# Signasetter PRO

Operation

HEIDELBERG-

Copyright © 1998 Heidelberger Druckmaschinen Aktiengesellschaft.

All rights reserved.

PostScript is a registred trademark of Adobe Systems Incorporated The contents of this manual are the property of Heidelberger Druckmaschinen AG, and may not be reproduced by any method, electronic or photographic, without the express written permission of Heidelberger Druckmaschinen AG.

#### Important notice:

We are dedicated to improving and enhancing the hardware and software of our typesetting and communication systems and equipment. Consequently, the information in this manual is subject to change without notice.

We assume no responsibility for information and description as far as third-party products are concerned.

Throughout this book trademark names are used. Rather than put a

trademark symbol in every occurrence of a tradmarked name, we state that we are using the names only in an editorial fashion and to the benefit of the trademark owner with no intention of infringement of the trademark.

For any problems regarding the product described in this manual, please contact our Central Call Desk under the telephone number +49 (180) 3232337.

Ident. No. 5303753 Edition February 1998

Instruction
Installation
Operating and Display Elements
Starting the System
Operation
Service and Maintenance
Parameter Setup
Technical Data
Appendix
Index

# Notes on Technical SafetyNotes on Technical Safety

The unit complies with the saftey regulations and standards described in the Technical Data chapter.

### Correct Use

The Signasetter PRO is a laser imagesetter for photographic material and is only to be used for this purpose in accordance with the user documentation.

Do not place any objects or liquids on the unit.

Ventilation outlets must be kept clear at all times.

## Laser Safety

### General Information

The Signasetter PRO laser imagesetter is a class 1 laser product.

This means that laser rays produced in the unit are screened by protective coverings.

The operator is at no time exposed to dangerous rays if the unit is used according to regulations.

#### Service and Maintenance

There are no parts inside the casing which require servicing by the operator. Servicing may only be performed by personnel who have been authorized to do so by Heidelberg Prepress.



Caution: Do not remove covers or any other parts of the casing under any circumstances except in the event of photographic material jamming. Keep exactly to the procedures laid down when doing this.

Otherwise, you are in danger of being injured by a laser ray or an electric shock.



Caution: The use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

# Program Version

This documentation describes the entire range of functions for the following program version:

Program	Version
ConSigna	5.xx

### About this Documentation

This documentation is intended as a reference work for the user during training courses and operation.



The documentation must be kept safely for future use right up to the disposal of the unit.

This documentation comprises the following chapters:

Chapter 1:Description of the unit and its functions.

Chapter 2:Description of the hardware and software installation.

Chapter 3: Explanation of the operating and display elements.

Chapter 4: Switching the Signasetter PRO on and off.

Chapter 5: Description of the operating procedures, e.g. inserting the photographic material into the supply cassette, loading and unloading the photographic material in the SignasettePRO etc.

Chapter 6:Description of service and maintenance work to be performed by the user.

Chapter 7: Signasetter PRO parameter setup.

Chapter 8: Technical data.

Appendix: Notes on quality control (Installation Report and Problem Report).

The index permits you to locate information quickly and easily. Entries often have several cross-references about one specific topic.

### Prerequisites

The operator, having attended a training course, should be familiar with the Signasetter PRO.

### Additional Documentation

You can find further information in the following user documentation:

DeltaTechnology - User's Guide

### Typographical Features and Symbols

References to other manuals, chapters and sections are written in italics.

Please refer to chapter 2, section Basic Functions.

The following symbols are used in this documentation:



Contains information which must be observed at all times in order to protect the user from danger.



Contains information which must be observed in order to avoid the hardware or software from being damaged!



Contains general or additional information about a certain subject.

Introduction

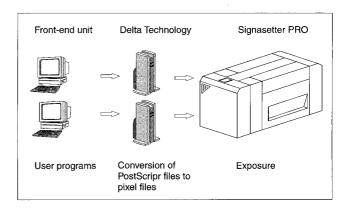
Description of the Unit and its Functions	1-3
Operational Components of the Signasetter	1-7
Notes on Operation of the Signasetter with	
Two RIPs	1-8
Advantages and Features of the Hard Dot Film .	1-9
Dimensional Stability of Reprographic Films	1-20
Acclimation of the Film	1-21
Aging of the Film	1-24
Influence of the Tunescus Unit	1 05

# ■ Description of the Unit and its Functions

The Signasetter PRO is a high-precision laser image setter based on the in-drum principle and is used to expose PostScript<sup>TM</sup> files.

The PostScript files are converted by the connected RIP (Raster Image Processor) and are sent to the Signasetter PRO.

The Signasetter PRO has two Speedway interfaces for the connection of 2 RIPs.



The files are exposed on film or on paper in daylight operation. A laser tube whose rays are in the visible red spectrum is used as the light source.

The exposure format of 770 mm x 1070 mm can take the most important formats in printing.

PostScript files RIP Area imagesetter

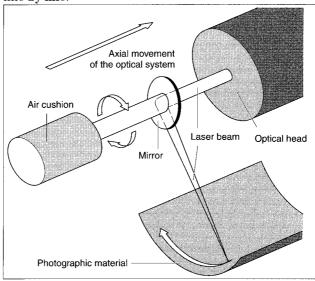
Recording principle

The Signasetter PRO is an area imagesetter. The recording beam does not record the composition work character for character but instead moves line for line over the entire width of the material.

This recording process requires that the PostScript files are converted to image dot files (pixel files) by the RIP before exposure begins. The number of image dots (pixels) per centimeter (lines/cm) or dots per inch (dpi) depends on the resolution selected.

The laser emits a laser beam which is modulated (light-ened/darkened) according to the video data transferred. The laser beam, formed correspondingly by an optical system in the collimator, is deflected via a rapidly rotating mirror.

The deflected beam of the optical system which moves in axial direction exposes the photographic material line by line.



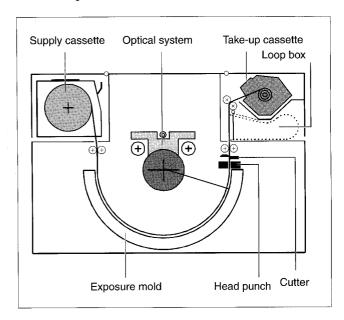
Operational sequence in Signasetter PRO

The photographic material to be exposed is transported out of the supply cassette into the exposure mold by means of the feed-in and pull-out rollers.

Following this, the photographic material is exposed in the way previously described.

The exposed photographic material is then transported out of the exposure mold into a loop box near the take-up cassette. If the loop in the box becomes too large, the photographic material is then transported to the take-up cassette and wound there. In this way, several exposure processes can take place in succession.

After the photographic material has been cut, the exposed material is transported from the loop box and the exposure mold to the take-up cassette which then must be removed from the unit and the exposed material developed.

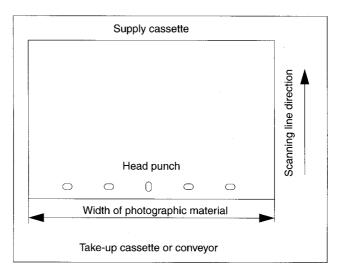


If an online automatic film processor is connected, the photographic material can be cut by a cutting command after every material feed. If there is no cutting command, the photographic material is automatically cut after the max. galley length has been reached. Exposed data are not cut up during this process. The photographic material is transported to the online automatic film processor via a conveyor.

The user can choose from three standard head punch systems for the Signasetter PRO:

- Bacher Control 2000
- Stoesser
- Grapho Metronic

However, since there is a large number of different register systems, customer-specific punch systems can be installed in the Signasetter PRO.



Punch

# Advantages and Features of the Hard Dot Film

The contents of this section also apply to line film (RA film), with the difference that the density is then D=4.0, the gradient less steep and the dots not as hard as with the hard dot film.

### At first, however, a brief review:

In the early days of typesetting and repro devices there was no laser. A recording density of 2.5 . . . 3.5 was only possible with the light sources available at that time (cathode tubes and neon glow lamps). At these low densities, films work in the steep part of the gradation curve which do not favor stable processing but could not be avoided.

To achieve a stable result, it was necessary to keep a precise check on the development process. Test strips were used for this and the density of a certain level was introduced as a criterion for stability.

As test strips were not always available, test patterns with density bars were also generated by the typesetting device or recorder.

It was now possible to keep the development process constant by adapting speed or temperature to the given situation.

The density bars generated by the recorders were also used to find the correct light values for various combinations of resolution and speed.

When screen dots started to be generated electronically, an electronically generated gray scale was used for film linearization. As a result, density measurement became less important. It was now only used as a means of orientation but not as a criterion for stability.

### Today all this is much simpler

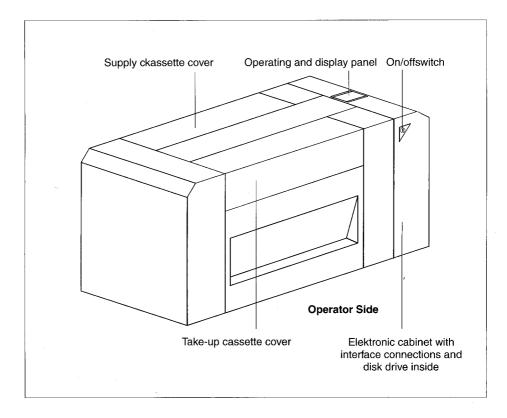
The use of hard dot films, in particular, makes things much easier:

- The lasers in the recorders emit enough light to expose the films far into saturation.
- The repro films in the recorders are much more flexible with regard to exposure. They do not fog as easily and have great steepness and high final densities.
- Hard dot films in particular have a very high gamma and create an excellent, sharp dot at high densities.
- The processors are equipped with an automatic replenisher which can be controlled independently of the exposed or developed area.
- Density test strips are now old-fashioned. Residual fluctuations in the processors are counterbalanced by the light value of the recorder.
- Almost all recorders are able to expose an electronically generated gray scale with several tonal values (among others 50%) as a light test.

  The 50% screen dot is most sensitive with regard to fluctuations in exposure and chemicals since this percent has the longest peripheral line of all the screen dot sizes. For that reason, its use in the tests represents the "worst case".

Good use should be made of the advantages listed here.

# Operational Components of the Signasetter PRO



# Notes on Operation of the Signasetter PRO with Two RIPs

- In order to use the system to its full potential, the data flow must be organized in such a way that the capacity of both RIPs is utilized as equally as possible.
- There may be cutting waste, depending on the material width and the size of the page. The least amount of waste is in the collect mode.
- During production, both of the RIPs must be working in the same operating mode:
  - If the collect mode is activated at one of the RIPs, the other one should also work in the collect mode (depending on the respective production procedure).
- A few special functions must be performed twice or require special attention:
  - Generally, operations in the Utility should only be performed when the other RIP is not sending exposure data to the recorder.
  - Light, filter and focus tests must only be performed once even if the RIPs differ from each other. The test results must, however, be entered into the corresponding menu of the other RIP.
  - Calibration tests must be performed at both RIPs.
     The results must be entered at both RIPs.
  - Both RIPs must use the same material names. If the material is changed, the new material name must be entered at both RIPs.
  - If the RIP which is driving the Signasetter PRO is not functioning properly, this RIP must be restarted and/or the RIP-Signasetter PRO connection must be canceled (refer to Canceling the RIP-Signasetter PRO Connection on page 5-30).

### Accuracy of density measurement

The density of the film represents the ratio of light transmitted through the film to incidental light on a logarithmic scale. For example, an optical density of

OD = 3 lets 1/1.000 of incidental light through

OD = 4 lets 1/10.000 through

OD = 5 lets 1/100.000 through

OD = 6 lets 1/1000.000 through.

This makes it very difficult to measure high densities. Most densitometers can give reliable results up to approx. OD = 5. For that reason, some manufacturers limit the upper display to approx. OD = 5.3. Caution is advised with higher density displays.

To illustrate this point, here is a comparision with linear measurement:

If you wanted to measure or expose an optical density of OD = 6, it would be the same as if you wanted to measure a distance of one kilometer down to the exactly last millimeter or define with absolute accuracy one millimeter on a distance of one kilometer.

This is very daunting, if not impossible with the means at our disposal.

The same is true for the exposure and measuring of the optical density of film.

Therefore, density measurements above 5.3 must only be regarded as a reference point and not used as a reproducible setting.

### Density measurement is much simpler today

It is simpler, more accurate and more efficient to measure the integral density of a 50% screen patch. The densitometer immediately uses the area covered by the screen dots and shows it in screen percent.

To obtain accurate measurement results, however, it is necessary that

- each screen dot has a sufficient density of OD > 3 and
- the screen dot is not fogged.

These requirements are always met by today's films (in particular hard dot films) and light sources.

Screen percent measurement ranges from 0% to 100%.

The densitometer measures accurate to +1%.

To avoid visible shifts in color in good repro color work, the nominal value of each color separation must be accurate by approx. +2% in a 60 screen. This applies only to critical tonal values.

This gives you reliable measurements without involving too much work. Figures after the decimal point in the screen percent display are irrelevant.

This means that measuring the screen percent is less problematic and more precise than measuring the density. It permits the use of simpler densitometers which are not too expensive and produces the values required for day-to-day work in screen percent.

On the other hand, good judgement and much experience is required to be able to evaluate density measurement properly.

The highlight and shadow dots, that is 2% and 98%, are also taken into account in addition to the 50% screen dot so that a correct evaluation of the film can be made.

The following background information is also required: Copying the repro film onto the print plate is problematic with screen dots sizes under 20  $\mu m$  as well as the printing of such fine dots.

A square screen dot in a 60 screen theoretically has an edge length of 24  $\mu m$ , in an 80 screen only of 18  $\mu m$ . For that reason, the 3% dot is often taken to be the smallest dot in an 80 screen.

If you wish to measure a 2% dot with a densitometer, you must know that a density change of D = 0.01 in clear film already makes up a difference of 2%.

Fortunately, film background is mostly very uniform. However, we recommend that in addition you always check the sizes of the dots in highlight and shadow with a microscope (enlarged by factor 50).

# Correct measurement and setting of the light value for hard dot films

If you apply the density of a test strip to a diagram of the light value, you will then find that hard dot films show saturation from a density of approx. 4.3 on. In other words, the rise in density evens off as the light value increases. This is referred to as the shoulder of the density curve.

For the reasons mentioned beforehand, the density values measured vary greatly and at points in the film which lie very close to each other you can find fluctuations, for example, of between 5.5 and 6.5 without really knowing whether the density really varies so immensely or whether an error in measurement has occurred.

The result becomes much more transparent if you now transfer the value determined for the 50% screen patch in the test strip to the same diagram:

The screen dot curve show that steepness levels off slightly where the shoulder starts but continues to rise even when density moves into the saturation range. This means that the film enlarges the screen dot beyond its exposure limits the more light there is.

It is much easier to reproduce the screen percent values than density values, especially with higher light values. Therefore, screen percentages should be used for setting the light value.

The best place for hard dot films is the area in which the screen percent curve runs flatter before it starts to rise steeply again. A 50% screen is reproduced here with approx. 52%. The density of a test strip is then approx. 4.8 with this light value. Where high quality is required, a 50% dot would be generated from the 52% dot during the subsequent film linearization.

This partial leveling-off cannot always be seen. In such cases, choose the light value for a screen percentage between 50% and 55%. Somewhere between 52% and 53% is best. Check whether the density is clearly more than 4.3. The density of line film (RA film) is OD = 4.0.

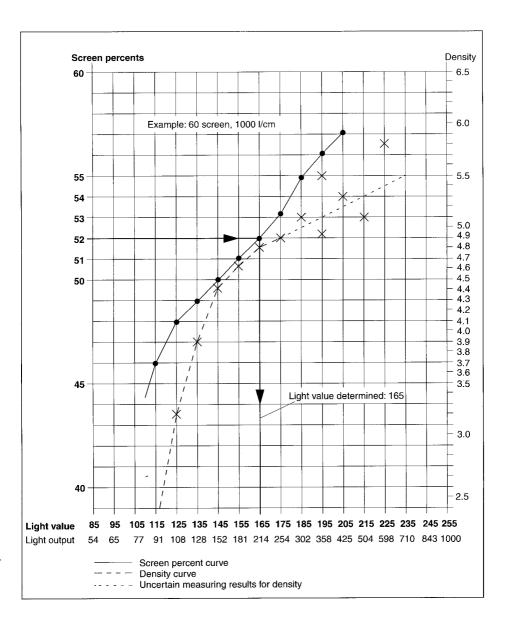


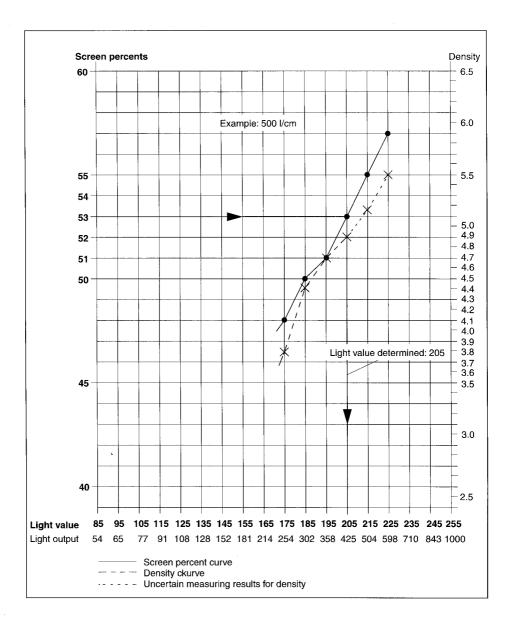
The Signasetter PRO now has a logarithmic grading of the light values. A very wide range of light values can be covered by this.

You will find an empty graph on the last page of this chapter. You can use it to enter your own values there.

The following graduation can be found approx. in the light values:

Increase in light value in	Increase in light output by factor
10 Steps = 1 Step in the light test	1,2
20 Steps = 2 Steps in the light test	1,4
40 Steps = 4 Steps in the light test	2





### Large areas and long-term stability

You can best check the uniformity of larger areas by exposing a 50% tint in a 60 screen with an elliptic dot and by measuring the screen percentage every 20 cm.

This is much closer to what happens in practise than the usual method so far of measuring the solid density.

An elliptic screen dot and a 60 screen are found in daily work routines. For that reason, the long-term stability of the process should be judged using this method.

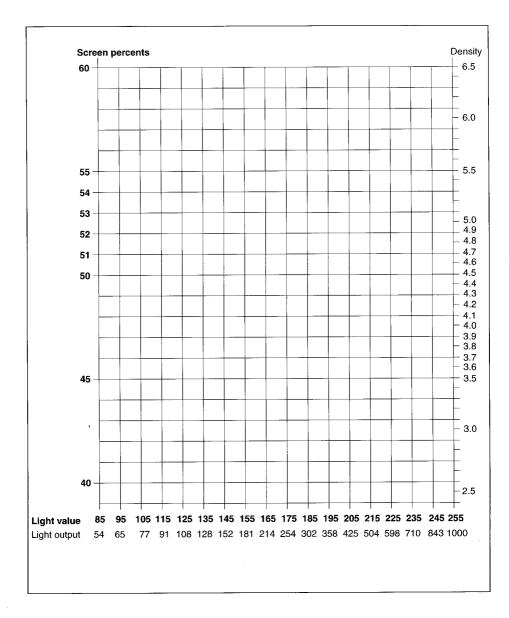
### Using the test pattern only for tests

The light test has square screen dots (chequerboard) because they are easier to generate. While they can be used to determine the light value, they are not as suitable for film linearization and for production due to the well-known risk of breaks.

The light test also contains very fine screens at high resolutions, also because of the simple manufacturing process. These very fine screens are not suitable for film linearization and productions as they cannot be printed error-free.

They are intended only to find out the light value.

The 2% dots in these light tests are also so fine that they only appear with extremely high light values. Correspondingly, the 98% dots are only open with very low light values. The 2% and 98% patches are to be used for orientation only.



# Dimensional Stability of Reprographic Films

This section describes the most important requirements and working conditions which must be met so that the reprographic films will come up to the requested dimensions. For more details on this subject, please consult the respective film manufacturer.

Dimensional stability is essentially influenced by the following factors:

- **■** Temperature
- Relative humidity
- Age
- Processing (drying, type of processor)
- Exposure unit

The deviations can either be reversible or irreversible.

■ Reversible changes are those where

the film returns to its original dimensions, when the values for temperature and relative humidity used the first time in processing are reached again,.

■ Irreversible changes are those where

the film does not return to its original dimensions when the values for temperature and relative humidity used the first time in processing are reached.



#### **Acclimation of the Film**

The film must be brought from storage to the work area some time before it is processed. This must be done so that it can adjust itself to the temperature and relative humidity of that area.

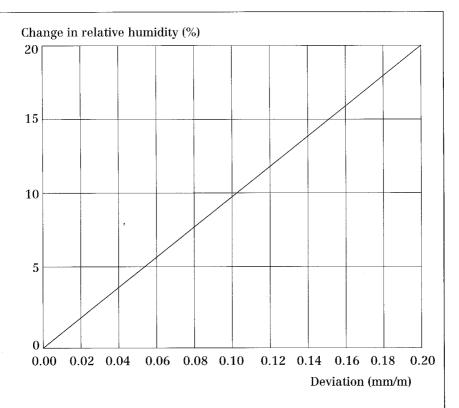
Adjusting to the temperature is very quick whereas it takes much longer to adjust to the relative humidity (refer to the following table).

Dimensional acclimation	Time required for		
	polyester film 0.10 mm thick	polyester film 0.18 mm thick	
40 %	5 min	20 min	
60 %	15 min	60 min	
80 %	60 min	180 min	
100 %	300 min	750 min	

Remember that films are packed in the factory at a relative humidity of 50%. Therefore, relative humidity of the work area should be around 50% so that almost no humidity is exchanged between the film and the air in the work area. The time required for acclimation then is approx. 5 minutes.

If you do not let the film adjust to the ambient conditions but start exposure immediately with a relative humidity of 60% and more, you must expect deviations of between 0.12 mm/m and 0.15 mm/m.

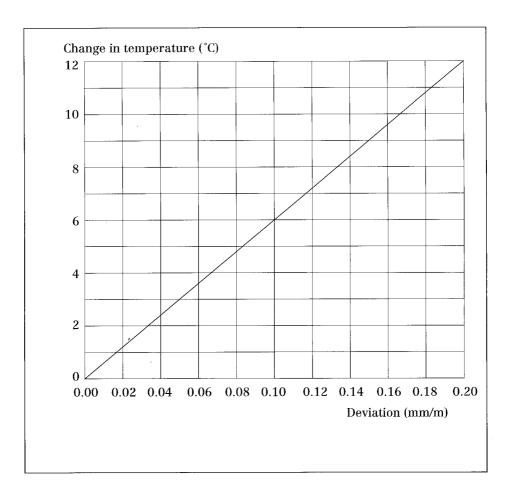
The diagrams which follow show the deviations in relation to relative humidity and temperature.



These figures refer to a range of 30% - 60% relative humidity. Beyond this range, the deviations may be irreversible.

The humidity coefficient (here 0.010mm/m % rel.hum.) depends on:

- the thickness of the film
- the thickness of the gelatine layers
- the composition of the gelatine layers
- the state of the film (unprocessed or processed)

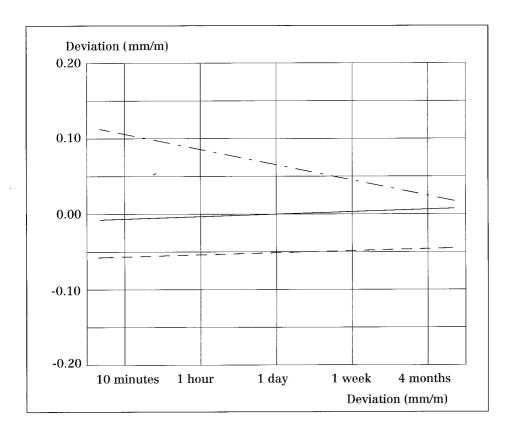


### Aging of the Film

If the film has not been processed and stored optimally, deviations due to aging of the film may occur.

If the film has been processed at a low relative humidity, it will shrink during storage (refer to graph below).

On the other hand, if the relative humidity was 50 - 60% during processing, the film will practically not shrink at all.



### Influence of the Exposure Unit

Temperature and humidity also build up within the exposure unit and can influence the film.

■ Film which lies for a longer period of time in the exposure mold changes in contrast to the film found in the supply cassette.e

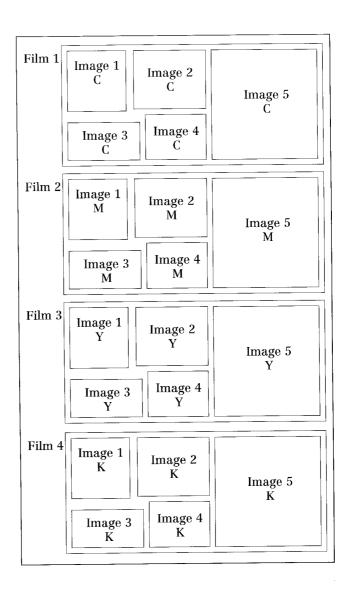
Color separations must be exposed one after the other on films which move from the supply cassette to the exposure mold immediately before exposure.

A film which has been lying for some time in the exposure mold can be used for exposures where register accuracy is not required or it must be transported out of the exposure mold before exposure starts.

In addition, the exposure unit is subject to tolerances which must be taken into consideration during exposure, in particular when exposing color separations.

■ Color separations should not be exposed in the collect mode as slight geometric deviations can occur in this mode due to the tolerances and different positions of the various color separations within the mold.

To avoid register problems, the individual color separations should always be exposed directly one after the other at the same position. For example:



### Summary

- The ambient conditions should be as constant as possible if you want processing which comes up to the requested dimensions. Air-conditioning is the best solution.
  - The ideal temperature is 20°C. Relative humidity should be around 50% if possible.
- Films must be acclimatized to the work area before being processed.
- Never store films in a damp area. Keep away from radiators and currents of warm air.
- Color separations should be exposed directly one after the other at the same position on films which have moved from the supply cassette to the exposure mold just before exposure.

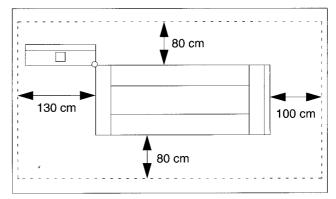
## Installation of the Unit

The Signasetter PRO may only be installed by authorized service personnel. The ambient conditions are to be observed when doing this.

The floor at the place of installation must be even and firm.

Take care that the unit is installed at a sufficient distance from the walls and other objects so that adequate ventilation can be ensured and there is room for service work.

Minimum distance from the wall: refer to diagram.



The unit should not be installed near air conditioning equipment and is to be protected from humidity and direct sunlight.

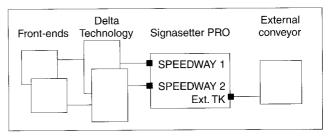


The initial installation is performed by service personnel. This service includes lifting the unit off the pallet and removing the transport safeguards.

# Connecting the Unit

Connection diagram

The connection cables must be connected as displayed in the diagram.

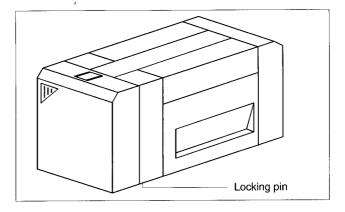




Caution: Connect the cables with the power off. Do not connect the power cable of the front-end, the RIPs, the Signasetter PRO or the online automatic film processor, if one is required, until the connection cable has been connected.

All of the terminals are located inside the electronics cabinet which can be swung open.

The electronics cabinet must be opened in order to connect the connection cables. To open the cabinet, press the locking pin on it upwards.

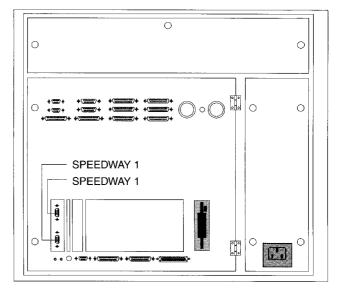




Only use shielded cables in keeping with the radio interference suppression regulations.

SPEEDWAY interface

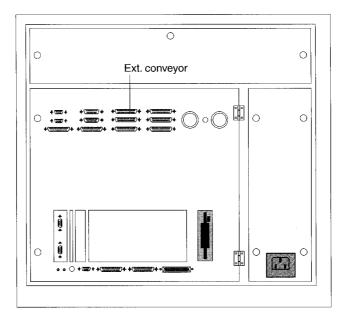
The SPEEDWAY interface is used for the transfer of bit-map/screen data from the RIP to the Signasetter PRO and for the exchange of control information between the Signasetter PRO and the RIP. The Signasetter PRO is connected to the RIP by means of a SPEEDWAY connection cable with a 9-pin connector.



The Signasetter PRO has two Speedway interfaces for the connection of 2 RIPs.

Conveyor

The EXT. TK connection (conveyor) is used for the exchange of control information between the conveyor and the Signasetter PRO. The Signasetter PRO is connected to the conveyor by means of a connection cable with a 25-pin connector.

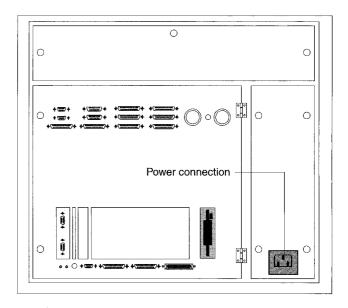


#### Power connection

The unit is connected to the power supply by means of the power cable included in the delivery which has a three-pin connecting device. This cable is designed for connection to 230 V alternating voltage. The national regulations are to be observed when connecting the unit using power cables which were not provided by Linotype-Hell or when adjusting connectors.

The unit may only be operated if a grounded conductor is connected.

The power cables used in the USA and Canada must correspond to at least type SJT.





Attention: The unit is set to  $230\ V\ AC$  or  $110\ V\ AC$  in the factory. This is indicated by a label beside the unit socket at the rear of the unit.

The unit can be switched over to a different voltage (refer to *Technical Data* on page 8–3) by service personnel. A corresponding label (order no. 04258703) with the set voltage must then applied over the one applied in the factory.



Unit connectors and sockets must be easily accessible. This is important as, in the event of danger, the unit is completely disconnected from the power by pulling out the connector.



Attention: The power connection remains single-pole when the unit is switched off. For this reason, always pull out the power connector to disconnect the power supply!

Notes on the power connection cable: Taking national requirements into consideration, a cable from the table below is to be selected when connecting 100 V - 127 V alternating voltage.

Connector	Country	AC Voltage	Regulations	Type of cable
	North America 125 V, 10 A	115 - 120V	ANSI C73.11 NEMA 5-15-P IEC 83	UL Listed CSA Certified Typ SJT, 16 AWG
	Japan 100 V, 15 A	100V	JIS C 3102 UL 817 CAS C22.2 No. 21	JIS C 3102 T (J) UL Listed CSA Certified Type SJT 3/16 AWG

Taking national requirements into consideration, a cable from the table below is to be selected when connecting 220 V - 240 V alternating voltage.

Connector	Country	AC Voltage	Regulations	Type of cable
	Europe 250 V 10/16 A	230 V	IEC 83	<har> H05VV-F</har>
	United Kingdom 250 V 10/16 A	220 - 240 V	B. S. 1363 IEC 83 IEC 127	<har> H05VV-F</har>
3	Australia 240 V 16 A	240 - 250 V	A. S. C112	<har> H05VV-F</har>
	North America 250 V, 15 A	240 V	ANSI C73.11 NEMA 6-15-P IEC 83 UL 198.6	UL Listed CSA Certified Typ SJT, 16AWG
	Japan 250 V, 15 A	200 V	JIS C 3102 UL 817 CSA C22.2 No.21	JIS C 3102 🔻 🖒 UL Listed CSA Certified Type SJT 3/16AWG

## Loading a New Software Version (Update)

When a new software version (update) is being loaded, a certain operational sequence has to be adhered to so that the parameters set for the respective imagesetter can also be loaded:



Please observe the manufacturer's instructions when handling the diskette.

The following points are particularly important:

- Do not place any heavy objects on the diskette.
- Protect the diskette from magnetic influences.
- Do not touch magnetic surfaces.
- 1. Switch on the Signasetter PRO (please refer to *Switching on the Unit* on page 4-3).



2. Press the "Imagesetter test tools" key in the main menu.



3. Press the "Signasetter PRO software version" key in the "Imagesetter test tools" menu.



- 4. Press the "Save" key in the "Signasetter PRO software version" menu. The parameters set for the imagesetter are now saved (duration approx. 3 minutes).
- 5. Swing open the electronics cabinet of the Signasetter PRO.
- 6. Remove the system diskette from the drive.
- 7. Insert the diskette with the new software version (Recorder Software).



8. Press the key with the "Update" folder symbol in the "Signasetter PRO software version" menu. The "Update" menu appears.



9. Press the "Update" key in this menu. During the update (duration 15 - 20 minutes), the following message appears in the display panel: "Device will be updated automatically - don't switch off". At the end of the update, the device is automatically booted.

When message "801 The inserted disk is not a system disk" appears in the display panel, then

- 10. remove the diskette with the new software (Recorder Software) from the drive.
- 11. Insert the system diskette in the drive.
- 12. Close the electronics cabinet of the Signasetter PRO. It is closed when it engages properly.



13. Press the "Imagesetter test tools" key in the main menu.



14. Press the "Signasetter PRO software version" key in the "Imagesetter test tools" menu.



15. Press the "Restore" key in the "Signasetter PRO software version" menu. The imagesetter parameters saved beforehand are now written to the hard disk.



16. Press the "Error correction" key in the switch off menu after this procedure has been completed.



17. Press the "Imagesetter test tools" key in the main menu.



18. Press the "Signasetter PRO software version" key in the "Imagesetter test tools" menu.



19. Press the "Save" key in the "Signasetter PRO software version" menu. The parameters set for the imagesetter are now saved to the system diskette (duration approx. 3 minutes).

This completes loading of the new software version and the Signasetter PRO is ready for operation again.

## Notes on Operation of the Signasetter PRO with Online and Offline Processors

The following components can be found in developers and fixers: potassium sulphite, sodium sulphite, quinol, ammonium sulphite and ethanoic acid. These components produce sulphuric gases which can be a danger to both humans and equipment:

- They are poisonous and can endanger your health.
- They damage most metal surfaces and optical systems.
- Zinc sulphate is produced when they are combined with zinc. This white powder clogs up the air compression and the air filter system.
   As soon as the air pressure falls below 1 bar, the air cushion is switched off and an error message

#### For these reasons:

appears.

- processors may only be used in conjunction with ventilation systems which cannot be switched off.
- the air from the processors may not enter the area where the Signasetter PRO is set up or near the air-conditioning system.

# Operating and Display Elements

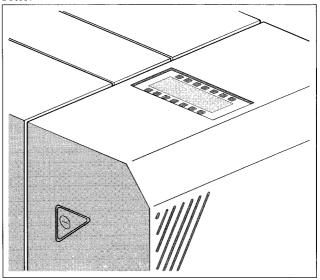
3

On/off Switch	3-3
Operating and Display Panel	3-4
Folder Symbols	3-6
Key Symbols	3-18
Imagesetter Statuses	3-23
Material Length in the Supply and Take-up	
Cassettes	3-26
Loading Statuses in the Imagesetter	3-28
Customer-specific Parameters	3-30
Photographic Material Data	3-30
Date and Time	3-30
Imagesetter Parameters	3-31
Overview of Key Leveut	

## On/off Switch

The Signasetter PRO is switched on or off with the on/off switch.

This switch is located to the right of the take-up cassette.





The on/off switch does not disconnect the Signasetter PRO from the power supply.

## Operating and Display Panel

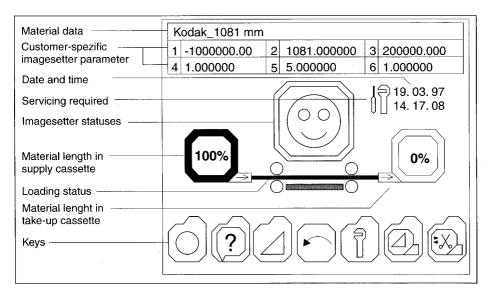
Display panel

■ The display panel is used for the graphic display of key and folder symbols as well as imagesetter statuses. It also displays imagesetter parameters, the date and time, type and width of material etc. alphanumerically.

Operating panel

■ The operating panel is used to control the imagesetter. The relevant key layout is graphically displayed in the display panel.

This graphic display has been selected in such a way that the key and folder symbols are directly related to the respective function.





Only those keys which trigger a function relating to the current imagesetter status can be used. If, for example, photographic material has not been loaded, then a cut process cannot be triggered by key.



The operating and display panel has two rows of keys. By pressing the row of keys nearest to you, you can switch the display panel around so that you can read it from any (long) side of the unit.



The middle key in each row switches around the display panel and for that reason is not described in the sections which follow.





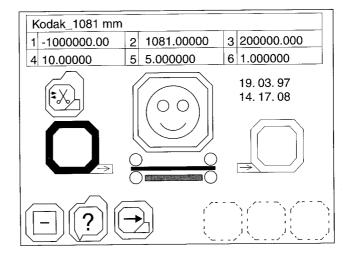
The operator side refers to the (long) side of the imagesetter which contains the take-up cassette and from which the operator normally operates the Signasetter PRO. The electronics cabinet with the operating and display panel, power connection, etc. is located to the right of this side.

In the description which follows, the unit is always seen from the operator side (if not, this will be specified), i.e. with the electronics cabinet to the right.

## Folder Symbols

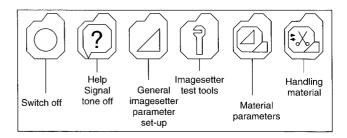
You can jump to a new menu with a new key layout by pressing a key which has been allocated a folder symbol.

In order that the user can see which menu is displayed or which symbol was allocated to the key last pressed, the appropriate folder symbol is displayed at the top left of the display panel. Below you will find an example of the display which appears after the key with the "Handling material" folder symbol has been pressed.



#### Main Menu

The main menu appears after the unit has been switched on and when the software has been loaded. The key layout is as follows:



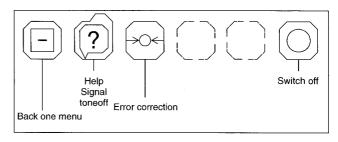


#### Switch-off Menu

The "Switch off menu" appears if the key with this folder symbol is pressed.

#### Functions:

- Switching off the imagesetter.
- Terminating a function for error correction.



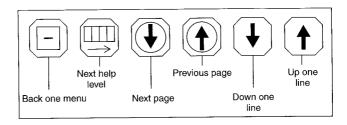


## Help/Signal Tone Off

The "Help" menu appears and, if necessary, the signal tone is switched off if the key with this folder symbol is pressed.

Function: Explanation of the current display in text form.

The key layout is as follows in this menu:

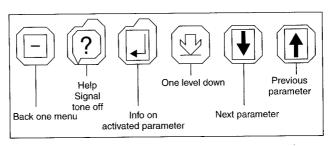




#### **General Imagesetter Parameter Setup**

The "Imagesetter parameter setup" menu appears if the key with this folder symbol is pressed.

Function: Display of the imagesetter parameters.

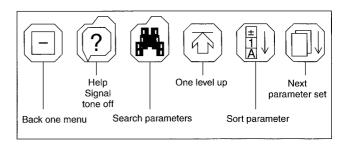




#### **Sort and Search Parameters**

The "Sort and search parameters" menu appears when the "One level down" key is pressed.

Function: Sorts parameters numerically, alphanumerically or according to the default setting and searches for parameters.

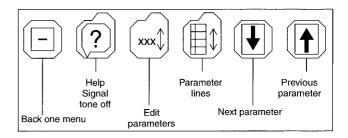




#### Info on Activated Parameter

The "Info on activated parameter" menu appears when the key with this folder symbol is pressed.

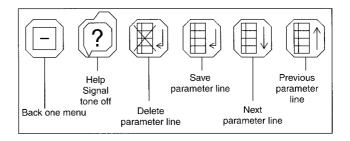
Function: Display of additional information on the activated parameter.





#### **Parameter Lines (Display Panel)**

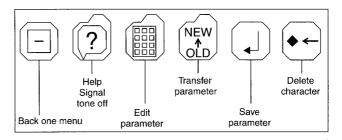
The "Parameter lines" menu appears when the key with this folder symbol is pressed. The key layout is then as follows:



#### **Edit Parameters 1**

The "Edit parameters" menu appears when the key with this folder symbol is pressed.

Function: Changing the imagesetter parameters.



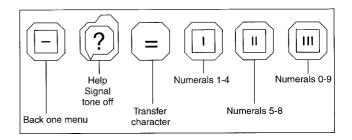


#### **Edit Parameters 2**

The key layout of the "Edit parameters" menu changes if the "Edit parameters" key is pressed.

You can go directly to this menu by pressing the "Search parameters" key in the "Sort and search parameters" menu. Call up this menu:

1. If a numeric value is to be edited:



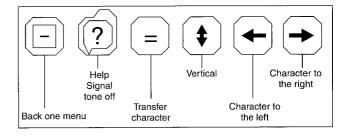
Instead of the "Numerals 0 - 9" key, the following keys can be displayed:



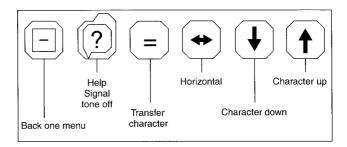
"Minus" for negative numbers and

"Point" for floating decimal points.

2. If an alphanumeric number is to be edited:



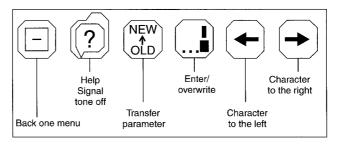
or:





#### **Transfer and Edit Parameters**

The "Transfer and edit parameters" menu appears when the key with this folder symbol is pressed.



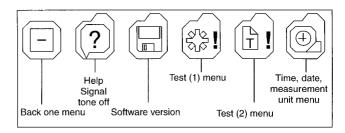


#### **Imagesetter Test Tools**

The "Imagesetter test tools" menu appears when the key with this folder symbol is pressed.

Function: Calling up additional menus for test purposes, for settings and for displaying the software version.

The key layout is as follows in this menu:

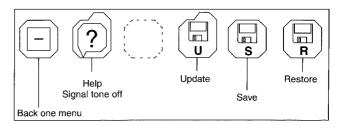




#### **Signasetter PRO Software Version**

The "Signasetter PRO software version" menu appears when the key with this folder symbol is pressed.

Function: Display of information on the current software version, call-up of the "Update" menu as well as storage of imagesetter-specific data in the memory.



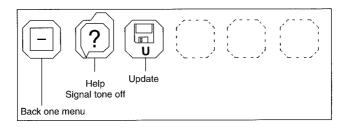


#### **Update**

The "Update" menu appears when the key with this folder symbol is pressed.

Function: Updates a software version.

The key layout is as follows in this menu:

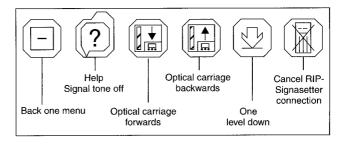




#### **Test (1)**

The "Test (1)" menu appears when the key with this folder symbol is pressed.

Function: Positioning of the optical carriage and canceling of the RIP-recorder connection if the RIP in question is not functioning properly.



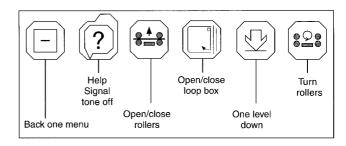


#### Test (1a)

The "Test (1a)" menu appears when the key with this folder symbol is pressed.

Function: Opening, closing and turning the feed-in and pull-out rollers as well as opening and closing the loop box.

The key layout is as follows in this menu:

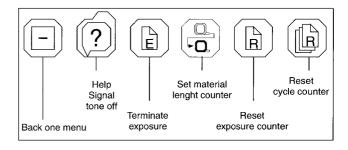




#### **Test (2)**

The "Test (2)" menu appears when the key with this folder symbol is pressed.

Function: Terminating exposure, setting the material length counter as well as resetting the exposure counter and the cycle counter.



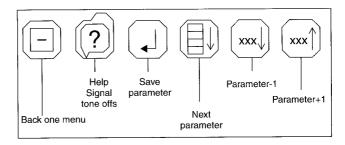


#### Date, Time, Measurement Unit

The ""Date, time, measurement unit" menu appears when the key with this folder symbol is pressed.

Function: Setting the date and time, selecting the measurement unit of the material length in the supply and take-up cassettes and setting the counters for the material length in the supply cassette.

The key layout is as follows in this menu:

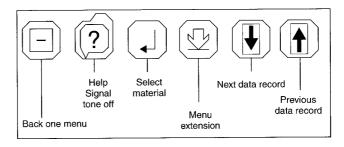




## **Material-specific Imagesetter Parameter Setup 1**

The "Material-specific imagesetter parameter setup" menu appears when the key with this folder symbol is pressed.

Function: Allocation of the photographic material data to the supply cassette inserted in the unit.



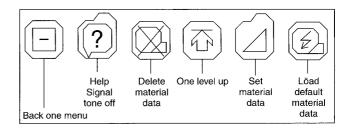


### Material-specific Imagesetter Parameter Setup 2

This menu appears when this key is pressed.

Function: Setting and deleting the material data and loading the default material data.

The key layout is as follows in this menu:



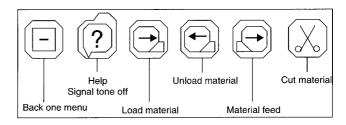


#### **Handling Material**

The "Handling material" menu appears when the key with this folder symbol is pressed.

Function: Triggering of the operational functions of the imagesetter, e.g. loading, unloading, feeding and cutting of photographic material.

The key layout is as follows in this menu:



In this menu, only those keys which have a function relating to the current Signasetter PRO status can be operated.





#### **Spare Key**

A key with this symbol has no function in the current imagesetter status.



#### Switch Off

If this key is pressed, a switch-off process is initiated, i.e. currently active functions are terminated and the software is returned to a defined switch-off status.



#### **Error Correction**

The function in which an error occurs is terminated. The error must be manually eliminated before this function can be triggered again.



#### Back One Menu

Return to the previous menu from the current one. By holding this key pressed down, the user can jump back several menus until the main menu is reached.



#### **Cut Material**

When this key is pressed, the photographic material is cut and transported into the take-up cassette.



#### **Material Feed**

When this key is pressed, the photographic material is moved forward the length of the exposure mold.



#### Load Material

When this key is pressed, the imagesetter is loaded with photographic material. In the process, the photographic material is transported out of the supply cassette into the exposure mold.



#### **Unload Material**

When this key is pressed, the imagesetter is unloaded. Here, the unexposed photographic material is transported out of the exposure mold back into the supply cassette.



#### **Previous Page**

The page currently displayed is left and the previous page appears, e.g. in the help function or when the imagesetter parameters are being displayed.



#### **Next Page**

The page currently displayed is left and the next page appears, e.g. in the help function or when the imagesetter parameters are being displayed.



#### One Line Down

The text in the display panel is moved down one line.



#### One Line Up

The text in the display panel is moved up one line.



#### **Previous Parameter Line**

Selection of the parameter line for the entry of a customer-specific parameter in the direction of 1 - 6.



#### **Next Parameter Line**

Selection of the parameter line for the entry of a customer-specific parameter in the direction of 6 - 1.



#### Save Parameter Line

The customer-specific parameter is entered in the selected line.



#### **Delete Parameter Line**

The customer-specific parameter is deleted in the selected line.



## Level Change

These keys are used to toggle to and from the "Sort and search parameters" menu when in the "General image-setter parameter setup" function.



#### **Sort Parameters**

The setting for sorting parameters can be numerical, alphanumerical or a default.



#### **Next Parameter Set**

The next parameter set is displayed in the display panel. Altogether there are 5 parameter sets.



#### **Next Parameter**

The next parameter is displayed.



#### **Previous Parameter**

The previous parameter is displayed.



#### Parameter +1

The current parameter value is increased by one increment. If the key is held pressed down, the incrementing process becomes faster and faster.



#### Parameter -1

The current parameter value is decreased by one increment. If the key is held pressed down, the decrementing process becomes faster and faster.



#### Delete Material Data

The material data selected are deleted.

You cannot delete the data for the material of the inserted supply cassette.



#### **Load Default Material Data**

The default material data are loaded to the material data record.



#### **Next Help Level**

Pressing this key brings you to the next help level in which detailed information is displayed.



#### Transfer Old Parameter

The parameter in the OLD line is transferred to the NEW line.



#### **Enter/Overwrite**

The write mode is switched from enter to overwrite and viceversa.



#### **Save Parameter**

The currently displayed parameter value is saved to the parameter set.



Ш

#### **Delete Character**

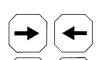
This key is used to delete characters in the "Edit parameters" function.



Ш

#### **Edit Character**

These keys are used to edit parameters in the "Edit parameter" function.



## Character to the Right, Character to the Left Character Up, Character Down

These keys are used to select alphanumeric parameters in the "Edit parameters" function.



#### Horizontal, Vertical

In the "Edit parameters" function, these keys are used to change the direction of the cursor.



#### **Transfer Character**

This key is used to transfer characters into the "New" field in the "Edit parameters" function.



## Optical Carriage Forwards or Backwards

By pressing one of these keys once, you move the optical carriage forwards or backwards. By pressing the same key a second time, you stop the optical carriage. These functions are required if the exposure mold has to be cleaned.



#### **Cancel RIP-Signasetter PRO Connection**

The logical connections of both RIPs to the Signasetter PRO are interrupted.





#### Open and close rollers

The feed-in and pull-out rollers can be opened and closed with these keys. These functions can be used, for example, when material has jammed in the exposure mold or if the feed-rollers are closed for some reason when material is being loaded.





#### Open and close loop box

The loop box can be opened and closed with these keys.



#### Turn rollers

- 1. The feed-in and pull-out rollers turn for 1 2 seconds when this key is pressed.
- 2. If an error occurs, there is a minimum feed with a subsequent cut, for example, to remove uncut material which was pulled out the take-up cassette when this was being removed.



#### Save

The imagesetter-specific data are saved to the device memory. This is required when the software is being updated.



#### Restore

The saved imagesetter-specific data are loaded back from the device memory. This is required when the software is being updated.



#### **Update**

The software is updated.



#### **Terminate Exposure**

An exposure currently in process is terminated.



### **Set Material Length Counter**

The counter for the length of material in the supply cassette is set to 100%.



#### **Reset Exposure Counter**

The exposure counter is reset to 0.



#### **Reset Cycle Counter**

The cycle counter is set to 0. The cycle counter counts the the number of galleys which have been cut off.



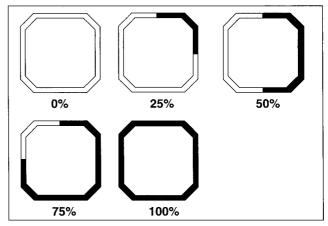
#### Imagesetter Statuses



#### General Status Symbol

The imagesetter status displayed is based on this symbol:

■ The area between the frames is used as a progress indicator for the function e.g.:



■ The imagesetter statuses are displayed by additional symbols in the area in the inner frame.



### "Load Program" Status

The imagesetter has been switched on and the program is being loaded.



#### "Standby" Status

The program has been loaded.

The photographic material has not been loaded.



## "Ready" Status

The imagesetter is ready for exposure:

The program has been loaded.

The photographic material has been loaded.



#### "Exposure Preparation" Status

The imagesetter is preparing the exposure.

The symbol depicts a camera viewed from above.



## "Exposure" Status

The imagesetter is exposing the photographic material. The symbol depicts a camera viewed from the front with an open aperture.



#### "Exposure has been stopped" Status

The exposure of the photographic material has been stopped.

The symbol depicts a camera viewed from the front with a closed aperture.



#### "Exposure is being terminated" Status

The imagesetter has almost completed the exposure. The symbol depicts a camera viewed from the front disappearing into a bag.



#### "Error" Status

An error has occured in the imagesetter. The symbol flashes (positive/negative display).



#### "Photographic Material Jamming" Status

The photographic material has jammed in the imagesetter. Certain operational steps are necessary in order to eliminate this jamming (refer to *Eliminating Photographic Material Jamming in the Imagesetter* on page 5–25).



#### "Cut" Status

This status is displayed if cutting was triggered using the key.



#### "Material Feed" Status

This status is displayed if the photographic material feed was triggered by means of the key. The symbol depicts the take-up cassette into which photographic material is being transported (in the direction of the arrow).



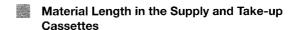
#### "Unload Material" Status

This status is displayed if an unloading process of the photographic material was triggered by means of the key. The symbol depicts the supply cassette back into which photographic material is being transported (in the direction of the arrow).



#### "Load Material" Status

This status is displayed if a material loading process was triggered by means of the key. The symbol depicts the supply cassette out of which photographic material is being transported (in the direction of the arrow).

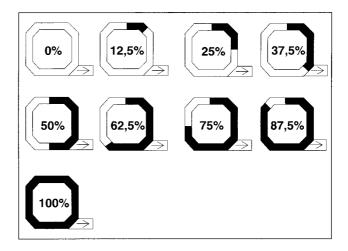




#### **Supply Cassette**

This symbol represents the supply cassette:

- The material length in the supply casette is displayed in the area in the inner frame. The display can be changed over to %, millimeters, meters, inches or feet (refer to Setting the Date, Time, Measurement Unit and Material Length Counter on page 7–16).
- The area between the frames is also used to display material length in graphic form however. For example:

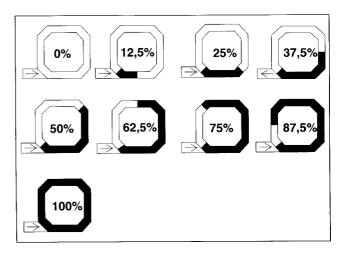




#### **Take-up Cassette**

This symbol represents the take-up cassette:

- The material length in the take-up cassette is displayed in the area in the inner frame. The display can be changed over to %, millimeters, meters, inches or feet (refer to Setting the Date, Time, Measurement Unit and Material Length Counter on page 7–16).
- The area between the frames is also used to display the material length in graphic form however. For example:





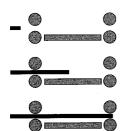


#### **General Loading Symbol**

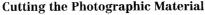
This symbol depicts the imagesetter feed-in and pullout areas, each with two rollers. The bar between the rollers represents the area which may be exposed.

### Load Photographic Material

The complete loading process is represented by 15 symbols. These differ in their depiction of the photographic material between the rollers as it is moved to the right. Three symbols are shown here as an example:



- The loading process begins.
- Half of the photographic material is loaded.
- All of the photographic material is loaded.



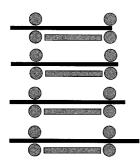
The cut process and the transport of photographic material following this is represents by 4 symbols:



- Cut photographic material
- Transport of photographic material into the take-up cassette (2 symbols).



Return transport of the remaining photographic material.



## Transport of Photographic Material into the Take-up Cassette

The 4 symbols indicate the transport of the photographic material out of the "Load Photographic Material" status into the "Photographic Material in the Takeup Cassette" status.



#### Photographic Material Jam in the Imagesetter

This symbol indicates that photographic material has jammed in the imagesetter. A certain operational sequence has to be adhered to in this case (refer to *Eliminating Photographic Material Jamming in the Imagesetter* on page 5–25).

## Customer-specific Parameters

Up to 6 customer-specific imagesetter parameters are displayed in this part of the display panel. The operator is free to choose which parameters are to be displayed (refer to *Listing the Customer-specific Parameters* on page 7-10).

Koc	lak_1081 mm	)			
1 -1	00.00000	2	1081.000000	3	200000.000
4 1	.000000	5	5.000000	6	1.000000

## Photographic Material Data

The operator may give a name to the photographic material used. The same name is used and displayed in all the system components (front-end, RIP, imagesetter). The photographic material data is input at the front-end unit.

Beispiel:

Kodak\_1081 mm

#### Date and Time

19. 03. 97 14. 17. 08 The date and time are constantly displayed in the operating and display panel. The constant changing of the seconds display indicates that the imagesetter is ready for operation.

# Servicing



Servicing is required if this symbol appears in the display panel. In this case, contact the service department immediately.

# Imagesetter Parameters

The imagesetter parameters are divided into 5 data records. The name of the data record and a maximum of five associated parameters are always displayed in the display panel.

- The name of the data record appears in the panel at the top right.
- The parameter which can currently be changed is the the middle one of the five parameters listed and appears in reverse video.
- Parameters which can not be changed are displayed in gray.

	FID	Action data
PID	WORK	NAME
1 2	0 0	Output advance Cut material
3	0	Punch action
501 502	0	Job margin Automatic unload
	?	

FID = Data record (file) identification

PID = Parameter identification number

WORK = Current parameter value

NAME = Name of the parameter

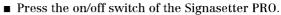
Overview of Key Layout	Main Menu  P  D  S  S  S  S  S  S  S  S  S  S  S  S
Switch-off Menu  Back one Help Error Switch off correction	Handling Material  Back one Help Load Unload Feed Cut  Page 1
Back one menu  Next level Next page Previous One line One tine up page down  The page of t	Material-specific Imagesetter Parameter Setup 1 Back one Help Select Menu Data record menu Material extension next previous
General Imagesetter Parameter Setup  Back one Help Info on acti- One level Next Previous vated para- down parameter arameter  2	Material-specific Imagesetter Parameter Setup 2 Back one Help Delete One Set Load menu material data level up material data detault
Back ono Help Search One level Sort Next  Parameters up Parameters Parameter  Parameters Up Parameters Parameter  Parameters Up Parameters Parameter  Parameters Up Parameters Parameter	Back one menu   Imagesetter Test Tools   Test 2   Default settings   Test 2   Test 2   Default settings   Test 3   Test 4   Test 5   Test 5   Test 6   Test 7   Test
Back one Help Edit Parameter Next Previous parameter lines parameter parameter parameter   Next   Previous   Previous   Next   Previous   Next   Previous   Next   Previous   Next   Previous   Next	Back one Help Software Version Update Save Restore
Parameter Lines (Display Panel)  Back one Help Parameter menu delete save next previous  Edit Parameters	Back one Help Update menu  Tost (1)
Back one Help Edit Transfer Save Delete menu parameter parameter parameter character	Back one Help Optical carriage forwards back level down Signasettar connection  Test (1a)
Back one Help Transfer Character Cha	Back one Help Open/close One Turn rollers rollers loop box level up  The state of t
Back one menu Fransfer vertical Character Character to the left to the right	Back one Help Terminate Set material Reset exposure Sounter Counter Counter Counter
Back one Help Transfer old Enter Character Cha	Data, Time, Measurement Unit  Back one Help Save Next Parameter Parameter parameter parameter -1 +1  Parameter parameter -1 +1  XXXV

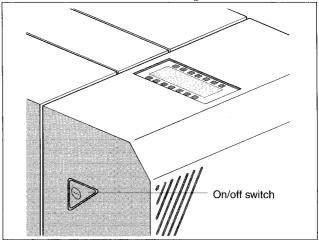
Starting the System

4

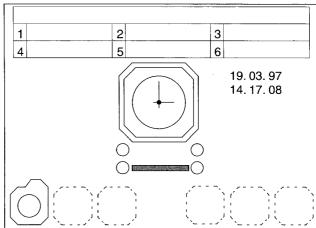
Switching on the Unit	4-3
Switching off the Unit	4-7

# Switching on the Unit





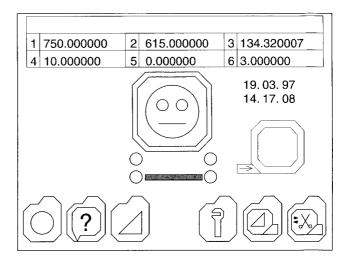
■ The display panel shows that the unit has been switched on:



Explanation of the figure on the previous page:

- The status symbol displays the loading status of the software.
- Only the left key is operable (transfer to switch-off menu).
- The supply and take-up cassettes have not been inserted.
- Neither the customer-specific imagesetter parameters nor the photographic material data are displayed.
- The date and time are displayed.

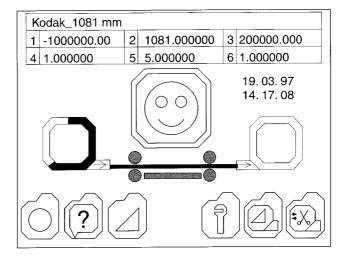
■ If no photographic material has been loaded, the standby status is displayed in the display panel after the software has been loaded:



- The keys are allocated the standard folder symbols and can be operated.
- The customer-specific imagesetter parameters are displayed.
- The date and time are displayed.
- An empty take-up cassette is inserted.

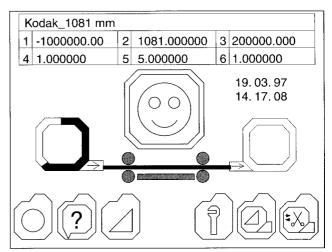
The photographic material must now be loaded (refer to *Inserting the Supply Cassette and Loading the Photographic Material* on page 5–10).

■ When photographic material has been loaded and a take-up cassette inserted, then the ready status is displayed in the display panel after the software has been loaded:



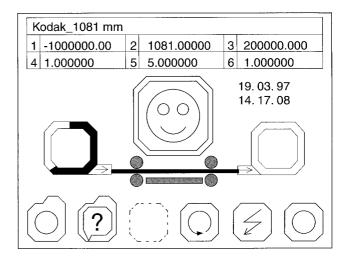
- The keys are allocated the standard folder symbols and can be operated.
- The customer-specific imagesetter parameters are displayed.
- The photographic material data is displayed.
- The date and time are displayed.
- A supply and take-up cassette have been inserted and the photographic material is loaded.

# Switching off the Unit





■ Call up the switch-off menu by pressing the key with the "Switch-off menu" symbol:

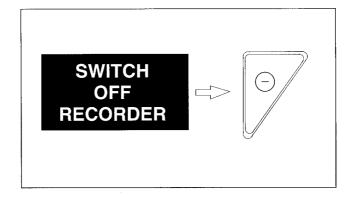




■ Press the key with the "Switch-off" symbol.

Any photographic material still in the mold will now be unloaded. This can cause the actual switching-off process to be somewhat delayed.

■ When the following message appears in the display panel, press the on/off switch of the Signasetter PRO.



Operation

5

Notes on the Photographic Material and the	
Supply Cassette	5-3
Loading the Photographic Material	
(Darkroom Packaging)	5-4
Loading the Photographic Material	
(Daylight Packaging)	5-7
Handling Material	5-8
Inserting the Take-up Cassette	5-9
Inserting the Supply Cassette and Loading	
the Photographic Material	5-10
Removing the Take-up Cassette	5-13
Notes on Emptying the Take-up Cassette	5-14
Manual Feed of the Photographic Material	5–16
Cutting the Photographic Material	5–18
Unloading Photographic Material	5-20
Troubleshooting	5-24
Eliminating Photographic Material Jamming in	
the Imagesetter	5-2
Eliminating Photographic Material Jamming in	
the Optical Carriage	5-28
Canceling the RIP-Signasetter Connection	5-32

# Notes on the Photographic Material and the Supply Cassette

The supply cassette can hold up to 60 m of photographic material (depending on the thickness of the photographic material). Photographic material in either darkroom or daylight packaging can be used.

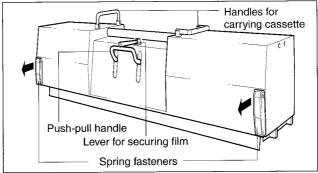


A supply cassette which is not in use but contains photographic material must be protected from strong light:

- Cut off any material projecting out of the supply cassette directly at the material exit slot.
- Put the supply cassette into a cabinet and close the cabinet in order to avoid pre-exposure.

# Loading the Photographic Material (Darkroom Packaging)

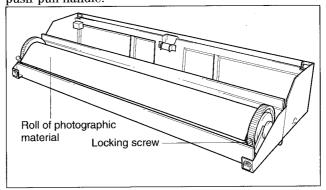
1. Place the supply cassette on an even surface with the material exit slot facing downwards and towards you.



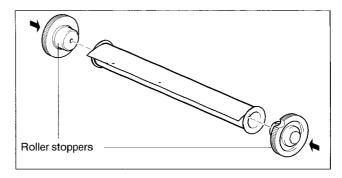
i

Note: The next steps take place in a darkened room or in darkroom lighting following manufacturer instructions.

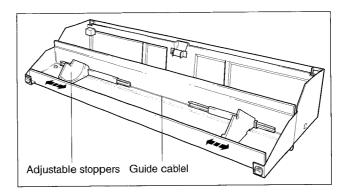
2. Open the supply cassette by loosening both spring fasteners. Open the lid of the cassette with the help of the push-pull handle.



- 3. Unpack the photographic material in the darkroom.
- 4. Loosen both locking screws in the cassette.
- 5. Remove the knurled roller stoppers holding the hard paper core from the supply cassette. Attach the stoppers to the core of the new roll of material.



- Note: Push the roller stoppers as far as possible into the hard paper core with the utmost care as otherwise repeating accuracy cannot be guaranteed.
  - 6. Set both adjustable stoppers (lateral guides) in the cassette to the desired material width.
- Note: The material always comes out of the center of the cassette. This is ensured by a rotating guide cable.
  - 7. Lift the roll of material by its lateral disks and place it in the guides which are integrated in the adjustable stoppers. The stop pin on the lateral disks must point upwards and the beginning of the material must face up towards you slightly (coated side up).



- 8. Screw the locking screws back on tightly.
- 9. Close the lid of the cassette. Both pins must engage properly. The beginning of the photographic material must project out of the supply cassette.
- i

Note: Now remove any remaining bits of adhesive material from the photographic material. The beginning of the material must not have any folds or cracks. If necessary, cut these off.

- 10. Cut off the corners (approx. 2 x 2 cm) from the beginning of the photographic material and then push the material back into the cassette until approx. 10 mm of material remains out of the material exit slot.
- 11. Press the push-pull handle down and position the lever for securing the film over the push-pull handle so that the latter is held down. This prevents the photographic material from slipping back into the cassette when it is being carried.

# ■ Loading the Photographic Material (Daylight Packaging)

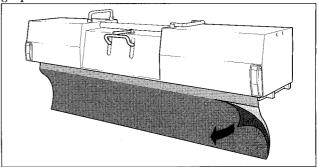
This material is loaded as described in the Loading the Photographic Material (Darkroom Packaging) section (steps 1 to 9).



With this type of film it is not necessary to darken the room.

The following steps are necessary in addition to the above:

1. Pull the leader (protective foil) out of the material exit slot until the start of the film is visible. Remove the leader (protective foil) from the beginning of the photographic material.



- 2. Remove any remaining adhesive material from the photographic material.
- 3. Cut off the corners (approx. 2 x 2 cm) from the beginning of the photographic material and then push the material back into the cassette until approx. 10 mm of material remains out of the material exit slot.
- 4. Press the push-pull handle down and position the lever for securing the film over the push-pull handle so that the latter is held down. This prevents the photographic material from slipping back into the cassette when it is being carried.

# Handling Material

#### Overview:

The "Handling material" menu is used when loading, unloading, feeding and cutting material.



This menu is called up from the main menu by pressing the "Handling material" key.

In the "Handling material" menu, the individual functions are triggered by pressing the appropriate key:



#### **Load Material**



#### **Unload Material**



#### **Manual Material Feed**

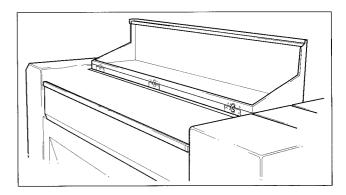


#### **Cut Material**

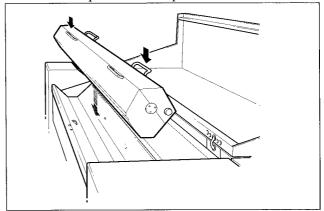
The following chapters contain detailed descriptions of this handling of material.

### Inserting the Take-up Cassette

1. Open the cover of the take-up cassette compartment.



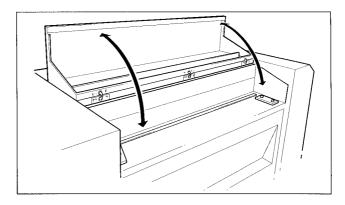
2. Take the take-up cassette by its handles and insert it into the take-up cassette compartment.



3. Close the cover of the take-up cassette compartment.

## Inserting the Supply Cassette and Loading the Photographic Material

1. Open the cover of the supply cassette compartment.



Take the supply cassette by its handles and insert it into the Signasetter PRO with the material exit slot pointing down until it is held securely in place by the side fittings.



The photographic material may not project out of the material exit slot! This ensures that the material is transported correctly to the exposure mold.



The handles for carrying the supply cassette must face away from each other when the cassette has been inserted in the Signasetter PRO.

3. Now select the material you require by means of the "Utility" (refer to *Output Manager Utility - User's Guide*) or at the operating and display panel of the Signasetter PRO.

Proceed as follows to select the material at the operating and display panel:



4. Press the "Material parameters" key in the main menu.





5. Select the name of the material you require in the "Material-specific imagesetter parameter setup 1" menu using the "Next data record" or "Previous data record" key.

If the material width is not specified in the material name, you must now edit it (refer to *Editing the Material Width* on page 7–19).



6. When you have chosen the name of the material, press the "Select material" key in the "Material-specific imagesetter parameter setup 1" menu.

When the material name and width have been saved, the material must now be loaded:



7. Press the "Handling material" folder symbol in the main menu.

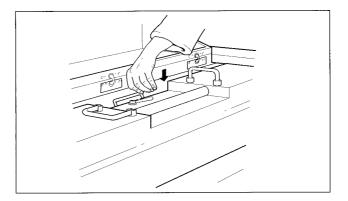


- 8. Press the "Load material" key in the "Handling material" menu.
- 9. Move the lever for securing the film to one side so that the push-pull handle can be moved freely.

10. Push the push-pull handle down until the material lies between the feed-in rollers. The rollers then automatically transport the material further.



If the photographic material is not grasped by the feedin rollers because they are closed, you can open the rollers by pressing the "Open rollers" key in the "Test (1a)" menu.



11. Close the cover of the cassette compartment again.

## Removing the Take-up Cassette



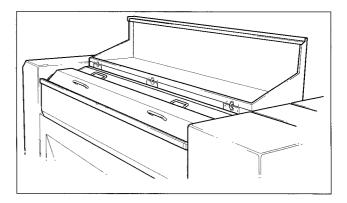
If there is photographic material in the take-up cassette, a cut process has to be triggered before the material is removed.



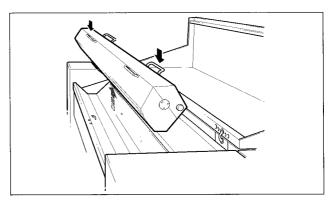
1. Press the key with the "Handling material" folder symbol.



- 2. Press the "Load material" key symbol in the "Handling material" menu. Any material in the loop box is then transported to the take-up cassette.
- 3. Open the cover of the take-up cassette compartment.



4. Take the take-up cassette by its handles and draw it out of its compartment.



5. Close the light trap so that the material in the take-up cassette cannot slip back in there.

Should this happen, proceed as described in the section *Eliminating Photographic Material Jamming in the Take-up Cassette* (refer to page 5–25).

# Notes on Emptying the Take-up Cassette



When photographic material galleys are quickly extracted by hand, powerful electrostatic charges are produced in the photographic material and take-up cassette, especially when air humidity values are low. The photographic material can also be damaged in this process. Therefore, always pull the material slowly out of the take-up cassette.



The results of such quick pulling are visible flashes on the photographic material and powerful electric shocks if the take-up cassette is touched after the photographic material has been removed.



For this reason, the automatic online processor must have a cassette compartment whose pull-out rails are grounded.



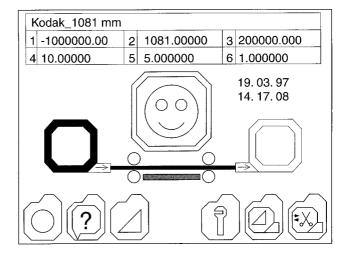
The light trap must be tilted open so that the photographic material can easily be extracted from the take-up cassette (in the darkroom) through the cassette exit slot which is now open.

## Manual Feed of the Photographic Material

A preset photographic material feed is triggered using this function. The feed length corresponds to the width of the exposure mold.

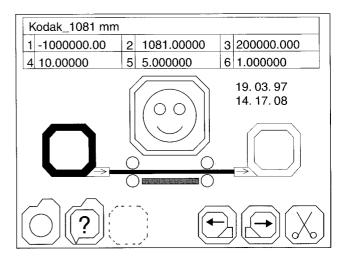
#### Prerequisite:

The imagesetter status is "Ready".





Press the key with the "Handling material" folder symbol.



The "Handling material" menu is displayed:



2. Press the "Material feed" key in this menu.

The following functions are triggered in the imagesetter as a result:

■ The photographic material is transported into the take-up cassette.

The material length in the supply cassette (-) and in the take-up cassette (+) is indicated accordingly in the display panel.

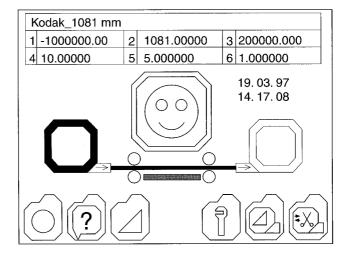
## Cutting the Photographic Material

A cut process is triggered using this function, if:

- there is exposed photographic material in the exposure mold.
- a manual feed of photographic material was previously triggered.

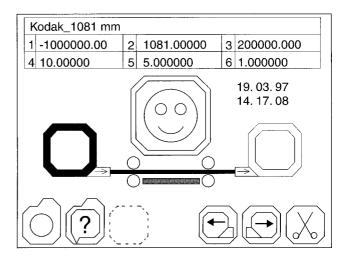
#### Prerequisite:

The imagesetter status is "Ready".





Press the key with the "Handling material" folder symbol.



The "Handling material" menu is displayed:



2. Press the "Cut Material" key in this menu.

The following functions are triggered in the imagesetter as a result:

- A photographic material feed is performed which transports the exposed photographic material into the take-up cassette. If the exposed photographic material is shorter than the minimum feed, the transport of photographic material is increased to the minimum feed.
- The photographic material is cut following this.

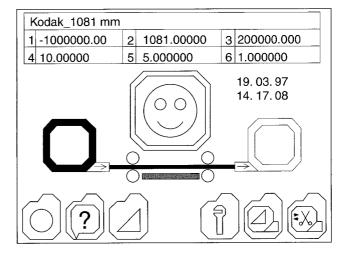
The take-up cassette must now be taken out of the unit, (please refer to *Removing the Take-up Cassette* on page 5-13) as only one cut galley may ever be present in the take-up cassette.

## Unloading Photographic Material

By means of this function, the unexposed photographic material is transported back into the supply cassette from the exposure mold so that, for example, a supply cassette with different photographic material can be inserted.

#### Prerequisite:

The imagesetter status is "Ready"

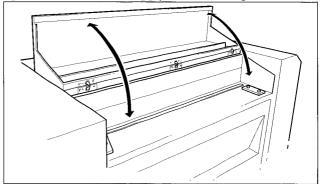




1. Press the key with the "Handling material" folder symbol.

The "Handling material" menu is displayed:

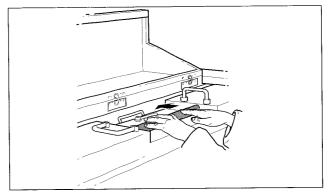
2. Open the cover of the supply cassette compartment.



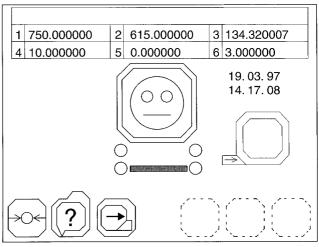


This triggers the following functions in the imagesetter:

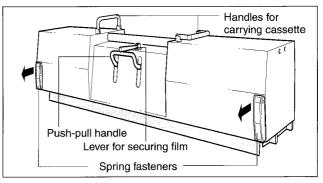
- The exposed photographic material is cut off and transported into the take-up cassette.
- The unexposed photographic material is transported back towards the supply cassette.
- 4. Turn the hand wheel to rewind the unexposed material back into the supply cassette. Do this until the supply cassette symbol is no longer seen in the display panel.



When the material is unloaded, the following menu appears in the display panel:



5. Press the push-pull handle down and position the lever for securing the film over the push-pull handle so that the latter is held down. This prevents the photographic material from slipping back into the cassette when it is being carried.



6. Take the supply cassette by its handles and lift it out of the Signasetter PRO.

# Troubleshooting

Errors which occur in the Signasetter PRO are graphically displayed on the display panel. The symbol which appears depends on the type of error:



■ This status symbol indicates that photographic material has jammed in the Signasetter PRO. Certain steps have to be performed in order to eliminate this jamming (refer to *Eliminating Photographic Material Jamming in the Imagesetter* on page 5–25).



■ All other errors can be recognized by the "Error" status symbol.

Proceed as follows if this type of errors occurs:



Press the key with the "Help" symbol.
 The following help information is displayed in the display panel:

Error number.

Description of the error,

Error remedy.

- Eliminate the error as described in the remedy.
- Call up the switch-off menu.





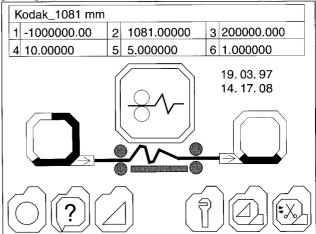
 Press the "Error correction" key in the switch-off menu. This action returns the Signasetter PRO to an initial status and the function which was interrupted by the error can be repeated.

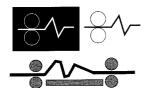
## Eliminating Photographic Material Jamming in the Imagesetter

Jamming can occur with all functions which trigger movement of the photographic material:

- Exposing a job
- Loading and unloading photographic material by key
- Cutting photographic material by key
- Photographic material feed by key

The following display appears in the display panel if the photographic material has jammed:





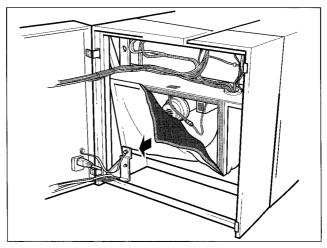
The status symbol display changes from positive to negative.

The loading status symbol flashes.

Proceed as follows in order to avoid damages to the Signasetter PRO when eliminating photographic material jamming:

- If there is uncut photographic material in the take-up cassette, this must be cut by pressing the "Cut material" key.
- 2. If necessary, develop the photographic material in the take-up cassette.
- 3. Open the feed-in and pull-out rollers by pressing the "Open rollers" key in the "Test (1a)" menu.
- 4. Swing open the electronics cabinet.

  Opening the cabinet opens the safety loop. This in turn blocks the laser beam and the optical carriage feed.



- 5. Remove the cloth covering.

  The cloth covering screens off the entire exposure mold and is secured to the frame by velcro.
- 6. You can now see the jammed photographic material in the exposure mold.
- 7. Open the cover of the supply cassette compartment.

- 8. Take the supply cassette by its handles and lift it out of the Signasetter PRO. Any photographic material which is in the exposure mold is thus drawn out of the unit. Pull the material slowly and carefully out of the unit. While doing this, hold the hand wheel or the film.
- 9. Cut the photographic material which is hanging out of the supply cassette evenly with a scissors.
- Insert the supply and take-up cassettes again and close their covers.
- 11. Attach the cloth covering again and close the electronics cabinet. You will hear it engage.



12. Call up the switch-off menu.



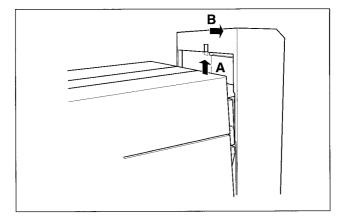
13. Press the "Error correction" key in the switch-off menu. As a result, the Signasetter PRO is returned to an initial status and the function which was interrupted by the error can be repeated after the photographic material has been loaded.

If the photographic material is not drawn out of the exposure mold when you remove the supply cassette, cut off the material with a scissors just before the material exit slot of the supply cassette. Then remove the jammed material directly from the exposure mold.

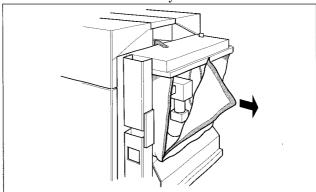
# Eliminating Photographic Material Jamming in the Optical Carriage

If jamming of the photographic material also prevents the optical carriage from returning to its zero position, this fault can be removed as follows:

- Slightly lift the side panel of the Signasetter PRO (A).
   Lifting the side panel opens the safety loop. In this way, the laser beam is blocked and the optical carriage cannot move.
- 2. Pull off the grounding cable and remove the side panel completely (B).



Remove the cloth covering.The cloth covering screens off the entire exposure mold and is secured to the frame by velcro.



- 4. You can now see the jammed photographic material and optical carriage in the exposure mold.

  Remove the jammed material carefully.
- 5. Attach the cloth covering back again.
- 6. Push the side panel on to the frame until it is approx. 10 cm above its seat.
- 7. Connect the grounding cable again.
- 8. Push the side panel until it is seated properly.
- Insert the supply and take-up cassettes again and close their covers.



10. Call up the switch-off menu.



11. Press the "Error correction" key in the switch-off menu. As a result, the Signasetter PRO is returned to an initial status and the function which was interrupted by the error can be repeated after the photographic material has been loaded.

## Canceling the RIP-Signasetter PRO Connection

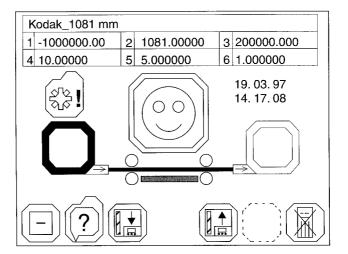
If the transfer of data from one of the two RIPs to the Signasetter PRO is not functioning properly and cannot be corrected by resetting the RIP, the RIP-Signasetter PRO connection must be canceled:



1. Press the "Imagesetter test tools" key in the main menu.



Press the "Test 1" key in the "Imagesetter test tools" menu. The following menu appears in the display panel:





3. Press the "Cancel RIP-Signasetter PRO connection" key. The current RIP-Signasetter PRO connection is canceled. The Signasetter PRO is then able to receive data from one of the two RIPs.

# **Service and Maintenance**

6

General Information	6-3
Cleaning the Unit	6-3
Cleaning the Exposure Mold	6-4
Cleaning the Rubber Rollers and the	
Teflon Strips in the Supply Cassette	6-6
Eliminating Photographic Material Jamming in	
the Take-up Cassette	6-7
Removing Exposed Photographic Material from	
the Take-up Cassette	6-8
Changing the Fuse	6-9

## General Information

The unit does not contain any parts which require servicing by the operator.



Attention: Unauthorized opening or improper repairs can lead to considerable danger for the operator.

Service work may only be performed by authorized personnel specialized in this field.

The appropriate regulations for the prevention of accidents are to be adhered to when doing this.

Failure to observe the safety regulations may result in the loss of accident insurance!

## Cleaning the Unit



The unit must be disconnected from the power supply by pulling out the connector if cleaning the unit involves using liquids.

The unit surfaces can be cleaned using a dry cloth. If the unit is very dirty, it may be cleaned with a damp cloth which has been dipped in dish-washing liquid and well wrung.

Make sure that no liquid gets inside the unit and keep moisture away from the connection sockets at the rear of the unit.

Do not use any abrasive cleaning agents or solvents.

## ■ Cleaning the Exposure Mold

The exposure mold must be cleaned when required. Use a vacuum cleaner with a plastic nozzle for this.

A plastic nozzle is required in order to prevent the sensitive surface of the exposure mold from being damaged.

#### Prerequisites:

- The Signasetter PRO has been switched on.
- There is no photographic material in the Signasetter PRO.
- The main menu is displayed in the operating and display panel.

Operational procedure:



1. Press the "Imagesetter test tools" key in the main menu. The "Imagesetter test tools" menu is displayed.



2. Press the "Test (1)" key. The "Test (1)" menu is displayed.

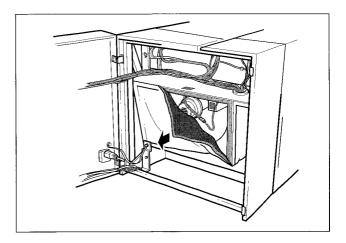


- 3. Press the "Optical carriage backwards" key. The optical carriage moves to the rearmost position so that the exposure mold is easily accessible.
- 4. Swing open the electronics cabinet.

  Opening the cabinet opens the safety loop. This in turn blocks the laser beam and the optical carriage feed.

5. Remove the cloth covering.

The cloth covering screens off the entire exposure mold and is secured to the frame by velcro.



- 6. Clean the exposure mold with a vacuum cleaner (use a plastic nozzle).
- 7. Attach the cloth covering again.
- 8. Close the electronics cabinet.

## Cleaning the Rubber Rollers and the Teflon Strips in the Supply Cassette

The rubber rollers and the Teflon strips must be cleaned when required:

- 1. Open the supply cassette by loosening both adjustable spring fasteners.
- 2. Tilt open the lid of the cassette with the help of the push-pull handle.
- 3. Clean the rubber rollers and the Teflon strips with a cloth which has been moistened with methylated spirit (to remove the dust).

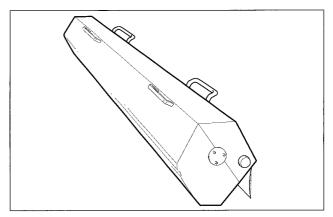
# ■ Eliminating Photographic Material Jamming in the Take-up Cassette

The take-up casssette must be opened if the photographic material was incorrectly fed into the cassette or if it buckled there.



Note: The take-up cassette should be opened in the darkroom without any light so that it is still possible to develop the photographic material if required.

1. Unscrew the two side knurled screws and open the lid of the take-up cassette completely.



2. Tilt open the metal guide.

The metal guide is a very sensitive part and must be handled with the utmost care.

- 3. Take the incorrectly fed material out of the take-up cassette.
- 4. Close the lid of the take-up cassette again and screw the two knurled screws back on tightly.
- 5. Insert the take-up cassette again (refer to *Inserting the Take-up Cassette* on page 5-9).



Jamming of the photographic material in the take-up cassette is most commonly caused by the insertion of a take-up cassette which has not been emptied. It must then be emptied as described here.

# Removing Exposed Photographic Material from the Take-up Cassette

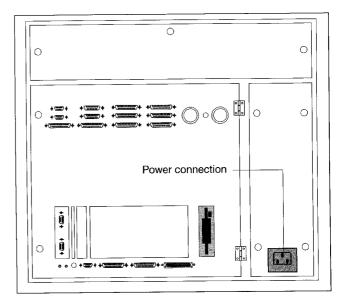
If exposed photographic material slips completely back into the take-up cassette because the light trap was not closed, for example, then open the take-up cassette as described and carefully and slowly extract the material from the take-up cassette.

## Changing the Fuse

The fuse is located below the power connection inside the electronics cabinet.

Proceed as follows to change the fuse:

- 1. Switch off the Signasetter PRO.
- 2. Swing open the electronics cabinet.
- 3. Pull out the connector from the power supply.



- 4. Open the fuse cap below the power connection.
- 5. Change the fuse. Make sure that the fuse is of the same type and that its value is the same (see the label over the fuse).
- 6. Close the fuse cap again.

7. Connect the unit to the power supply again, close the electronics cabinet and switch on the unit.

Parameter Setup

7

Editing the imagesetter Parameters	7-3
Editing Parameters with Numeric Characters	7-6
Editing Parameters with Alphanumeric Characters	7–7
Transfering and Editing Available Parameters	7-8
Listing the Customer-specific Parameters	7-10
Displaying the Software Version	
Setting the Date, Time, Measurement Unit	
and Material Length Counter	7-16
Editing the Material Width	7-19

## **■** Editing the Imagesetter Parameters



1. Press the "General imagesetter parameter setup" key in the main menu.

The "Imagesetter parameter setup" menu is displayed, e.g.:

	FID	action data
PID	WORK	NAME
1 2	0	Output advance Cut material
3 501 502	0 0	Punch action Job margin Automatc unlöad
	?	



2. Press the "One level down" key.





3. On this level, you can sort the parameters numerically, alphanumerically or according to the default setting and, if necessary, search for or select them directly them by means of the "Search" function.



4. Select the desired parameter set by pressing the "Next parameter set" key.

5 parameter sets are available:

Program data

Action data

Material data

Static data

Measure data



5. Press the "One level up" key.





6. If the parameter has not been selected directly by the "Search" function, select the parameter which is to be changed via the "One line down" or "One line up" key. The selected parameter has a dark background.



7. Press the key with the "Info on activated parameter" folder symbol.

The "Info on activated parameter" menu is displayed:

NAME	Punch action	
UNIT	free	
<b>ACT-DEF</b>	0	
PID-DEF	0.000000	
MINIMUM	0.000000	
<b>MAXIMUM</b>	1048575.000000	

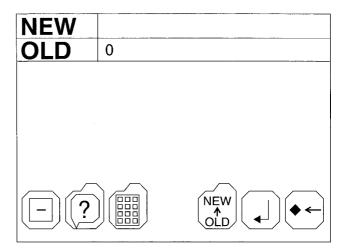


If the minimum and maximum values are displayed in reverse video, then only certain entries are permitted.



8. Press the key with the "Edit parameters 1" folder symbol.

The "Edit parameters" menu is displayed:



You can edit the parameters in two ways:

■ Edit new parameters.

To do this, press the key with the "Edit parameters 2" folder symbol.

The key layout in the menu which appears depends on whether the parameter is to be edited with numeric or alphanumeric characters.

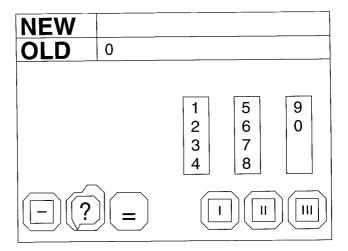
Transfer and change available parameters.
 To do this, press the key with the "Transfer parameters" folder symbol.



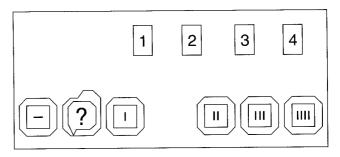


## Editing Parameters with Numeric Characters

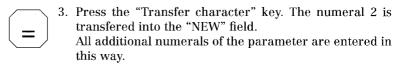
The "Edit parameters" menu is displayed:

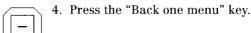


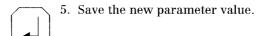
1. Select the numeral group by pressing the key which contains the numeral to be edited, e.g. the numeral group 1, 2, 3, 4.



2. Select the numeral to be edited by pressing the appropriate key, e.g. the numeral 2.

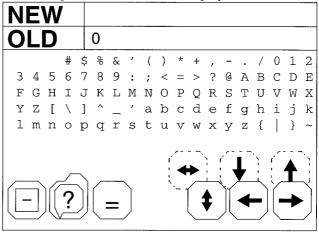






## Editing Parameters with Alphanumeric Characters

The "Edit parameters" menu is displayed:





1. Position the cursor on the desired character using the "Character to the left, to the right, up and down" keys.



The direction is changed using the "Horizontal" and "Vertical" keys.



- 2. Via the "Transfer character" key, transfer the selected character to the "NEW" field.
- 3. Repeat steps 1 4 until the complete parameter is in the "NEW" field.



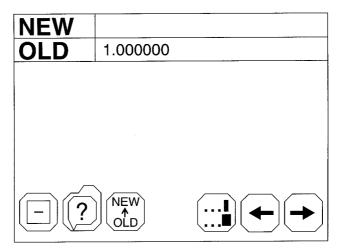
4. Press the "Back one menu" key.



Save the new parameter.

## Transfering and Editing Available Parameters

The "Edit parameter" menu is displayed:





1. Press the "Transfer old parameter" key. The parameter in the OLD field is transfered into the NEW field.



2. Position the cursor on the desired position using the "Character to the left" and "Character to the right" keys.



3. Switch the write mode to "Enter" or "Overwrite" as you require.



4. Press the "Back one menu" key.



Press the key with the "Edit parameter 2" folder symbol.

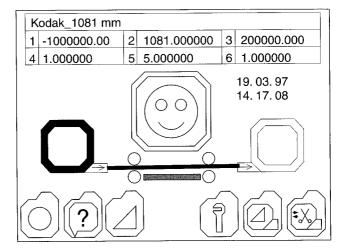
Then proceed following the description given in the *Editing Parameters with Numeric Characters* or *Editing Parameters with Alphanumeric Characters* sections.

## Listing the Customer-specific Parameters

Up to six parameters can be displayed as customer-specific parameters in the display panel.

#### Prerequisites:

■ The main menu is displayed in the operating and display panel:





1. Press the key with the "General imagesetter parameter setup" folder symbol.

The "Imagesetter parameter setup" menu is displayed:

	FID	material data
PID	WORK	NAME
1000 1001 1002	1.000000 Kodak 38.000000	Material Index Material Name Material Type
	?	



2. Press the "One level down" key.





3. On this level, you can sort the parameters numerically, alphanumerically or according to the default setting and, if necessary, search for or select them directly them by means of the "Search" function.



4. Select the desired parameter set by pressing the "Next parameter set" key.



5. Press the "One level up" key.





6. If the parameter has not been selected directly by the "Search" function, use the "One line down" and/or "One line up" keys to select the parameter which is to be dis-

played as the customer-specific parameter in the display panel. The parameter selected is the one with the dark background.



7. Press the key with the "Info on activated parameter" folder symbol.

The "Info on activated parameter" menu appears:

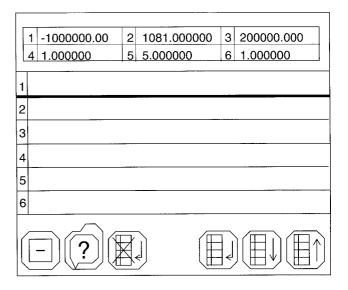
NAME	Job Page	
UNIT	free	
PID	441	
<b>DEFAULT</b>	0.000000	
MINIMUM	0.000000	
MAXIMUM	65535.000000	
- ? (xxx)		

The parameter data can be checked in this display.



 $8. \ \ Press\ the\ "Parameter lines"\ key.$ 

The "Parameter lines" menu appears:





- 9. By means of the "Previous parameter line" or "Next parameter line" keys, select the line (1 6) where you will enter the parameter. The line selected is marked by a thicker line.
- 10. Enter the parameter in the selected line via the "Save parameter line" key.
- 11. This entry can be canceled by pressing the "Delete parameter line" key.

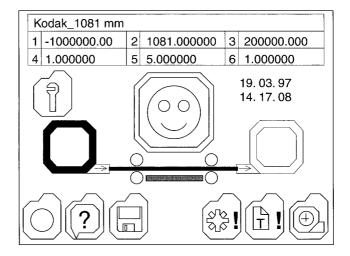
## ■ Displaying the Software Version

Proceed as follows in order to determine the current software version of the Signasetter PRO:



1. Press the "Imagesetter test tools" key in the main menu.

The "Imagesetter test tools" menu is displayed:





2. Press the "Software version" key.

The software version of the Signasetter PRO is displayed:

# Signasetter PRO Version

locked beta release

version: X.xx

date : Monat tt. jjjj. mm. ss



X.xx = Version number

dd = Day

yyyy = Year

hh = Hour

mm = Minute

ss = Second

# Setting the Date, Time, Measurement Unit and Material Length Counter

The following settings are possible:

- Date and time
- The order in which the date is displayed
  - DMY
  - YMD
  - MDY
- D = Day, M = Month, Y = Year
- Measurement units for the material length in the supply and take-up cassettes:
  - Centimeters (cm)
  - Meters (m)
  - Per cent (%)
  - Inch (In)
  - Feet (ft)

The material length is determined and displayed in two ways:

- By means of a mechanism in the supply cassette with an accuracy rate of +10%.
   The material length is automatically determined.
   The material length is displayed on a dark background.
- By means of an exact measurement of its length during photographic material feed.
   The material length must be entered by the operator, e.g. when a new roll of photographic material is inserted.
   The material length is not displayed on a dark background.

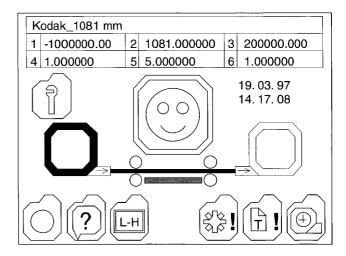
■ Material length counter in the supply cassette.

Proceed as follows in order to set the date, time, measurement unit and material length counter:



 $1. \ \ Press\ the\ "Images etter\ test\ tools"\ key\ in\ the\ main\ menu.$ 

The "Imagesetter test tools" menu is displayed:

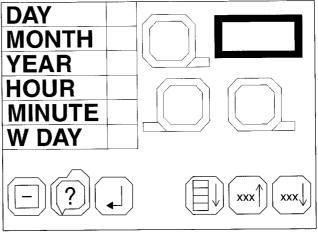




 $2. \ \ Press\ the\ "Date, time, measurement unit"\ key.$ 

DAY

The "Date, time, measurement unit" menu is displayed:





3. Jump to the field to be changed by pressing the "Next parameter" key.

When the field for setting the material length counter in the supply cassette is selected, four arrows appear under the symbol for the cassette. The arrows are activated in turn by pressing this key again. Each numeral which the activated arrow is pointing to can be set.



4. Set the desired value via the "Parameter+1" and "Parameter-1" keys.



5. Press the "Save parameter" key after the desired entries have been made. The time, date, measurement unit and material length are displayed in the display panel in the way they were set here.

## **■ Editing the Material Width**

The widths of the materials used in the Signasetter PRO must be edited at the operating and display panel of the Signasetter PRO.

Proceed as follows to edit the width:



1. Press the "Material parameters" key in the main menu.





2. Using the "Next data record" or "Previous data record" keys in the "Material-specific imagesetter parameter setup 1" menu, select the name of the material where you must enter the width.



3. Select the material name with the "Select material" key.



4. Press the "Menu extension" key. Other keys in this menu (part 2) appear.



5. Press the "Set material data" key. The material data record is displayed directly in the "General imagesetter parameter setup" menu.

Now continue as described as of item 6. in the section *Editing the Imagesetter Parameters*.

**Technical Data** 

8

Technical Data	8-3
Notes on the Disposal of the Unit	8-5
Standards	8-6
Laser Standards and Regulations	8-6
Labels on the Laser	8-6
General Safety	8-6
Electrical Safety	8-6
Mechanical Safety	8-7
Electromagnetic Compatibility (EMC)	8-7
Interference Emission (Radiated Interference	
and Conducted Interference Voltage)	8-7
Interference Immunity	8-7
Radio Interference Notice	8-8
Conformity Marks and Approvals	8-9
Harmful Substances	8-9
CE Declaration of Conformity	
Label Overview	

### Technical Data

#### **■** Dimensions

Width: 2000 mm Depth: 800 mm Height: 810 mm

#### ■ Weight

approx. 900 kg

#### **■** Voltage

1N PE AC set in factory to 110 V, 115 V, 200 V, 230 V or 240 V, with +10% in each case.

#### **■** Frequency

50 to 60 Hz

#### ■ Rated Current

230 V: 2.5 A; 115 V: 5.0 A

### **■** Ambient Conditions (Operation)

Temperature:  $+18^{\circ}$  C to  $+27^{\circ}$  C Temperature change:  $\leq 2^{\circ}$  C/h Air pressure: 700 to 1060 mbar

Relative humidity: 45 % to 80 % non-condensing

#### **■** Ambient Conditions (Transport)

Temperature: - 20 °C to + 50 °C Air pressure: 250 to 1060 mbar

Relative humidity: 10 % to 80 % non-condensing

#### ■ Noise Emission

< 55 dB (A), value depends on workplace configuration

#### **■** Photographic Material Lengths

In the supply cassette: max. 60 m In the take-up cassette: 0.3 m to 6 m in one piece. To the online automatic film processor: single pages 0.3 m to 0.8 m.

#### ■ Thickness of Photographic Material

Film:0.11 mm - 0.18 mm Offset foil:in preparation

#### **■** Exposure Format

Width x Height: 1070 mm x 770 mm (42.21 x 30.32 inch) with maximum material width For all other material widths:

Material width minus 6 mm x 770 mm

#### **■** Exposure Start

16 mm from middle of punch hole

## ■ Photographic Material Widths

(for all widths, there is a tolerance of +1 mm)

459mm, 489mm, 519mm, 549mm

519mm, 549mm, 559mm, 579mm, 589mm,

609mm, 619mm, 659mm, 669mm, 689mm, 699mm,

719mm, 759mm, 761mm, 789mm,

811mm, 819mm, 864mm, 894mm,

924mm, 964mm, 994mm, 1024mm, 1064mm, 1079mm

Other material width on request.

## **■** Light Source

Helium-Neon gas laser with a wavelengh of 633 nm. Wattage max. 2 mW in the exposure compartment.

#### ■ Minimum Feed

The first minimum galley length is 300 mm. Every feed adjustment after this is at least 20 mm.

#### **■** Resolution

Resolution	
pixel/cm	dots/inch
500	1270
666	1693
800	2032
1000	2540
1333	3387
1600	4064
2000	5080

#### **■** Screen Resolution

Max. 120 screen dots/cm

# ■ Repeat Accuracy (Microse fact).

+/- 5 mm in the case of full format and if 4 films (color separations) are exposed directly one after the other taking fluctuations in temperature and air humidity into consideration.

#### **■** Linear Tolerance

max. 150 mm across the complete exposure format

#### **■** Heating-up Time after Switch On

 $30\ min.$  for the output of color separations.

## ■ Notes on the Disposal of the Unit

You must observe the national regulations when you are disposing of the unit.

#### Standards

The unit complies with the following safety standards.

## Laser Standards and Regulations

The Signasetter PRO laser imagesetter complies with the currently valid safety regulations and is manufactured in accordance with the VBG 93 regulation for the prevention of accidents and the VDE 0837-1 and IEC 825-1 "Radiation safety of laser products, equipment classification, requirements, and user's guide" safety standards as well as the 21 CFR 1040 (USA).

#### Labels on the Laser

Please refer to the label overview at the end of this chapter for laser labels and their positions.

## General Safety

GSG "Gerätesicherheitsgesetz" (Germany) (law regarding safety when working with technical equipment) 73/23/EEC Low Voltage Directive (Europe)

## Electrical Safety

VDE 0805 (Germany)
IEC 950 (international)
EN 60 950 (Europe)
UL 1950 (USA)
CSA C22.2 No 950 (Canada)

## Mechanical Safety

EN 292

(Europe)

## Electromagnetic Compatibility (EMC)

EMVG 89/336/EEC

(Germany) (Europe)

# Interference Emission (Radiated Interference and Conducted Interference Voltage)

EN50081-1 (Europe)
EN 55022, Limit B (Europe)
CISPR 22 mod. Limit B (international)

FCC, Part 15, Subpart B, Class A (USA) DOC, Radio Act SOR/88-475, Class A (Canada)

## Interference Immunity

EN 50082-2 IEC 801 (Europe)

(international)

### Radio Interference Notice

### Notes for Users in the US

The equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

The equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

#### Notes for Users in Canada

The digital apparatus does not exceed the class A limits for radio noise emissions from digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe A prescrites dans le Règlement sur le Brouillage Radioélectrique édicté par le Ministère des Communications du Canada.

## Conformity Marks and Approvals

CE: Declaration of Conformity
GS: certified
UL: E 156 891 (NWGQ)
CUL: E 156 891 (NWGQ 7)
(Canada)

### Harmful Substances

Please observe the manufacturer's instructions when using cleaning or lubrication agents. Please observe the DIN Safety Data Sheets as well as the allowed maximum concentration according to the list of harmful substances (MAK-Liste des Bundesministers für Arbeit und Sozialordnung) (i.e. MAK¹ List of the Federal Minister for Labor and Social Order), if applicable.

<sup>1</sup> MAK = Maximale Arbeitsplatzkonzentration (i. e. maximum concentration at the workplace)

# HEIDELBERG

### EG-Konformitätserklärung

gemäß der Niederspannungsrichtlinie 73/23/EWG und der EG-Richtlinie 89/336/EWG über die elektromagnetische Verträglichkeit

Name des Herstellers / supplier's name :

Heidelberger Druckmaschinen AG

Adresse / address :

Siemenswall

D-24107 Kiel, Germany

erklärt, daß das Produkt

declares, that the product

Produktname / product name:

Signasetter / PRO

Geräteart / product class:

Laser Recorder

Typenbezeichnung / type designation:

2093-xx

übereinstimmt mit den Bestimmungen der oben genannten EG-Richtlinien. conforms with the above mentioned Directives.

Angewandte Normen und technische Spezifikationen: Applicable Standards:

- EN 60950

- EN 50081-1

Sicherheit von Einrichtungen der Informationstechnik

einschließlich elektrischer Büromaschinen Safety of Information Technology Equipment

including electrical business equipment

EMV-Fachgrundnorm Störaussendung

EMC Generic Emission Standard

- EN 55022, Klasse B

- EN 50082-2 EMV-Fachgrundnorm Störfestigkeit

EMC Generic Immunity Standard

Kiel.

20. Januar 1998

W. Boppel Senior Vice Presider Heidelberger Druckmaschinen

Aktienaesellschaft

Ort / place

Datum / date .

••••••••••••••••

Name / name

erschrift / signature

Siemenswall - D-24107 Kiel/Germany Stempel / stamp

CE-Declaration of Conformity in accordance with Council Directives 89/392/ EEC for Machines,89/336/EEC relating to GB. IAL Applied harmonized standards: -EN 50081-1 (EN 55022, class B) - EN 50082-2 - EN 60950 Attestation de conformité CE selon les directives CE 89/392/CEE pour machines, 89/336/CEE pour la compatibilité éjectromagnétique et 73/23/CEE des éléments d'installation électrique destinés à l'application à l'intérieur de limites de tension F, B, t. OBJETTIMES

Heidelberger Druckmaschinen AG affirme que le produit décrit au verso correspond aux références suivantes adéquates :

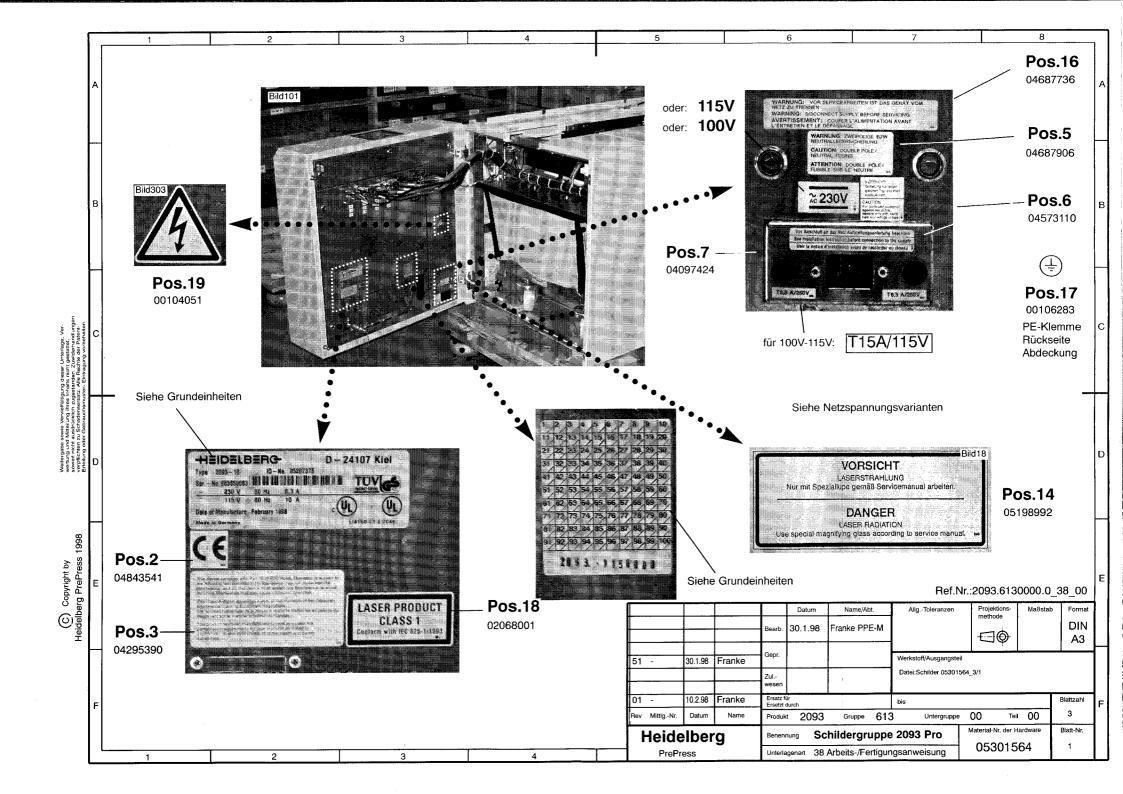
- Directive CE 99/336/CEE pour la compatibilité électromagnétique

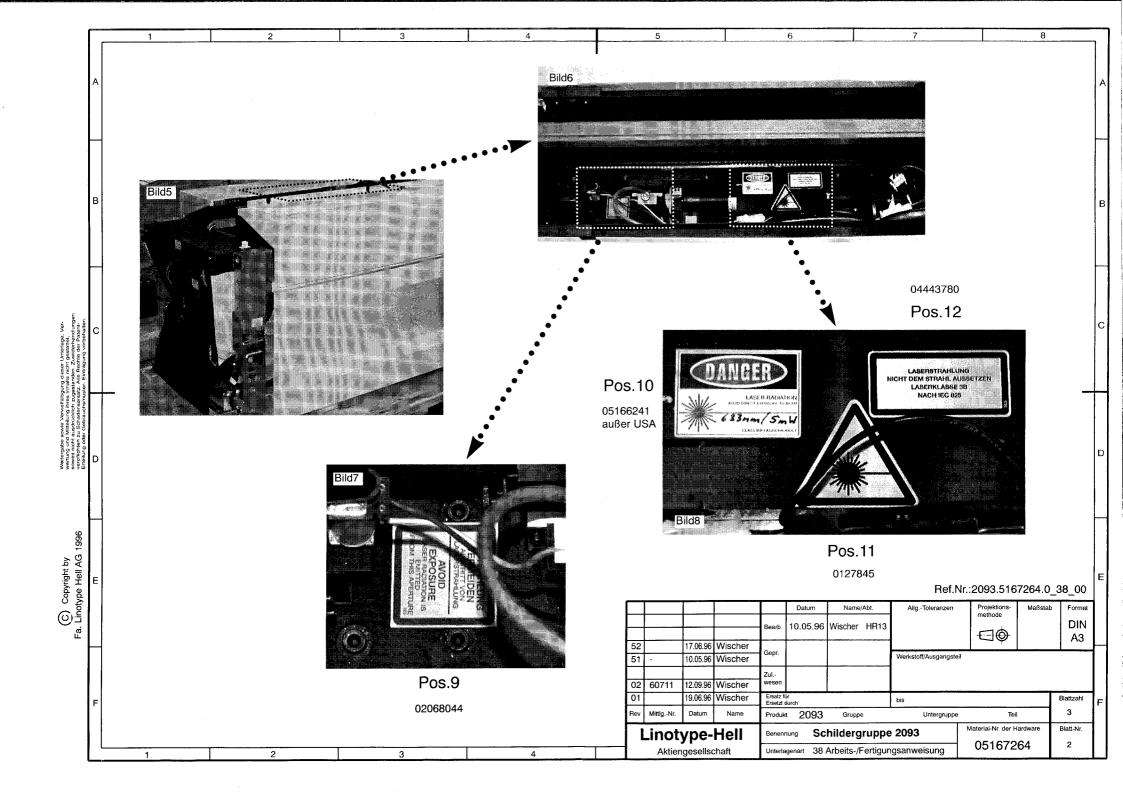
- Directive CE 73/23/CEE des éléments d'installation électrique destinés à l'application à l'intérieur de limites de tension déterminées Normes d'application harmonisées: - EN 50081-1 ( EN 55022, Classe B) - EN 50082-2 - EN 60950 EU-overensstemmelseserklæring iht. EU-direktiverne 89/39/EØF for maskiner, 89/33/EØF om elektromagnetisk forenelighed og 73/23/EØF for elektrisk udstyr, som er beregnet til anvendelse indenfor bestemte spændingsgrænser Heidelberger Druckmaschinen AG erklærer, at del produkt, der er beskrevet efterfølgende, opfyder følgende relevante bestemmelser: EU-direktiv 73/23/EØF for elektromagnetisk forenelighed : EU-direktiv 73/23/EØF for elektrisk udstyr, som er beregnet til anvendelse indenfor bestemte spændingsgrænser Agvandte bestemte spændingsgrænser DK Anvendte harmoniserede nomer:
-EN 50081-1 (EN 55022, klasse B) - EN 50082-2 - EN 60950 Declaración de conformidad CE de acuerdo con las normas CE 89/392/CEE para máquinas, 89/336/CEE para la compatibilidad electromagnética y 73/23/CEE para equipos eléctricos, que han sido concebidos para el uso dentro de determinados límites de Ε Tension

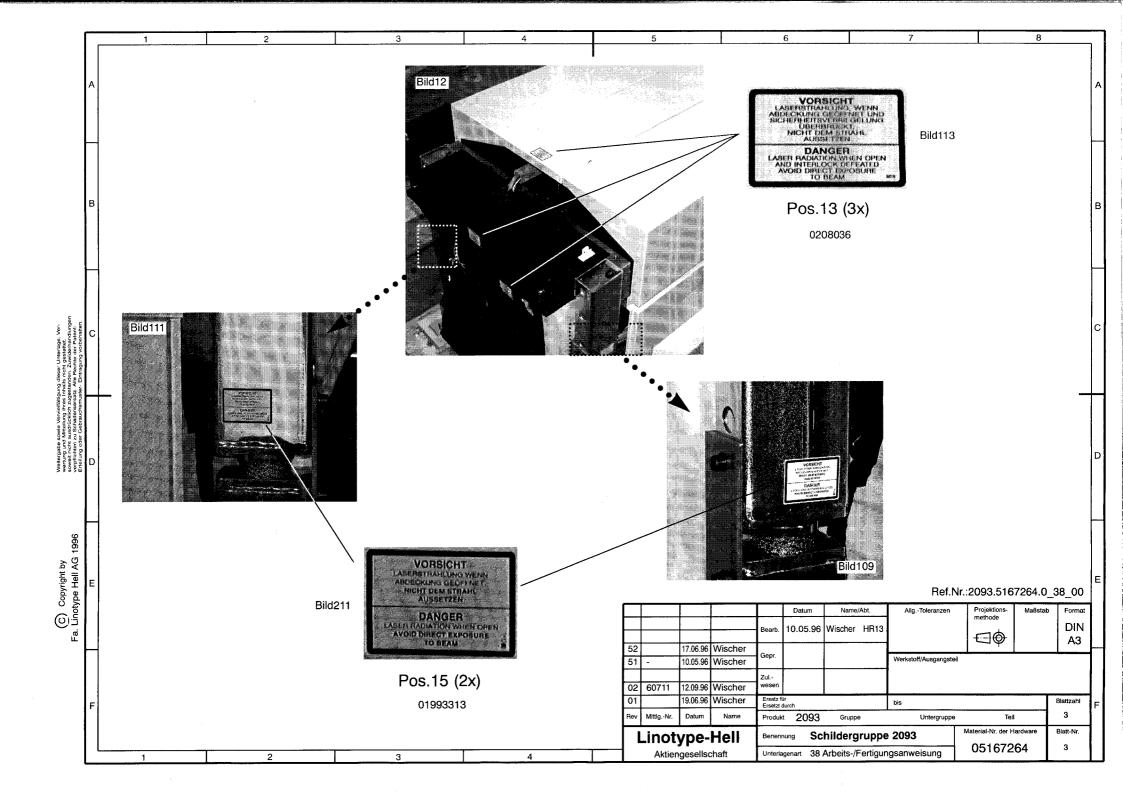
Heidelberger Druckmaschinen AG declara que el producto descrito al dorso corresponde a las siguientes disposiciones relevantes:

Norma CE 89/336/CEE para la compatibildad electromagnética

Norma CE 73/23/CEE para equipos eléctricos concebidos para el uso dentro de determinados limites de tensión Normas armonizadas aplicadas: -EN 50081-1 (EN 55022, clase B) -EN 50082-2 -EN 60950 Euroopan yhteisön yhdenmukaisuusseloste yhteisön määräysten mukaisesti 89/392/Euroopan talousyhteisö EEC konellle, 89/303/EEC koskien sähköisiä varustelta, jotka on määrätty käytettäväksi tiettyjen jänniterajojen sisällä FIN käytettäväksi tiettyjen janniterajojen sisalai käytettäväksi tiettyjen janniterajojen sisaltä Heidelberger Druckmaschinen AG ilmoitta, että kääntöpuolella kuvattu tuote vastaa seuraavia asiaan kuuluvia määräyksiä: EY-direktivi 89/33/Euroopan talousyhteisö EEC sähkövausteita varten, jotka on suuruntietu käytettäväksi tiethyjen jänniterajojen sisällä. Sovelletut harmonisoidut normit: - EN 50081-1 (EN 55022, luokka B) - EN 50082-2 - EN 60950 Κανοτική δήλωση συμβατότητος σύμφωνα με τις κανοτικές οδηγίες 89/39 2/ΕΟΚ για μηχανές, 89/39/ΕΟΚ ως προς την ηλ εκτρομαγνητική ονεκτικότητα και 73/23/ΕΟΚ για ηλεκτρικά είδη εξατλιαμού, τα οποία προορίζονται για εφορμογές εντός GR καθορισμένων ορίων τόσης Η HEIDELBERGER DRUCKMASCHIEN Αὖ δηλώνει, ότι το ακολούθως περιγραφόμενο προϊόν εκπληρεί τις ακόλοζθες σχετικές διατάξεις ΕΟΚ/οδηγία 89/336/ΕΟΚ για ηλεκτρομαγνητική ανεκτικότητα · ΕΟΚ/οδηγία 73/23/ΕΟΚ για ηλεκτρικά είδη εξοπλισμού, που προορίζονται για χρήση εντός καθορισμένων ορίων τάσης Χρησιμοποιούνται οι εξης εναρμονισμένες προδιαγραφές: - EN 50081-1 (EN 55022, Kathyopia B) - EN 50082-2 - EN 60950 Dichiarazione CEE di conformità secondo la Direttiva CEE 89/392/CEE per macchine, 89/338/CEE per compatibilità elettromagnetica e 73/23/CEE per impianti elettrici destinati ad installazioni entro limiti di tensione stabiliti. Heidelberger Oruckmaschinen AG dichiara che il prodotto descritto a tergo è conforme alle seguenti disposizioni : Direttiva CEE 89/33/CEE per compabilità è elettromagnetica - Direttiva CEE 73/23/CEE per impianti elettrici destinati ad installazioni entro limiti di tensione stabiliti. Norme ammonizzata apolicate: Norme amonizzate applicate: - EN 50081-1 (EN 55022, classe B) - EN 50082-2 - EN 60950 EG-conformiteitsverklaring volgens de EG-richtlijnen 89/392/EEG voor machines, 89/396/EEG voor de elektromagnetische verdraagsaamheid en 73/29/EEG voor elektrische uitrustingsonderdelen welke voor het gebruik binnen bepaalde NL spanningsgrenzen zijn bestemd. Heidelberger Druckmaschinen AG verklaart dat de aan de ommezijde beschreven produkten aan de volgende bestemmingen van belang GG-richtlijn 89/336/EEG voor elektromagnetische verdraagzaamheid EG-richtlijn 73/23/EEG voor elektrische uitrustingsonderdelen welke voor het gebruik binnen bepaalde spanningsgrenzen zijn voldcen: bestend Toegepaste geharmoniseerde normen: - EN 50081-1 (EN 55022, klas B) - EN 50082-2 - EN 60950 Declaração de conformidade CE de acordo com as directivas CE 89/392/CEE para máquinas, 89/336/CEE para a compalibilidade electromagnética e 73/23/CEE para objectos de equipamento eléctricos, que se destinam para aplicação dentro de determinados limites de tensão dentro de determinados limites de lensad. A Heidelberger: Druckmaschinen AC declara que o produto descrito no verso corresponde às seguintes determinações relevantes : - Directiva CE 89/336/CEE para a compatibilidade electromagnética - Directiva CE 73/23/CEE para objectos de equipamento eléctricos, que se destinam para aplicação dentro de determinados limites de tensão Normas harmonizadas aplicadas: - EN 50081-1 (EN 55022, classeB) - EN 50082-2 - EN 60950 EU konformitetsförklaring enl. EU riktlinjer 89/392 EWG för maskiner, 89/335 EWG betr, elektromagnetisk acceptans samt 73/2/2/EWG för elektriska utrustningsdelar, som är avsedda för användning inom vissa spänningsområden. Heidelberger Druckmaschinen AG deklarerar, att produkten enl. bifogad beskrivning motsvarar följande gällande bestämmelser:
- EU riktlinje 32/35/EWG för elektromagnetisk acceptans
- EU riktlinje 73/23/EWG för elektriska utrustningsdelar, som är avsedda för användning inom vissa spänningsområden. Apvänds hermojssrade normer: Använda harmoniserade nomer: -FN 50081-1 (EN 55022, klass B) - EN 50082-2 - EN 60950







# **Appendix**

Reports	A-1
Quality Assurance	A-1
Installation Report for the Service Technician	A-1
Central Call Desk for Customers in Germany	A-2
Problem Report for Customers and Service	
Technicians	A-3

## Quality Assurance

Heidelberger Druckmaschinen AG requires information on the quality of a product delivered and on the delivery procedure to ensure effective product control and quality assurance and to plan further developments.

Please use the enclosed forms to report general defects or desired improvements to Heidelberger Druckmaschinen AG.

# Installation Report for the Service Technician

The Installation Report is used to evaluate the quality of the product and of the delivery procedure. This may also be used to process the modification of the product.

It must be filled out by the person responsible after every installation and mailed to Heidelberger Druckmaschinen AG.

- Specify serial number of all installed machines and components.
- List missing parts and errors which occurred during initial starting. This applies to hardware and software.

Listing the missing parts does not cause their subsequent delivery. They must be ordered separately.

# Central Call Desk for Customers in Germany

Customers in Germany should contact the Heidelberger Druckmaschinen Central Call Desk should problems arise regarding the operation of applications.

Please contact the Heidelberger Druckmaschinen distributor responsible for your area if you are not a customer in Germany.

The Central Call Desk is open from Monday to Friday, 8 a.m. to 4 p.m.

The phone **number is (0180) 3232333.** Immediate processing is guaranteed.

If you have purchased a check book (support contract, complete package or power package) you are entitled to Central Call Desk support free of charge. If you do not possess a check book, you must pay for Central Call Desk services. You can also obtain further information on the check book.

### Problem Report for Customers and Service Technicians

The Problem Report is to be used in cases where general hardware and software defects are discovered or where you find that the products need to be improved.

Do not use the Problem Report to clarify questions on use or operation! In these cases, call the Central Call Desk if you are a customer in Germany or contact your Heidelberger Druckmaschinen distributor.

Copy the forms before completing them. Fill out the copies and retain the originals. This ensures that forms will be available for later use.

- Specify exact product name (machine name, software and version).
- Only ever describe one problem stating the exact conditions under which the problem occurred such as error messages, serial no. of the machine, modification states, the software used and its version etc.
- Specify sender and customer no./message no., and, if available, include your phone and fax nos.

Send the Problem Report to your agency or to the Heidelberger Druckmaschinen distributor responsible for your area. Send the forms to the addresses in Kiel if you are a member of the world-wide Heidelberger Druckmaschinen service organization.

You will always receive an answer to your Problem Report.

# Installation Report



Customer:  Location:  from Sales Office:	Please complete and send or fax to:  Heidelberg Prepress Quality Management Post office box 2460 D-24023 Kiel Fax 49-431-386-3694  from Distributor:					Remarketed machine	TilVshock indicator "red"	Transportation damage	parts missing	parts wrong	software (-version) wrong	engineering problem (see problem report)	D.O.A. (dead on arrival)	hardware defect	software defect
Item. Machines/Components/Parts		Ser	ial No.	Ord	er No.										
Detailed feedback for better quality												Date e	nd of ins	tallation:	
						-									
												Servic	e technic	ian:	
												Signat	ure:		
Safety relevant faults	ed information are needed)											J		Edit: OC	: 8021501a

TO)	
. 0	
12	
(C)	
(C)	
(ji)	
(11)	
П	
訓	
1000	
(dip)	
10 3	
(S)	
(())	
1 8	

By phone In writing		Not reproducible / furmer details requested Status IB LB ES Categorie A B C D	Reproducible	Problem Apr Known No.	Date of receipt	Editor / Dept.	Service Center	Statement :		Problem-Report-No.	Machine configuration : Supplied samples or data media :	Problem description :		Date	Hardware Software	Phone	ZIP / Town	Street	Editor	Customer No.
rting Via E-Maii	7	0		Application N	Dept.		For	how to av		Brief description		Please give detai	Program name	Product	re Application	Phone	ZIP / Town	Street	Editor	No. From Agency
Name :		Status IB ES WR WN Categorie P Q B K	Further details requested	Modification / Request Known No.	Date	Daid	warded	how to avoid the problem or how to solve the problem :	ne materiale mer	cription :		Please give details of one problem only. Please indicate HW/SW and mod. tates in the text	name		ation Request		'n			ncy Heport No.
Date.		Product group		Regist. in PROFI yes no Date		Version:	Settled with:	blem :	The second secon			HW/SW and mod. tates in the text	Version	Machine	x Please mark	CentralCallDesk@ccl.lhag.de	Fax +49-(0)-431-386-1966	P.O.Box 2460 <b>D-24023 Kiel</b>	Druckmaschinen AG Service Center Support	To Heidelberger

Acclimation 1–21 Jamming 5-25, 5-28, 6-7 Aging of the Film 1-24 Ambient conditions 8-3 K Key symbols 3-18 Applications/certifications 8-9 Area imagesetter 1-4 Labels on the laser 8-6 Laser standards and regulations 8-6 Cleaning Loading statuses 3-29 Exposure mold 6-4 Load photographic material 5-8, 5-10 Unit 6-3 Main menu 3-7 Conformity marks/approvals 8-9 Connection diagram 2-4 Material length counter 3-15, 3-22 Conveyor 2-6 Set 7-16 Customer-specific parameters 3-31 Measurement error 1-14 Cut photographic material 5-8, 5-18 Measurement unit 3-16 Cycle counter 3-23 Set 7-16 Mirror 1-4 D Darkroom lighting 5-4 Darkroom packaging 5-3 bis 5-4 0 On/off switch 3-3, 4-3Date 3-16, 3-31 Online automatic film processor 1-6 Set 7-16 Operating panel 3-4 Daylight packaging 5-3, 5-7 Operational components 1-7 Densitometer 1-11 Optical system 1-4 Accuracy 1-12 Density increase 1-14 P Parameter sets 7-3 Density measurement, Accuracy 1-11 Photographic material Cut 5-8, 5-18 Density test strips 1-10 Data 3-16, 3-31 Feed 5-8, 5-16 Display panel 3-4 E Jamming 5-25, 5-28, 6-7 Electromagnetic compatibility 8–7 Exposure counter 3–23 Exposure format 1–3, 8–4 Length 8-4 Load 5-8, 5-10 Exposure mold 1-5 Thickness 8-4 Unload 5-8, 5-20 F Feed, photographic material 5-8 PostScript files 1-3 Folder symbols 3-6 Power connection 2-7 Fuse change 6-9 Power connection cable 2-8 Punch 1-6 Н Handling material 3-17, 5-8 R Recording principle 1-4 Harmful substances 8-9 Help 3-8 Relative humidity 1-20 Repeat accuracy 8-5 ľ Imagesetter parameters 3-32 Resolution 8-5 Edit 7-3 Reversible changes 1-20 Imagesetter parameter setup 3-8, 3-16 bis 3-17 Second connection 1-3, 1-8 Imagesetter statuses 3-23 RIP-Signasetter connection, cancel 5-32 Imagesetter test tools 3-13 Insert Safety Supply cassette 5-10 Electrical 8-6 Take-up cassette 5-9 Mechanical 8-7 Integral density 1-12 Safety regulations 6-3 Interference emission 8-7 Screen dot Interference immunity 8-7 Curve 1-14

Generation 1-9

Irreversible changes 1-20

Size 1-10 Screen percent 1-12 Screen percent measurement 1-12 Screen resolution 8-5 Software Load 2-10 Update 2-10 Version 3-13, 7-14 SPEEDWAY interface 2-5 Standards 8-6 Startup status 4–3 Supply cassette 1-5, 3-27, 5-3 bis 5-4Insert 5-10 Switch-off menu 3-7 Take-up cassette 1-5 Insert 5-9 Remove 5-13 Temperature 1-20 Tests 3-14 bis 3-15 Test tools 3-13 Time 3-16, 3-31 Set 7-16 Troubleshooting 5-24 Uniformity of larger areas 1-18 Unload photographic material 5-8, 5-20 Update 3-14 Workflow in the Signasetter 1-5

Heidelberger Druckmaschinen Aktiengesellschaft Business Unit Prepress Siemenswall D-24107 Kiel Telefon +49 (431) 386-0 Telefax +49 (431) 386-1380

