Nexscan F 4100/F 4200

Operation

Edition September 2000
Order No. 05573483

HEIDELBERG

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Heidelberger Druckmaschinen AG assumes no responsibility for information and description as far as third-party products are concerned.

The information contained in this manual about performance and speed as well as technical data concerning application of our products is not legally binding as it does not constitute a written contract of features.

If any problems occur with the product described in this manual, please contact the Heidelberg agency which is responsible for you.

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Notes on Technical Safety

The device corresponds to the safety regulations listed in *Standards,* in the *Technical Data and Accessories* chapter.

Designated Use

The Nexscan F 4100/F 4200 is a flatbed scanner and should only be used for this purpose in accordance with the Operating Instructions. Do not place any objects or liquids on the unit.

The ventilation outlets must be kept clear at all times.

General

Environmental conditions must be observed when setting up the Nexscan F 4100/F 4200.

Warning: Unauthorized opening of the unit's housing and improper repairs not expressly described in the operating instructions can lead to considerable danger for the user.

Servicing work may only be performed by authorized specialist personnel. The respective accident prevention regulations must be observed at all times.

Non-observance of accident prevention regulations can lead to the loss of accident insurance cover.

Prerequisites

We assume that you are familiar with the basic functions of Windows NT® and/or Apple® Macintosh®.

Other Documentation

You will find further information in the following documentation:

For Newcolor/Newcopix:

- Printed documentation:
  - Newcolor Workflow
  - Newcolor Installation
  - Newcopix User's Guide/Reference
  - Newcopix Installation
- Online Helps (Reference)

For Linocolor:

- Printed documentation:
  - Linocolor Installation
  - Linocolor Introduction (incl. Color Images)
  - Linocolor User's Guide
  - Nexscan F 4100/F 4200 Copix Operation
- After installing LinoColor, you will find further documentation in the documentation folder on your computer, such as:
  - Linocolor Reference
  - GeoAssistant Application (only available with GeoAssistant)
  - JobAssistant User's Guide
- LinoColor Help
- JobAssistant Help

About This Documentation

This documentation should be kept safely for future use until the device is disposed of.

Conventions Used in This Manual

The following typographical conventions are used in this manual:

- References to other manuals, chapters and sections are colored in blue (on the screen) and are underlined.

  Example:
  See Abschnitt Conventions Used in This Manual.

- *Italics* are used to indicate menus, names of functions, hardware conditions, switch settings, and system messages.

  Example:
  Move the switch to *off*.

- Menus, functions and sub-functions are separated with by ">".

  Example:
  Choose *File* > *Open...*

- A plus sign is used to indicate that several keys have to be pressed at the same time.

  Example:
  Press Alt+A.

- "✎" in front of a word denotes that you will find further explanations of this word in the glossary.

Important Information

Important information in the text is marked by symbols which indicate the following:

Warning: Contains information that must be taken into consideration to protect the user from injury.

Attention: Contains information that must be taken into consideration to prevent damage to hardware or software.

Note: Contains important general or supplementary information about a specific topic.

Prerequisites: This text contains requirements which must be fulfilled before the steps which follow can be performed.

Influence of Magnetic Fields on the Monitors

Strong magnetic fields may influence your monitor screen (for example, they might make the edges of the screen unsteady or images flicker). This could be caused by the 50 Hz magnetic field coming from the power cables routed along your floors or in the wall.

The following corrective measures are recommended taking into account the safety regulations for working at monitors in offices:

- place the monitor at a different location
- shield the source (e.g. shield the cable duct)
- change the routing of the power supply cable
- shield the monitor by means of a metal cover

Any Comments on this Documentation?

We would like to know if our documentation meets your requirements.

- Can you find the information you are looking for? (and quickly enough?)
- Does this documentation help you to solve any problems which might occur?
- Where do you think there is room for improvement? ...

If you would like to make some comments on the documentation, please feel free to send these to us at the following e-mail address:

documentation.prepress@de.heidelberg.com

It would help us if you could write your comments in English or German.

Important!
Please do not use this e-mail address for improvement suggestions for the product Nexscan F 4100/F 4200, only for tips, corrections, criticism and suggestions with regard to the relevant documentation. If you have comments which you would like to make on the improvement or enhancement of our products, please forward these to us using the *Problem Report for Customers and Service Technicians*.

To order documentation, please contact the Heidelberg agency which is responsible for you.

HEIDELBERG Online

Do you have questions concerning our products?

Do you want to improve your workflows?

Pay us a visit at our Internet home page. You will find us at:

http://www.heidelberg.com/

Dear Customer

With the Nexscan F 4100/F 4200 you have purchased a high-quality and fast CCD color line scanner.
To make sure that you are always completely satisfied with the performance of the device, please observe the following unpacking and installation instructions, once you have removed the cardboard box or foil.

Power connection

Read the chapter on unpacking and installing before you connect the device to the power source.

Scope of Delivery

The scope of delivery for your Nexscan F 4100/ F 4200 comprises the following parts:

- 1 SCSI cable
- 3 Power cable
- 1 Calibration CD
- 1 Universal tray
- 1 Mounting rail
- 1 Flat screwdriver
- 1 Documentation
- 1 Base aperture
- 2 Fluorescent tubes
- 1 Passepartout – basic set
- 1 Slide tray

Unpacking and Installing

When setting up the Nexscan F 4100/F 4200, the notes in **both this chapter and in chapter 2** in these Operating Instructions must be observed.

Note: Do not install the device in the vicinity of air-conditioning systems and protect it from moisture and direct sunlight.

So far you have proceeded according to the unpacking instructions stuck to the outside of the box. You have taken this documentation out of the accessories box.

Further unpacking and installation procedure:

1. Removing the plastic foil
   Remove the plastic foil that surrounds the scanner.

2. Cutting open the box
   Cut open the four lower corners of the cardboard box.

3. Removing parts of the box
   Remove all cardboard box parts under the scanner. A second person is required to slightly raise the scanner for this purpose.

4. Pushing the scanner to the installation site
   Push or pull the scanner to the site where it will be taken into operation. However, allow approx. 1 m gap to the wall as cables still need to be connected later and the back panel must be screwed on and off.

Note: Take the length of the SCSI cable between scanner and computer into account when positioning the scanner.

5. Removing the back panel
   Unscrew the four screws at the back of the device with a flat screwdriver and remove the back panel.

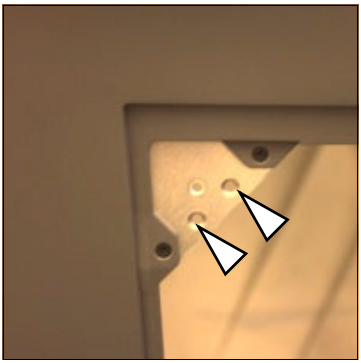
   You will need the CD with the ICC profiles, which is attached to the back panel, later on when installing the software.

STOP

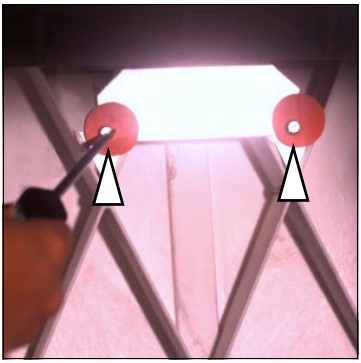
Attention: When loosening transport safety devices: **Work carefully!**

- Ensure that you do not support yourself on the fluorescent tubes in the bottom of the device and that no parts fall onto the fluorescent tubes.
- Do not touch the stray light foil above in the scanner.

Note: All transport safety devices to be removed are identified with a red marking (adhesive label).



6. At the rear in the device, use a flat screwdriver to remove the 2 vertical slotted screws (not the double seams screws!) to the **upper left** in the back panel cutout.

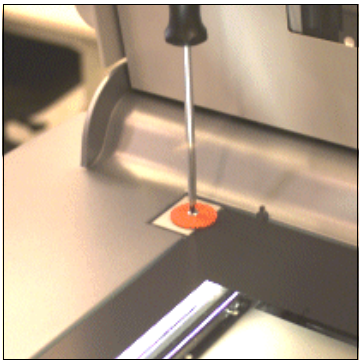


7. Remove the 2 screws at the front, inside the device, connecting the device housing and the scanning unit (accessible from the rear only).

8. Removing the shipping restraint brakket
   Unscrew the three screws on the shipping restraint at the back of the device and remove it.

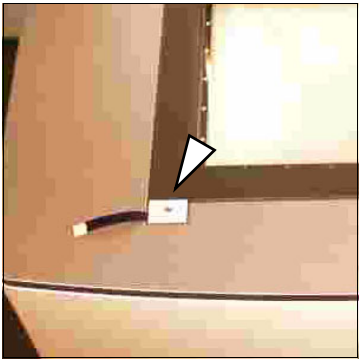
9. Removing the shipping restraint brakket
   A similar safeguard must now be removed at the front of the device. The three screws must be unscrewed in the same fashion.

10. Open the scanner lid
11. Remove the air-cushion foil and the silk paper

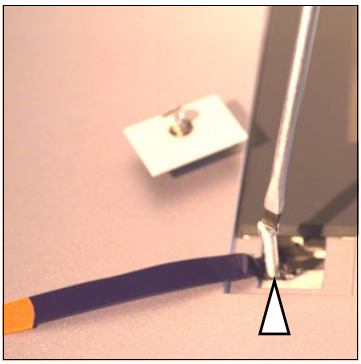


12. Removing the transport safety washer
    Remove the slotted screw with a flat screwdriver and remove the transport safety washer.
    Replace the screw and use it to secure the clamp.

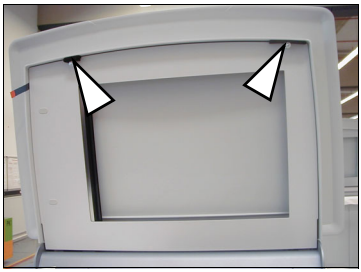
13. Unscrewing the shipping restraint screw



- Unscrew the screw on the clamp element for the front left glass plate with a flat screwdriver. Remove the clamp element.



- Unscrew and remove the now visible screw.
- Replace the clamp element and fasten it with the screw. **Ensure** that you have inserted the clamp element the right way round so that the glass pane does not break.

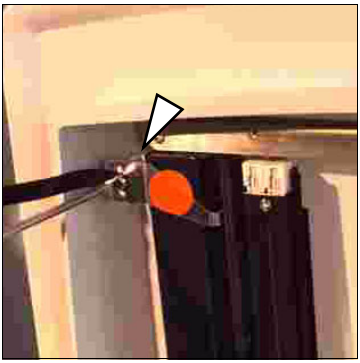


14. Removing the clamping pads

Remove the two clamping pads for the knurled screws.

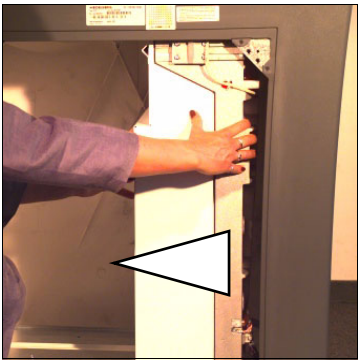
15. Removing the bracket for transparency scanning

- Remove the two knurled screws in the scanner lid and carefully remove the plate with the glass pane.



- Remove the bracket for the transparency scanning by unscrewing the screw with a flat screwdriver. Ensure that the bracket does not fall onto the glass plate for the scanner lid unit.

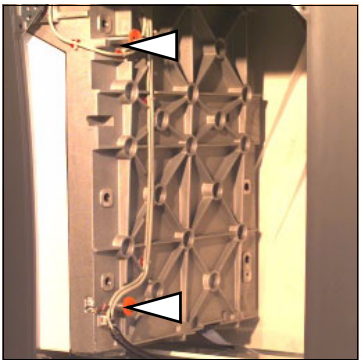
- Screw the plate back into the scanner lid.



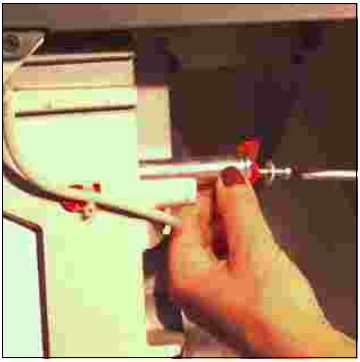
16. Move the camera carriage to the left **carefully and slowly** push the camera carriage from right to left into the back of the device by hand.

Attention: Do not touch the stray light foil above.

Note: The camera carriage can not be pushed back again by hand. It must/can be left in this position. The software will move the carriage back to its required position.



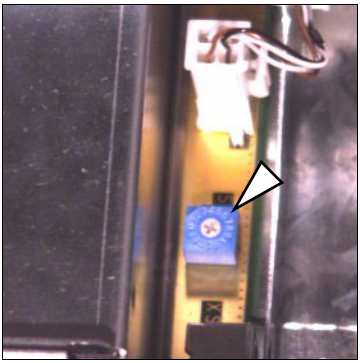
17. Removing the restraining pins
Remove the screws on the shipping restraints with a flat screwdriver.



Now pull out the long **screws and the pins**.

18. At the rear in the device, use a flat screwdriver to remove the 2 vertical slotted screws (not the double seams screws!) to the upper right in the back panel cutout (already carried out on the left-hand side).

19. Connect the power cable and the SCSI cable to the lower back of the device.



20. Setting the SCSI address
    Set the correct SCSI address at the lower back in the device. On delivery, the scanner is set to SCSI address number 5. If this address is occupied, select another number between 1 and 7. Please note that if an internal CD-ROM-drive is connected in the computer, address 3 can be used for this device. To enter the setting you need a small flat screwdriver.

21. Closing the back panel
    Close the back panel again. Slide the back panel into the two slits below and fasten the 4 screws at the rear of the device.

    Make sure you have removed the CD with the ICC profiles, which is attached to the back panel, and that the cables are laid in the back panel cutout and not jammed anywhere.

22. Final placement of the scanner
    Now place the scanner in its final position on a secure and level surface.

23. Setting the height
    If the scanner is not steady, you can adjust the height of the front left and right-hand feet. For this purpose, loosen the slotted screw from the outside – one turn is sufficient – and you can adjust the foot and secure it again.

24. Removing the base aperture
    Slide the base aperture from the front under the device until it engages. The end clips for the aperture must penetrate into the rear covering.

Note: Keep all transport safety devices in a safe place so that they can be re-used if the device needs to be transported again.

Attention: Transportation without transport safety devices can cause damage to the device.

Installation

After you have unpacked and moved your Nexscan F 4100/F 4200 to its intended position, it must be installed.

The following steps are required:

- Connecting the Nexscan F 4100/F 4200 to the workstation.
- Connecting the Nexscan F 4100/F 4200 to the power supply.
- Switching on the Nexscan F 4100/F 4200.
- Installing the software.
- Install the calibration data.

Note: Any additional information on installation can be obtained via the following Internet address: http://www.heidelberg.com/

Connecting the Nexscan F 4100/F 4200 to the workstation

Warning: The connection cable must be attached in a voltage-free state. Only connect the power cables **after** connecting the connection cables. This protects you against fatal electric shocks in the case of a short circuit on one of the devices and it protects the electronics system against failure caused by voltage impulses during potential differences.

Attention: Screened data cables with screened plugs must be used, to adhere to radio interference suppression regulations. Only use connection cables and adapters approved by Heidelberg.

The Nexscan F 4100/F 4200 has an SCSI connection. **You should always fit an SCSI interface card to your computer, to which only the scanner is connected.** Commands which are sent from the workstation to the Nexscan F 4100/ F 4200 and image data which is transferred from the Nexscan F 4100/F 4200 to the workstation pass through this link. The Nexscan F 4100/ F 4200 can be connected to any other SCSI device, which has an SCSI connection, by means of the connection cable – **observe the length of the cable when setting up the system**.

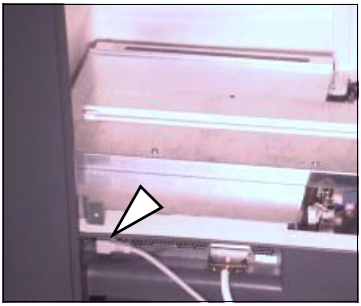
Observe the length of the SCSI cable!

Connect the SCSI cable for the Nexscan F 4100/ F 4200 to the SCSI port of your computer.

If, in addition to the Nexscan F 4100/F 4200 and the operating unit, other SCSI devices are connected to the SCSI bus, the Nexscan F 4100/ F 4200 must always be the last link in the chain, as the SCSI bus in the Nexscan F 4100/F 4200 has a terminator.

The SCSI bus must not exceed a total length of 6 m, otherwise you may encounter operational difficulties.

Connecting the Nexscan F 4100/F 4200 to the power supply



Note: The device is switched off at both poles with the isolator switch and is then de-energized, except for the power cable connection up to the switch.

Connect the device to the power supply by means of the three-pin plug and socket included in the delivery. The device may only be operated when a **grounded conductor** is connected.

Warning: Never plug in or remove the power cable with wet hands and only ever get hold of it at the plug. A damaged power cable can cause leakage current and electric shocks. Protect the power cable against damage. Never place any heavy objects upon it and never squash it.

The electrical outlet is located on the rear of the device underneath the service flap.

The device automatically adapts itself for differing voltage levels. These values are displayed on the sticker on the rear of the device.

The operator has no access to the fuse.

Warning: The device may only be repaired by Service personnel.

Do not install the device in the vicinity of air-conditioning systems and protect it from moisture and direct sunlight.Attention:

Attention:

Unauthorized opening of the device's housing not expressly described in the documentation and improper repairs can lead to considerable danger for the user.

Servicing work may only be performed by authorized specialist personnel.

The respective accident prevention regulations must be observed at all times.

Non-observance of accident prevention regulations can lead to the loss of accident insurance cover.

Use one of the power cables provided, appropriate to the supply available, to connect the device to the power supply. The local national regulations must be observed when connecting the device using power cables, which were not provided by Heidelberg Prepress or when using connector adapters.

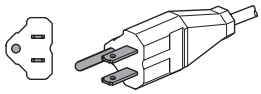
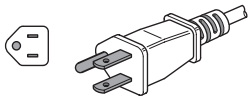
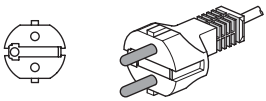
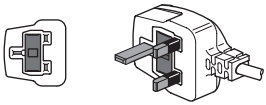
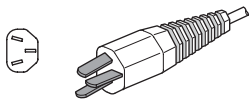
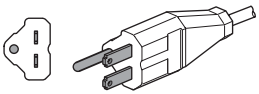
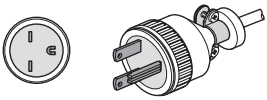
Cable types used in USA and Canada must correspond to the type **SJT** or better.

STOP

Attention: Notes regarding the power cable:

Taking national requirements into consideration, select a cable from the table below if you want to connect 100 V - 127 V or 200 V - 240 V AC.

Service personnel ensure the use of nationally recognized power plugs **in compliance with the grounded conductor connection.**

Type of Plug	Country/ Region	Voltage	Regulations	Type of Cable
	North America 125V 10A	115 - 120 V	ANSI C 73.11 NEMA 5-15-P IEC 83	UL Listed CSA Certified Type SJT, 18AWG
	Japan 125V 10A	100 V	JIS C3102 UL 817 CSA C22.2 No.21	JIS C3102 UL Listed CSSA Certified Type SJT, 18AWG
	Europe 250V 10/16A	230 V	IEC 83	<HAR> H05VV-F
	United Kingdom 250V 10/16A	220 - 240 V	B.S. 1363 IEC 83 IEC 127	<HAR> H05VV-F
	Australia 240V 10A	240 - 250 V	A.S. C112	<HAR> H05VV-F
	North America 250V 10A	240 V	ANSI C 73.11 NEMA 6-15-P IEC 83 UL 198.6	UL Listed CSA Certified Type SJT, 18AWG
	Japan 250V 10A	200 V	JIS C 3102	JIS C310 TYPE SJT 3/18AWG

Switching on the Nexscan F 4100/F 4200

Operate the power switch on the Nexscan F 4100/F 4200. It is located at the right on the rear of the device.

Please ensure that the scanner lid remains closed during the switch-on sequence and that there is nothing on the white balance strip.

The scanner boots automatically and carries out extensive tests during the initialization phase. It is ready for operation after approx. 3 minutes.You White balance strips You can now operate the scanner by means of the software.

Installing the Newcolor Software

For an exact and detailed description of the installation procedure, please refer to the *Newcolor XXXX Installation* manual.

Installing the LinoColor Software

For an exact and detailed description of the installation procedure, please refer to the *LinoColor Installation* manual.

Note: To install the software, you need the CD with the scanner ICC profiles, which is attached to the back panel of the scanner.

Installing Calibration Data

Specific calibration data for your scanner is stored in ICC profiles which are supplied on a CD. The CD can be used for Newcolor and Linocolor (it is attached to the back panel of the scanner).

Keep the CD safe!

STOP Attention: Keep the CD in a safe place.

For Newcolor:

The CD is requested during the installation of Newcolor XXXX and the ICC profiles are transferred into the program. You can create new ICC profiles yourself by means of the program.

For Linocolor:

If you wish to load the ICC profiles for your scanner, click on *ICC Profiles for Nexscan F4000 (from "Nexscan F4000 Profiles" CD)* in the Linocolor installation window.

The CD is requested during the installation procedure.

General view Nexscan F 4100/F 4200

Product and Performance Features of the Nexscan F 4100/F 4200

The Nexscan F 4100/F 4200 is a universal, high-quality, fast CCD color line scanner.

The Nexscan F 4100/F 4200 is operated by means of the color image processing programs Newcolor or Linocolor.

- Originals

Reflection, transparency, color and black-and-white, contone and line art, positive and negative, screened printed originals, real three-dimensional objects.

- Easy, production-oriented job preparation

If there are several trays, they can be prepared away from the scanner, while the Nexscan F 4100/F 4200 is scanning other jobs.

- High quality and fast scans

The Nexscan F 4100/F 4200 has a CCD color line with 3 x 8000 pixels. The Nexscan F 4200 also has a special high-resolution CCD line for black-and-white with 12,000 pixels. It ensures that a particularly high optical resolution is obtained when lineart is being scanned, e.g. in the Copy Dot scan mode for the Copix scanning procedure.

- Sharp scans without time-consuming post-editing

The Nexscan F 4100/F 4200 achieves an optical resolution of 5080 dpi (F 4200 achieves 7040 dpi for Copy Dot scan mode) with the RGB line. Because of the internal interpolation hardware, the optical system provides optimum resolutions ranging from 100 to 10,800 dpi.

- Optimized file sizes for the required output format and screen

The size of the files sent to the user are calculated precisely. The digital scan processor can calculate scales from 20 % up to 2500 %.

- Faster post-editing through precise image rotation (by the software)
- The Nexscan F 4100/F 4200is able to process jobs quickly due to the *JobAssistant* batch program.
- Color format conversions and "on the fly" calculation of color corrections during scanning
- Automatic focus
- Automatic selection of apertures
- Automatic focusing
- Digital detail contrast without additional processing time
- ColorAssistant for good and consistent scans (automatic image analysis)
- Processing data from other sources
- Modification of ICC profiles (Print Table Editor and PrintOpen)

- Creating Scitex-compatible data
- Nexscan F 4100/F 4200 Copix

  Separated film sets can be re-digitalized with *Copix* which can be ordered as an optional extra. Therefore, it is possible to scan archived screened originals or to scan finished lithos for a digital output. The digital data is used for subsequent filmless post-editing, e.g. in a layout program or on a computer-to-plate production line.

Overall configuration

The system environment consists of an operating unit, operating software and the output devices.

For ease of operation, work with 2 monitors, one to display the software user interface and the other for image display.

Scanning principle

- Direct Capture Technology

When transparency originals are being scanned, the translucent light is projected directly onto the lens system and from there onto the scanning line (CCD lines).

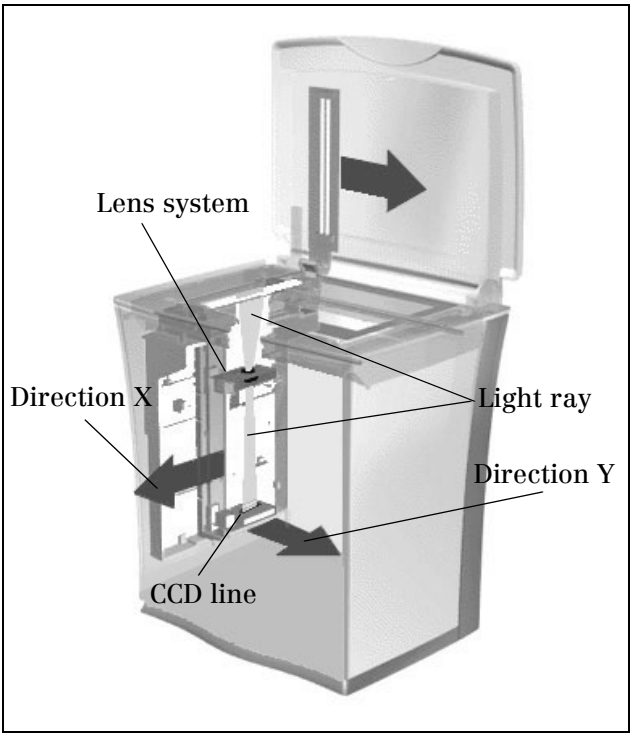
When reflection originals are being scanned, the light reflected from the original is also projected directly onto the lens and from there onto the "CCD lines".

- xyVariLens Optical System

The X/Y scanning principle ensures a high resolution across the entire scanning area. The originals can therefore be positioned anywhere upon the scanning surface.

The lens system and the CCD lines are mounted on sliding rails and can be positioned as required. In this way, a lens is produced with a variable reproduction scale.

This enables every original, in the resolution of your choice, to make full use of the entire CCD line.



The autofocus ensures that a sharp reproduction of the original is always obtained, irrespective of the distance from the glass plate. This means that slides with all types of frames can be scanned without any problem, even in the slide tray.

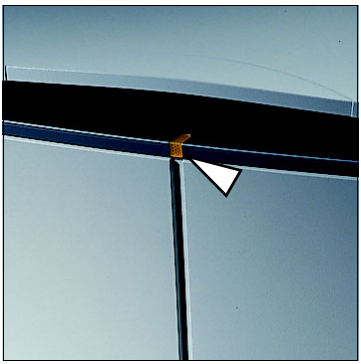
Power Switch

The power switch is located to the right at the rear of the unit.

The pilot lamp lights up continuously if the scanner is switched ON and ready for operation.

Note: The device is switched off at both poles with the isolator switch and is then de-energized, except for the power cable connection up to the switch.

Pilot Lamp

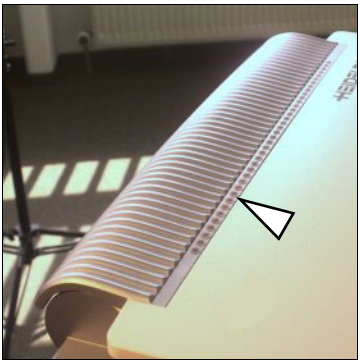


Flashing slowly:
Scanner is busy, e.g. scanning run in progress.

Lit continuously:
Scanner is switched on and ready for operation

Flashing quickly:
Error

Scanning Progress Indicator



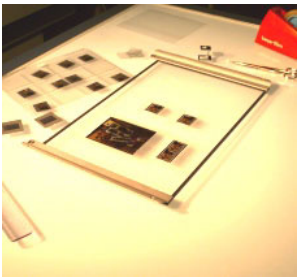
The position of the feed is displayed by the pilot lamp when scanning.

Universal tray

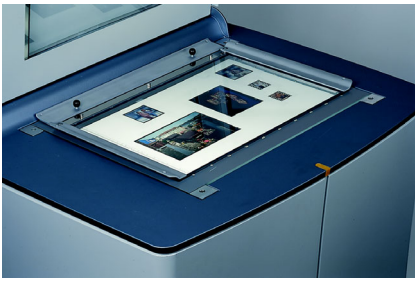
The universal tray – size: 315 mm x 457 mm – consists of a glass plate and ergonomically shaped handles. The transparency and reflection originals are placed here.

STOP

Attention: Both sides of the tray are anti-Newton coated – do not scrape or scratch!

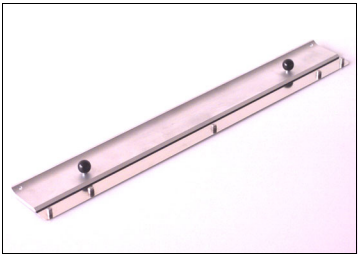


Universal tray as



Universal tray with mounted originals in the scanner

Mounting Rail



The mounting rail is placed into the scanner in 2 restraining pins.
It helps to fix
- the universal tray
- Copix films
- the slide tray
- the passepartout

Scanning Area

Formats:

Reflection:	315 mm x 457 mm
	12.4" x 18"
Transparency:	315 mm x 457 mm
	12.4" x 18"

Screens

24 to 80 screen

Scales

Scale:	20% to 2500%
Line art:	50% to 2500%
B/W-contone:	20% to 2500%
Color:	20% to 2500%

Scanning Speed

The scanning times depend on the following parameters:

- Speed with which lines are scanned
- Scanning mode
- Size of original
- Scale
- Screen
- Quality chosen
- Capacity of the workstation

Illumination of originals

The scanning area is illuminated from below to enable a visual inspection of the mounted transparency originals.

Through this, the mounting procedure in the unit is simplified as well. The originals are automatically illuminated when the scanner is switched on.

Operating Sequence

1. Preparation for production
2. Possible tray preparation
3. Position the originals
4. Secure the originals
5. Open the scanner lid
6. Possible tray insertion
7. Original is Flat
8. Close Scanner Lid
9. Perform the scan

   If you wish to obtain precise, geometric accuracy for both pre-scan and fine scan, then you should notremovetheuniversaltraybetweenthesetworuns!

Preparation for Production

- Operate the on/off switch on the device.
- Wait for the warm up period of approx. 3 minutes. The pilot lamp is illuminated constantly and indicates that the device is ready for operation.
- Switch the computer and monitor ON and run the software.

Preparing the Tray

- Both sides of the tray have an anti-Newton coating – do not scrape or scratch.
- Clean the universal tray.
- Clean the originals.
  (Refer to the *Service and Maintenance* chapter).

Positioning the Originals

Attention: **No originals must be mounted** on the white balance strip, otherwise the white balance can not be carried out.

On the Glass Plate in the Device

- Transparency

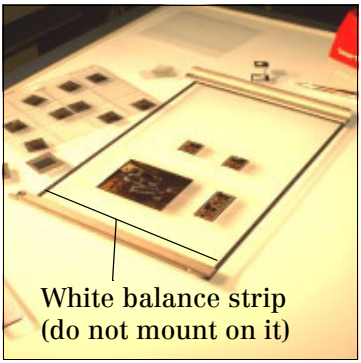
Open the scanner lid. The originals can be placed as needed on the glass plate. The film coating must be against the glass plate (profile view).

Attention: **Mounting originals with liquids** such as oil, gel or film cleaner may only be carried out outside the device on the universal tray.

- Reflection

Place the original with the motif onto the glass plate with the reverse side facing upwards. The originals can be placed as needed on the glass plate.

On the Universal Tray



- Transparency

The originals can be positioned anywhere. The film coating must be in contact with the glass plate (right reading view). After mounting, place the universal tray into the mounting rail guide pins in the scanner.

Both sides of the tray have an anti-Newton coating – do not scrape or scratch.

TIP: Place the tray onto a screen film and align the originals according to this film.

- Reflection

Take the tray out of the scanner and rotate it. Now mount the originals with the motif facing upwards and the reverse facing the glass plate on the tray. The originals can be positioned anywhere. Now place the tray the right way round into the scanner.

Securing the Originals

Lightly press the originals onto the glass plate and secure them with adhesive tape or foil.

Mirroring

If the image is to be scanned wrong-reading (e.g. in comparison to pre/coarse scan), you can activate the desired mirroring by selecting a mirroring in the software.

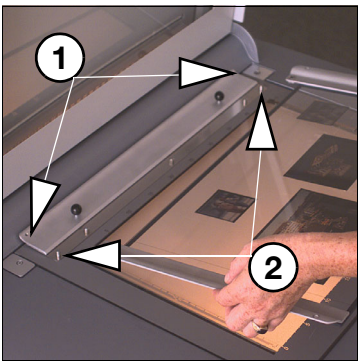
Such mirroring does not cause any loss in quality!

Best Possible contrast

To obtain the bestpossible contrast and the highest density, you should use passepartouts which cover up the parts of the image outside the scanning area when carrying out transparency scanning.

The Passepartout frames should be at least 25 mm wide.

Inserting the Tray



Insert the mounting rail into the scanner guide pins (1). You can then place the tray into the mounting rail guide pins for the tray (2).

Close Scanner Lid

Close the scanner lid and make all further settings in the software.

Scanning Process

After you have mounted the originals, the actual scanning process can begin.

The scanning process is controlled via a PC or Macintosh computer.

For Newcolor:

first fast scan

Note: The most important settings for the"**First fast scan**" can be found in the documentation:

- *Newcolor 7000 Workflow, chapter 2.*

For further information, refer to:

- *Newcolor 7000 – Reference*

For Linocolor:

first fast scan

Note: The most important settings for the"**First fast scan**" can be found in the documentation:

- *LinoColor – User's Guide, chapter 2.*

For further information, refer to:

- *Linocolor – Reference*

Batch Operation

For information on batch processing, scheduling jobs in the print queue etc., refer to:

- JobAssistant – Operation

Both latter mentioned documents are available on your target volume in the documentation folder after Linocolor has been installed.

ICC profiles

You can generate your own ICC profiles using the programs from ColorOpen, such as

- Printopen
- Scanopen
- Viewopen

For further information, refer to the respective documentation.

Note: The Nexscan F 4100/F 4200 is a high-precision device which reproduces originals with a resolution of up to 5/1000 of a mm. For this reason you should not mess around with the unit during the scanning sequence (knock against it, place objects on it or remove objects).

Scanning Three-Dimensional Objects

The depth of focus of the Nexscan F 4100/F 4200 is very high in the range of 20% to 300% due to the "xyVariLens optical system" and the autofocus.

This means that you can directly scan real – material objects (3D-objects), e.g.: wristwatches, coins, jewelry, flatware, books, small mechanical or electronic parts, fabric, carpet, or wallpaper patterns, etc.

Do not scan wet or dusty objects!

The objects may not be heavier than 5 kg.

Placing Objects

Place the objects on the glass surface with the visible/front side facing downwards.

The feed is very smooth, therefore you do not need to secure the objects.

Prepare a background to cover the objects with. Recommendation: Cardboard or fabric which match the color of the object(s).

Selecting Reflection Scanning Mode

You have to select the *Reflection* scanning mode to scan the objects.

You can use the entire scan area of 315 mm x 457 mm (12.4" x 18") for scanning.

Selecting the Quality

For Newcolor: The autofocus function is active for all quality modes, i.e. for *good, very good* and *excellent*.

For Linocolor: Select either *excellent* or *excellent x4* so that the autofocus function is activated.

If objects have reflecting surfaces, blooming with colored edges may occur which should be retouched.

Mounting with Oil, Film Cleaner or Gel

Attention: Mounting originals with liquids such as oil, gel or film cleaner must only be carried out outside the device on the universal tray.

If the originals are damaged or if they are of poor quality, use a Film cleaner or gel. This makes scratches, film damage and other flaws invisible.

We especially recommend the use of Film cleaner as time-consuming cleaning of the originals after scanning is no longer necessary.

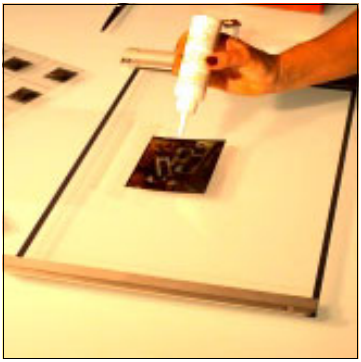
Mounting takes place in the following order:

Film cleaner/gel/oil – original – film cleaner/gel/oil – foil.

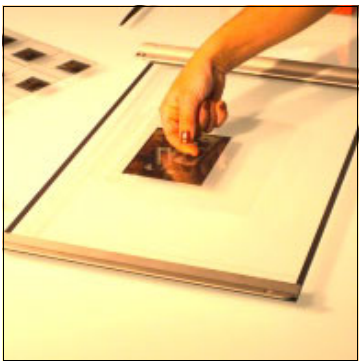
Mounting Procedure

- First glue the foil onto the glass and fold it away to the rear. Use the adhesive tapes as hinges.
- Do the same with the original. Place the original in such a way that it can later be completely covered with foil.
- Apply some Film cleaner, oil or gel to the glass plate. The amount used depends on the size of the original (experimental value).

- Fold the original onto the glass plate screened with Film cleaner, oil or gel so that the film layer comes in contact with the screened plate.
- Lightly press the original down onto the drop of film cleaner or oil.



- Apply some film cleaner, oil or gel to the original. The amount used depends on the size of the original (experimental value).
- Fold and press the mounting foil onto the original.

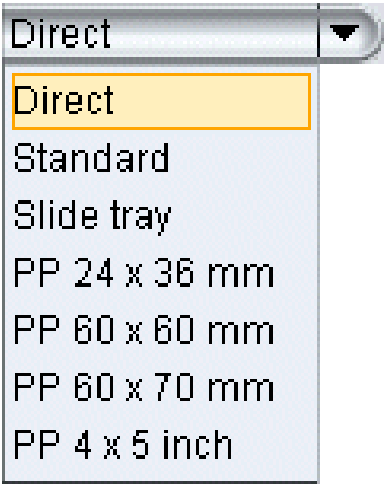


- Remove any air bubbles by smoothing over the original with your fingers from the middle to the edges. By doing this, you spread the liquid.
- Insert the tray into the scanner.

Mounting Selection

For Newcolor:

You will find the selection options in the *Scan tray* window under *Direct*...

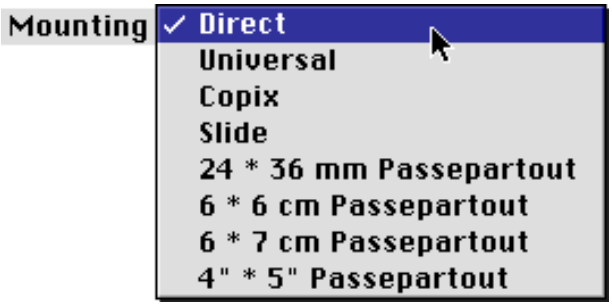


Select:

- Direct,
  if you want to mount directly into the scanner and not use the tray
- Standard,
  if you want to work with the Universal tray
- Slide,
  if you want to work with the slide tray
- Passepartout,
  if you want to work with a passepartout

For Linocolor:

Select the *Nexscan F4000 Tray* window in the *Import* > *Source* > *Nexscan F4000* menu. A window appears in which the scanning area is represented. In the scanning area, you can select the different sorts of mounting with which you would like to scan under *Mounting*.



Select:

- Direct,
  if you want to mount directly into the scanner and not use the tray
- Universal,
  if you want to work with the Universal tray
- Copix,
  if you want to redigitalize separation films in Copix mode
- Slide,
  if you want to work with the slide tray
- Passepartout,
  if you want to work with a passepartout

Light optimization

In order to obtain a scan of the highest quality, the lamps must have a constant light stability throughout the entire scanning process. If there is not a constant light stability before a scan, the following message appears:

Light optimization running (in the case of Linocolor with the addition: – Skip with ”Cancel”).

If you cancel this message, there could be a minimal loss in quality in the case of critical originals containing, for example, large color areas of the same density or shading. A loss in quality was not discerned when using normal originals.

Tips to avoid the message:

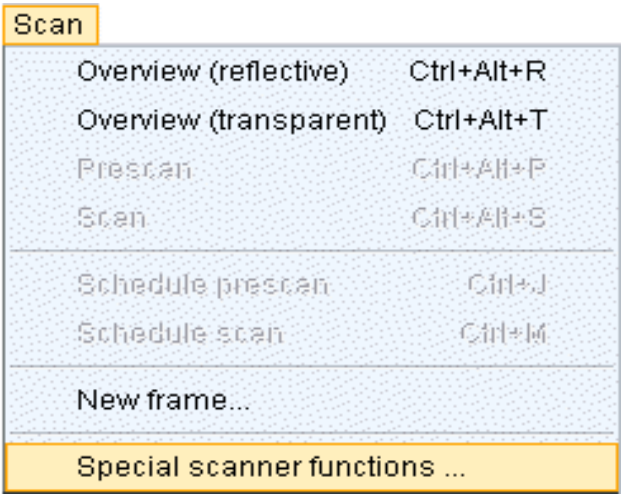
1. The message also appears when switching between transparency and reflection illumination. Unnecessary switching over of the illumination modes should therefore be avoided. Process all transparency scans first and then the reflection scans or vice versa.
2. As reflection lamps switch off quicker than transparency lamps, the reflection scans should be processed swiftly. This avoids forced switching off of the reflection lights (thus no new message on switching on the lamps).
3. On selecting the scanning quality *Very good, Excellent* and *4x Excellent* (only for Linocolor), the light optimization function is activated. The scanning quality *Good* is therefore recommended for non-critical originals as the message does not appear in this case. This also applies to the course scan (prescan).

Special scanner functions

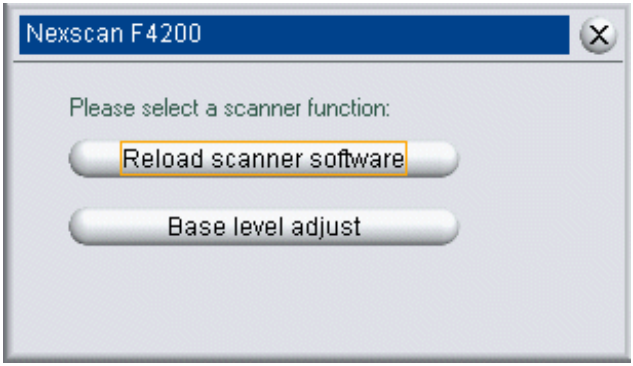
Reloading the Scanner Software (for Newcolor)

This procedure must be performed e.g. when you have changed scanner software from Linocolor to Newcolor.

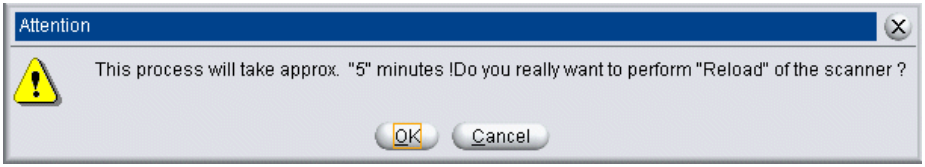
Select the menu item *Scan* > *Special scanner functions...*



... *Reload scanner software*.



Click *Reload scanner software*. The following message appears:



Click *OK*.

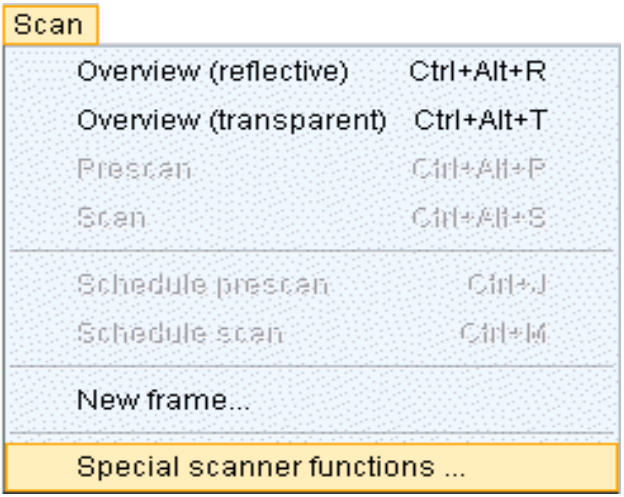
Performing a Basic Level Adjustment (for Newcolor)

Basic level adjustment is performed by Heidelberg and normally does not have to be repeated.

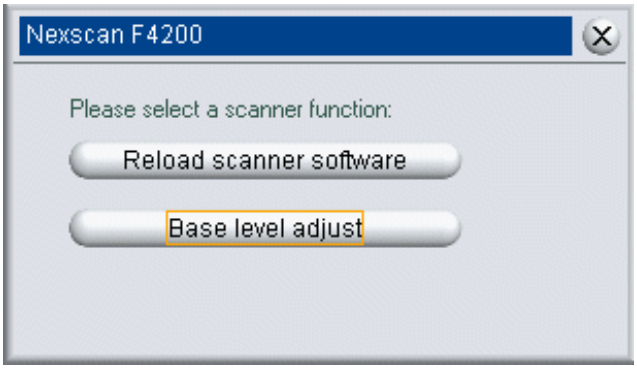
It is possible that a base level adjustment becomes necessary as part of an installation procedure or that a particular error message at the monitor requires it. In these cases, proceed as follows:

Remove the scanning tray from the Scanner. Clean the glass surface. It must be absolutely clean, especially the white balance strip.

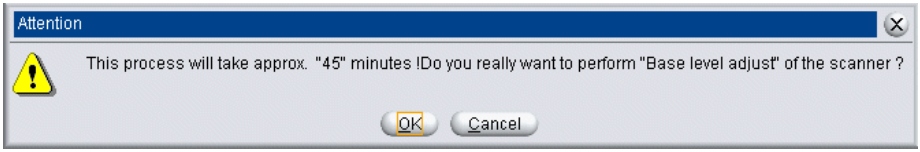
Select the menu item *Scan > Special scanner functions...*



... *Base level adjust*.



Click on *Base level adjust*. The following message appears:



Click *OK*.

Performing a Basic Level Adjustment (for Linocolor)

Basic level adjustment is performed by Heidelberg Prepress and normally does not have to be repeated.

It is possible that a base level adjustment becomes necessary as part of an installation procedure or that a particular error message at the monitor requires it. In these cases, proceed as follows:

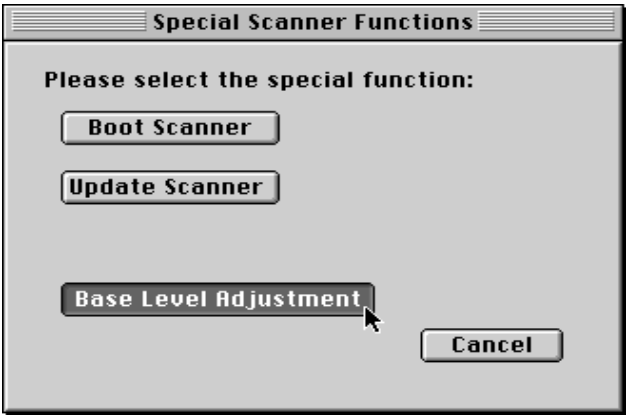
Remove the scanning tray from the Scanner. Clean the glass surface. It must be absolutely clean, especially the white balance strip.

You have selected *Import* > *Source* > *Nexscan F4000* menu in Linocolor.

Select the menu item *Special scanner functions*... in the *Import* menu.

The following dialog window appears:

Click on *Base level adjustment*.



Click *OK*. The adjustment procedure takes about 60 minutes. The Nexscan F 4100/F 4200 is automatically initialized after this.

Resetting the Scanner (for Linocolor)

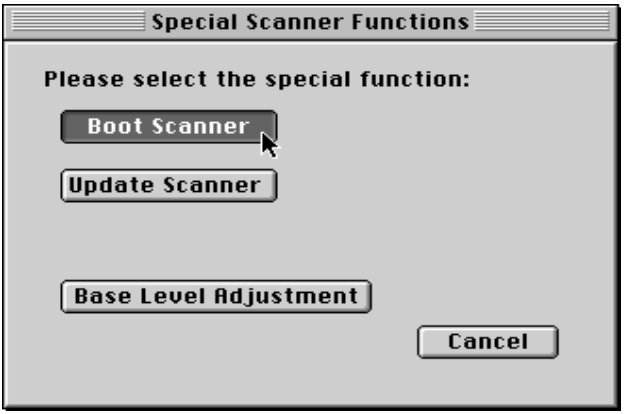
There may be different reasons for having to reset the scanner:
- there is an error message
- the scanner is not working
- a new operating software has to be loaded

In these cases, proceed as follows:

You have selected *Import* > *Source* > *Nexscan F4000* menu in Linocolor.

Select the menu item *Special scanner functions*... in the *Import* menu.

The following dialog window appears:
Click *Boot Scanner*.



Finally, click *OK*. The scanner is reset and initialized.

Updating the Scanner (for Linocolor)

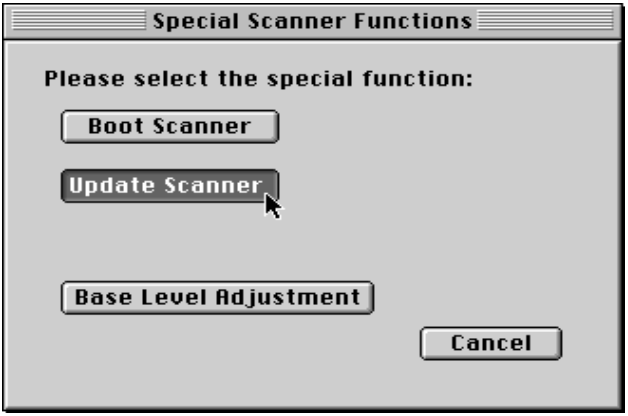
This function is essential if you should have any problems with a Linocolor version and want to use another version.

Proceed as follows:

You have selected the other version in the *Import* > *Source* > *Nexscan F4000* menu in Linocolor.

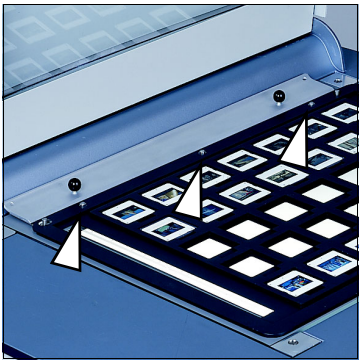
Select the menu item *Special scanner functions*... in the *Import* menu.

The following dialog window appears:
Click *Update Scanner*.



Click *OK*. The scanner program is updated.

Working with the Slide Tray



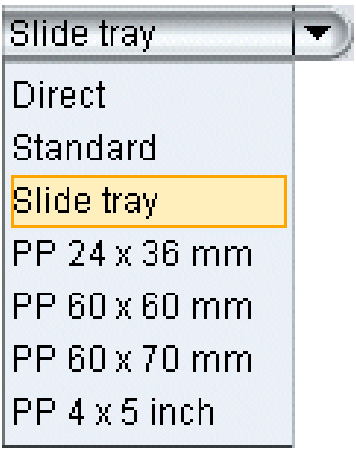
You can insert 35 framed small format passepartout slides (24 x 36 mm) into the slide tray. The process of inserting the slide tray into the scanner is the same as for the universal tray. The tray must be placed into the dowel pins for the mounting rail so that the white balance strips are not covered.

The scan software automatically recognizes in which recess the slides are located and if they have been inserted in portrait or landscape format.

For Newcolor:

Scanner Settings

- Prior to scanning, click *Job Preparation* and adjust the settings under *Scan Setup* that you want to apply to all inserted slides, e.g. name assignment, quality and scale.
- Select *Slide tray* mounting in the Scan tray window.



Name Assignment

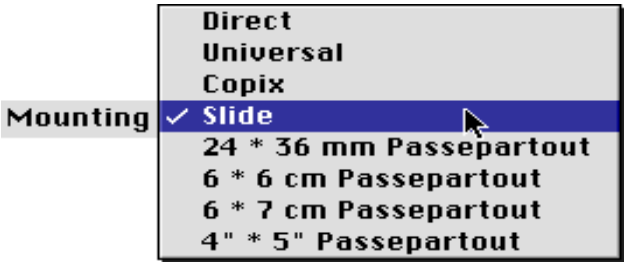
- During the name allocation, Newcolor allocates ascending numbers to the slides, e.g. Image01... Image35. However, you can also individually change the name, e.g. for a certain customer. This should be done before scanning. If the count for a certain name does not start at 01, a frame of this name and number already exists. This can also be in a different mounting mode, e.g. not in *Slide tray* but in *Direct*.
  More information about name allocation can be found in the LinoColor documentation.
- Perform an overview scan (transparent). Image frames are created and it is automatically detected whether the slides have been inserted in landscape or portrait format.
- You can now select the frames from which you want to create low-resolution or high-resolution scans. If you are performing low-resolution scans, you may be able to perform further settings for the subsequent high-resolution scans. Then perform the high-resolution scans.

Job Assistant

- Another possibility is to process the jobs by means of **JobAssistant**. In this case, you will perform an overview scan and enter all standard settings for the jobs. You will then select the jobs (with Ctrl + a) and plan them as low-resolution scans (if you want to perform further settings) or directly as high-resolution scans. The additional procedures are described in the Newcolor documentation.

For Linocolor:

Select *Mounting* > *Slide* in Linocolor.



Scanner Settings

- Prior to scanning, adjust the settings under *Nexscan F4000 settings* that you want to apply to all inserted slides, e.g. scanning mode and scale.

Name Assignment

- Linocolor automatically assigns a name and ascending numbers to the slides, e.g. Image01... Image35. However, you can also individually change the name, e.g. for a certain customer. This should be done before scanning. If the count for a certain name does not start at 01, a frame of this name and number already exists. This can also be in a different scanner tray presentation, e.g. not in *Slide* but in *Universal*.
  More information about name allocation can be found in the Linocolor documentation.

Scanning Options

- You can perform different scanning options:

If you click *Overview*, Linocolor recognizes the slides and you can then select the frames for which you want to create pre-scans or fine scans respectively.

You can also directly click *Prescan* or *Fine Scan*. Linocolor immediately performs the respective scan for each slide inserted.

If you choose Fine Scan by clicking on the button or via the *Scan* > *Fine Scan* menu, the fine scan is performed and displayed on the monitor.
If the fine scan is to be saved as well, select the *Save after every fine scan* option under *Edit* > *Presettings*.

However, if you select *Import* > *Fine Scan as…*, the fine scan is also performed and saved but not displayed on the monitor.

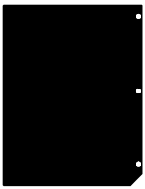
JobAssistant

- Another possibility is to process the jobs by means of **JobAssistant**. To do this, you perform an overview scan and set the necessary parameters in Linocolor. Then select all jobs (by pressing Apple key+ a) and schedule them. For further steps, please refer to the *JobAssistant Operation* documentation (available in the documentation folder on your computer after Linocolor has been installed).

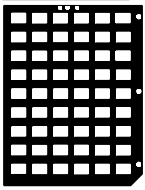
Passepartouts

Passe-partouts are used for the simple mounting of standard originals. The use of passepartouts avoids stray light.They consist of black foil with punched cut-outs.

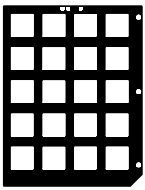
- There are 5 different passepartouts



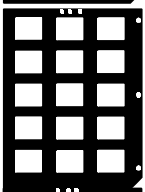
Universal passepartout



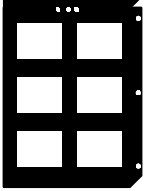
24 x 36 mm, 54 cut-outs



6 cm x 6 cm, 20 cut-outs

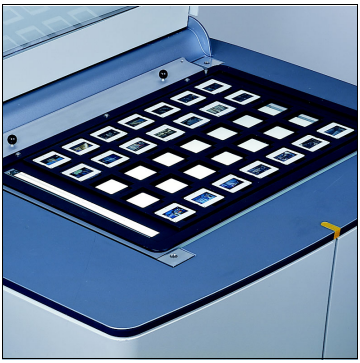


6 cm x 7 cm, 15 cut-outs



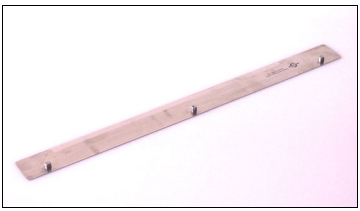
4" x 5", 6 cut-outs

Slide Tray



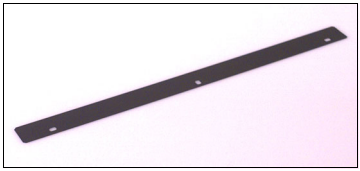
35 framed 24 x 36 mm small image slides can be placed into this slide tray (working with the slide tray – refer to Chapter 4).

Register Pin Row



The register pin row is used for the true-to-register mounting of Copix originals (color separations). It is secured to the light table and the register strips can subsequently be inserted and the separation film glued into place.
The register pin row does not need to be used for punched films.

Register Strip



These strips are used as an aid for the true-to register mounting of Copix originals (color separations). It is inserted into the register strip using the Bacher punching system, the original must then be glued onto the strip. The strip with the original is subsequently inserted into the scanner.

Copix Tray

The Copix tray is used to weight the originals in the scanner so that they lie flat on the glass surface.

Notes on Care and Maintenance

When carrying out work, the user must adhere to the stipulated work procedures described in the operating instructions under all circumstances.

Warning: The unauthorized opening of housing parts, not expressly described in the operating instructions and improper repairs can lead to considerable danger for the user.

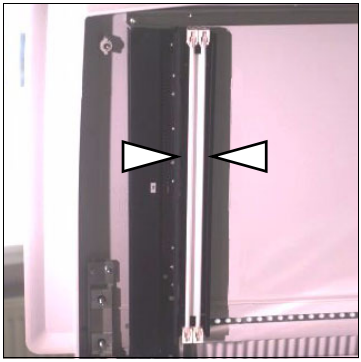
Service work may only be carried out by persons authorized by Heidelberg. The respective accident prevention regulations must be observed at all times.

Fluorescent Lamps

Attention: To ensure that the fluorescent lamps function properly, the lamps are only switched OFF when the scanning mode is changed (reflective/transparent) or when no scanning has taken place for a longer period of time.

If the lamps for scanning are no longer able to illuminate sufficiently or are defective, the corresponding fluorescent lamp must be replaced.

It is imperative that you only use clean fluorescent lamps. If necessary, clean the lamp before installation. Finger prints should likewise be avoided as the grease can reduce the length of operation.



11 watt fluorescent lamps are used for the illumination of reflection or transparent originals in the Nexscan F 4100/F 4200.

The 11 watt fluorescent lamp is likewise used for the illumination of originals in the scanner.

Lamp used:
Osram FM 11W/860 Lumilux Tageslicht

Lamp Change for Reflection Scanning

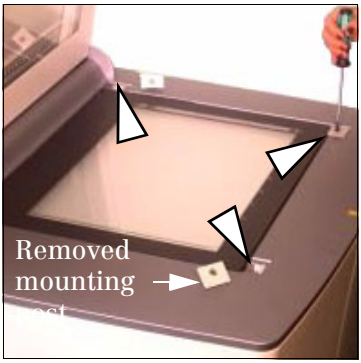
1. Switch off the device.

Warning:

Pull out the power plug.

The ends of the fluorescent lamps can heat up to 100 °C when switched on.

2. Open the scanner lid.



3. Loosen the two slotted screws at the front and the slotted screw at the rear right for the glass plate in the scanner. Remove the three mounting posts in which the screws are located. **The mounting post at the rear left does not have to be loosened.**
4. Remove the glass plate.
   Carefully remove the glass plate by putting your fingers into the cutouts for the front mounting post and raising the glass plate.

5. Remove the black protective profile for the fluorescent lamps. To do this, use your fingers to press the snap-in clips inwards through the round openings. The fluorescent lamps are now accessible.

6. Lift the defective fluorescent lamp out of its mounting post.

Note: It is imperative that you only use clean fluorescent lamps. If necessary, clean the lamp before installation. Finger prints should likewise be avoided as the grease can reduce the length of operation.

7. Place the new fluorescent lamp into the mounting post in such a way that it makes good contact.
8. Latch the black protective profile into the lamp carrier.
9. Carefully reinsert the glass pane. Carefully slide the pane against the stop pins to the rear and left. Screw the 3 mounting posts into place. When doing so **make absolutely certain** that the mounting posts are inserted the right way round to ensure that the glass pane does not break when the screws are tightened.
10. Reconnect the device and switch it on.

Lamp Change for Transparency Scanning

1. Switch off the device.

Warning:

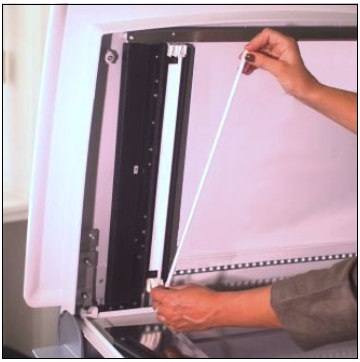
Pull out the power plug.

The ends of the fluorescent lamps can heat up to 100 °C when switched on.

2. Open the scanner lid.
3. Loosen both knurled screws in the cover.
4. Carefully fold the plate with the glass pane downwards.

5. Remove the two slotted screws for the black reflection profile of the fluorescent lamps. Remove the reflection profile. The fluorescent lamps are now accessible.

Attention: Ensure not to damage the white reflection area behind the lamps. You may not clean it or touch it with other objects, e.g. finger nails or rings.



6. Lift the defective fluorescent lamp out of its mounting post.

Note: It is imperative that you only use clean fluorescent lamps. If necessary, clean the lamp before installation. Finger prints should likewise be avoided as the grease can reduce the length of operation.

7. Place the new fluorescent lamp into the mounting post in such a way that it makes good contact.
8. Screw the reflection profile back into place and secure it in the inner part of the lid.
9. Reconnect the device and switch it on.

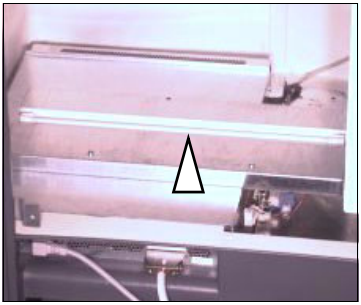
Lamp Change for the Illumination of Originals

1. Switch off the device.

Warning:

Pull out the power plug.

The ends of the fluorescent lamps can heat up to 100 °C when switched on.



2. Loosen the 4 screws for the back panel located at the rear of the device.
3. Remove the back panel.
4. Lift the defective fluorescent lamp out of its mounting post.

Note: It is imperative that you only use clean fluorescent lamps. If necessary, clean the lamp before installation. Finger prints should likewise be avoided as the grease can reduce the length of operation.

5. Place the new fluorescent lamp into the mounting post in such a way that it makes good contact.
6. Screw the back panel back onto the device.
7. Reconnect the device and switch it on.

Replacing the Glass Plate

If the glass plate in your scanner is scratched or broken, you can replace it yourself. Order No. for the glass plate: 05355036

When reinstalling, proceed as follows:

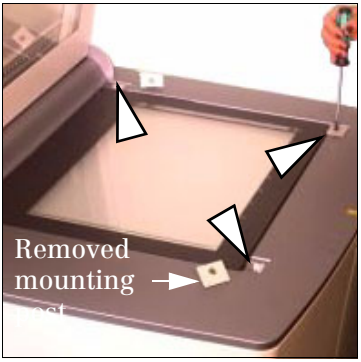
1. Switch off the device.

Warning:

Pull out the power plug.

The ends of the fluorescent lamps can heat up to 100 °C when switched on.

2. Open the scanner lid.



3. Loosen the two slotted screws at the front and the slotted screw at the rear right for the glass plate in the scanner. Remove the three mounting posts in which the screws are located. **The mounting post at the rear left does not have to be loosened.**

4. Remove the glass plate.
Carefully remove the glass plate by putting your fingers into the cutouts for the front mounting post and raising the glass plate.

5. Carefully insert the new glass pane.
Carefully slide the pane against the stop pins to the rear and left. Screw the 3 mounting posts back into place. When doing so **make absolutely certain** that the mounting posts are inserted the right way round to ensure that the glass pane does not break when the screws are tightened.

6. Reconnect the device and switch it on.
7. Carry out a basic level adjustment (Siehe Seite 4–17).

Cleaning the Nexscan F 4100/F 4200

STOP

Attention: Isolate the device completely from the power supply by pulling out the mains connection plug before cleaning with a damp cloth!

Pollutants

When using cleaning agents or lubricants, pay attention to manufacturer's instructions and national regulations as well as safety data sheets.

Clean the surfaces of the device with a dry cloth.

If the device is very dirty, clean with a damp cloth which has been dipped in dish-washing liquid and well wrung.

Make sure that no liquid enters the device. Keep the outlets of the device dry.

Never use abrasive cleaning agents or solvents!

Removing Dust in the Lid

Dust may possibly need to be removed from the glass plate in the lid to maintain constant good quality for transparency scanning.

Proceed as follows:

1. Switch off the device.

Warning:

Pull out the power plug.

The ends of the fluorescent lamps can heat up to 100 °C when switched on.

2. Open the scanner lid.
3. Loosen both knurled screws in the cover.
4. Carefully fold the plate with the glass pane downwards.

5. Wipe the glass pane with a lint-free cloth.
6. Screw the inner part of the lid into place.
7. Reconnect the device and switch it on.

Cleaning the Glass Surface/Universal Tray

In order to obtain optimum scanning results, the glass surfaces (and trays) must be handled carefully and cleaned at regular intervals.

STOP

Attention: Ensure that no liquids enter the interior of the device!

Checking the Cleanliness of the Tray

Hold the tray against a dark background and then against a light background.

Holding the glass plate up against the light, look at it from different angles and distances to determine whether the glass is dirty or not and on which surface.

Cleaning Preparation

Avoid electrostatic charges (e.g. by grounding).

Put on lint-free gloves.

Put the tray down on a pad (with the dirty side up). Maintain a small distance between the tray and the pad by resting the tray on spacers.

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Note: Both sides of the tray have an anti-Newton coating – do not scrape or scratch.

The following table will help you when selecting cleaning agents:

Cleaning Material/ Equipment	Name / Supplier (example)	Remarks
Dark pads (approx. 500 mm x 500 mm)	Black cloth	
Lint-free gloves	Polyester gloves, MAB 02, Messrs. Basan FRANKFURT	
Absorbent, lint-free cloths	Kleenex Professional Wipes, Code 7107, Kimberly Clark	Order No. 02336154
Oil-free compressed air	Compressed air 67, Messrs. Kontakt Chemie, RASTATT	Order No. 02065436
Antistatic brush, grounded	Antistatic brush, CW 101/SW 141, Messrs. Kinetronics	
Antistatic unit	Antistatic unit 1212, Messrs. Kinetronics	
Ethanol, spectroscopically pure	Chemical suppliers	
Foam cleaner	Specialist dealer	
Acetic acid	Specialist dealer	
Acetone	Specialist dealer	
Foam cleaner	Messrs. Röbel u. Fiedler, Chemische Fabrik GmbH, 77955 Ettenheim/Germany	
Standard domestic cleaners without silicone additives	Local specialist dealer	
Cleaning cloth	Etuis-Duggert GmbH Dobelstraße 6 D-73087 Bad Boll	Cleaning cloth, 7919-160 KaneboUni, 19x19 cm loose

Warning: Cleaning agents such as ethanol and acetone are flammable, therefore:

- Do not smoke during cleaning
- Avoid electrostatic discharges
- Only use cleaning agents drop by drop to exclude the danger of deflagration

Warning: Before using cleaning agents, be sure to observe the manufacturer's notes and the current safety data sheets from the relevant manufacturer.

Liquids

Dab the area using a lint-free cloth (then continue cleaning with glass or foam cleaner).

Dry Finger Prints; Adhesive Tape Residue, Smudges (Except for Acetone Rings, Refer to Cleaning with Acetone).

STOP

Attention: Ensure that no liquids enter the interior of the device!

- Apply or spray the glass or foam cleaner onto the glass surface.

  For foam cleaning: Shake the foam cleaner before use, spray it onto the glass plate and apply it using a cloth. Wait until the foam has had time to work.

- Using a lint-free cloth, remove the foam or glass cleaner by wiping the cloth in the same direction applying a little bit of pressure. Use several cloths if necessary.

- Subsequently clean with ethanol.

Streaks, Damp Areas, Fresh Finger Prints

Cleaning with Ethanol:

Refer to safety instructions on Seite 6–13.

STOP

Attention: Ensure that no liquids enter the interior of the device!

Spray the entire surface to be cleaned with ethanol (cover the opposite surface).

Moisten a lint-free cloth with a small amount of ethanol and remove the liquid by wiping the cloth in the same direction applying a little bit of pressure. A thin film of alcohol (which will evaporate) should be left on the surface.

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Note: Cleaning is successful if the film of alcohol does not form any drops and evaporates without leaving any streaks. Repeat the procedure if necessary!

Dust (To Be Removed Directly Before Scanning)

Remove dust from the glass plate using a grounded antistatic brush and oil-free compressed air.

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Note: Do not blow the compressed air over the glass plate in short blasts as this would cause condensation. Use a steady stream of air over the plate!

The tray can be driven through an antistatic device beforehand to avoid static charge.

Stains That Could Not Be Removed Following The Previous Procedures

Cleaning with Acetone:

Note: Cleaning with acetone should only be performed when cleaning with the other agents was unsuccessful.

Refer to safety instructions on Seite 6–13.

First of all sprinkle acetone over the stain and its surrounding area.

Attention: Never dampen the frame of the tray! Ensure that no liquids enter the interior of the device!

Wait until the acetone has had time to work.

Remove the liquid using a lint-free cloth. (The acetone should not have evaporated. Apply again, if necessary.)

Repeat the procedure, but using diluted acetic acid (25% concentrate) instead of acetone.

Repeat the procedure using acetone and diluted acetic acid alternately until the stain has been removed. (Always use acetic acid solution at the end to prevent acetone rings!)

Then clean using a foam cleaner directly afterwards.

Cleaning Originals

In order to obtain optimal scanning results, the originals must also be cleaned and looked after as required.

Checking the Cleanliness of the Original

Hold transparency originals against a dark background and then in front of and against a light background and observe them from different angles and distances. Determine whether the original is dirty or not, and if so, the nature of the stain.

Observe reflection originals in front of a light background from different angles and distances. Determine whether the original is dirty or not, and if so, the nature of the stain.

Preparing the Originals for Cleaning

Avoid electrostatic charges (e.g. by grounding).

Switch on the antistatic device. Wait for approx. one minute and then move a pin through the brush in order to remove the dust.

Put on lint-free gloves.

Remove the dust from the original (e.g. by moving it through the antistatic device and brushing it).

Place the original flat on a clean, smooth and even plate with the dirty side up and secure it, if necessary.

The following table will help you when selecting cleaning agents:

Cleaning Material/ Equipment	Name / Supplier (example)	Remarks
Dark pads (approx. 500 mm x 500 mm)	Black cloth	
Lint-free gloves	Polyester gloves, MAB 02, Messrs. Basan FRANKFURT	
Absorbent, lint-free cloths	Kleenex Professional Wipes, Code 7107, Kimberly Clark	Order No. 02336154
Oil-free compressed air	Compressed air 67, Messrs. Kontakt Chemie, RASTATT	Order No. 02065436
Antistatic brush, grounded	Antistatic brush, CW 101/SW 141, Messrs. Kinetronics	
Antistatic unit	Antistatic unit 1212, Messrs. Kinetronics	
Ethanol, spectroscopically pure	Chemical suppliers	
Adhesive roller	Nagaoka Rolling Cleaner	
Bent forceps, 90 offset, metal or plastic	Laboratory suppliers	Order No. 04160770

Warning: Cleaning agents such as ethanol are flammable, therefore:

- Do not smoke during cleaning
- Avoid electrostatic discharges
- Only use cleaning agents drop by drop to exclude the danger of deflagration

Warning: Before using cleaning agents, be sure to observe the manufacturer's notes and the current safety data sheets from the relevant manufacturer.

Liquids

Dab the area using a lint-free cloth (then clean with ethanol).

Dry Finger Prints; Adhesive Tape Residue, Dry Smudges

- Cleaning with ethanol

Refer to safety instructions on Seite 6–18.

Spray or sprinkle the entire surface to be cleaned with ethanol (use sparingly).

- Wipe off the ethanol

Moisten a lint-free cloth with a small amount of ethanol and remove the liquid by wiping the cloth in the same direction applying a little bit of pressure.

A thin film of alcohol (which will evaporate) should be left on the surface.

Note: Cleaning is successful if the film of alcohol does not form any drops and evaporates without leaving any streaks. Repeat the procedure if necessary!

If you also wish to clean the other side of the original, lift the original and wipe the glass plate dry. Then clean as described above.
(Subsequently clean off the dust)

Dust

Carefully pull the original through the antistatic device.

Remove dust from the original using a grounded antistatic brush and oil-free compressed air.

Note: Do not blow the compressed air over the original in short blasts as this would cause condensation. Use a steady stream of air over the original!

Stains That Could Not Be Removed By Dabbing And Cleaning With Ethanol

Cleaning with Film Cleaner:

Refer to safety instructions on Seite 6–18.

Depending on the type of original, other cleaning agents (e.g. solvents such as naphtha, film cleaner and others) can be used in addition to ethanol. Experiment for best results.

If you use other agents, you should always finish off cleaning with ethanol.

Dust That Could Not Be Removed Following The Normal Procedure

Removing Dust with an Adhesive Roller:

Place the original flat on a clean, smooth and even plate with the surface to be cleaned facing up.

Continuously roll the adhesive roller over it.

Note: The original is electro-statically charged. The roller must be dry before using it (clean it with water).

Raise the original.

Then carry out a normal clean to remove dust.

General Remarks on Maintenance

Avoid humidity, dust and electrostatic charges, if possible.

Store the trays, cassettes and originals in a dry place which does not become very dusty.

Remove stains immediately. Do not wait until the stains have dried!

Provide sufficient ventilation when performing any cleaning procedures.

Do not allow the cleaning liquids to run over the surface to be cleaned.

Only mount dry, clean originals. If possible, avoid using Anti Newton oil.

When cleaning, avoid using:

- Silicone-based domestic cleaners
- Tap water (this leaves mineral deposits)
- Antistatic cloths (this leaves a residue)
- Methylated spirits: Methylated spirit

PCBs and semi-conductor modules should remain in their original packing as long as possible. When shipped or stored, use either the original or adequate protective packing.

Technical Data

Scanning mode	CCD system 3 x 8000 CCD color lines for RGB and 1 x 12000 b/w CCD lines for Copy Dot (F4200 only)
Detail contrast (USM)	Digital (program controlled)
Focus	Computer controlled, autofocus
Max. effective format	Transparency/reflection: 315 x 457 mm, 12.4 x 18 Copix: 315 x 457 mm, 12.4 x 18
Optical resolution	645 - 5080 dpi for the entire scanning area 902 - 7040 dpi for Copy Dot (F4200 only)
Interpolated resolutions	10,800 dpi
Scale range	20% - 2500%
Max. thickness of originals	Transparency: 20 mm, reflection: unlimited
Standard interface	SCSI (image data and communication)
SCSI address	5 (preset)
Dimensions (width x height x depth)	855 x 990 x 710 mm, 1,545 mm height with scanner lid open
Power supply	100V - 120V/200V - 240V ± 10% single phase
Frequency	50/60 Hz
Rated current	2.0 A
Power consumption	Approx. 500 W
Operating ambient temperature	18 to 28 °C
Air humidity	30 - 80% (non-condensing)
Operating weight	Approx. 89 kg
Acoustic noise emission	Below 55 dB (A)

Accessories

Nexscan accessories:	Order No.:
Universal tray	05455014
Copix Tray	05454387
Mounting rail (placed in the scanner)	05392500
Passepartout basic set	05401615
Passepartout set Uni (10 items)	05401623
Passepartout set 24 x 36 mm (10 items)	05401658
Passepartout set 6 x 6 cm (10 items)	05401674
Passepartout set 6 x 7 cm (10 items)	05401704
Passepartout set 4" x 5" (10 items)	05394201
Fluorescent lamp, 230V/11W, Color temperature 6000K	05226112
Slide tray	05401607
Register pin row Copix, Bacher, (metal)	05401771
Register pin row Copix, Bacher (plastic) (12 items)	05392683
Glass plate for scanner	05355036
Tweezers	04160770
Rubber blower	00346608
Anti-Newton spray	00129100
Antistatic cloth	00057606
Mounting foil	03004570

Consumables

- Special adhesive tape, type 54113, 19 mm wide,
  Kahmann & Ellerbrock GmbH & Co.
  Feldstr. 60, D-33609 Bielefeld
  Tel.: +49 (521) 30 90, Fax: +49 (521) 30 92 00
  email: info@kahmann.de
- Alron-Anti-Newton spray,Alron-Scan-gel, Reg. No. 33068

  Messrs. Neumann and Partner
  Billeweg 20
  22851 Norderstedt
  Tel.: 040/5249143
  Fax.: 040/5245526
- WALKISOFT-cloth
  perforated roller, 60 g/m², 20 x 14 cm
  Use film cleaner, type DC 2001

  Kami Vertriebs GmbH,
  Lübener Str.
  90471 Nürnberg
  Tel.: 0911/803694
  Fax.: 0911/807757
- Cloth, 30 x 36 cm,
  Part No. 7262/60
  Tenca Chemische Union, Betriebshygiene
- Mounting foil Chronar-Clean-Film C 42,
  300 x 400 mm, Available through Agfa distributors
- Foam cleaner
  Messrs. Röbel and Fiedler
  Chemische Fabrik GmbH
  77955 Ettenheim/Germany

Minimum Configuration for the PC

- PC with Pentium processor or equivalent, 400 MHz or faster.
- Minimum 128 MB RAM.
- Minimum 8 GB free hard disk space.
- Operating system: Windows NT 4.0 with Service Pack 4 and Microsoft Internet Explorer 5 or higher.
  (Microsoft Internet Explorer is part of the scope of delivery.)
- 16 bit video card (24 bit recommended).
- 19 inch color monitor with a resolution of at least 800 x 600 pixels.

Minimum Configuration for the Power Macintosh

The minimum configuration depends on the respective Linocolor software.

Computer:	Power Macintosh
Operating system:	8.5 or higher
Keyboard and mouse:	Apple Extended keyboard
Memory:	32 MB RAM, recommended: 64 MB RAM
Hard disk:	300 M RAM internal or external
Monitor:	21" color monitor with ColorSync 2.5 profile or calibrated 21" color monitor with 24-bit video card
Operating program:	Linocolor 6.0.4 or higher

Scanner System

CCD lines:	1 CCD line with 3 x 8000 image elements (RGB lines) and 1 CCD line with 1 x 12000 image elements (b/w line)
Digital scan processor:	Focus calculation/USM/ Scale calculation
Color computer:	PCI Power Macintosh
Interface:	Standard SCSI interface
Connection for diagnostics:	RS232 interface

Scanner Signal Resolutions

RGB color mode:
16 bits per pixel and color, converted to 8 bits via CIELAB transformation
Monochrome mode:
16 bits per pixel and color, converted to 8 bits via CIELAB transformation
Line mode:
1 bit per pixel
Maximum density: 4.0 D

Type of Original

Originals:
Reflection and transparency, color and black-and-white, contone and line art, positive and negative, real objects (3D)

Power connection

Power connection is performed via a supplied power connection cable. The electrical outlet is located on the lower rear of the device underneath the service flap.

All electrical components have automatic cutouts. If one of these fuses reacts, this indicates a major technical defect which can only be eliminated by Service personnel.

Power cables must be connected in accordance with the regulations of the respective country.

Fuses

The operator has no access to the device fuse! The device may only be serviced by Service personnel.

The in-house electrical outlet to which the power cable is connected must be fused with a maximum value of 10 A.

Light Conditions

Operational conditions: no fluorescent lighting
no direct sunlight

Device Emissions

Heat emission approx. 150 W
Noise emission < 55 dB (A)
(value measured at operator desk)

Standards

The device meets the safety regulations of the standards listed below.

General

- GSG "Gerätesicherheitsgesetz" (Germany)

Mechanical Safety

- UVV "Unfallverhütungvorschriften" (Germany)
- EN 292 (Europe)

Electrical Safety

- 73/23/EWG Low-Voltage Directive (Europe)
- EN 60950 (Europe)
- IEC 950 (International)
- UL 1950 (USA)
- CSA C22.2 No.950 (Canada)

Electromagnetic compatibility (EMC)

- EMVG "Gesetz über elektromagnetische Verträglichkeit" (Germany)
- 89/336/EWG EMC Directive (Europe)

Emission of Noise (Radio Interference and Noise Voltage)

- EN 55022, threshold value B (Europe)
- CISPR 22 mod., threshold value B (International)
- FCC, Part 15, Subpart B, Class A (USA)
- ICES-003, Class A (Canada)

Interference Immunity

- EN 50082-1/-2 (Europe)
- IEC 1000-4-X (international)

Radio Interference Suppression

In adherence with radio interference suppression regulation 89/336/EEC it is required that the device is only operated when all protective covers are mounted in the correct manner.

Additional electrical equipment must be installed and serviced according to the manufacturers' instructions to adhere to the radio interference suppression regulations.

Adherence to radio interference suppression regulations can be assumed when the additional device in question is marked with the European Union mark of conformity (CE) and the instructions for installation, operation and service are followed.

Approvals

GS:			(Germany)
UL:	E156891	(NWGQ)	(USA)
cUL:	E156891	(NWGQ 7)	(Canada)
GOST-R			(Russia)
ACN 004 395 779			(Australia)

Disposal of the Device

Regional regulations are to be observed when disposing of the device.

The device contains pollutants. It must be handed over to a recognized waste disposal company and not disposed of as part of the household waste. Addresses can be obtained from the relevant environmental office or from the environmental officer at Heidelberg in Kiel.

Pollutants

Parts containing pollutants, and therefore requiring separate disposal / processing, are listed in the following table. You can identify the parts with the help of their designation in the following diagram.

Name	Pollutants contained
Fluorescent lamp (5x)	Mercury
Fluorescent lamp ballast (5x)	Tetrabrombisphenol A, lead (among others)
Electronic pcbs	Tetrabrombisphenol A, lead (among others)

Polyvinyl chloride could be contained in the cable covering. The electronic modules are protected by flame retarders. Thanks to state-of-the-art technology, thermal processing in appropriately prepared plants is not a problem.

STOP Attention: The fluorescent lamps in particular are waste that requires monitoring (EAK No. 200121), they must be disposed of via a special waste or underground waste dump or a correspondingly equipped CPB treatment plant. Please discuss this with your local waste disposal authority.

Materials

The device consists of recyclable materials. The large plastic parts can be identified in the following diagram with the help of their designation. Polystyrene has been used almost throughout.

Name	Material
Front panel, back panel, operating flap, service flap, lid	PS (Styron 6335), varnished with 2k-PUR-Alexit-Struckturlack Z421, Messrs. Manckiewicz, no flame retardant
Roller (2x)	PA-6
Foot (2x)	PC, varnished with 2k-PUR-Alexit-Struckturlack Z421, Messrs. Manckiewicz, no flame retardant, galvanized sheet steel (glued)
Stray light foil	PC/GF/Macrofol
LED cover	PC/Macrolon
Light outlet	PC/Macrolon
Brake lining	Multifill 426 , Messrs. Garlock

Al Si9 Cu3 is used as cast aluminum, galvanized X42 is favourable for the steel plate. The glass panes are made of float glass, they are partially printed and hardened, the mirrors fitted to some types of device are made of aluminized float glass.

Dismantling

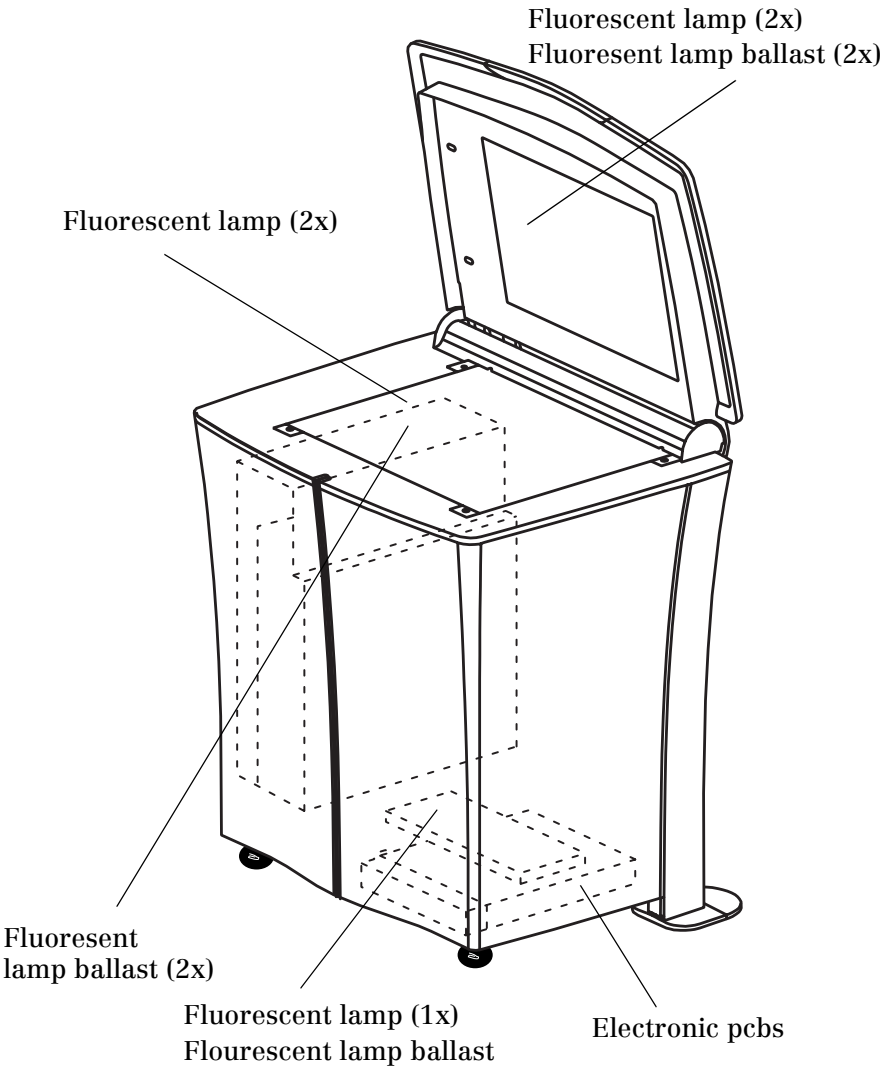
The following order is recommended for dismantling. Observe the figures at the end of this section.

The device may only be dismantled by a recognized waste disposal company; these dismantling instructions do not apply for the customer!

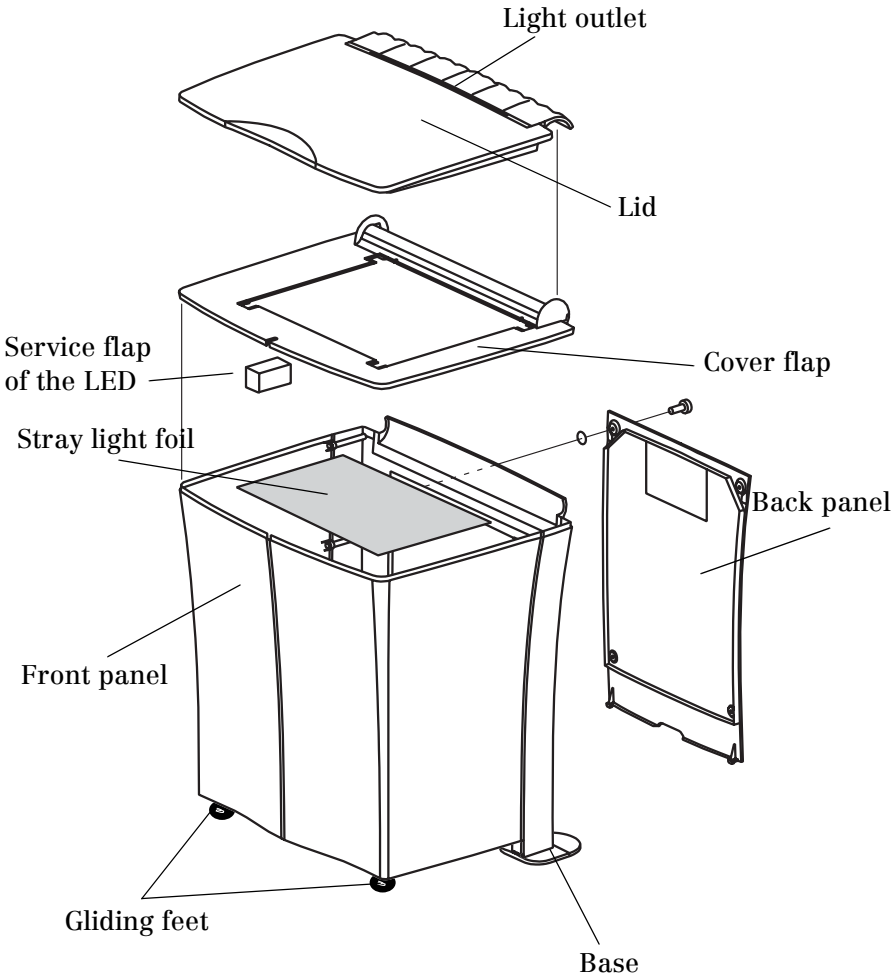
Work step	Note
1. Remove the glass plate from the lid.	
2. Open the transparencies lighting in the lid, remove two fluorescent lamps.	
3. Detach the lid	4 items 6 socket screws on the lower rails, 2 hexagon socket screws on the upper rails
4. Unscrew the fluorescent lamp ballasts in the lid from the rear	
5. Detach original glass plate from main device	
6. Remove the cover flap from the main device	The cover flap is only inserted, it is not screwed in place. The lid must be detached (see step 4) in order to remove the flap and thus access the interior of the device.

Work step	Note
7. Release the interior of the device (cast alu.) and raise it upwards and out of the housing through the opening.	3 screws: one in the center at the front, one in the rear left and rear right corners.
8. Open the back panel on the rear of the device	
9. Remove the original illumination at the base of the device, remove the fluorescent lamp (1x) and the fluorescent lamp ballast (1x)	
10. Open the maxi board at the base of the device, remove the electronics PCBs	Loosen 2 lateral screws, the lid of the maxi board can then be pulled to one side to give access to the PCBs.
11. Loosen the unions for the plastic housing (front and back panel) from the inside, unscrew the plate from the inside	6 screws in plastic, more at the base
12. Unscrew the feet (2x)	
13. Open the lamp cover on the top of the camera carriage (inside of device)	Press the plate together by hand, no union
14. Remove the fluorescent lamps (2x)	
15. Unscrew the camera carriage cover (inside of device)	
16. Unscrew the fluorescent lamp ballast (2x)	
17. Use force to remove the electronics PCBs (2x)	Electronics PCBs are partially fixed onto an aluminum carrier

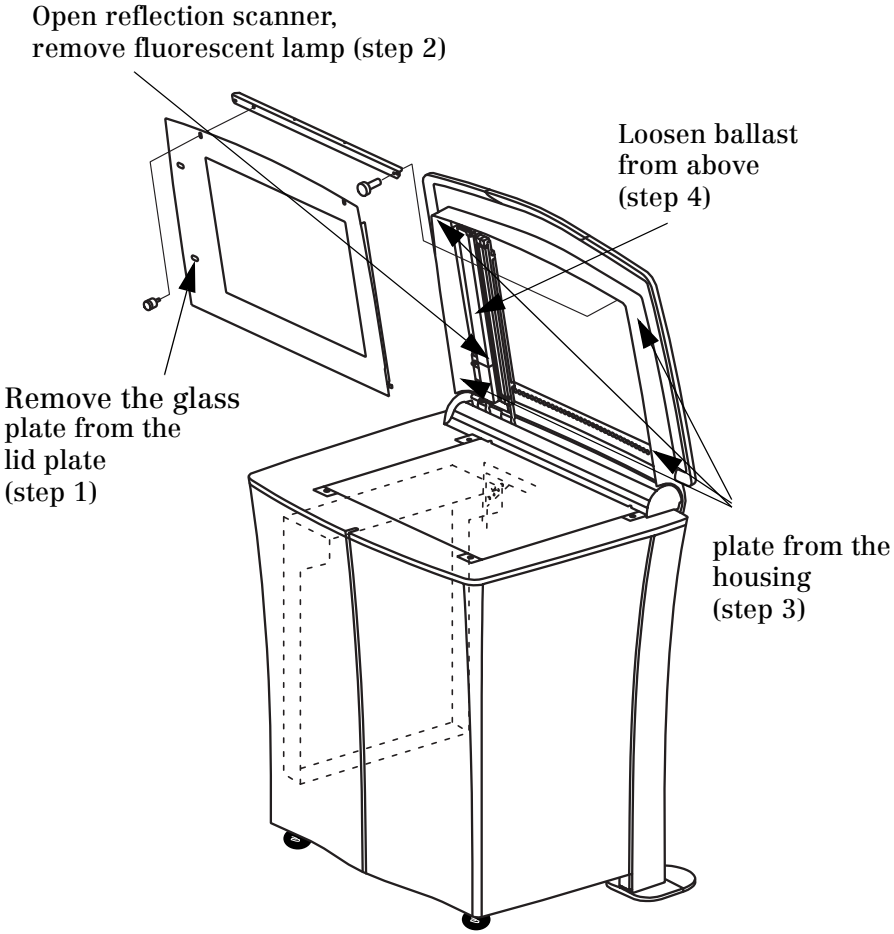
Pollutants


Fluorescent lamp (2x)
Fluoresent lamp ballast (2x)
Fluorescent lamp (2x)
Fluoresent
lamp ballast (2x)
Fluorescent lamp (1x)
Flourescent lamp ballast
Electronic pcbs

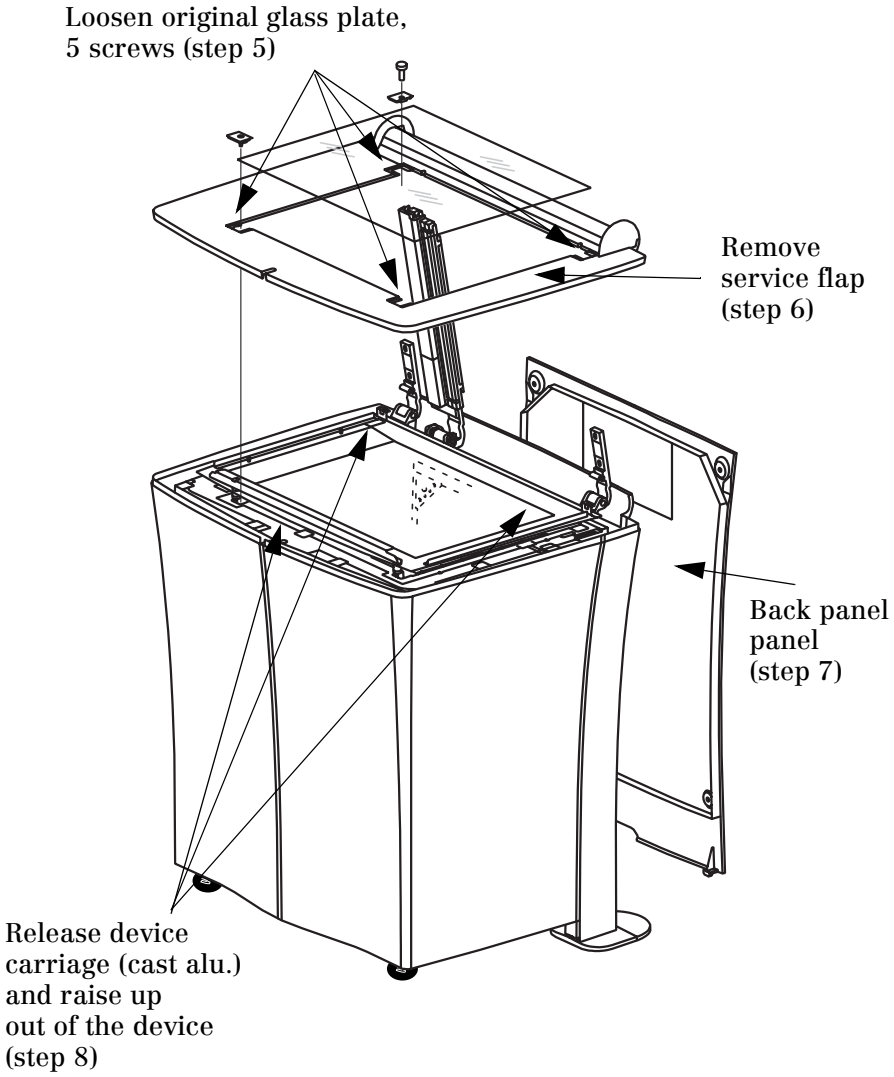
Materials/Plastics



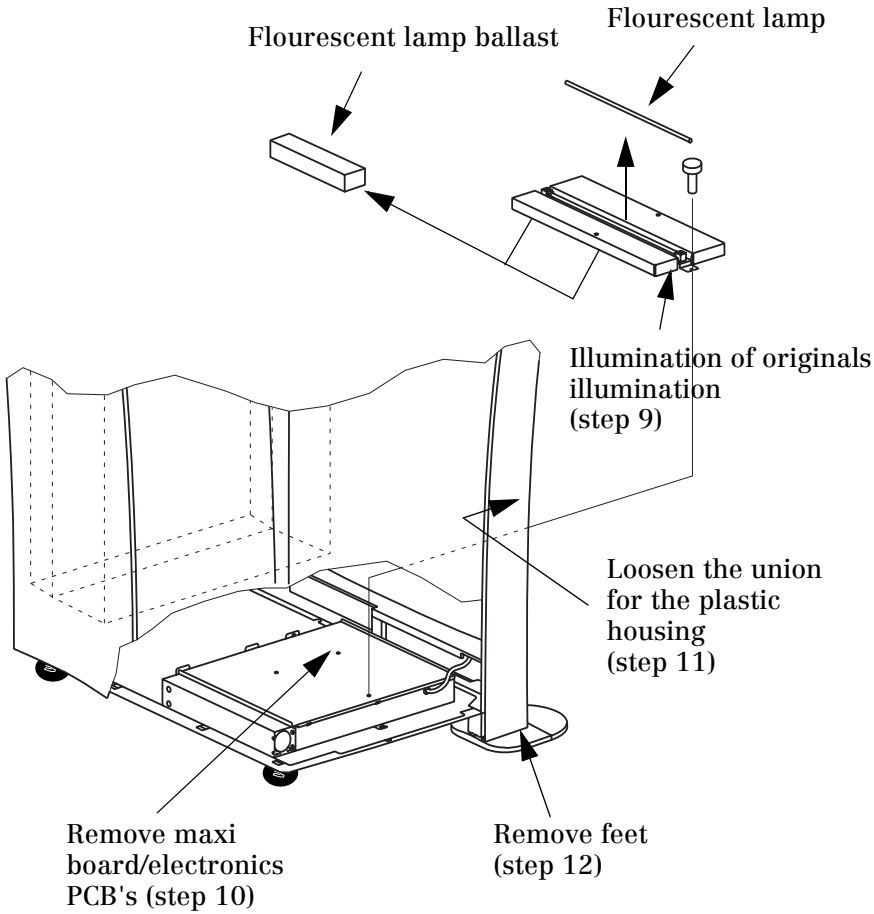
Dismantling 1



Dismantling 2



Dismantling 3



HEIDELBERG

EG-Konformitätserklärung

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

EC Declaration of Conformity

in accordance with the Low Voltage Directive 73/23/EEC
and the Directive of Electromagnetic Compatibility 89/336/EEC

Hersteller / manufacturer:
Adresse / address :

Heidelberger Druckmaschinen AG
Siemenswall
D- 24107 Kiel, Germany

erklärt, daß das Produkt
declares, that the product

Produktname / product name : **Nexscan F4100 / F4200**
Geräteart / product class : **Scanner**
Typenbezeichnung / type designation : **3270-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	Sicherheit von Einrichtungen der Informationstechnik einschließlich elektrischer Büromaschinen Safety of Information Technology Equipment including electrical business equipment
- EN 55022, Klasse B	EMV-Produktnorm Störaussendung EMC Product Standard, Emission (CISPR 22 Class B)
- EN 50082-1/-2	EMV-Fachgrundnorm Störfestigkeit EMC Generic Immunity Standard

Kiel, 26. August 1999 — Heino Schadwald, Senior Vice President — Heidelberger Druckmaschinen Aktiengesellschaft, Siemenswall - D-24107 Kiel/Germany

Ort / place — Datum / date — Name / name — Unterschrift / signature — Stempel / stamp

34/99 S. 1

EU Declaration of Conformity

HEIDELBERG

GB, IRL

CE-Declaration of Conformity :
Heidelberger Druckmaschinen AG declares, that the product described overleaf conforms to the following relevant provisions :
- EC directive 89/336/EEC for electromagnetic compatibility
- EC directive 73/23/EEC for electrical equipment designed for use within certain voltage limits

Applied harmonized standards : -EN55022 Class B, -EN50082-1/-2, -EN60950

F, B, L

Attestation de conformité CE :
Heidelberger Druckmaschinen AG affirme que le produit décrit au verso correspond aux références suivantes adéquates :
- Directive CE 89/336/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 : -EN55022 Classe B, -EN50082-1/-2, -EN60950

DK

EU-overensstemmelseserklæring :
Heidelberger Druckmaschinen AG erklærer, at det produkt, der er beskrevet efterfølgende, opfylder følgende relevante bestemmelser :
- EU-direktiv 89/336/EØF for elektromagnetisk forenelighed
- EU-direktiv 73/23/EØF for elektrisk udstyr, som er beregnet til anvendelse indenfor bestemte spændingsgrænser

Anvendte harmoniserede normer : -EN55022 klasse B, -EN50082-1/-2, -EN60950

E

Declaración de conformidad CE :
Heidelberger Druckmaschinen AG declara que el producto descrito al dorso corresponde a las siguientes disposiciones relevantes :
- Norma CE 89/336/CEE para la compatibilidad electromagnética
- Norma CE 73/23/CEE para equipos eléctricos concebidos para el uso dentro de determinados límites de tensión

Normas armonizadas aplicadas : -EN55022 clase B, - EN50082-1/-2, -EN60950

FIN

Euroopan yhteisön yhdenmukaisuusseloste :
Heidelberger Druckmaschinen AG ilmoitta, että kääntöpuolella kuvattu tuote vastaa seuraavia asiaan kuuluvia määräyksiä :
- EY-direktiivi 89/336/Euroopan talousyhteisö EEC sähkömagneettista yhteen soveltuvuutta varten
- EY-direktiivi 73/23/Euroopan talousyhteisö EEC sähkövarusteita varten, jotka on suunniteltu käytettäväksi tiettyjen jänniterajojen sisällä.

Sovelletut harmonisoidut normit : -EN55022 luokka B, - EN50082-1/-2, -EN60950

GR

Κοινοτική δήλωση συμβατότητας σύμφωνα με τις :
Η Heidelberger Druckmaschinen AG δηλώνει, ότι το ακολούθως περιγραφόμενο προϊόν εκπληρεί τις ακόλουζθες σχετικές διατάξεις :
- ΕΟΚ/οδηγία 89/336/ΕΟΚ για ηλεκτροναγνητική ανεκτικότητα
- ΕΟΚ/οδηγία 73/23/ΕΟΚ για ηλεκτρικά είδη εξοπλισμού, που προορίζονται για χρήση εντς καθορισμένων ορίων τάσης

Χρησιμοποιούνται οι εξής εναρμονισμένες προδιαγραφές :
-EN55022 κατηγορία B, - EN50082-1/-2, -EN60950

I

Dichiarazione di conformità CEE :
Heidelberger Druckmaschinen AG dichiara che il prodotto descritto a tergo è conforme alle seguenti disposizioni :
- Direttiva CEE 89/336/CEE per compatibilità elettromagnetica
- Direttiva CEE 73/23/CEE per impianti elettrici destinati ad installazioni entro limiti di tensione stabiliti

Norme armonizzate applicate : -EN55022 classe B, - EN50082-1/-2, -EN60950

NL

EG-conformiteitsverklaring :
Heidelberger Druckmaschinen AG verklaart dat de aan de ommezijde beschreven produkten aan de volgende bestemmingen van belang voldoen :
- EG-richtlijn 89/336/EEG voor elektromagnetische verdraagzaamheid
- EG-richtlijn 73/23/EEG voor elektrische uitrustingsonderdelen welke voor het gebruik binnen bepaalde spanningsgrenzen zijn bestemd.

Toegepaste geharmoniseerde normen : -EN55022 klas B, - EN50082-1/-2, -EN60950

P

Declaração de conformidade CE :
A Heidelberger Druckmaschinen AG 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 : -EN55022 classe B, - EN50082-1/-2, -EN60950

S

EU konformitetsförklaring :
Heidelberger Druckmaschinen AG deklarerar, att produkten enl. bifogad beskrivning motsvarar följande gällande bestämmelser :
- EU riktlinje 89/336/EWG för elektromagnetisk acceptans
- EU riktlinje 73/23/EWG för elektriska utrustningsdelar, som är avsedda för användning inom vissa spänningsområden.

Använda harmoniserade normer : -EN55022 klass B, - EN50082-1/-2, -EN60950

Edition September 2000

Nexscan F 4100/F 4200

HEIDELBERG D -24107 Kiel
Type 3270-2 ID-No 05376289 Gs Prüf-No. DP---
Ser.-No.
~ 100-120V 200-240V 50Hz 2,0A
~ 100-120V 200-240V 60Hz 2,0A
Date of Manufacture
Made in Germany

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulation.
Cet appareil numérique de la classe A respecte toutes les exigences du Réglement sur le matériel brouilleur du Canada.

Quality Assurance

Please contact one of our branches in your area or the Heidelberg representative responsible for you, should problems occur with hardware or software.

“Central Call Desk“

For customers in Germany, please contact our ”Central Call Desk”, **telephone (0 18 03) 23 23 33** if problems should arise.
If operational malfunctions occur, any technicians which may be necessary are coordinated through the service control room.

For customers outside of Germany, please contact your Heidelberg representative.

The ”Central Call Desk” is open **Monday through Friday, 7 a.m. to 18 p.m.** Your queries will be dealt with here immediately.

Answering any user queries after the guarantee period is a service which can be applied for exclusively on purchasing a "Heidelberg Infoline-Box". This also applies for telephonic advice with regard to operating malfunctions or for user-specific problem analyses.

Problem Report for Customers and Service Technicians

Use the problem report provided if you establish any basic faults in the product or have any suggestions for the improvement of hardware or software.

Do **not** use the problem report to clarify queries on application or operation! In these cases, please contact your Heidelberg representative/branch office responsible for you, or call our "Central Call Desk".

Photocopy the form before use to ensure that a blank is available for future use.

Note: **Always** specify the **serial number** or the **service number** attached to the unit on which problems or faults in production occur.

Specify the exact names of the products (unit description, software and version).

Only describe one problem per form. State the exact conditions under which the problem occurred, e. g. error messages, serial or service number of the unit, modifications, software used and its version etc.

Specify your complete address, your customer no. and if possible your telephone number, fax number and e-mail address.

Send the problem report to the branch office responsible for you, or to your Heidelberg representative.