivelling the printhead mechanism down until it clicks into place

Please note: The printer now is ready to print using the <u>thermal</u> <u>transfer</u> process.

If you want to print using the thermal direct process, you first have to remove the ribbon (foil).



Fig. 4.3.1.q Printer ready for thermal transfer printing



Pay attention to the following safety instructions!

Safety instructions:

- The cutter (optional) can cause injuries if the printer is operated incorrectly.
- There is a danger of fingers, hair, clothing, jewellery etc. being drawn into the machine in the vicinity of the ribbon and media transport unit.
- 17. Close the hood of the printer.
- Before starting the printer first please read chapter 5
 Operation and Menu Structure.
- 19. Use the printer's control panel to select the appropriate print process.
 Details are described in section 6.2
 Print Process Selecting.
- 20. Wird ein Farbband verwendet, muss am Bedienfeld auch die richtige Farbbandabwickelrichtung eingestellt werden.
 Details are described in section 6.3
 Ribbon Unwinding Setting (Ink Inside or Outside).

4.3.2. Media Removal

- 1. Switch the printer to OFF LINE mode.
- 2. Open the hood of the printer.
- 3. Push the printhead release lever clockwise to remove the media (see section 4.1 Winding Diagram) and pull away the material to the rear.
- 4. Rotate the tear off roll-fed media roll clockwise until the free end of the media is winded up.
- 5. Remove the roll with the tear off roll-fed media (if necessary protect the media against unintentional unwinding first).
- 6. Close the hood of the printer.

4.4. Printhead Pressure Adjusting

In the factory this printer is set to the optimum values for the standard printing application. The printout quality and the occurrence of ribbon wrinkles, however, depend on a large number of factors.

In particular the current material width and/or material thickness have an large effect on the contact pressure of the thermal printhead on the media and the platen roller.

To allow a compensation of such influences, the contact pressure of the printhead is adjustable by 4 adjustment knobs.

The 4 green adjustment knobs are located above the printhead:



Fig. 4.4.a Printhead contact pressure: Position of the 4 adjustment knobs

Please note:



- Printing should always be carried out with the lightest contact pressure possible for creating a satisfactory print quality. This protects the printhead and the entire device.
- Excessive contact pressure can result in premature wearing of the printhead.

A) Printhead pressure adjusting in a ballanced way:

- 1. Open the printer hood completely.
- 2. Push the printhead release lever clockwise to open the print head mechanism.
- 3. If you want a better accessibility to the 4 green adjustment knobs you can temporarily remove the ribbon first (compare section 4.2.2 Ribbon Removal).
- 4. Please adjust the printhead pressure in the desired direction by **adjusting all 4 adjustment knobs in the same way**.

Using the green adjustment knobs 5 levels for the prindhead pressure can be choosen; level 1 causes the lowest pressure. Adjusting the knobs clockwise will increase the printhead pressure.

- 5. Swivel the printhead mechanism back to its original position using both hands and making sure it clicks into place (force is needed).
- 6. Generate a test print.
- 7. Repeat step 2 to 6 until you are satisfied with the printout quality.

B) Printhead pressure adjusting on one side:

If (only) one side of the media is printed with good printout quality or ribbon wrinkles occur, you have the possibility to choose an **"asymmetrical setting" for the adjustment knobs**. This allows an corresponding optimization of the printhead pressure.

Please note: Before choosing such an "asymmetrical setting" you should check the handling of all consumables first (compare chapter 4). If, for example, one of the ribbon rolls isn't mounted centered this already might be the cause of wrinkles.

If an "**asymmetrical setting**" for the printhead is indeed necessary, the adjustment knobs have to be divided into two groups:



Fig. 4.4.b Printhead pressure: Dividing the Adjustment knobs in two groups

Adjust the printhead pressure in the desired manner by adjusting either te right side adjustment knobs or the knobs of the left side. Hints for the error situation "Ribbon wrinkles":

- Use the last test print to check the "direction" of the wrinkle. The wrinkle can happen from the lower left to the upper right direction (error image ""; seen in the printer's feed direction). On the other hand the wrinkle can happen from the lower right to the upper left direction (error image "").

- **Error image** " : First of all please reduce the printhead pressure on the **right side** by adjusting the 2 adjustment knobs of the right side both about one step **counterclockwise.** If both adjustment knobs already show level "1" (i.e. the lightest contact pressure is already chosen) then please increase the printhead pressure on the **left side** by adjusting the 2 adjustment knobs of the left side both about one step **clockwise**.

- **Error image** " : The descriptions from above shall also apply by analogy – you only have to interchange the words "right" and "left".

- Generate a test print.

- Repeat the steps described above until you reach a satisfactory print quality.

5. Operation and Menu Structure

5.1. Attaching the Printer to a Network/PC



Fig. 5.1.a Rear view of the LOGIJET T8-3

- 1. Make sure the printer, the computer, and any other attached devices are turned off and unplugged.
- Use a proper interface line to connect the printer to your computer or to the network.
 The printer LOGIJET T8-3 is provided with several interfaces. See figure

2.4.d in chapter 2 and chapter 10 Specifications.

5.2. Turning on the Printer



Please notice the instructions given in chapter 4 Handling of Consumables.

- 1. Plug one end of the printer power cord into the socket at the back of the printer and the other end into a properly grounded outlet.
- 2. Turn on the printer. The power switch is located at the back side of the printer (near the printer's paper output opening, see section 5.1.a).



The print system requires time to initialize and to warm up after you turn it on.

As soon as the printer's warm up phase is finished the printer goes into the ON LINE mode. A status message and the name of the printer are displayed.

Note: You can change the language that appears on the touch panel. Use the "Display Language Selection" panel function (see section 6.19).

5.3. Control Panel View



5.4. Function of the Control Panel Elements

Display

The display (LCD-panel, 4×16 characters) serves to show the printer's status messages.

POWER – LED (Green)



The printer is on.



The printer is off.

ON LINE - LED (Green)



The printer is ready to receive data from the host (the printer is ON LINE).

The printer is not ready to receive data from the host (OFF LINE). The control panel keys are active.

ERROR - LED (Red)



An error occurred in the printer. The printer is OFF LINE.



No error occurring.

Control Panel Keys



This symbol shows the MENU key. This key is used to turn the printer OFF LINE and ON LINE. In addition to that this key can be used to clear an error message in the display after the fault was fixed.

Printer OFF LINE:



In the OFF LINE mode the paper is conveyed one format length further after having activated the **FEED** key.



In the OFF LINE mode this key is used to **start the cutter** (cutter = option).







These keys are used for working within the different levels of the menu structure.

This structure and the panel functions are described in the following.



5.5. Configuration via the Control Panel

You can use the control panel to change the printer configuration and customize your printer to meet your specific needs.

In addition printer configuration via Ethernet is possible. The MICROPLEX printer controller offers an integrated website, for more information see <u>Networking Features of MICROPLEX Printers</u>.

Chapter 6 (Panel Functions) describes how to reach the particular printer functions via the panel.

T e m p o r a r y changes in printer configuration are effective only as long as the printer stays turned on. To select such changes temporarily,

the user must terminate the change of function by pressing the key one single time.

P e r m a n e n t changes in printer configuration are active each time the printer is turned on again. To select such changes permanently, the

user must terminate the change of function by pressing the key **two times**.

An output of the current printer values can be generated using the panel function "Printing the Status Sheet " (see section 6.9).

Please note:

- User default settings remain in effect until you save new settings or restore the factory defaults.
- Settings you choose from your software application or printer driver can also change or override the user default settings you select from the touch panel.

Switching the Printer OFF LINE

After the printer was turned on (and as soon as the warm up phase is finished) the printer goes into the ON LINE – Mode

[LOGIJET T8-3] Printer messages are displayed on the control panel display.

This symbol shows the MENU key. This key is used to turn the printer OFF LINE If the printer is turned OFF LINE with this key you get automatically into the first menu level.

[Menu Level 1] Now this message is displayed on the display.

In the interest of simplicity, in the following chapters only the most important display messages are shown in the Panel display column.

5.6. Menu Structure

Access to the menu structure is possible as soon as the printer is turned OFF LINE.

The menu structure of the printer LOGIJET T8-3 is arranged in different levels:



This panel function allows the user to choose a **reduced menu** instead extended menu shown above.

Selecting positions in the menu structure:



This symbol shows the MENU key. You get automatically into menu level 1, if the printer is turned OFF LINE with this key.



["Menu Level"]	Each menu item/subitem within a menu level is shown in the display.
SELECT	The key has two main functions. It gives the user access to a particular menu and, once in the menu, it allows the user to select a particular function.

["Function"]

Functions / Changing of function values:





Return to the menu level above:





Return to the ON LINE mode:





Pressing the **Constant of** key switches the user directly to "ON LINE" from any menu position. For this you have to press the key longer than 2 seconds.

5.7. Syntax of Diagrams

The control panel functions will be described using diagrams. These diagrams show the course necessary in order to activate a certain function.

First the elements of the diagrams are explained:

The sequence on the left describes which keys have to be pressed briefly in succession.



["Message"] The "Panel display" column shows the display messages corresponding to the sequences listed on the left.

In the column "Notes" explanations to particular operational steps are given.

6. Panel Functions



For the panel functions described in the following, the printer is presumed to be switched on and in the ON LINE mode.

6.1. Selecting and Adjusting the Sync Sensors

Please note: Always adjust the printer sensors to your consumables (sensor position as well as the levels and currents).

6.1.1. Selecting the Light Sensor Type (Gap or Reflex)

The **Gap Sensor (Transparent Photoelectric Switch)** is suitable for labels with transparent or register gaps (Menu sub-point Punched). The **Reflex Sensor** (**Reflex Photoelectric Switch**) is suitable for materials with markings / Black Marks (Menu sub-point Reflex).



6.1.2. Checking and Adjusting the Sensors

The device is provided with sensors to enable controlling of consumable movements (Synchronization).

The Gap sensor (Transparent sensor) as well as the Black mark sensor (Reflex sensor) are located "below" the printhead mounting.

Adjust the sensors to your consumables:

Please note: The sensors are located under the print unit.

Always adjust all sensors to your current consumables (levels and currents as well as sensor position).

- 1. Open the printer hood completely.
- 2. Push the printhead release lever clockwise to open the printhead mechanism.



Fig. 6.1.2.a Printhead mechanism opened

- 3. Insert the consumable or measure the position of the gaps/marks.
- 4. The following table gives you an **overview of media and sensor** target positions:

Media	Sensors required	Sensor position mark
Media with Black marks	Reflex sensor (Black mark) (+ transparent sensor for paper end detection)	Directly over the black mark
Die-cut label Center-punched hole tag Notched tag	Transparent sensor (Gap) Transparent sensor (Gap) Transparent sensor (Gap)	The middle of media Directly over the hole Directly over the notch

5. Set the Reflex sensors to the lateral position of the marks of your material. (Compare the yellow arrows in the following figure.)

Printhead



Fig. 6.1.2.b Sliding the sensor to the accurate position

6.1.3. Automatic Adjust of Sensor Current and Switching Threshold

This function serves to adjust the printer's Sync Sensors to the material in use.



<u>If</u> this <u>automatic function does not work</u> with your specific print material, please perform the steps described in section 6.1.4 Manual Adjusting of Sensor Current and Switching Threshold.

6.1.3.1. Overview



6.1.3.2. Example

Selecting the Light Sensor Type (Gap or Reflex) is described in section 6.1.1. In this example the steps to adjust the Gap Sensor are described.



6.1.4. Manual Adjusting of Sensor Current and Switching Threshold

Manual adjusting of the Sync sensor current and switching threshold allows the processing of materials with high contrast proof points within the label, which would otherwise be falsely measured by the system. *)

The panel functions Sensor Test and Sync Sens Level serve to adjust the Sync sensors specifically for the label material in use.



The following sections describe the steps to adjust the Black mark sensor (reflex sensor) and the Gap sensors (transparent sensor) in form of flow charts as well as in form of step by step listings.

^{*)} Special solution: If the adjusting of the Gap Sync sensor failes because the contrast value of the label material itself is very low, you can use the panel function Sync.Sens.Logic to invert the logic. (Black marks can be used as "inverse gaps" in this way.)



6.1.4.1. Reflex Sensor (Black Mark Sensor)

Description of the Working Steps for the **Reflex Sensor** (Black Mark Sensor):

A) Start the printer in the Service Mode, compare section 6.32 (necessary for steps in section D).

B) Select the Sensor Type	Reflex
Please go to [Sync.Sens.Type] in the printer menu structure: Engine\Sync.Menu\Sync.Sens.Type\ select Reflex	
C) Shift the Reflex sensor to the position of your black marks See section 6.1.2 Checking and Adjusting the Sensors	
 D) Sensor Current (CV value) adjusting Please go to Sensor Test and select the subpoint Reflex: Engine\Sensor Test\ select Reflex The currently measured sensor level (contrast) is displayed. Press the exercise key again, after this 2 values are displayed: Left VV = curr. measured sensor value (level) Right CV = reference value for sensor current. CV is modifiable (and has an effect on the VV value). 	
Use the 💴 and 🔤 keys to set the CV value. <u>Approx. CV value</u> :	60 %
 Load paper into the sensor. The sensor measured value (VV level) of the paper (not black mark) should count less than 10%. If the VV level is too high, increase CV (sensor current). Put a black mark into the sensor area. The sensor measured value (VV level) of the black mark should count as possible more than 45%. If the sensor measured value (VV level) of black mark is too low, the CV value should be decreased. Higher black mark VV values than 45% are more advantageous so long as there is no rising above 10% of the paper VV level. Measure both sensor levels once again for Paper and Black mark. (You need the two level values of your material for the following switching threshold adjustment) Save the new current value (CV) using the sensor keys. 	
 E) Sensor Switching Threshold adjusting Please go to [Sync.Sens.Level] in the printers menu structure: Engine \Sync.Menu \Sync.Sens.Level At the right the switching threshold value is displayed. Use the and and and keys to set the switching threshold of the sensor to the middle between the paper level and the black mark level: Save the new switching threshold (Even and the sensor to the new switching threshold (Even and the black mark level: 	:


MICROPLEX

Description of the Working Steps for the **Gap Sensor** (Transparent Sensor):

A) Start the printer in the Service Mode, compare section 6.32 (necessary for steps in section C).

B) Select the Sensor Type P	unched
Please go to [Sync.Sens.Type] in the printers menu structure: Engine\Sync.Menu\Sync.Sens.Type\ select Punched	
C) Sensor Current (CV value) adjusting Please go to Sensor Test and select the subpoint Gap: Engine\Sensor Test\ select Gap The currently measured sensor level (contrast) is displayed. Press the ever key again, after this 2 values are displayed: Left VV = curr. measured sensor value (level) Right CV = reference value for sensor current. CV is modifiable (and has an effect on the VV value).	
Use the and keys to set the CV value. <u>Approx. CV value</u> :	25 %
Put the liner (not the label) of your material into the sensor . Increase CV (current) until the sensor measured value (VV level) of the liner is under 10% .	/
After that increase CV (sensor current) by another 3 %.	+ 3 %
Load <u>label</u> (with liner) into the sensor. The measured sensor level (VV Pegel) of label should count as possible <u>more than 40 %</u> . If the sensor measured value (VV level) of label is too low, the CV value should be decreased. Higher label VV values than 40 % are more advantageous so long as there is no rising above 10 % of the liner VV level.	
Measure both sensor levels once again for Liner and Label. (You need the two level values of your material for the following switching threshold adjustment)	
 D) Sensor Switching Threshold adjusting Please go to [Sync.Sens.Level] in the printers menu structure: Engine\Sync.Menu\Sync.Sens.Level At the right the switching threshold value is displayed. Use the and and well keys to set the switching threshold of the sensor to the middle between the liner level and the label level: Save the new switching threshold (meet key). 	ting: rold

6.1.4.3. Example: Determining the Switching Threshold for a Label Material

After selecting the **panel function Sync.Sens.Level** the contrast of the inserted material (placed in the photoelectric sensor area) is shown on the printer display. The **left level value** is the **currently measured sensor value** (You'll find more details in the previous sections.)

For **all** different **contrast zones** of the current **material** sensor values (level values in %) have to be measured now. **Place** the material **in the** photoelectric **sensor** area and read the level values.

Example: Self-adhesive material with black bars across the label

Zone of the inserted material:	Sensor measured value (level):
Label + liner + black bar	75 %
Label + liner	44 %
Liner (other names: carrier or backing)	12 %

Calculation of the Switching Threshold



The **middle between the label level** (incl. liner) **and liner level** has to be calculated:

(44% - 12%)/2 + 12% = 28%

In this example the switching threshold is to be set to the value 28 %. (The steps to set the Sync sensor level at the printer panel can be found on the following page.)



Steps to set the Switching Threshold (Sync.Sens.Level) at the printer panel:



6.2. Print Process Selecting

This function allows to select the print process. While thermal direct printing the device operates without ribbon, direct thermal media is required. While thermal transfer printing a ribbon is needed to transfer the print contents onto the media (see chapter 4 Handling of Consumables, too).



For thermal direct printing it is not allowed to insert a ribbon to avoid damaging the printhead.

Make sure your settings match to the printer implementation (ribbon inserted/not inserted).

Description of this control panel function continues on the next page.

<u>Panel display</u>			Notes
[Online]		Turn the printer OFF LINE with this key.
[Menu Level 1]	$\mathbf{+}$	
 [Engine	1	UP (Press the end or end key until [Engine] is displayed.
	-	SELECT	Press this key. This selects the Engine menu.
[Printspeed]	÷	
		UP 🛆	Press the end or with key until [Process] is displayed.
[Process]	$\mathbf{+}$	
		SELECT	Press this key to select the process.
[Thermo direct]	\downarrow	
 [Thermo transfer]	UP (a)	Press the for for key until the display message is corresponding with the printer implementation (ribbon inserted = Thermo transfer e.g.).
		SELECT	The thermal transfer print process is selected.
[Save as Setup?]		In addition this new value can be saved as setup value (using the select key), before the printer is turned ON LINE again. After this decision turn the printer ON LINE again:
[Online]		Press the key longer than 2 seconds.

6.3. Ribbon Unwinding Setting (Ink Inside or Outside)

This function is used to adjust the printer to the unwinding direction of your ribbon (distinction between ink inside and ink outside).

Note: More details are described in section 4.2.1 Ribbon Loading.

<u>Panel display</u>			<u>Notes</u>
[Online]		Turn the printer OFF LINE with this key.
[Menu Level 1]	1	
		UP 🙆	Press the end or example key until [Engine] is displayed.
[Engine]	\downarrow	
		SELECT	Press this key. This selects the Engine menu.
[Printspeed]	1	
		UP 🙆	Press the end or end key until [Ribbon Unwinding] is displayed.
[Ribbon Unwindin	g]	\downarrow	
		SELECT	Press this key to select the Ribbon Unwinding submenu.
[Ink outside]	\downarrow	
 [Ink inside]		Press the even or even key until the display message is corresponding with the unwinding direction of your ribbon.
		SELECT	The ribbon unwinding direction for ink inside is selected.
[Save as Setup?]		In addition this new value can be saved as setup value (using the select key), before the printer is turned ON LINE again. After this decision turn the
[Online]		longer than 2 seconds.

6.4. Media Setting (Material; Label or Continuous)

This function allows to adjust the printer to the actual used material (distinction between formatted media (label) and continuous media).

Note: You have to adjust the Sync sensors to your media first. (See previous sections).



6.5. Adjusting the Zero Position of the Material Transport (Sync.Sens.Offset))

Using this function an **offset** from the detected paper feed zeroposition can be set. (See figure next page) By this the position of **printout and tear off/cut** is adjusted **relatively to the material**. (TOF, offset from the printer-detected punch position, that means relatively to the gap/perforation and start of the label. The setting range for the offset is approximately ± 20 mm.

Note: You should execute this offset adjusting after having adjusted the Sync sensors successfully (see previous sections).





Fig. 6.5.a Setting the zero position of the material feed

Offset

+ Offset

6.6. Page Length Adjustment

After inserting new material (e.g. paper) this function is used to adjust the printer to the new page length.

Hint: Alternatively, the printer itself is able to measure the label length. See next sections.



	UP 🙆	Pressing the Power or key changes the value of the current digit (Digit4 = left position, in this example: 1). Pressing the Reverse key moves you to the next digit (the Reverse key moves you back, if need be).
[Digit1 149. <u>5</u>	ı ↓	
	SELECT	The page length is changed to 149.5 mm.
[Perm.Speichern?		In addition this new value can be saved as setup value (using the select key), before the printer is turned ON LINE again. After this decision turn the printer ON LINE again: Press
[Online	1	the key longer than 2 seconds.

6.6.1. Starting the (Printer's) Measurement of Label Length

Use the panel function

Paper Menu \ Paper Size \ Page Length \ **Measure Length**

The printer performs a material feed and reports the measured label length on the display.

Use the key to confirm this value (configuration of the measured label length).

In addition this new value can be saved permanent as setup value (using the

key, again).

6.6.2. Configuration of Semiautomatic Label Length Measurement

The panel function

SELECT

Paper Menu \ Paper Size \ Page Length \ **Auto.Measurement** serves to switch the semiautomatic label length measurement function to on or off (and to save this setting as setup value).

If the semiautomatic label length measurement function is chosen, the printer **automatically offers** you the **measurement of the label length** after every printer power on and **after every closing of the printhead** (for example after the inserting of a new label roll):

Panel display [Measure length]

SELECT

Use the

key to start the measurement of label length, use the

key to suppress this function.

The printer saves the measured label length temporal (as long as the printer stays turned on).

6.7. Material Width Adjustment (Paper Width)

The paper width (print width) has to be adjusted with this function according to the currently used format.





]

MENU

The format width (paper width) is changed to 108.0 mm.

In addition this new value can be saved as setup value (using the sector key), before the printer is turned ON LINE again. After this decision turn the printer ON LINE again: Press the key longer than 2 seconds.

[Online

6.8. Configuration of Text Margins

This function sets text margins. Margins are expressed in dots at the concerning edge of the paper.

Panel display	Ū		Notes
[Online]		Turn the printer OFF LINE with this key.
[Menu Level 1]	UP (Press the ere or ere key until [Page Menu] is
[Page Menu]	4	displayed.
	,	SELECT	Betätigen Sie diese Taste, dadurch wird das Konfigurationsmenü gewählt.
Font Number	1	UP (Press the end or end key until [Margin] is displayed.
[Margin]	SELECT	Press this key. This selects the Margin configuration menu.
[Left]		Press the or key until the desired margin
[from Right]	+	is displayed.
		SELECT	Press this key if you want to configure the right margin.
[Digit4 <u>0</u> 081]	Ť	The currently set value is displayed.
		UP 🙆	Pressing the Press
[Digit1 008 <u>7</u>]	4	
		SELECT	The right margin is changed to 87 dot.
[Save as Setup?]	MENU SELECT	In addition this new value can be saved as setup value (using the exect key), before the printer is turned ON UNE again. After this decision turn the printer ON UNE
[Online]		again: Press the key longer than 2 seconds.

6.9. Printing the Status Sheet

This function generates a status sheet. The status sheet contains information about the current printer configuration, the available fonts and options.



Status sheet contents:

The first lines, entitled SERVICE INFORMATION, contain hexadecimal coded configuration parameters.

Printed in plain text:

- Controller version / memory / serial number
- Firmware release
- Interface
 - parameters of Parallel, USB, Network (Ethernet)
- Network
 - parameters and addresses
- Printer emulation
- User-RAM / free User-RAM
- Input data buffer
- Transparent code
- Paper size
- Default margins top / left

bottom / right

- Default character code
- Options
- Fonts installed (Font banks)
- **Note:** Use the panel function Printing the Font List to show the fonts installed (see the following section).

6.10. Printing the Font List

This function generates a list of all fonts installed to the printer.

The font list shows demo prints of all fonts and, in addition, the concerning PCL selection commands. These commands contain information on font width and font hight (see panel function Font Selection, too).



6.11. Hexdump Mode Activation

In the Hexdump Mode the printer prints all characters received via interface without any interpretation (hexadecimal coded).

This mode helps with error diagnosis. The Hexdump Mode can be activated only temporarily.



Note: By activating the normal print mode (see next page) or by turning the printer off and on again the printer can be taken out of Hexdump Mode. Time between turning the printer off and on again should be at least 15 seconds.

6.12. Normal Print Mode Activation (incl. FORM FEED)

The normal print mode suspends the Hexdump Mode. This function is activated, when a print job must be continued without turning the printer off and on again.

In addition to that the function "Normal Print Mode Activation" is used to produce a FORM FEED.



Note: After activating the normal print mode a FORM FEED is released automatically and one sheet is put out. This is necessary because after a test in the Hexdump Mode it is possible that data can remain in the input buffer unintentionally. (Cause: in the Hexdump Mode no control characters are evaluated and no FORM FEED is effected).

6.13. Clearing the Input Buffer (Cancel Job)

This function permits the resumption of a print job at a particular page after a print interruption (e.g. paper jam). The data contained in the input buffer before the interruption are cleared.



6.14. Printing the Menu Page

This function prints a survey of the available panel functions.

Note: When printing the menu page please use a large paper.

<u>Panel display</u>			<u>Notes</u>
[Online]		Turn the printer OFF LINE with this key.
[Menu Level 1]	\downarrow	
		SELECT	Press this key. This selects Menu Level 1.
[Status Sheet]		
		UP 🙆	Press the ere or eres the for a low of key until [Menu Page] is displayed.
[Menu Page]	\downarrow	
		SELECT	A menu structure presentation of the printer is printed (compare diagram in section Menu Structure).
[Menu Page]	$\mathbf{+}$	
			Turn the printer ON LINE again: Press the
[Online]		the printer is ready to print again.

6.15. Generating Testsheets (Sliding Pattern)

This function generates a series of test prints without sending data to the printer.

These test prints facilitate error analysis.





The printing out of test prints can be stopped by pressing the key.

6.16. Print Direction Selection

This function selects the active print orientation (orientation of the whole printout including graphics, etc. on the paper).



6.17. Data Interface Configuration

<u>Panel display</u>			Notes
[Online	י ב	MENU	Turn the printer OFF LINE with this key.
[Menu Level 1]	↓ ↓	
	U		Press the for the key until [Configuration] is displayed
[Configuration	1	+	
		ELECT	Press this key. This selects the Configuration menu.
[Interface]	Ť	
		ELECT	Press this key. This selects the Interface menu.
[SIA Timeout]	¥	
		ELECT	Press this key. This selects the Timeout menu.
[30 s]	t	The currently set value for the timeout is displayed (here: 30 seconds).
	Ľ		Pressing the Pressing the Pressing the Pressing the Pressing the Pressing the timeout value.
[40 s]	1	
		ELECT	The timeout (the waiting period for SIA to switch to the next interface) is increased to 40 seconds.
[Save as Setup?]		In addition this new value can be saved as
			setup value (using the setup key), before the printer is turned ON LINE again. After this decision turn the printer ON LINE
[Online]		again: Press the seconds .

This function is used to set the interface parameters.

Note: The printer uses SIA (Simultaneous Interface Administration) to check, which interface is currently used for the transfer of print data.

6.18. Emulation Selection

This function helps to determine which printer emulation will be activated.



Available emulations:

Standard: MICROPLEX IDOL, Diablo 630, IBM Proprinter, AGFA Reno, Epson FX, S3000 Lineprinter, DEC LN03+, ANSI (Genicom), pPostscript, TIFF (CCITT group 4), Tally MT 6xx, Bull MP6090, Datamax (FGL), TEC B6xx (Thermal Transfer), Etimark MP-1220 (Thermal Transfer), IDS/IDS2, TEC Bx72 (Thermal Transfer), LDC (Label Description Language), Eltron EPL2, ZPL II (Zebra Programming Language), HP DesignJet (HPGL-2), XML, **CUPS-Raster**

Optional:

HP LaserJet (PCL 5) (Factory option only) Printronix IGP/PGL, HPGL (7475A), QMS (Magnum) Code V, XEROX XES, LabelPoint, Kyocera Prescribe

(More emulations on request)

Notice:

The brand names mentioned are registered trademarks of the enterprises named above.

6.19. Display Language Selection

This function enables the user to determine the language for the display messages, the status sheet and the font list.



6.20. Transparent Code Adjustment

This function configures the transparent code. Using the transparent code enables you to initiate the commands of the page description language IDOL by **printable** characters. The transparent code pre-setting is 2625. These are the ASCII character codes (hexadecimal) for the characters &% (ref. IDOL Programming Manual).



6.21. Selection of Memory Distribution (Input Buffer)

This function enables the user to choose the distribution of the available RAM memory between input buffer and macro/download memory.

<u>Panel display</u>			<u>Notes</u>
[Online]		Turn the printer OFF LINE with this key.
[Menu Level 1]		Press the end or end key until
[Configuration]	Ŷ	
[Tabanéa ca	,	SELECT	Press this key. This selects the Configuration menu.
	1	UP (Press the end or end key until [Input Buffer] is displayed.
[Input Buffer]	+	
		SELECT	Press this key. This selects the Input Buffer menu.
[32 kB]	\downarrow	
		UP 🔿	Press the even or even key until the desired memory distribution is displayed. The input buffer size is specified in kilobyte (kB) or in percent of the installed memory.
[100 kB]	+	
		SELECT	100 kB is selected as input buffer.
[Save as Setup?]		In addition this new value can be saved as setup value (using the select key), before the printer is turned ON LINE again. After this decision turn the printer ON LINE again: Press the key
[Online]		longer than 2 seconds.

6.22. Setting to Factory Default

This function back-outs all configurations to factory defaults.



6.23. Font Selection

This function selects the active font. Select a font number out of the list of available fonts.



<u>Font no.</u>	<u>Font width</u>	<u>Font height</u>	<u>Font name</u>
0600	10	12	Kurilen
0602	10	12	Kurilen Italic
0610	12	10.1	Kurilen
1710	12	10.1	Kurilen Italic
4508	Р	8.1	Helgoland
4510	Р	10	Helgoland
4714	Р	14.4	Helgoland Bold
5507	20	7	Langeoog
5508	16.6	7.9	Langeoog
5509	15	9.1	Langeoog
6610	10	10.1	Juist Monosp.
9210	Р	10.1	Tasmanien
9310	Р	10.1	Tasmanien Italic
2000	Р	SC	Tasmanien
9900	Р	SC	Neuwerk

The LOGIJET T8-3	standard	equipment	contains the
following fonts :			

Resumption of this standard font list see next page.

Explanations:	Font width:
	Character distance in CPI (Characters Per Inch).
	P = proportional, (meaning that each character has an individual width)
	Font height:
	Font height from the lowest descender to the upper edge of the highest
	character, measured in graphical points (1/72 inch).
	SC = scalable.

	<u>Font no.</u>	<u>Font width</u>	<u>Font height</u>	Font name
			-	
	0050	SC		Plakatschrift
	0590	SC		OCR /B
PCL 5 compatible	0591	SC		OCR /A
	6600	SC		Juist Monospaced
	0699	SC		Kurilen
	/ 1700	SC		Kurilen Italic
	1800	SC		Kurilen Bold
	1900	SC		Kurilen Bold Italic
	5500	SC		Langeoog
	5600	SC		Langeoog Bold
	5700	SC		Langeoog Italic
	5800	SC		Langeoog Bold Italic
	2100	Р	SC	Texel Bold
	2200	Р	SC	Texel Italic
	2300	Р	SC	Texel Bold Italic
	9800	Р	SC	Neuwerk Italic
	9500	Р	SC	Neuwerk Bold Italic
	9600	Р	SC	Neuwerk Bold
	0060	SC		Plakatschrift
	9501	Р	SC	Neuwerk-II Condensed Italic
	9601	Р	SC	Neuwerk-II Condensed Bold Ital.
	9801	Р	SC	Neuwerk-II Condensed Bold
	9901	Р	SC	Neuwerk-II Condensed
	0530	Р	SC	PiktoWin
	5100	Р	SC	Amrum
	5200	Р	SC	Amrum Bold
	5300	Р	SC	Amrum Italic
	7500	Р	SC	Antigua
	7700	Р	SC	Antigua Bold
	7800	Р	SC	Antigua Italic
	7900	Р	SC	Antigua Bold Italic
	9199	Р	SC	Tasmanien-II Bold Italic
	9299	Р	SC	Tasmanien-II
	\ 9399	Р	SC	Tasmanien-II Italic
	<u> </u>	Р	SC	Tasmanien-II Bold

Notes: Additional fonts can be selected from the font catalogue depending upon the memory capacity.

You can use the panel function Printing the Font List (see section 6.10) to generate a list of all fonts installed to the printer.
6.24. Text Orientation Selection

This function selects the active text orientation.



6.25. Symbol Code Selection

This function selects the active symbol code.



6.26. Lines per Inch Setting (Line Spacing)

This function sets the number of lines per inch. This setting is effective only in case of using the printer as a line printer. With a small number of lines per inch, line spacing will be relatively large. (Ref. IDOL Programming Manual).



6.27. Number of Characters per Inch Setting (Character Spacing)

This function sets the number of characters per inch. This setting is effective only in case of using a line printer emulation. With a small number of characters per inch, character spacing will be relatively large. (Ref. IDOL Programming Manual).

<u>Panel display</u>		<u>Notes</u>
[Online		Turn the printer OFF LINE with this key.
[Menu Level 1 [Page Menu		Press the end or end key until [Page Menu] is displayed.
Font Number	SELECT	Press this key. This selects the Page Menu.
	UP @	Press the ere or even key until [Char. Spacing] is displayed.
[Char. Spacing	SELECT	Press this key. This selects the configuration menu.
[Digit4 <u>0</u> 13.3	ı ↓	13.3 cpi = currently set value. (c haracters p er i nch).
	UP 🙆	Pressing the Press
[Digit1 012.0	1 1	The number of characters per inch was reduced to 12
[Save as Setup?		In addition this new value can be saved as setup value (using the second key), before the printer is turned
[Online		ON LINE again. After this decision turn the printer ON LINE again: Press the key longer than 2 seconds.

6.28. Print Speed Adjustment

This function is used to change the print speed (adaptation to the actual used materials, e.g. to optimize the contrast of the printout).

The setting range for the print speed is 2 inch/s up to 6 inch/s (inch per second).



6.29. Density (Contrast) Setting

Using this function the print density (contrast) of the printed characters can be changed. Values from 10% to 120% are settable *).



*) Note: Please consider that using high density values (more than 100%) can result in a reduced lifetime of the printhead.

6.30. Image Shifting to the X-Direction

This function shifts the print image in relation to the paper to the X-direction (crosswise the print direction).



Example for shifting the image to the X-direction:



6.31. Image Shifting to the Y-Direction

This function shifts the print image in relation to the paper to the Y-direction (print direction).

<u>Panel display</u>			<u>Notes</u>
[Online]	MENU	Turn the printer OFF LINE with this key.
[Menu Level 1]	\rightarrow	
 [Engine]		Press the erection or erections key until [Engine] is displayed.
[Printspeed]	SELECT	Press this key. The Engine menu is selected.
		UP 🙆	Press the 💴 or 🕬 key until
[Image Y-Pos.	1	4	[Image Y-Pos.] is displayed.
[Y-Pos.: 0 Dot]		The panel function Image Shifting to the Y-Direction is selected. The currently set value is displayed (O =Default).
 [Y-Pos.:+120 Dot]		Press the for for key until the desired value is displayed. Values from -496 up to +496 dot are settable, so a max. image shifting of approx. ±1.6 Inch (approx. ±42 mm) can be reached.
		SELECT	Now the new image Y-Position is saved.
[Save as Setup?]		In addition this new value can be saved as setup value (using the select key), before the printer is turned ON LINE again. After this decision turn the printer ON LINE again: Pross
[Online]		the key longer than 2 seconds.

Example for shifting the image to the Y-direction:



6.32. Peripheral Device Activation (Tear Off Edge, Cutter)

After installation or deinstallation of a peripheral device this function has to be used to adjust the printer configuration.



Peripheral device selection:





6.33. Selecting the Tear Off Mode (Option: Cutting Mode)

With this function the printer's material transport can be adjusted to the following media processing.



Information on the Tear Off mode:

- OFF = After printing no additional media transport takes place, the printhead position is TOP OF FORM.
- ON = The printer will feed the material (label) out to the tear edge, waiting for the user to tear it off before printing the next label. This additional media transport after printing enables to disjoin the material along/at the perforation. *)
 The tear off mode is not carried out, if the next page is already ready to print. (In this case the next page is printed instead).
- *) A draw back of the material can be selected. Prior to the next print job the material is moved back until the printhead position is TOP OF FORM (Real 1:1 Mode).

Use the panel function Selecting the Print Mode for this (see the following pages).



If the **optional cutter** is installed and activated, the menu structure of the printer contains the **Cutting Menu** instead of the Tear Off Menu. The adjustment of the cutting parameters has to be done in the same way as it is described for the tear off functions.

6.34. Adjusting the Tear Off Position (Option: Cutting Position)

The basis for the tear off position ***) is the detected gap position, i.e. the perforation or the start of the label.

With this function a fine setting of the tear off position is carried out. The setting range for the offset is approximately

Panel display	_		<u>Notes</u>
[Online		MENU	Turn the printer OFF LINE with this key.
[Menu Level 1]	↓	
		up 🕘	Press the end or key until [Engine] is displayed.
[Engine]	÷	
[Printspeed		SELECT	Press this key. This selects the Paper menu.
		up 🙆	Press the end or end key until [TearOff Menu] is displayed.
[TearOff Menu]	+	
		SELECT	Press this key. This selects the TearOff menu.
[TearOff Mode		*	
			Press the Constant of Constant key until [TearOff Pos.] is displayed.
[TearOII Pos.	1	*	
		SELECT	Press this key. This selects the TearOtt Position submenu.
[Position:-2.0 m	m]	÷	The currently set value is displayed.
		JP 🕘	Press the or key until the desired offset is displayed.
[Position:-2.5 m	m]		

+- 10.7 mm.

	SELECT	The tear off position is shifted 0.5 mm (additionally) in feed direction.
[Save as Setup?]	In addition this new value can be saved as setup
		value (using the sector key), before the printer is
		turned ON LINE again. After this decision turn the
	EMENO	printer ON LINE again: Press the 🔲 💷 key
[Online]	longer than 2 seconds.

***) If a cutter is installed and activated, the concerning panel function Cutting Position has to be used.

Hints on adjusting the position:

This function is used to change the cutting position of the optional cutter:

Adjusting causes a shift of the cutting position relative to the printer detected gap position (i.e. relative to the perforation or the start of the label, compare the following figure).



Please note: Changing the SyncOffset has an effect on the cutting position, too. For **further information** see section 6.5 Adjusting the Zero Position of the Material Transport.

6.35. Selecting the Print Mode

With this function the procedure for the label output and print is defined. The different print modes are described on the following pages.





Real 1:1 Mode

The whole surface of the label is printable. The label is pushed forward to the tear off edge for tear off (see the previous section: Selecting the Tear Off Mode) or to the cutter. **After the tear off/cut**, the **beginning of the next label is drawn back under** the **printhead**. This reduces the output volume (in relation to a certain time).



Normal 1:1 Mode

In this mode after tear off or cut no draw back of the unprinted material takes place. The output volume is at its maximum level. As a result the first approx. 30 mm of the label are not printable. These measurements correspond to the distance between printhead and tear off edge. When using the cutter the first approx. 35 mm of the label are not printable.



6.36. Configuration of Network Parameters (IP Address, e.g.)

The functions of the submenu Network are used to set the parameters for connecting the printer to a network (Ethernet).

Panel display Notes [Online] MENU Turn the printer OFF LINE with this key. L [Menu Level 1 1 Press the er or even key until [Network] is UP displayed. [Network 1 -SELECT Press this key. The Network menu is selected. [Timeout 1 Press the Press UP displayed. ſ [Ethernet] Press this key. The Ethernet menu is selected. SELECT d. [IP Assign] SELECT Press this key. The IP Assign menu is selected. ł [Off The current configuration is displayed.] Press the eral or key until [Manual] is UP displayed. Ļ [Manual] Press this key to change address assignments, SELECT manually. Ļ [IP Address] SELECT Press this key to set the IP address manually. Ļ [192.168.002.002] The current IP Address is displayed.

Setting the IP address manually:



Notes: If your network is using DHCP[®] , an address can be automatically assigned (select the item **DHCP** from the network submenu IP Assign).

The parameters **Subnet Mask** and **Gateway** are configured in the same way as described above. Please select the concerning panel functions for this (compare section 5.6 Menu Structure).

Select the subitem **Off** from the network menu to switch off the network access.

[®] Dynamic Host Configuration Protocol: offers among other things a centralized address management.

Duplex/Speed Setting

This panel function is located in the network menu (submenu Duplex/Speed Setting).

The factory default value is Autonegotiation.

Autonegotiation means that devices on the network agree a transmission mode, which each unit is able to handle, before data transmission starts. By this the printer automatically adjusts itself to maximize link performance.

Hint: Autonegotiation is the recommended setting!

If you set the Duplex/Speed parameters manually, you may experience problems. Wrong settings can slow down the speed of the link (worst case: communication does not occur).

Explanations:

Auto-Negotiation

A Ethernet procedure that allows devices at either end of a link segment to advertise and negotiate modes of operation such as the speed of the link (100 Mbit/s or 10 Mbit/s) and half- or full-duplex operation.

Half duplex A device can either receive or send data at a given time.

Full duplex

Capability of a device for sending and receiving data at the same time. In the case of full duplex, collision detection is deactivated. A full duplex capable device is able to buffer data packets.

7. Operator Maintenance

In order to run the printer on its highest quality level, it is necessary to perform regularly simple cleaning operations, and to occasionally replace certain components. These operations can be performed by a MICROPLEX trained operator. A not trained person is not allowed to perform these operations.

7.1. Printer Cleaning

By a regular and conscientious performance of the following operations, the printer is guaranteed to always work at an optimum reliability.



For safety pull out the mains plug first. Make sure the elements that are to be cleaned have cooled down.



Please be especially careful to avoid damaging mechanical or electronic modules.

Do not use detergents, or any other devices or tools not mentioned in this manual to avoid damages and unnecessary costs of repairs.

For the following cleaning operations the concerning parts or modules have to be freely accessible. Because of this please perform the following operational steps first if necessary:

- ribbon removal (see section 4.2.2)

- media removal (see section 4.3.2)

After the cleaning operations please load the wanted consumables (again), see chapter 4: Handling of Consumables.

7.1.1. Printer Cabinet Cleaning

Soilings like dust, grease or similar things can be removed with a soft, lint-free cloth. If necessary the cloth can be moistured with water or a neutral detergent. Inside the printer dust or paper dust can be removed best with a soft (non-metallic) brush.

7.1.2. Printhead Cleaning



This maintenance operation should be done after each ribbon exchange or not later than the print quality is reduced (unwanted "lines" or "gaps" in the printout).

Please pay attention to the following:

- For the printhead cleaning there is <u>no need</u> to disassemble or remove the printhead.
- The printhead can be damaged by electrostatic charges. Therefore first of all touch a properly grounded part of the printer (the base plate of the printer, e.g.).
- 1. First push the printhead release lever clockwise.
- 2. The printhead moves up.
- 3. Take out the ribbon if one is loaded.
- 4. Clean the printhead:
 - a) Using a soft, lint-free cloth or a special cleaning pen:
 - Move the cloth or pen along the print area of the printhead (see figure 7.1.2.a). This working step requires light pressure and has to be repeated several times.



Fig. 7.1.2.a Cleaning the printhead

b) Using **Spirit** for the cleaning work:

Spirit (Ethanol) should only be used if the cleaning results achieved using the method described above are not good enough!



Spirit is an easily combustible liquid! Take notice of the safety instructions for combustible liquids! Don't smoke!

- Use a soft lint-free cloth, moisten it with spirit and then use it to wipe several times along the print area of the printhead (compare figure 7.1.2.a).
- Allow the printhead to dry for 2-3 minutes.
- 5. Install a ribbon, if you want to operate the printer in the thermal transfer mode.
- 6. Close the printhead release lever.
- 7. The printhead moves down and the printer is ready for printing again.



To help keep the printhead clean and to avoid premature wear out of the printhead, the hood of the printer should always be closed. Moreover it is not allowed to use dusty or dirty print media.

7.1.3. Platen Roller Cleaning

The printer's platen roller (transport roller below the printhead) can be soiled by the print media (e.g. with adhesive residues).

For the following cleaning operations the hints of section 7.1.2 are valid, too !

Stickings can be removed best with a soft lint-free cloth saturated with isopropyl alcohol (99.9 %).

Make sure the platen roller has been cleaned on its whole extent so that there is no reason for irregular media transport after that.

Allow the platen roller to dry for at least 3 minutes.

7.2. Adjusting the Right Pressure Value

A correction of the pressure value is necessary, if the diameter of the new printmedia is bigger or smaller than the previous one. In addition the pressure value can be modified in order to adapt the characteristics of the consumables. An increase of the pressure value, for example, can improve the transfer of the image onto the printmedia.



Fig. 7.2.a Principle view of the print process

While printing small labels the printhead may come in contact with the print roller just in that area that isn't covered by the label. This may lead to an accelerated abrasion of the printhead and to a print quality that isn't even over the whole print width.

The operation steps to adjust the pressure value are described in section 4.4 (Printhead Pressure Adjusting).



Please consider that increasing the pressure value will increase the friction between printhead, ribbon, printmedia and the print roller, too. The abrasion of the concerning components (for example the printhead surface) will be accelerated considerably due to the increase of the pressure value.

8. Troubleshooting



When an error occurs, a corresponding error message is displayed in the control panel (see section 8.1).

Please address the problems described in this chapter yourself (especially the consumable replacement). Please regard the following subjects if an opening of the printer becomes necessary:



- While operating the printer components inside the device will heat up. Take care that you do not burn your fingers when removing a paper jam.
- Make sure all covers of the device are completely closed afterwards.



Any others but the troubles described on the following pages are only to be repaired by a MICROPLEX authorized operator or a service engineer.

When reporting a problem to your service engineer, please give him the exact error message. That helps to localize the error more quickly.

8.1. Printer Error Messages

Panel display		Remedies
[Load Paper]	- insert a printmedia (paper, roll-fed media e.g.)
or		- make sure the media has been
[Paper End]	loaded correctly
		(compare section 4.3)
		- clean the sensors
		(compare section 7.1)
[Foil Error!]	The thermal transfer print mode is selected.
		A printer ribbon is needed.
		- insert a ribbon
		- make sure the ribbon has been
		loaded correctly
		(compare section 4.2)
		- Correct the print process setting, if you don't
		want to use a ribbon.
		(compare section 6.2)

[Head open!]	 The printhead assembly is not firmly in place. Re-open the printhead assembly and make sure it closes tightly: swivel the printhead mechanism downward and use both hands to push down gently to lock.
		<image/>
		Fig. 8.1.a Swivelling the printhead mechanism with both hands down until it clicks into place

Panel display	Remedies
[Paper Jam !] or	These error messages indicate a paper jam: - remove the jammed consumables (labels sticking together e.g.) - reload the consumables (paper) (see chapter 4) - perform the basic operations (see chapter 3)
[Punch Error]	- For further information about the avoiding of paper jams please take notice of section 8.3 Incorrect Media Transport
or [Sync.Mark Error]	 check the position of the reflective sensor. set the reflective sensor position in accordance to your consumables. See section 6.1.2 Checking and Adjusting the Sensors. clean the sensors (compare section 7.1)
	 After a repeated paper jam please check first that all material pieces are removed.

[HeadNot Found!]	- the printhead is not connected or faulty.
[Head defectiv!]	 the printhead is defective. A new printhead has to be installed.
[High Head Temp.]	The printhead temperature is too high. - make sure the consumables have been loaded correctly (compare section 4.2 and 4.3)
[Head Life End!]	- a new printhead has to be installed
[CutterNotFound!]	 The optional cutter is selected, but not connected or defective. make sure the cutter is installed correctly. Also, see section 6.32 Peripheral Device Activation (Tear Off Edge, Cutter) Unselect the cutter, if the cutter was deinstalled. See section 6.32
[Cutter Error!]	An error occured during cutter operation. - check for a paper jam. Remove the jammed paper. - reload the consumables (paper)

If the remedies above are not successful, please call a MICROPLEX authorized service engineer.
8.2. Reduced Print Quality

Defect	Remedies
Printout too light	 check the print process selecting and correct it, if necessary (see section 6.2)
	 check the printhead pressure (see section 4.4 Printhead Pressure Adjusting and section 7.2 Adjusting the Right Pressure Value).
	- check the ribbon transport (load the ribbon again, if necessary; see section 4.2)
	- increase the contrast (see section 6.29)
	 choose different consumables (adjust media to the ribbon resp. print process or vice versa, see chapter 3, 4 and 6)
	- check the environment conditions and correct them if necessary (admissible values for humidity, temperature etc., see chapter 2.3 and 10)
Printout too strong	 check the print process selecting and correct it, if necessary (see section 6.2)
	- reduce the contrast (see section 6.29)

Defect	Remedies
Printout blurred or incomplete	 clean the printhead (see section 7.1.2) check the ribbon transport (load the ribbon again, if necessary; see section 4.2) also, see section 8.3: Incorrect Media Transport

If the remedies above are not successful, please call a MICROPLEX authorized service engineer.

8.3. Incorrect Media Transport

Defect	Remedies
Incorrect media transport (no gap detection between labels e.g.)	 perform the basic operations (see chapter 3) check if the Sync Sensor has been adjusted correctly (see section 6.1) adjust the position of the reflective sensor suitable to your consumables. check if the media has been loaded correctly (compare section 4.3) check if the ribbon has been loaded correctly (compare section 4.2) clean the the sensors (compare section 7.1) check if the jammed consumables have been removed completely.
No straight transport of the consumables (torsion or folding of the ribbon, e.g.)	 check if the ribbon has been loaded correctly (compare section 4.2) check if the media has been loaded correctly (compare section 4.3) check if the printhead pressure was adjusted correctly (see section 4.4 and section 7.2) clean the platen roller (see section 7.1.3)

Paper Jam	 in addition to the remedies above: push the printhead release lever clockwise to remove the paper (compare chapter 4) check if the jammed consumables have been removed completely.

If the remedies above are not successful, please call a MICROPLEX authorized service engineer.

8.4. Print Repetition after an Error

The printer is provided with an automatic jam safety function to prevent a loss of data.

When an error occurs, all the pages on the paper path will be printed again. This ensures that no data will get lost.

The exact number of pages to repeat depends on the format length and the position where the error occurred on the page.

This automatic jam safety function can be switched off (by changing the EEPROM - configuration) if the user wants to resume the print job at a position he chooses himself. In addition to this see panel function Clearing the Input Buffer (section 6.13).

9. Measures for Transport and Shipping (Repacking)

The Printer is shipped with special packing material and fixing measures. It is recommended to store the boxes and those packing materials.



In case of further shipping or returning of the products they must be repacked in the original way in order to avoid damaging during transportation.

The following list gives you an overview of the working steps necessary for repacking. Pay attention to the notices located on the products and the hints given in the Service Manual as well.



If you are not familiar with any of the working steps please ask your service engineer or your supplier.

- Remove the printer's optional peripheral devices (if present).
- Remove the paper.
- Remove the ribbon, if one is loaded.
- Close the printhead.
- Lock all moveable parts of the printer (use all original transport safety devices, adhesive fasteners and so on).

Repack all items in their original packing material and ship them in the original boxes.

10. Specifications

Print technology:	non-impact, thermal transfer printing / thermal direct printing
Print speed:	up to 6 inch / second (up to 150 mm / second)
Resolution:	300 dpi (dots per inch, horizontal and vertical)
Media width: max. Print width:	4 up to 9.5 inch (101.6 up to 241.3 mm) (with cutter: 8.5 inch (215.9mm)) 8.64 inch (219.5 mm)
Media thickness:	0.06 up to 0.25 mm
Interfaces:	parallel: IEEE 1284 (Centronics) serial: USB 2.0 Host, USB 2.0 Device LAN: Ethernet 10/100 Mbit (TCP-IP) Optional: parallel: SPS-Control serial: RS232, RS422 WLAN: 802.11 n/b/g
Dimensions:	
Width (W): Depth (D): Height (H):	440 mm 504 mm 336 mm
Weight:	appr. 23 kg
Environment:	temperature: +5°C to +40°C (operating) -40°C to +60°C (storage temperature) relative atmospheric humidity: 20 to 85 % (without condensation)
Mains connection:	90 -264 V, AC, 5,5 A, 47-63 Hz; for example: 230 V AC, 50 Hz, (Europe, United Kingdom e.g.) 120 V AC, 60 Hz, (North America)

Costs per Page for MICROPLEX Print Systems

The term "costs per page" is the most frequently used one in connection with the purchase of a printer. Nevertheless this term is the one with the biggest lack of definition.

The distributors normally attach great importance to having small values for the costs per page. The user normally wants to have a value that is as realistic as possible.

There isn't any generally valid rule to calculate the costs per page. Therefore values given by different manufacturers are very often not comparable.

The values given by MICROPLEX are based on the utilization time of the so-called consumables of the printer. There isn't any generally valid rule for this calculation, either. Therefore MICROPLEX has fixed the definition of consumables as follows:

1. Consumables Consumables are parts or substances which the user can exchange or refill without tools.

MICROPLEX understands by this definition that the user can decide by <u>visible criteria</u> when he should exchange or refill consumables. The working steps can be done by the user in accordance with the manual without the usage of tools.

Consumables can be different depending on the printer type. The most important consumable for example is **toner**.

Usually the utilization time of these materials is given as a number of pages (DIN A4). These values often refer to the print density (3%, 4%, or 5%) which is given as an application specific parameter. Usually a value of 5% print density is defined, very seldom is 4% used.

In the case of a low print density (e.g. 3%) the utilization time increases, in the case of a high print density (e.g. 10%) the utilization time is decreased.

Therefore the utilization time is strongly dependant upon the application.

Experience proves that in professional applications a print density of higher than 5% is usually reached. For a delivery note containing a form and some bar codes a print density of 8 - 10% is quite normal.

There are further parts that must be exchanged in addition to the consumables during the life time of a print system. MICROPLEX divides these additional parts into two categories:

2. Application specific wearing materials

Application specific wearing materials are parts which have to be exchanged by a service engineer or a trained operator. The criterias for the exchange aren't always easily recognizable for a user. Some of the criterias require measuring techniques or the experience of a service engineer or operator.

In a normal application, parts of this category are:

- fuser unit
- process unit (drum, OPC)
- ozone filter

3. Spare parts Spare parts are exchanged by the service engineer, when they fail. Examples for spare parts are: couplings electronic assemblies

- rollers

Depending on the application some parts may change categories under certain circumstances. If for example very rough paper is used, the rollers can become an (application specific) wearing part.

It's a fact, that the right time to exchange a component depends not only on the failure of a component but also on a possible loss of print quality in the printouts.

MNPSQ = Mean Number of Prints with Specified Quality (SQ).

This value is often associated with "Lifetime". This term is not correct. MNPSQ describes the period of time in which a defined print quality is maintained.

The print quality is determined by the values for

- print density

- background darkness
- homogeneity

The value **IQ** (Initial Quality) is used to designate the print quality that is reached with a new printer. **CAQ** (Customer Acceptable Quality) is a purely subjective lower limit which a respective customer is willing to accept the print quality. An exchange of parts is only then necessary even if the MNPSQ is already exceeded.



11. Index

A

asymmetrical setting 49

B

basic operation sequences 23

C

cancel job 95 character spacing 112 characters per inch 112 check list 17 cleaning 133 configuration 56 connect, printer to a PC 51 consumables 25, 155 contents 3 continuous 81 contrast 114 control panel 56 control panel elements 54 control panel keys 55 conventions 9 costs per page 155 CUT key 55 Cutter 55 cutter activation 119 Cutting 55 cutting menu 123 cutting mode 123 cutting position 82, 124

D

data interface 99 densitiy 114 diagrams 63 dimensions 153 display 54 display language 102 DOWN key 59, 60

E

electrical requirements 153 emulation 100 environment 18, 153 ERROR - LED 54 error messages 140, 141 extended menu 58

F

factory default 105 FEED key 55 foil handling 27 font bank 91 Font List 92 font selection 106 FORM FEED 55, 94 function keys 53 fundamentals 8

G

gap offset 82 Gap sensor 65, 68

Н

Hexdump 93 humidity, relative 18, 153

I

IDOL 17 image shifting 115, 117 ink inside 80 ink outside 80 input buffer 95, 104 installation 15 installation, first 51 interface 51, 99 interfaces 153 IP address 129

Κ

keys 53

L

label 80, 81 label length 86 LCD display 54 LEDs 53 light sensor position 66 light sensor type 65 line spacing 111 lines per inch 111

M

margins 89 material 7, 81 material transport zero position 82 material width 87 measures, transport 151 media 7, 81 media thickness 153 media transport 147 media width 153 memory distribution 104 MENU key 55, 59, 60, 61, 62 menu page 96 menu structure 58

Ν

network parameters 129 networking features 56 normal 1:1 mode 128 normal print 94

0

OFF LINE 58 offset material position 82 offset tear off position 124 ON /OFF LINE key 55 ON /OFF LINE switching 57 ON LINE - LED 54 operation 51, 52, 57 operation sequences 23 operator maintenance 133

Ρ

packing materials 16 page length 84 panel display 57, 63, 141 panel functions 64 panel keys 53, 59, 63 paper jam 148 paper size 84 paper width 87 peripheral device activation 119 permanent configuration changes 56, 61 platen roller 138 POWER - LED 54 power on 52 power source 18 power supply 51 pressure value 139 print density 156 print direction 98 print mode 126 print process 78

print quality 145, 156 print repeat 149 print speed 7, 113, 153 print width 87 printer components 19 printer installation 18 printhead cleaning 135 printhead pressure 47 product properties 2

R

real 1:1 mode 127 reduced menu 58 Reflex sensor 65, 68 repacking 151 resolution 7, 153 returning 151 ribbon 78, 80 ribbon handling 27 ribbon removal 36 ribbon winding direction 80 ribbon wrinkles 50 rights 2 roll-fed media 37

S

safety regulations 11 SELECT key 59, 60, 61 sensor adjust 68, 70 sensor current 70 sensor position 66 sensors 64 sensors, cleaning 141, 143, 147 Service Mode 119 setup values 61 shipping 151 sliding pattern 97 spare parts 156 specifications 153 status sheet 90 symbol code 110 symbols 9 Sync sensor level 68, 70 Sync Sensors 64 synchronization 66

T

tear off edge activation 119 tear off mode 122, 127 tear off position 82, 124 temperature 18, 153 temporary configuration changes 56 test prints 97 text margins 89 text orientation 109 thermal direct printing 8, 25, 78 thermal transfer printing 8, 27, 78, 141 threshold, sensor 70 transparent code 103 Transparent sensor 65 transport 151 troubleshooting 140

U

UP key 59, 60 utilization time 155

W

wearing 47 weight 153 wrinkles, ribbon 47