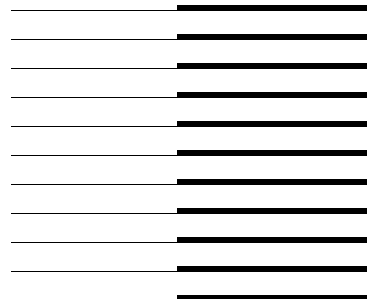


Océ 5250

User manual





Océ-Technologies B.V.

This manual, which can be kept behind the left-hand door of the copier, contains a description of the Océ 5250 and the copying that can be done with it. The introduction (chapter 1) contains a general description of the working methods for using the copier and it is recommended that you read at least this chapter.

Safety information

This manual contains the following safety information:

- Appendix B lists 'Instructions for safe use'. ***You are advised to read this information before you start to actually use the copier.*** Technical safety information such as safety data sheets can also be found in appendix B.
- Where applicable, cautions and warnings are used throughout this manual to draw your attention to safety precautions to be taken.

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Further, Océ-Technologies B.V. reserves the right to revise this publication and to make changes from time to time in the content hereof without obligation to notify any person of such revision or changes.

Contents

Chapter 1

Installation of the Océ 5250 printer

- Preparing for installation 10
 - Precautions 10
 - Required installation space 10
- Checking the printer components 12
 - User documentation CD 15
- Operating recommendations 16
 - General considerations 16
 - Using the stand (pedestal) 16
 - Transporting the printer 16
- Unpacking the printer 17
 - Assembling the stand (pedestal) 17
 - Removing the printer from the carton 17
- Viewing the printer components 18
 - Carriage 19
 - Cable connections 20
- Installing the printer 21
 - Plugging in and switching on the printer 26
- Using the control panel 27
 - Menu direction arrows 27
 - Keys 28
 - Leds (light emitting diodes) 28
 - Message display window 29
 - Using the printer menu 29
 - Using the flowchart (menu tree) instructions 30
- Selecting the display language 31
- Connecting the printer 32

Chapter 2

Getting started

- Installing the print heads and ink tanks 34
 - About print heads 34
 - Preparing to install the print heads 35
 - Unpacking and installing the print head 36
 - Installing the ink tank 39
 - Monitoring ink levels 41
 - Replacing the ink tank 41

Selecting a media mode	42
Loading roll media	43
Choosing the media type	48
Loading cut sheet media	49
Printing the menu tree	51
Cancelling a print in progress	52
Setting the colour mode	53
Setting the print quality	54
Setting the number of printed copies	55
Setting the media format	56

Chapter 3

Print management

Rotating a print	58
Scaling a print	59
Autoscaling	60
Mirroring a print	62
Saving media	64
Nesting	64
Setting the media saver timeout	66
Flushing the media saver queues	67
Autopositioning	68
Defining the pen width	70
Making a palette print	71
Setting the pen colours and patterns	72
Setting pen colours	72
Saving pen user configurations	72
Setting the pen patterns	73
Defining the pen priority	74

Chapter 4

Advanced functions

Setting the menu access level	76
Locking the printer menu	77
Setting the short menu	78
Setting the full menu	79
Setting the print timeout	80
Printing the dump configuration	81
Examples of a dump configuration	82
Printing long prints	84

Calibrating the Océ 5250	85
Printing the registration print	86
Printing the X-alignment print	87
Printing the X-accuracy print	89
Choosing between accuracy and smooth area fills	92
Rendering	93
Upgrading the firmware	94
Expanding the printer memory	96

Chapter 5

Print data formats

Setting automatic language sensing	100
Selecting the data format manually	101
Using the transparency mode	102
Setting the print origin	104
HP-GL, HP-GL/2	106
Page advance	106
Line Attribute	107
Working with HP-GL, HP-GL/2 format	108
HP-GL commands	108
HP-GL/2 commands	109
Selecting the HP-GL or HP-GL/2 command set	110
HP-RTL commands	111
CalComp parameters	112
Checksum parameter	112
End of message parameter	113
Synch code parameter	114
Double synch parameter	115
CalComp step size	116
CALS and TIFF	117
CALS	117
TIFF	117
PostScript 2	118
PostScript 2 page layout	118
Default PostScript 2 page size	119

Chapter 6

Use of media

Media types	122
Choosing media	123
Storing and handling media	125

Chapter 7

Maintenance

- General cleaning 128
- Caring for the wiper blades 130
- Replacing the cutter unit 132
- Cleaning the print heads 133
- Transporting the printer 134

Chapter 8

Troubleshooting

- Solving printer operation problems 136
- Understanding printer messages 137
 - Status messages 137
 - Warnings 138
 - Error messages 138
 - Banner messages 142
 - Service message 143
- Improving poor print quality 144
- Checking the print head quality 146
 - Adjusting the carriage height 146
 - Printing the registration print 147
 - Print head problems 148
- Problems using colour 149
- Using the statistics menu 150

Chapter 9

Connection of the Océ 5250

- Connecting the printer 152
 - Connecting to a Centronics port 152
 - Connecting to an Ethernet port 153
- Supported printing protocols 157
 - Preferred printing solution 157
 - Printing via LPD 158
 - Printing via FTP 158
 - Printing via SMB 159

Appendix A**Glossary**

Appendix B**Safety information**

- Instructions for safe use 168
- Safety data sheet for the Océ 5250 170
- EPA Energy Star® 171

Appendix C**Miscellaneous**

- Notation conventions 174
- Reader's comment sheet 175
- Addresses of local Océ organisations 177

Appendix D**Technical reference**

- Product specifications 180
- Printer default values 181
- Handshake protocols 184
 - Centronics protocol 184
- Centronics port configuration 185
- Software commands 186
 - HP-GL commands 186
 - HP-GL escape sequences 187
 - HP-GL/2 commands 188
 - HP-RTL commands 190
 - CalComp commands 192
- Index 195

Chapter 1

Installation of the Océ 5250 printer

- *Preparing for installation*
- *Checking the printer components*
- *Installing the printer*
- *Using the control panel*
- *Selecting the display language*
- *Connecting the printer*



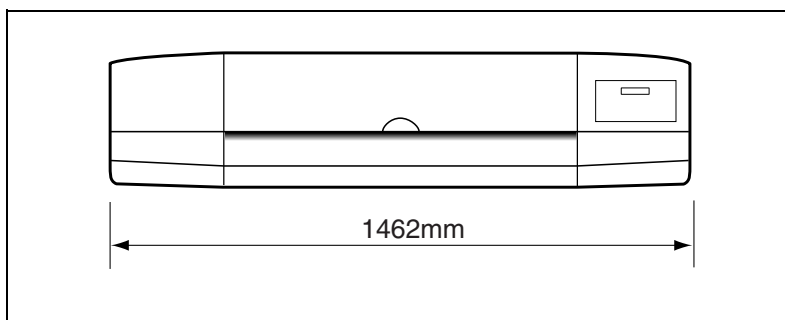
Preparing for installation

Precautions

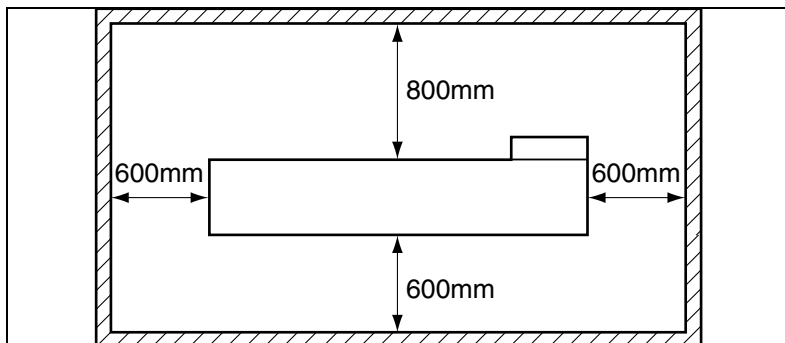
- You need two persons to install the Océ 5250.
- First assemble the stand, and then install the Océ 5250.
- Before you start the installation, make sure the power switch of the Océ 5250 is turned to 'OFF'.

Required installation space

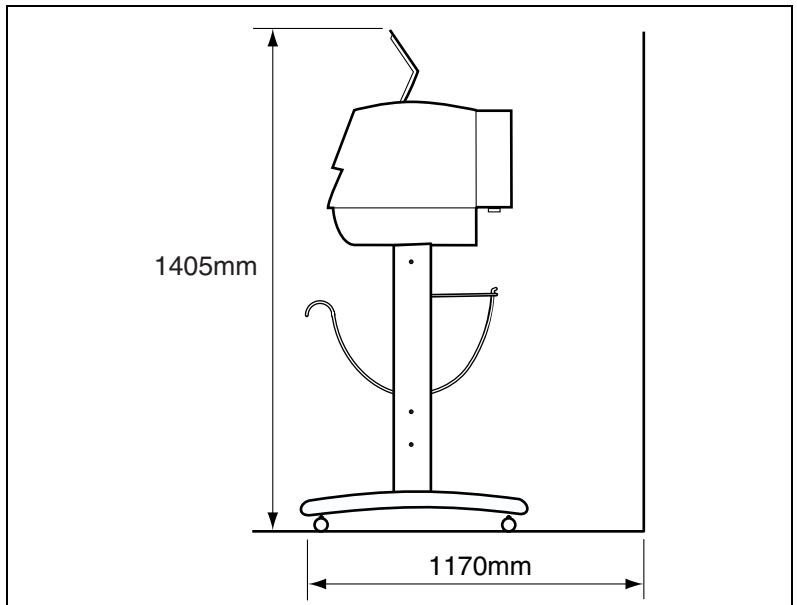
For efficient use of the Océ 5250, plan an adequate space as illustrated below.



[1] Required installation space front view



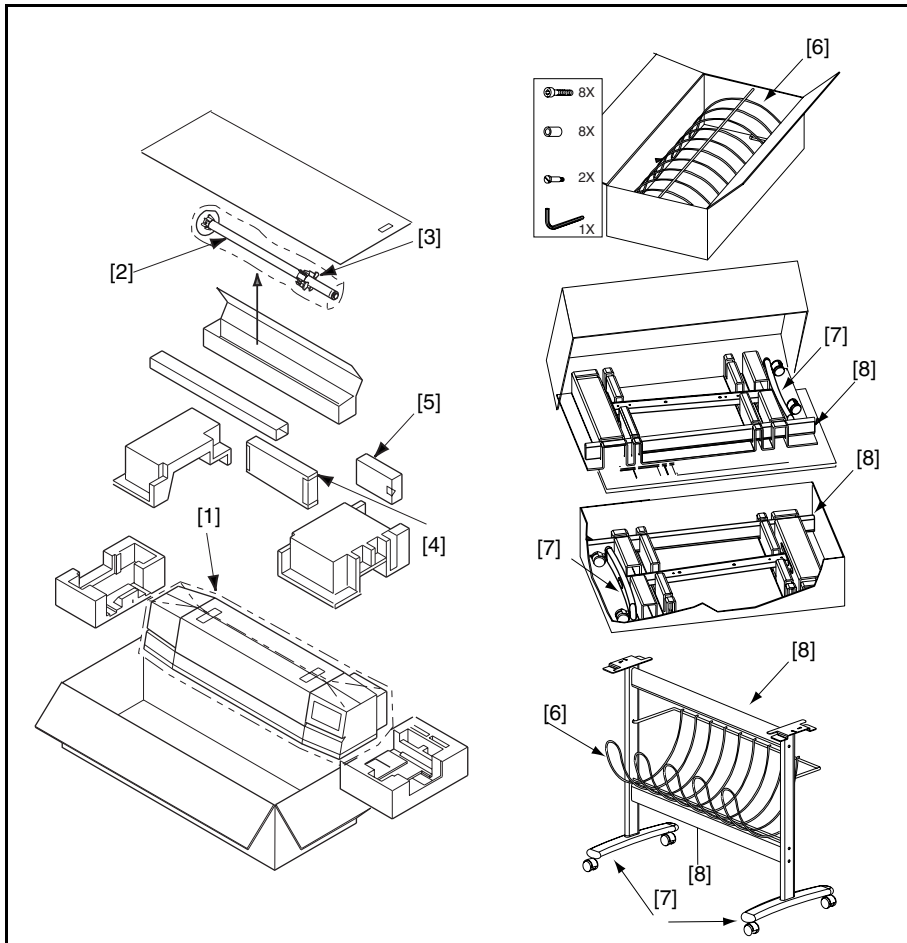
[2] Required installation space top view



[3] Required space when installed on the stand

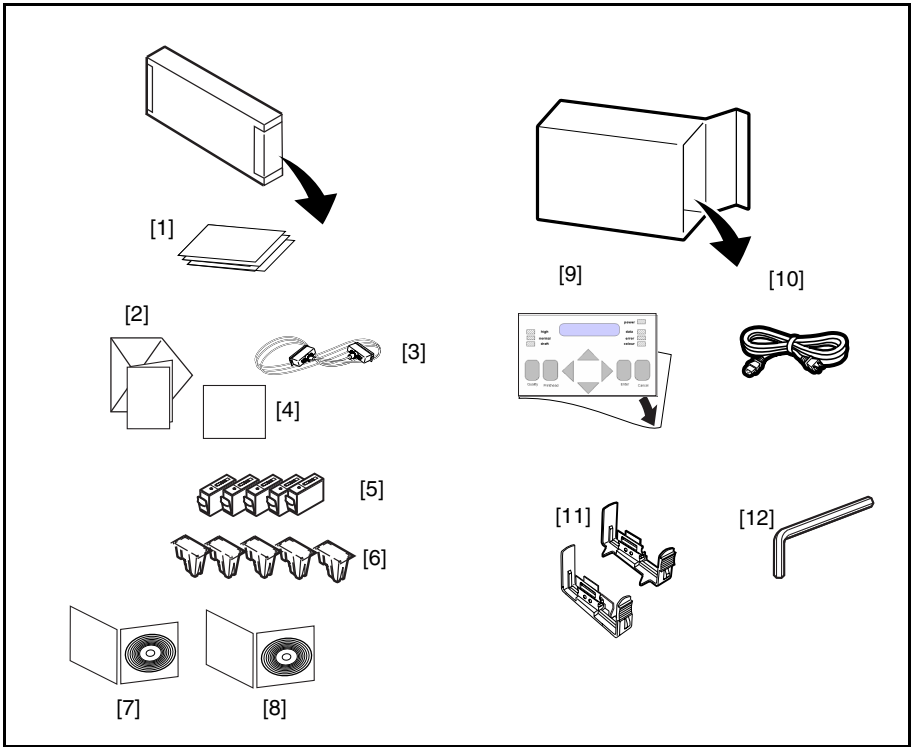
Checking the printer components

Check that all of the following components are included.



[4] Contents of carton 1 (Left) and 2 (Right)

Contents	
Carton 1	Carton 2
1. Océ 5250	6. Collection basket
2. Roll holder	7. Stand legs
3. Stopper	8. Upper & lower cross bars
4. Starter kit	
5. Accessory box	



[5] Contents of starter kit (Left) and Accessory box (Right)

Contents	
Starter kit	Accessory box
1. Assembly instructions / packing list	9. Overlay
2. Equipment, Delivery, Installation, Quality report (EDIQ)	10. Power cord
3. Centronics cable	11. Cleaner blades
4. Order sheet	12. Installation tool
5. 5 ink tanks	
6. 5 print heads	
7. User documentation CD	
8. Drivers pack CD	

User documentation CD

The Océ 5250 User documentation CD contains the following:

- Assembly instructions/Packing List
- User manual
- Quick reference card (this is a menu tree that you can print out in the desired format)

Operating recommendations

General considerations

- choose a stable, clean environment
- maintain the temperature between 5 - 35° C
- maintain a relative humidity between 10% - 90% RH non-condensing
- keep away from direct sunlight
- avoid rapid temperature or humidity changes
- allow sufficient space around the front and back of the printer, to allow easy operator access and unrestricted media space during printing (see figure 3 on page 11)
- avoid placing the printer directly in the path of a fan or vent as a high air flow interferes with the ink flow of the inkjet print head
- keep cables out of the media path

Using the stand (pedestal)

Place the stand on an even, stable floor surface.

Transporting the printer

Keep the printer's carton and packing materials to facilitate eventual transportation.

Note: See chapter 7, 'Maintenance' on page 127 for instructions on how to transport the printer.

Unpacking the printer

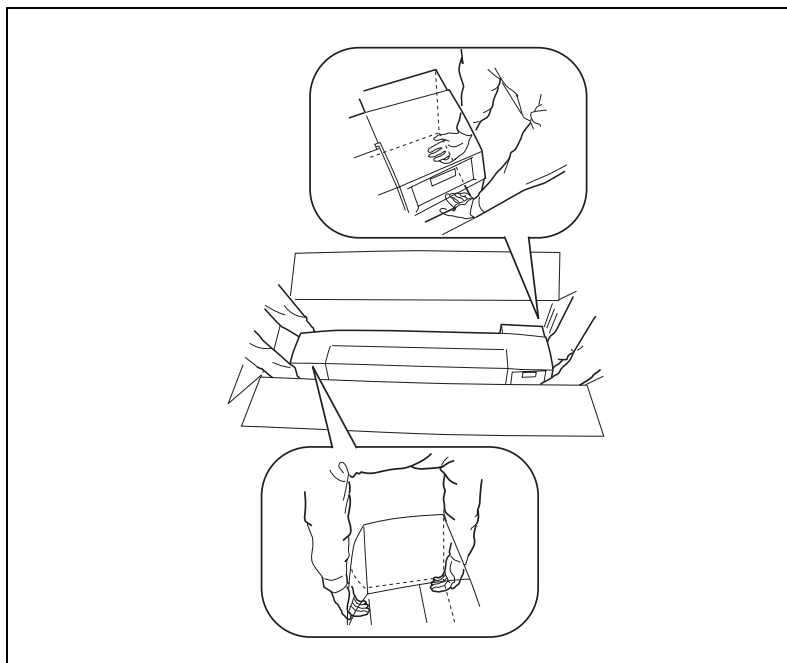
Assembling the stand (pedestal)

Assemble the stand, before you install the printer. For instructions, see 'Assembly instructions' in this User Documentation CD.

Removing the printer from the carton

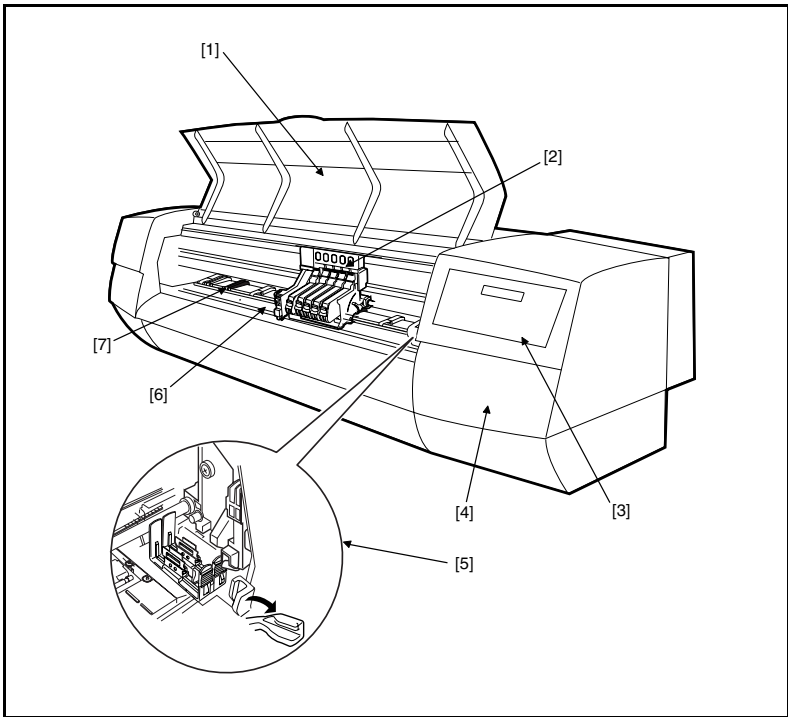
▼ **To remove the printer from the carton**

- 1 Open the plastic bag.
- 2 Grip firmly the bottom corners of the printer on both sides, as indicated below.
- 3 Place the printer on the stand.
- 4 Fix the printer to the stand, using the two shoulder screws delivered with the stand (M6 X 20).



[6] Taking the Océ 5250 out of the carton

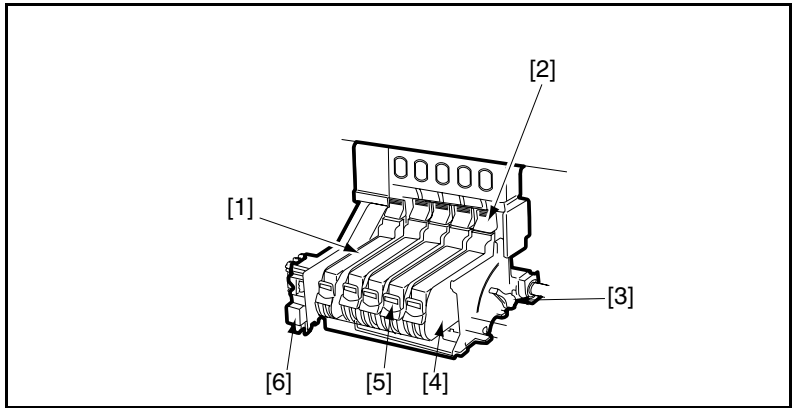
Viewing the printer components



[7] External view of the printer

- 1 Dust cover
- 2 Carriage
- 3 Control panel
- 4 Purge unit (inside)
- 5 Green lever (to release the pinch rollers)
- 6 Platen
- 7 Pinch roller

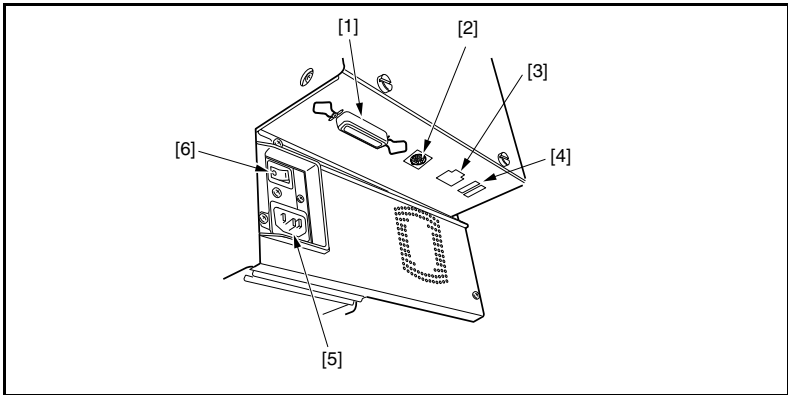
Carriage



[8] Carriage

- 1 Ink tank
- 2 Print head release tab
- 3 Carriage height adjustment lever
- 4 Print head
- 5 Ink tank release tab
- 6 Cutter unit

Cable connections



[9] Cable connections

- 1 Parallel interface connector
- 2 Serial interface connector (reserved for service)
- 3 Ethernet connector
- 4 Leds
- 5 Power cord connector
- 6 Power switch

Installing the printer

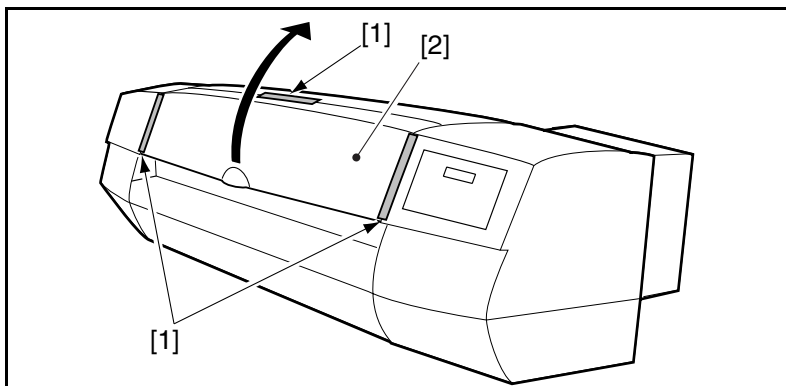
The printer installation involves the following phases:

- 1 Opening the dust cover
- 2 Installing the cleaner blade
- 3 Removing the carriage locking screw
- 4 Removing the protection from the pinch rollers
- 5 Plugging in and switching on the printer



To open the dust cover

- Remove the sealing tape [1] from the top and sides of the dust cover [2] as shown below (see figure 10).

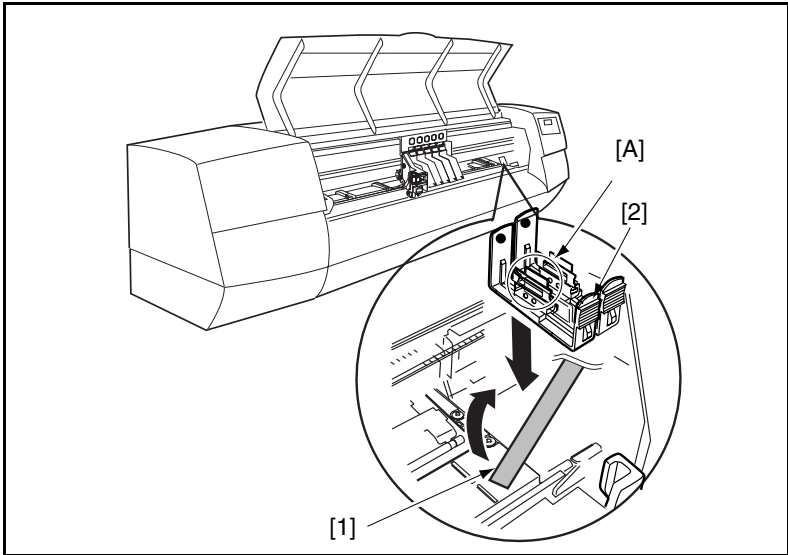


[10] Unsealing the dust cover



To install the cleaner blade

- 1 Peel off the wrapping tape [1] from the cleaner blade [A].
- 2 Hold the tab [2] of the cleaner blades, and fit them to the printer from the inner side (see figure 11).



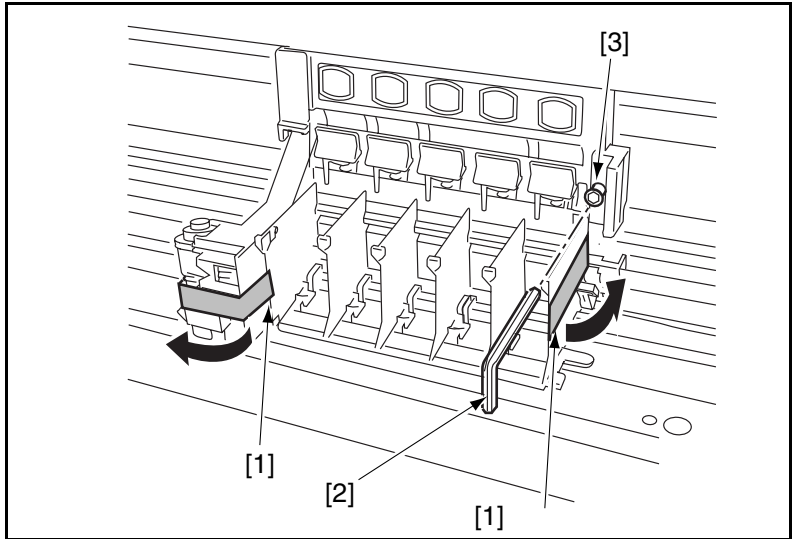
[11] Installing the cleaner blade

Caution: Do not touch the blade [A] of the cleaner blades with your hand.



To remove the carriage locking screw

- 1 Peel off the wrapping tape [1] as shown below.
- 2 Use the installation tool [2] to remove the carriage locking screw [3] (see figure 12).



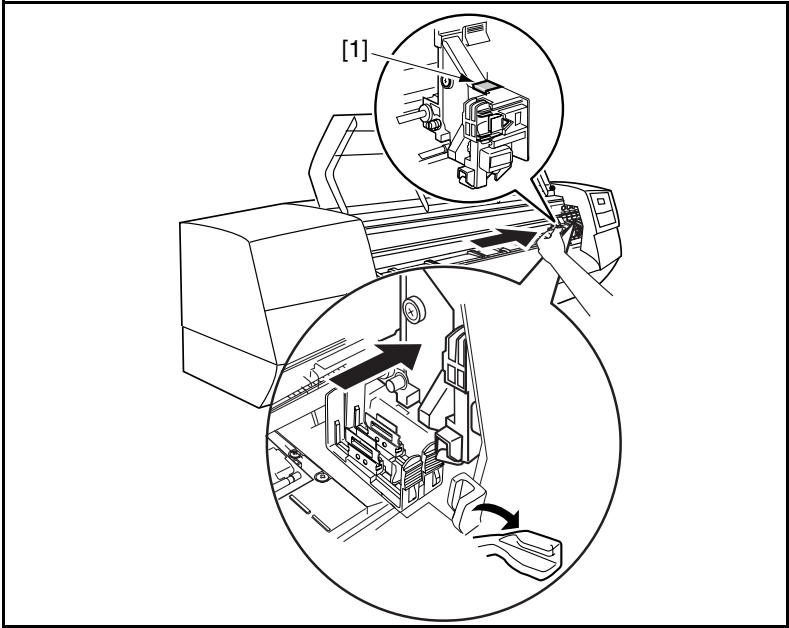
[12] Removing the carriage locking screw

Note: Save the installation tool [2] and the carriage locking screw [3], you will need them whenever you need to transport the printer.



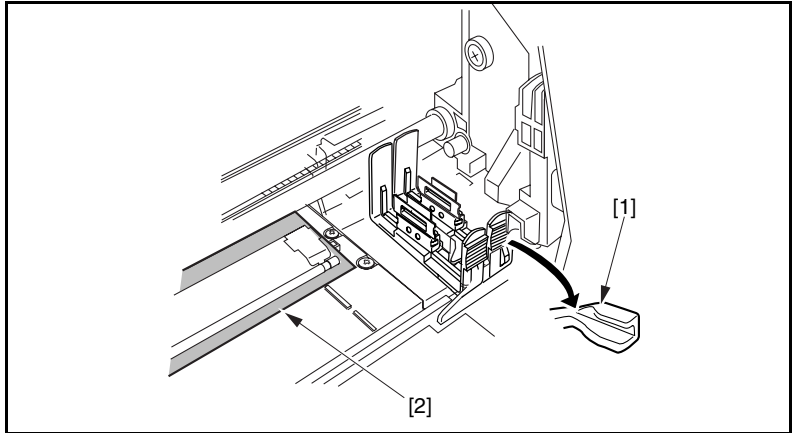
To remove the protection from the pinch rollers

- 1 Grip the green label [1], and gently push the carriage completely to the right until it comes to rest, as shown below (see figure 13).



[13] Moving the carriage

- 2 Lower the green lever [1] (see figure 14).
- 3 Remove the protection [2] underneath the pinch rollers.



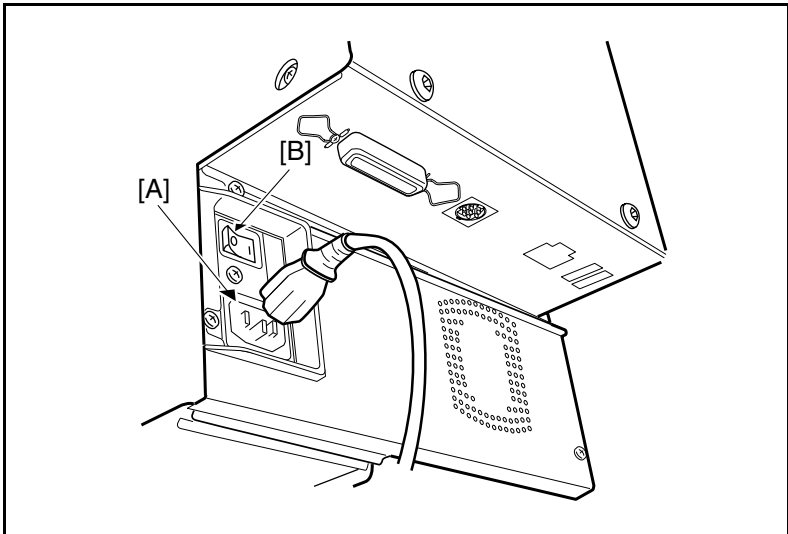
[14] Removing the protective sheet

- 4 Raise the green lever and close the dust cover gently.

Plugging in and switching on the printer

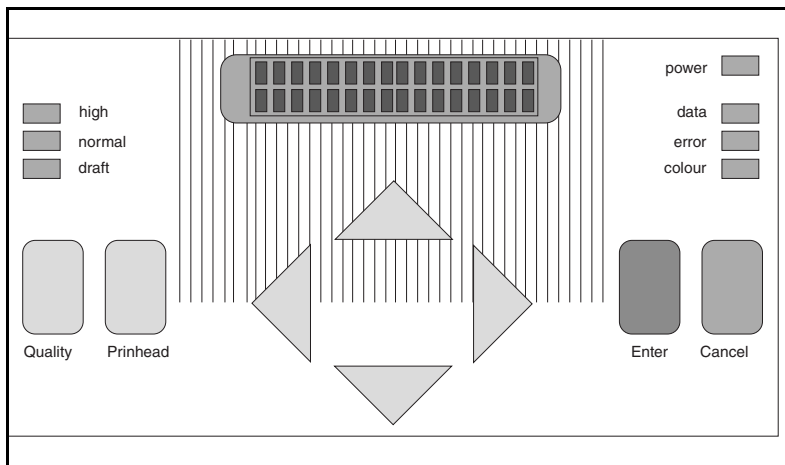
▼ To switch on the printer

- 1 Connect the power cord to the socket on the printer (**A**).
- 2 Plug it into an electrical outlet.
- 3 Set the I/O power switch (**B**) to **I** to switch on the printer. The printer performs the initialization sequence.



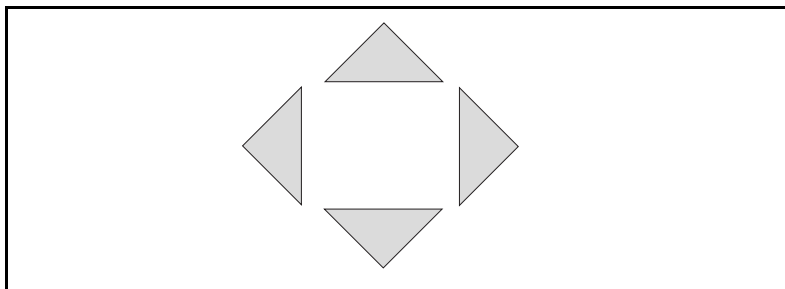
[15] Switching on the printer

Using the control panel



[16] Control panel

Menu direction arrows



- The down arrow allows you to enter the menu, and to go down the menu levels.
- The up arrow allows you to move up the menu levels.
- The left and right arrows allow you to move horizontally to select a menu option.
- The right arrow increases the numeric value of a setting, while the left arrow decreases the numeric value.

Keys

Enter Press this key to validate selected options from the menu. You can also press this key to feed and cut media when the printer is idle.

Printhead Press this key to move the carriage out of the purge station, and to the correct position for the installation of print heads and ink tanks.

Quality Press this key to select the print quality mode: Draft, Normal, and High. The LEDs just above indicate the selected quality mode.

Cancel Press this key to cancel immediately the current print job, while the printer is printing. If you press this key during data transmission, it does not cancel the print job.

Leds (light emitting diodes)

Power Indicates when the printer is plugged in and switched on.

Data Flashes when the printer is processing data coming from the computer.

Error Red indicates when the printer detects an error. The control panel displays an error or warning message.

Colour Indicates that the printer is set to print in full colour mode. This LED does not light when the printer is set to print in monochrome mode.

Message display window

A two-line message display window shows the menu options, and the status or error messages. The control panel messages are designed to be self-explanatory.

- The first line gives the status of the printer
- The second line explains how to proceed
- Example:

HEAD MISSING
PRESS ENTER TO INSTALL HEAD

Note: See chapter 8, 'Troubleshooting' on page 135 for a list of status messages and error messages.

Using the printer menu

The printer menu has an arborescent structure. It contains different menu levels, each with different options available. You navigate up and down, and across the levels to reach the desired option. Refer to the 'Quick Reference Card' (User Documentation CD) for the complete menu tree.

Note: You can also print the complete menu tree directly from the printer. For more details, refer to section 'Printing the menu tree' on page 51.



To make a selection from the printer menu

- 1 Press the 'down' arrow on the control panel once, to enter the menu.
- 2 Using the arrows, follow the 'Quick Reference Card' to navigate through the menu, until the desired option displays.
- 3 Press 'enter' to select the option.

Note: An asterisk precedes the selected option. It remains to indicate that the selected option is active, until you select another one.

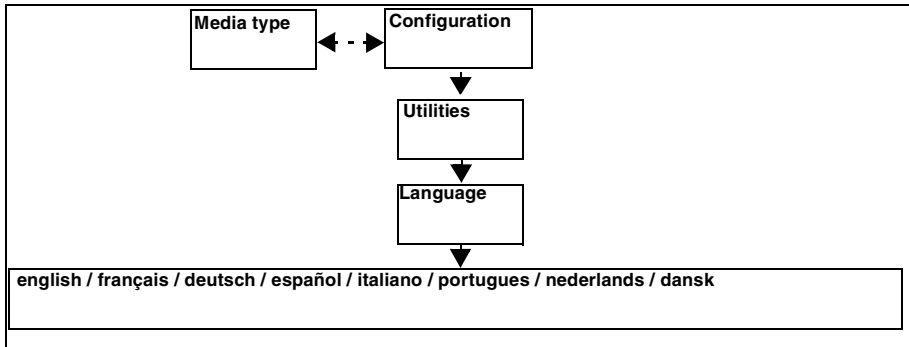
Note: When you reach the end of a menu branch and there are no more options, the message 'ENTER CHOICE' appears for two seconds.

Using the flowchart (menu tree) instructions

The flowcharts used in this guide show you the path to follow on the control panel, when you select and change options.

▼ To follow the flowchart

- 1 The path is highlighted in bold type. Press the 'down' arrow once to go to the lower level. The dotted arrows mean that you must scroll in the direction indicated to reach the option highlighted in bold type.
- 2 The level with the desired options displays the available choices .
The example below shows how to select the display language:

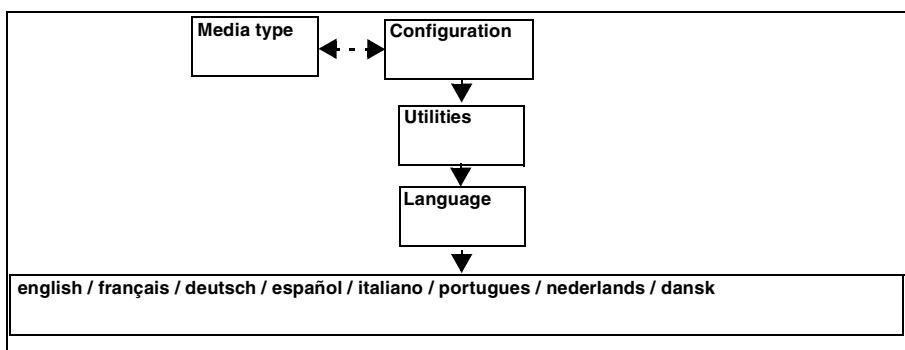


Selecting the display language

You can choose to have the control panel display messages in the language of your choice. When your printer is delivered, the messages will be, by default, in English.

▼ To select a language to display the messages

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to the language option.
- 3 Select the language.
- 4 Press 'enter'.



Connecting the printer

Here are the steps in the connection sequence:

- Connect the appropriate cable to the computer and the printer
- Install and configure the appropriate drivers (see the driver installation instructions)
- Consult the driver installation manuals and your software application manuals to set the necessary connection parameters
- Set the printer connection parameters using the printer control panel.

To connect your printer to your computer. See chapter 9, 'Connection of the Océ 5250' on page 151.

Chapter 2

Getting started

- *Installing the print heads and ink tanks*
- *Loading the media*
- *Printing the menu tree*
- *Making the print settings*
- *Making your first print*



Installing the print heads and ink tanks

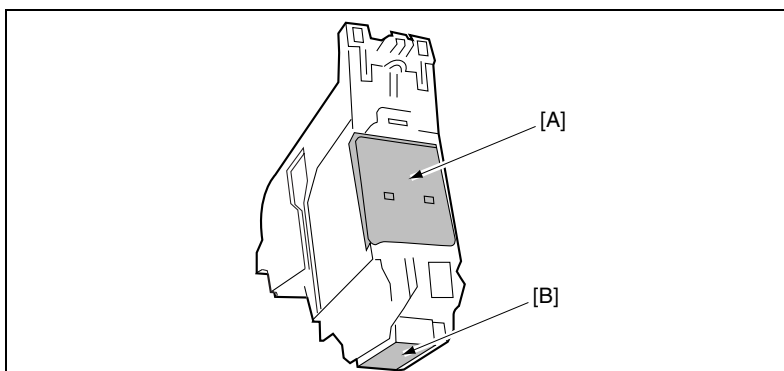
The Océ 5250 printer uses five Océ disposable print heads. You fit the ink tanks to the corresponding print heads. To order new print heads and ink tanks, consult the Océ supplies catalog or contact your local Océ representative.

About print heads

Print heads are available in four colours: black, cyan, magenta and yellow.

Take the following precautions when handling Océ print heads:

- Do not touch the contact area (**A**) of the print head.
- Do not touch the nozzle area (**B**) of the print head, to avoid damage.



[17] Océ 5250 print head

Visit www.oce.com for supplies.

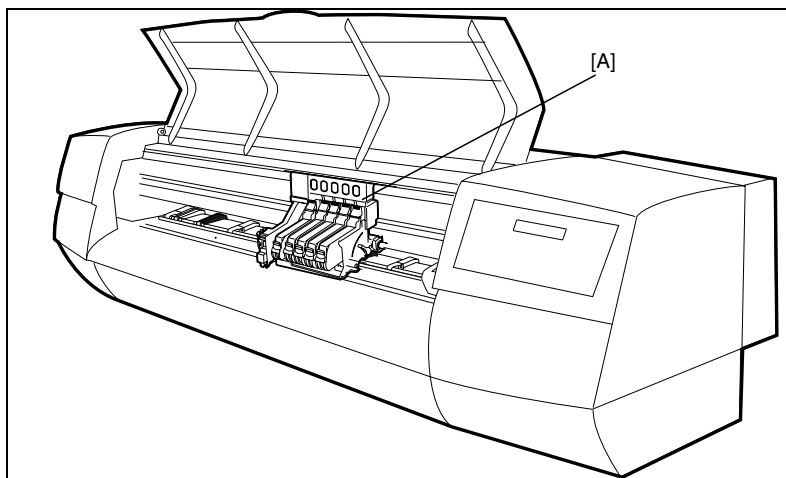
Preparing to install the print heads

▼ **To prepare for the installation of the print heads**

- 1 Turn the power switch of the printer to 'on'.
- 2 After the initialisation sequence, the message below appears on the display.

**HEAD MISSING
PRESS PRINthead KEY TO INSTALL HEAD**

- 3 Press the 'printhead' key to move the carriage (A) out of the purge station.
- 4 Open the dust cover.



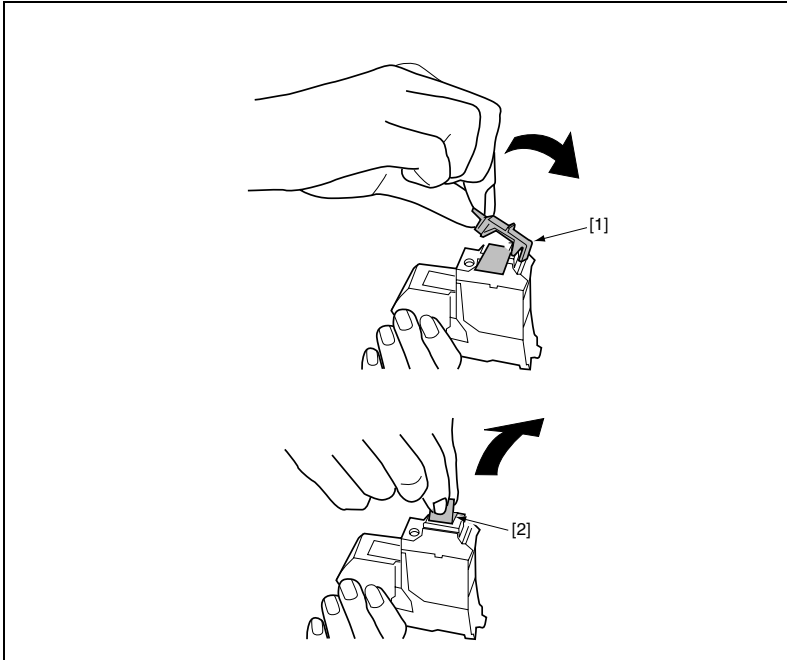
[18] Carriage position for print head installation (with print heads in place)

Caution: *Do not change the position of the carriage manually.*

Unpacking and installing the print head

▼ To unpack the print head

- 1 Remove the print head from its protective wrapping.
- 2 Remove the orange protection cap [1] attached to the head and peel off the protection tape [2] (see figure 19).

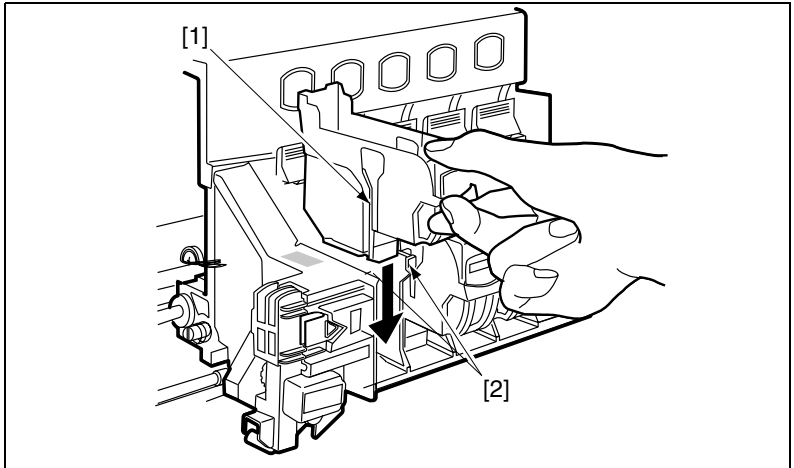


[19] Unpacking the print heads



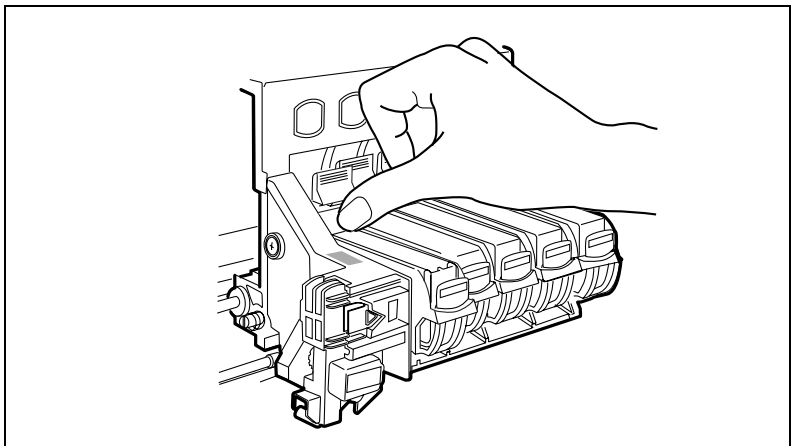
To fit the print head into the carriage

- 1 Match the grooves [1] of the print head to the projections on the carriage [2].
- 2 Fit the print head into the carriage (see figure 20).



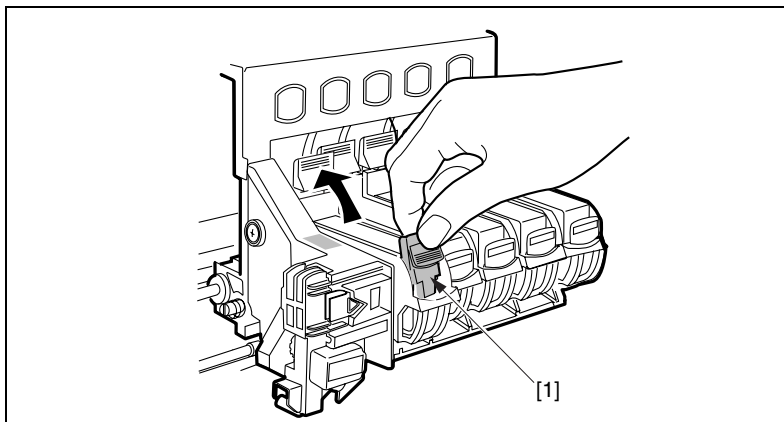
[20] Inserting the print head

- 3 Push the print head into position, as shown below, to fix it to the carriage. Push it until the print head clicks in place (see figure 21).



[21] Fixing the print head to the carriage

- 4 Remove the orange plastic protection [1] on the inside of the print head, as shown below (see figure 22).



[22] Removing the orange plastic protection

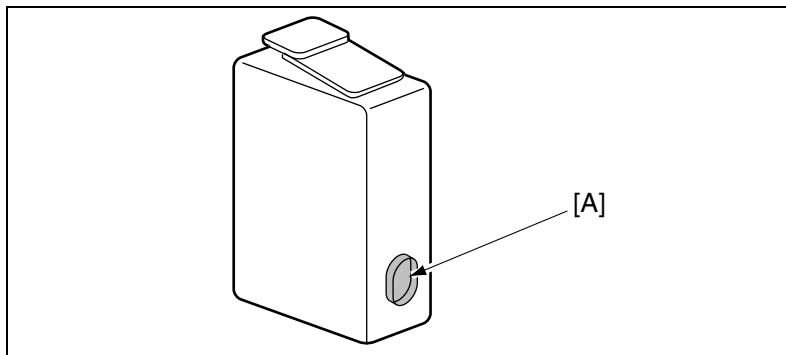
Caution: *Print heads for each colour fit into a specified position on the carriage. Check that the print head colours correspond to their carriage position.*

Print head convention

- **K**___: First Black tank (Left)
- **_K**___: Second black tank
- **_C**___: Cyan tank
- **__M**_: Magenta tank
- **___Y**: Yellow tank

Installing the ink tank

- Always install the ink tanks with the carriage in the installation position (away from the purge station).
- Do not touch the opening (A) of the ink tank (see figure 23). The ink may stain your hand. Any dust deposit at the opening may prevent clear print.
- Do not drop or shake the ink tank, as the ink may leak out.

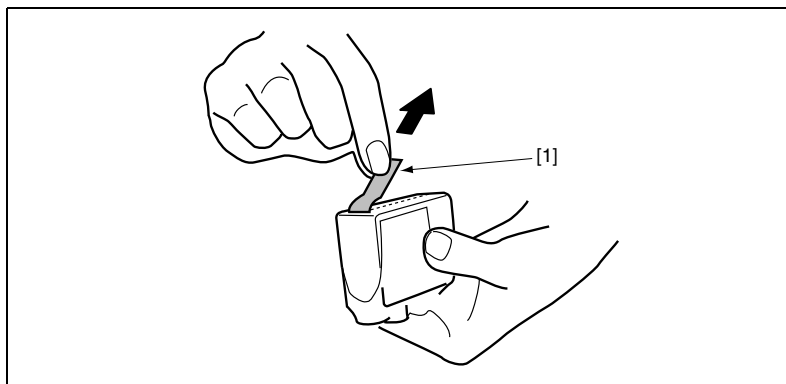


[23] The ink tank



To remove the protection

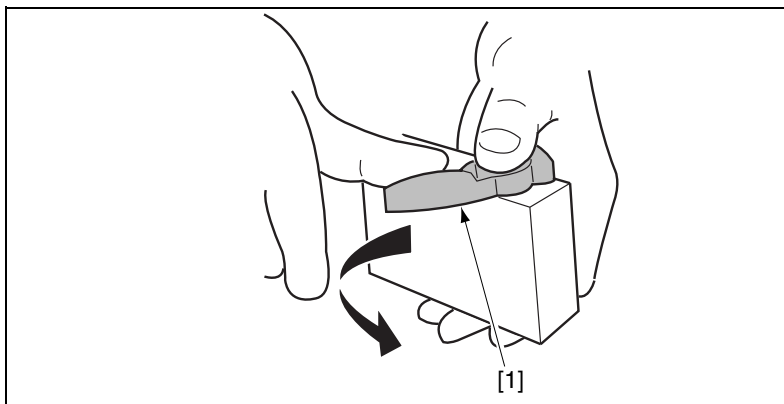
- 1 Remove the ink tank from the box and wrapping.
- 2 Pull the orange tape [1] to unseal the ink tank, by tearing off the tape along the perforation (see figure 24).



[24] Unsealing the ink tank

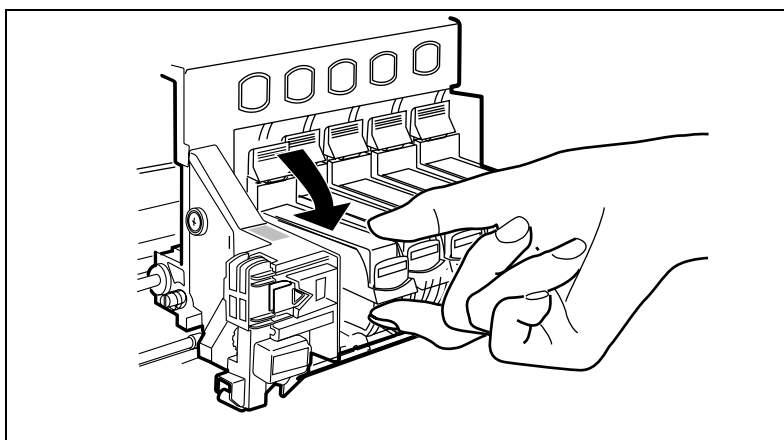
- 3 Remove the orange protection cap [1] from the opening by turning it slowly counterclockwise (see figure 25).

Caution: *Install the unsealed ink tank immediately to the print head, to prevent the ink from drying out.*



[25] Removing the orange protection cap

- ▼ **To install the ink tank**
- 1 Hold the ink tank between your thumb and index finger. With the opening facing downward, fit the ink tank to the print head.
 - 2 Press until it clicks firmly into place (see figure 26). Do not press the ink tank downward, to avoid damage to the print head.



[26] Installing the ink tank to the print head

- 3 Close the dust cover gently. The carriage moves to the purge station.

Caution: *Match the ink tank colour to the corresponding print head colour.*

Caution: *If you do not install the ink tank properly, the ink cannot reach the print head.*

Monitoring ink levels

The Océ 5250 checks the amount of ink left in each ink tank installed on the printer before starting a new print, and displays the following messages on the control panel:

Ink low You will need to change the ink tank soon.

Out of ink Informs you that the ink tank is empty. The printer will not print, until you have replaced the empty tank.

Replacing the ink tank

When ink tank is empty, as specified on the control panel by the message ‘Out of ink’, the printer stops printing.

The procedure is the same as for installing the ink tank (see ‘Installing the print heads and ink tanks’ on page 34).

Selecting a media mode

The machine uses cut sheet or roll media. Select a media mode on the control panel before you load the media. To order media adapted for Océ inkjet printers, consult your Océ supplies catalog, or contact your Océ representative.

There are three media mode settings:

Cut sheet uses a single sheet, to print only one print.

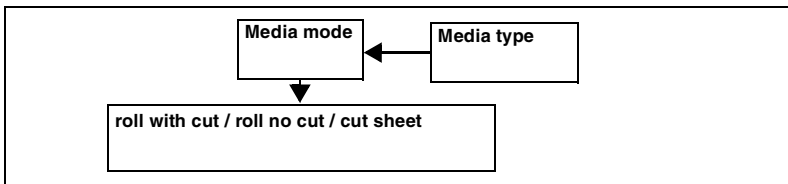
Roll with cut The printer automatically cuts off the finished print, and loads media for the next print. The cut prints drop into the collection basket.

Roll no cut The printer prints a dotted line to mark the end of each print, then advances a length of media to print the next print.



To select a media mode

- 1 On the control panel, scroll to the desired option using the arrows.
- 2 Press 'enter'.



Caution: *When replacing or loading media, or when removing jammed media, take care not to cut your fingers on the edges of the media.*

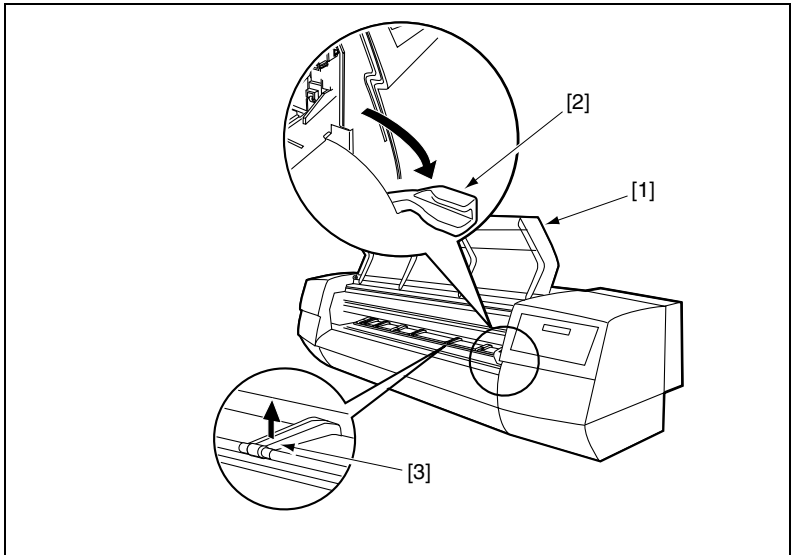
Loading roll media

The printer is ready for you to install media when the display reads:

**NO MEDIA
INSTALL MEDIA**

▼ **To raise the pinch rollers**

- 1 Open the dust cover [1].
- 2 Push down the green lever [2] to raise the pinch rollers [3] (see figure 27).



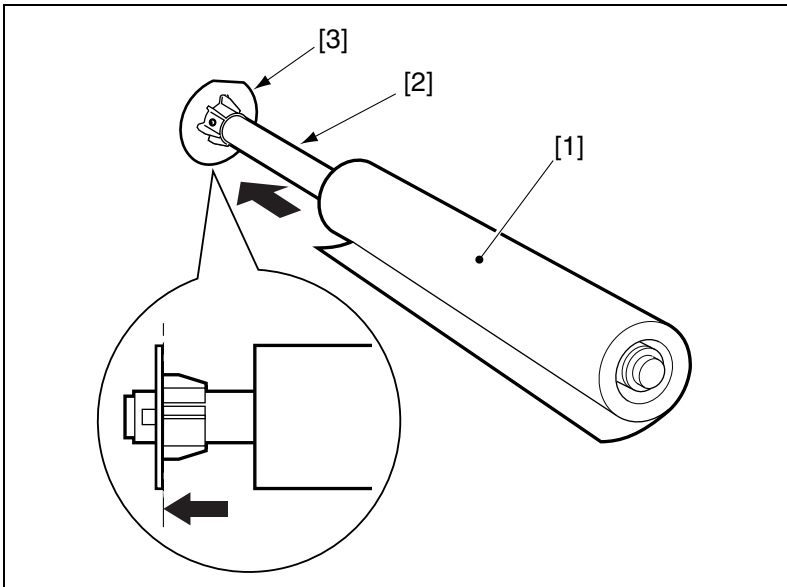
[27] Raising the pinch rollers

Visit www.oce.com for supplies.



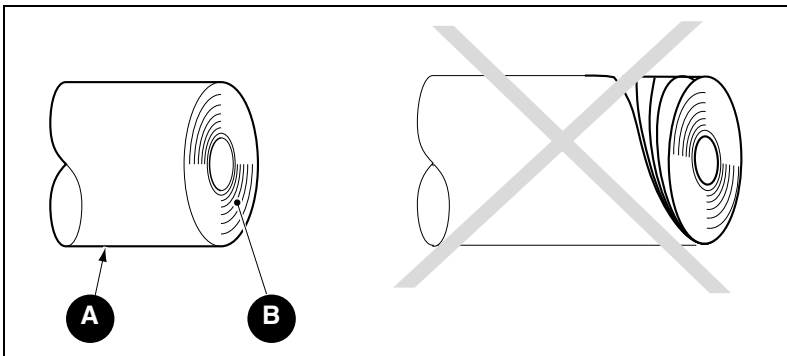
To insert the media roll into the holder

- 1 Insert the media roll [1] into the roll holder [2] as shown in figure 28.
- 2 Insert the media roll until it comes to rest against the fixed hub [3].



[28] Placing the roll media on the roll holder

Note: Ensure that the ends of the media roll form a straight edge, as shown in figure 29.



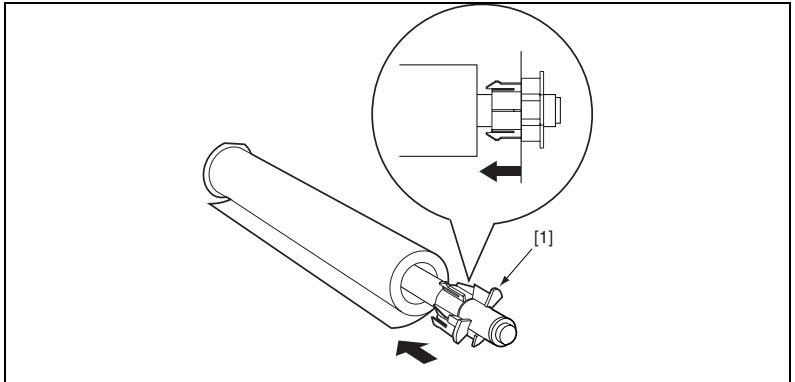
[29] Media roll edges

- Media roll (A)
- Media roll edges (B)



To fix the media roll in the holder

- Insert the hub [1] into the roll core until it fixes the roll media in place (see figure 30).

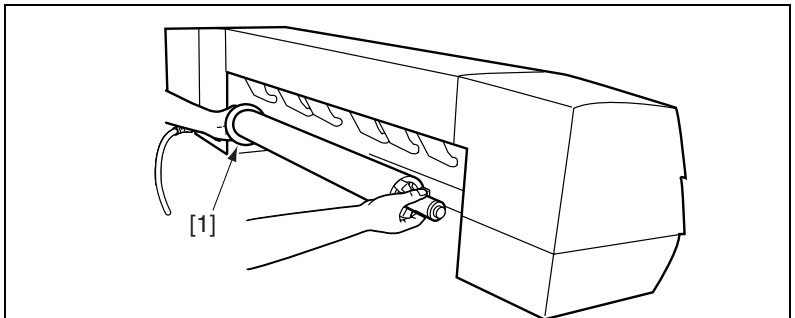


[30] Inserting the hub



To install the media holder

- Position the fixed hub [1] of the roll holder on the left side (viewed from the rear), and slide the roll holder onto the printer (see figure 31).

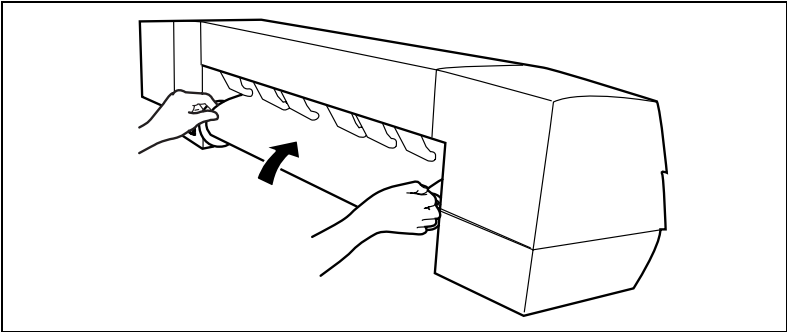


[31] Installing the roll holder



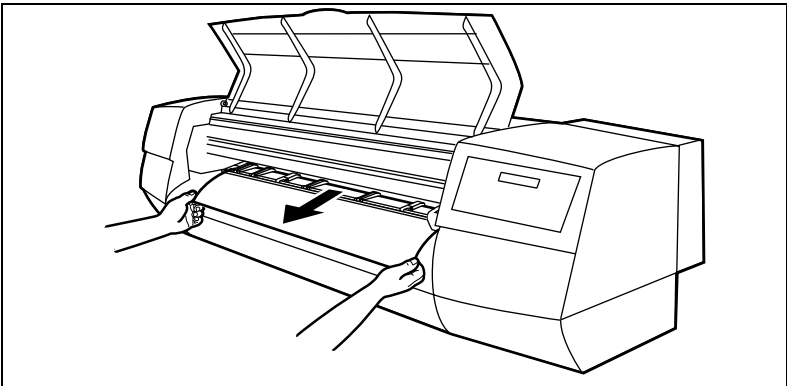
To feed the media

- 1 Pull out about 20 cm of media, holding the right and left corners.
- 2 Feed the media onto the platen from the rear of the printer (see figure 32). The suction mechanism activates to hold the media to the platen.



[32] Feeding the media

- 3 At the front of the printer, hold the media by its leading edges and pull it gently forward (see figure 33).



[33] Pulling the media forward

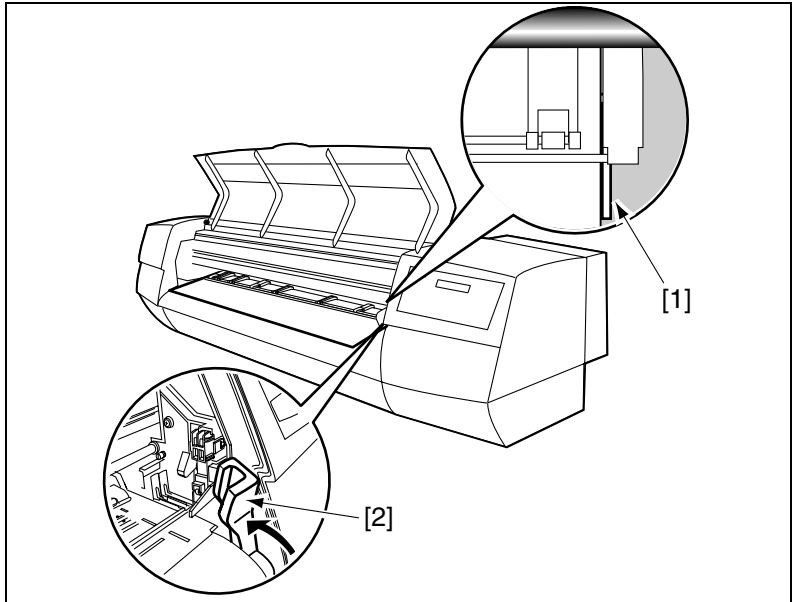


To align the media

- 1 Adjust the media so that its right edge flushes with the vertical reference mark [1] (see figure 34).
- 2 Raise the green lever [2] to fix the media.
- 3 Close the dust cover. The displays reads:

**NO MEDIA
PRESS ENTER TO INSTALL MEDIA**

- 4 Set the media mode to 'roll' (see chapter , 'Setting the media format' on page 56).
- 5 Press 'enter'. The printer detects and loads the media. When the media aligns correctly, the display reads 'ready'.



[34] Fixing the roll media

Note: If the media is not correctly aligned the control panel display reads:

**MEDIA MISALIGNED
REALIGN MEDIA AND PRESS ENTER**

Note: Follow the instructions in the previous section, to align the media correctly.

Choosing the media type

Before you start to print, you have to specify the type of media loaded, so that the printer can adjust internal print quality parameters. After you install a new media, the media type options display:

```
..SET MEDIA TYPE..  
< COATED PAPER >
```

- ▼ **To select the media type**
- 1 On the control panel, use the left and right arrows on the control panel to scroll to the type of media loaded on the printer.
 - 2 Press 'enter'. An asterisk appears in front of the chosen media type.
You are now ready to print.

Loading cut sheet media

The printer is ready for you to install media when the display reads:

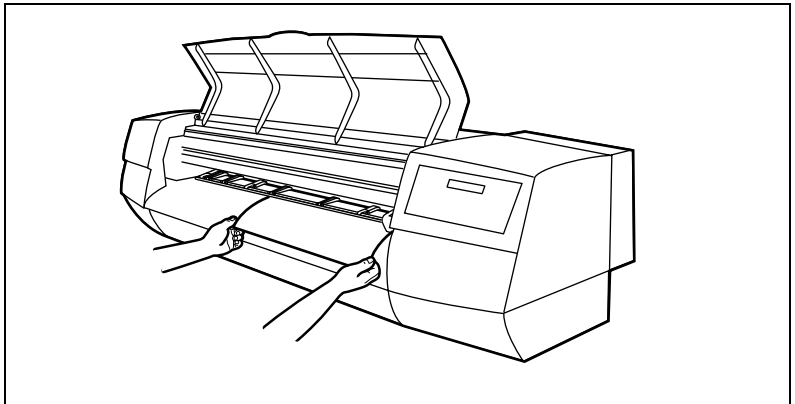
**NO MEDIA
INSTALL MEDIA**

Note: Avoid using cut sheets smaller than A3 size.



To install the cut sheet media

- 1 Open the dust cover.
- 2 Push down the green lever to raise the pinch rollers.
- 3 Insert the cut sheet under the pinch roller, as shown below, with the printing surface facing upward (see figure 35). The suction system activates.

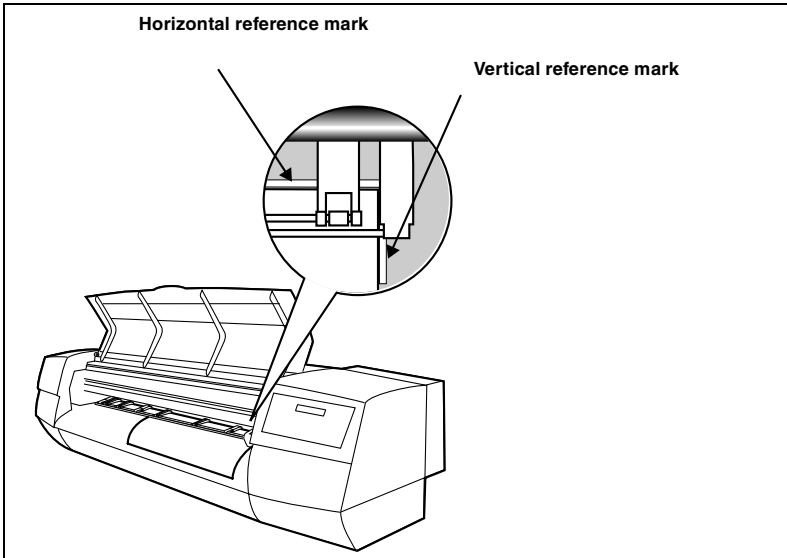


[35] Inserting cut sheet media



To align the cut sheet media

- 1 Adjust the media so that its edges flush with the vertical and horizontal reference marks.
- 2 Raise the green lever to fix the media (see figure 34).



[36] Aligning the cut sheet media

- 3 Close the dust cover. The displays reads:



- 4 Set the media mode to 'cut sheet' (see chapter , 'Selecting a media mode' on page 42).
- 5 Press 'enter'. The printer detects and loads the media. When the media aligns correctly, the display reads 'ready'.

Note: *If the media is not correctly aligned the control panel display reads:*



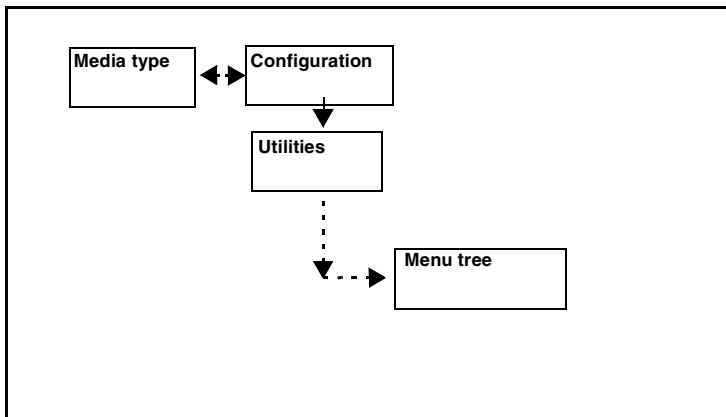
Note: *Follow the instructions in the previous section, to align the media correctly.*

Printing the menu tree

Print out the complete menu tree to identify the path to follow for a specific menu.

▼ **To print the menu tree**

- 1 Check that you have loaded the media and that the 5250 is ready to print.
- 2 Press the 'down' arrow once to enter the menu.
- 3 Select 'Configuration', then 'Utilities'.
- 4 In the 'Utilities' menu, then 'Menu tree'.
- 5 Press 'enter' to print.



Cancelling a print in progress

▼ **To cancel a print in progress**

- 1 Press the 'cancel' key on the control panel.
- 2 Press 'enter' to confirm.

Note: *If you press 'Cancel' during data transmission, it does not cancel the print job. Wait for the display to read 'Printing' before you press this key to cancel the print.*

Setting the colour mode

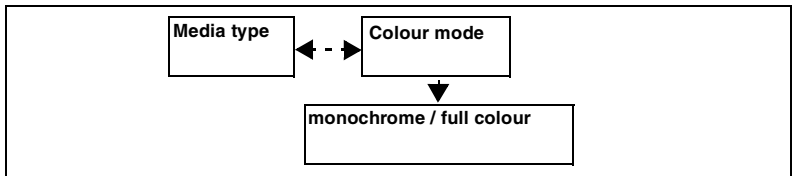
The Océ 5250 printer prints in two colour modes:

Monochrome prints monochrome files in black and white, and colour files in greyscale.

Full colour prints monochrome files in black and white, and colour files in colour.

▼ **To set the colour mode**

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'colour mode'.
- 3 Select the colour mode. If you select 'full colour', the 'colour' led on the printer control panel lights.
- 4 Press 'enter'.



Setting the print quality

The Océ 5250 printer has three print quality modes.

Draft is suitable for fast, check prints.

Normal is suitable for standard quality prints.

High is suitable for high quality prints of drawings with area fills.

The printer works out the optimal printing parameters for each of your prints by taking the following settings into consideration:

- Colour mode
- Print quality mode
- Media type

- ▼ **To set the print quality**
- Press the 'quality' key on the control panel to select the quality mode. The corresponding led lights.

Setting the number of printed copies

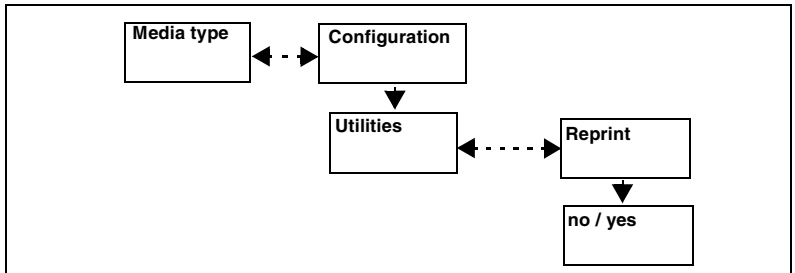
To reprint additional copies of a printed copy, you begin as follows:

- 1 Enable the 'reprint' feature.
- 2 Send the file to the printer for a first print.
- 3 Select the number of additional copies (0 - 99).

Note: *Since the 'Reprint' function only works with the print data stored in the printer's memory, you can only get additional copies of files that fit entirely on this printer's memory.*

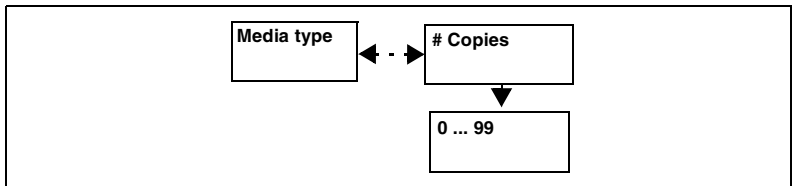
▼ To set the 'Reprint' option

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to 'reprint'.
- 3 Set the option to 'yes'.
- 4 Press 'enter'.



▼ To set the number of copies

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to '# copies'.
- 3 Set the number of copies.
- 4 Press 'enter'.



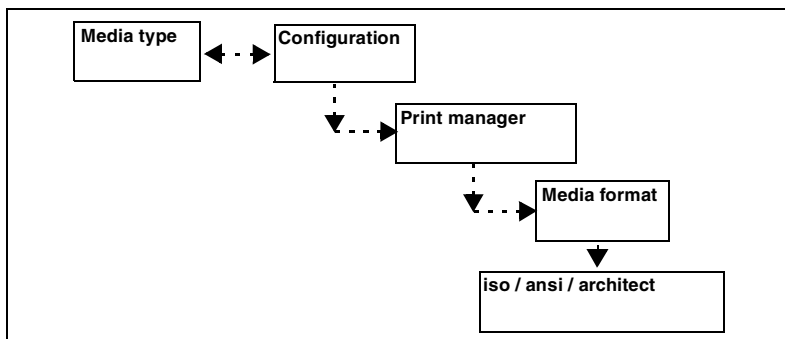
Note: *The option '# COPIES' appears only when you activate the Reprint menu.*

Setting the media format

The Océ 5250 'Print manager' works with three standard media formats : ISO, ANSI, or ARCHITECT.

▼ **To set the media format**

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to 'media format'.
- 3 Set the media format.
- 4 Press 'enter'.



Chapter 3

Print management

- *Using the basic printer features*
- *Using the 'media saver' option*
- *Defining the pen parameters*
- *Defining the pen priority*



Rotating a print

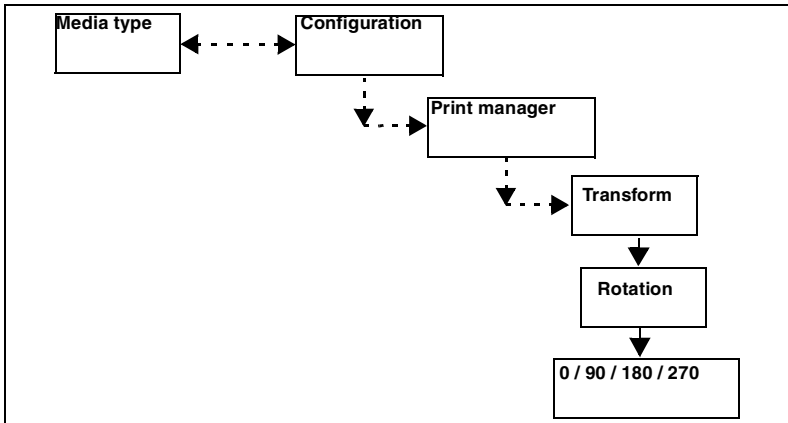
You can rotate a print 0°, 90°, 180° and 270°. If necessary, the origin of the drawing changes automatically to prevent clipping.

Note: *Rotation applies only with vector files.*



To rotate a print

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'rotation'.
- 3 Select the rotation angle.
- 4 Press 'enter'.

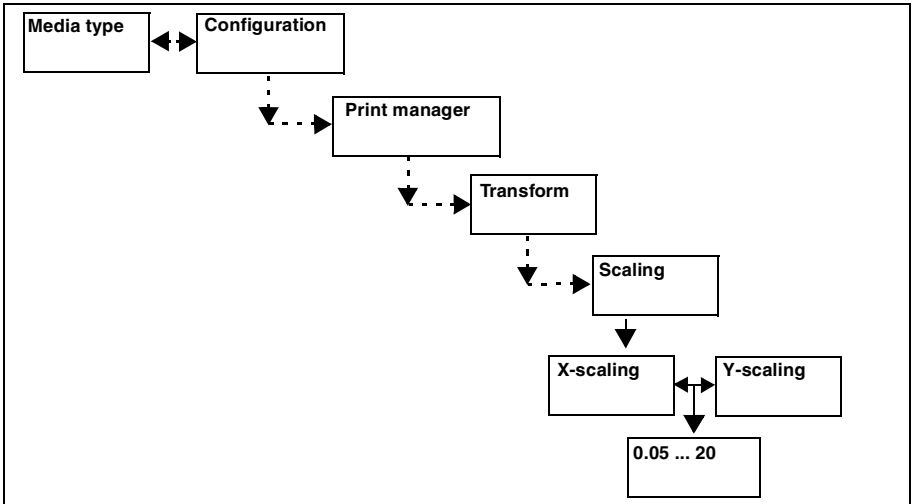


Scaling a print

You can set the scaling for the X- and Y axes separately, to a factor between 0.05 and 20.0.

▼ To scale a print

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'scaling'.
- 3 Select the scaling method.
- 4 Press 'enter'.



Note: The control panel can set an accuracy factor of two decimal places. For higher accuracy, set the X and Y scaling factor to four decimal places, from the printing application.

Autoscaling

Autoscaling enlarges or reduces proportionally your drawing to fit the media size or format.

Note: *Autoscaling applies only with vector files.*

You have the following autoscaling options, depending on the selected media mode (roll or cut sheet) and format standard (ISO, ANSI or Architect):

Off The printer clips the area outside the margins, if your drawing is larger than the physical dimensions of the media.

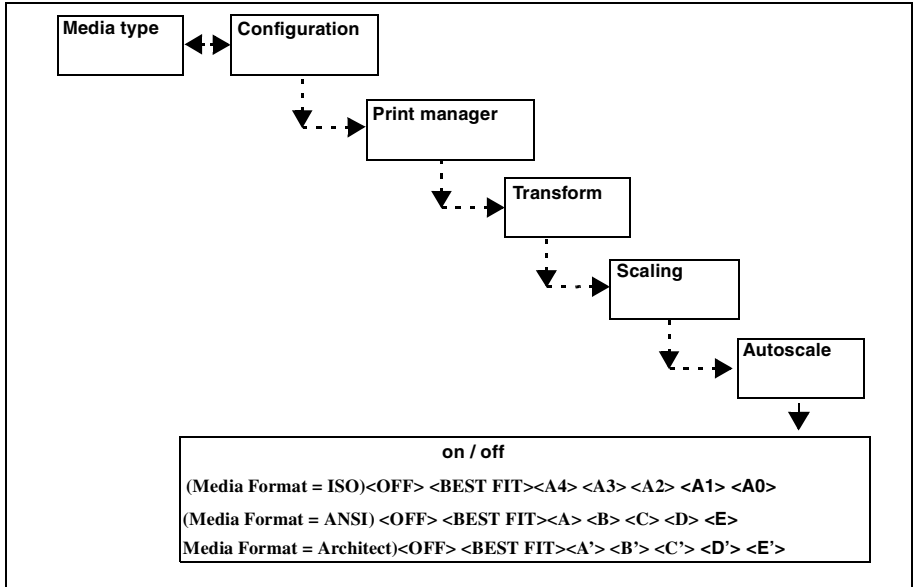
On (Cut sheet) The printer enlarges or reduces the drawing, and rotates it 90°, if necessary, to fit the cut sheet media loaded.

Best fit (Roll media) For prints larger than the loaded media, the printer reduces the drawing to the nearest standard size that fits. It also rotates the drawing 90°, if necessary. You can select any format for a given standard (ISO, ANSI or Architect).

- ISO: A4, A3, A2, A1, A0
- ANSI: A, B, C, D, E
- Architect: A', B', C', D', E'

▼ **To set autoscaling**

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'auto scale'.
 - For cut sheets: set to 'on'.
 - For roll media: select the media format and size.
- 3 Press 'enter'.



Note: You can combine the rotation, mirroring, and autoscaling functions when you use roll media. Check that your autoscaling results match your rotation/mirroring expectations.

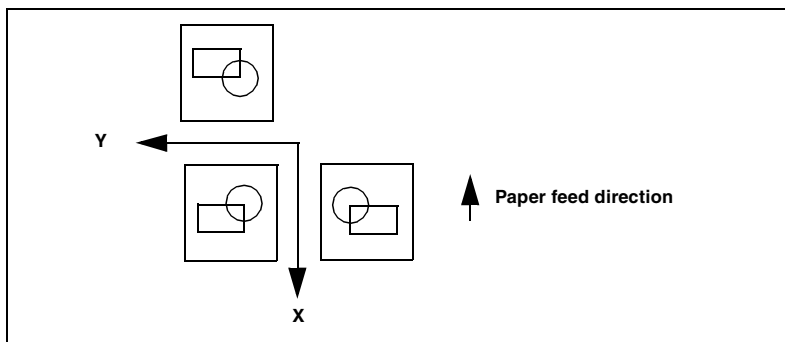
Mirroring a print

This function allows you to print a mirror image of the drawing. There are three options:

Off no symmetry (standard print)

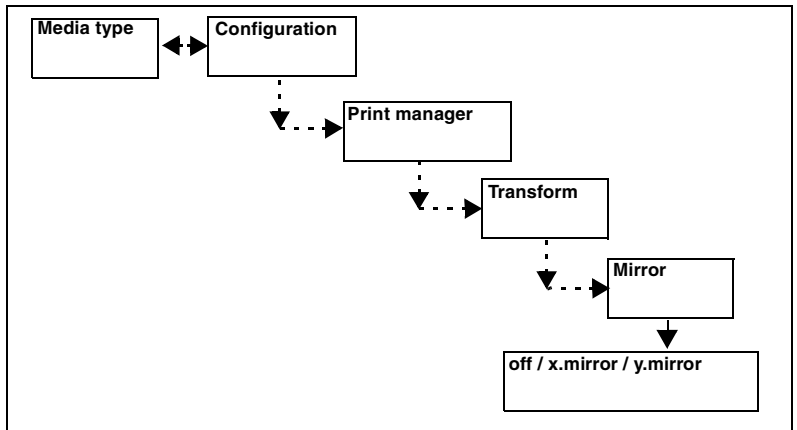
X Mirror symmetry across the X axis (horizontal flip)

Y Mirror symmetry across the Y axis (vertical flip)



▼ To mirror a print

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'mirror'.
- 3 Select the mirroring function.
- 4 Press 'enter'.



Saving media

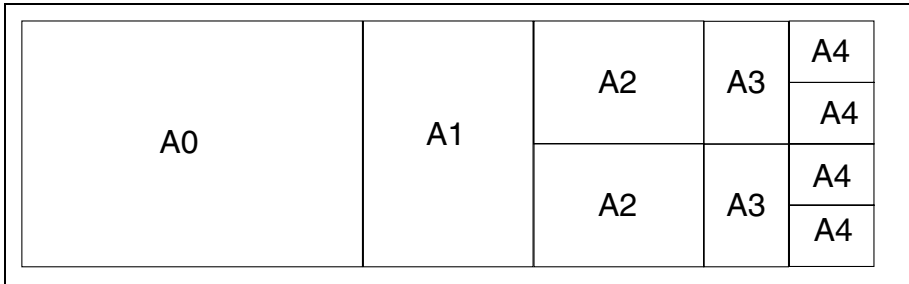
The media saver function is available when you use roll media. It has two options, 'autopositioning' and 'nesting'.

Note: *When you use cut sheet mode, the media saver menu is disabled.*

Nesting

Nesting arranges small drawings (A3, A4 for example) side by side across the media to optimise media use. Prints go from the computer to print queues according to their size.

For example, if 'media format' is set to ISO there are three separate wait files: one for A4 format drawings, one for A3 format drawings and one for A2 format drawings.



When a queue is full, the printer begins printing the drawings across the full width of the media. The number of drawings that a queue can accept depends on:

- the media format selected (ISO, ANSI, ARCHITECT)
- the width of the roll of media loaded on the printer
- the size of the drawing
- the orientation of the drawing

Note: *The A4 and A3 wait files may be merged to print two A4 and one A3 prints together.*

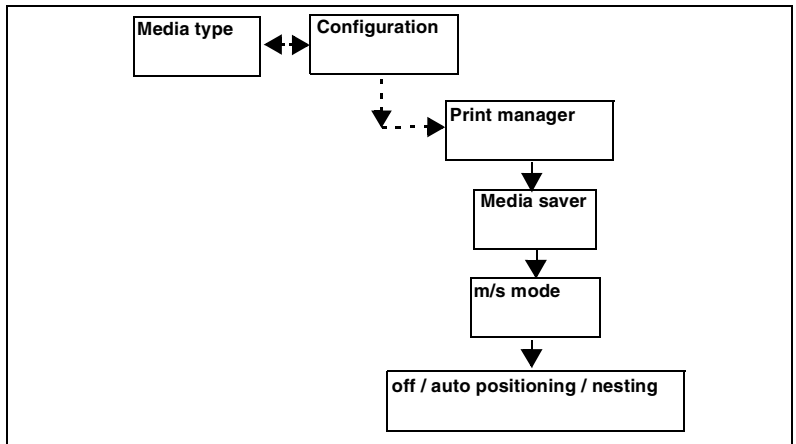
Prints larger than A2 do not go in a queue, but print out normally. When the prints are not ISO, ANSI or ARCHITECT standard sizes, the printer uses the next larger format.

Note: *Nesting applies only with vector files.*



To set the nesting mode

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'm/s mode'.
- 3 Select 'nesting'.
- 4 Press 'enter'.

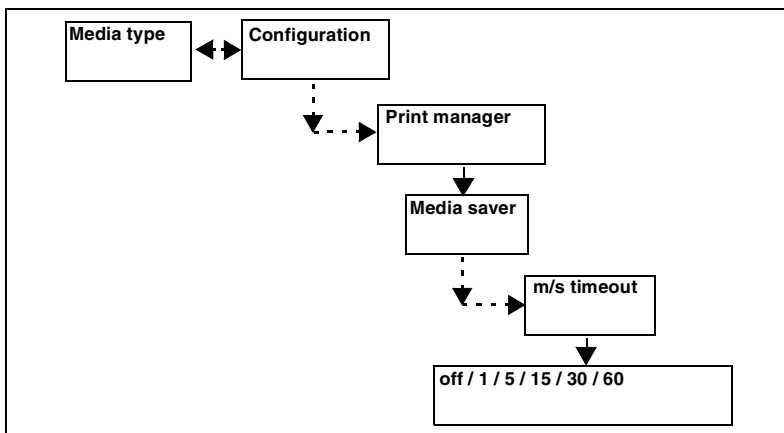


Setting the media saver timeout

This function enables you to set a timeout from 1 to 60 minutes for the print queues. At the end of the timeout, the printer begins to print the queues, even if they are not full.

▼ To set the media saver timeout

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'm/s timeout'.
- 3 Select the timeout delay. Press 'enter'.



Flushing the media saver queues

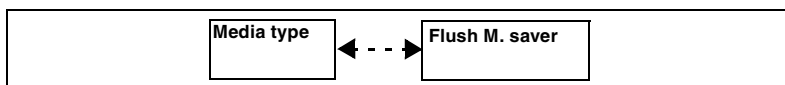
The printer automatically flushes (prints out immediately) media saver queues in the following conditions:

- At the end of media saver timeout
- At each change in quality, media saver mode, or rendering modes

You can also flush the print queues via the control panel, to print out immediately the partially full queues.

▼ **To flush the queues in media saver**

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'flush m. saver'.
- 3 Press 'enter'.



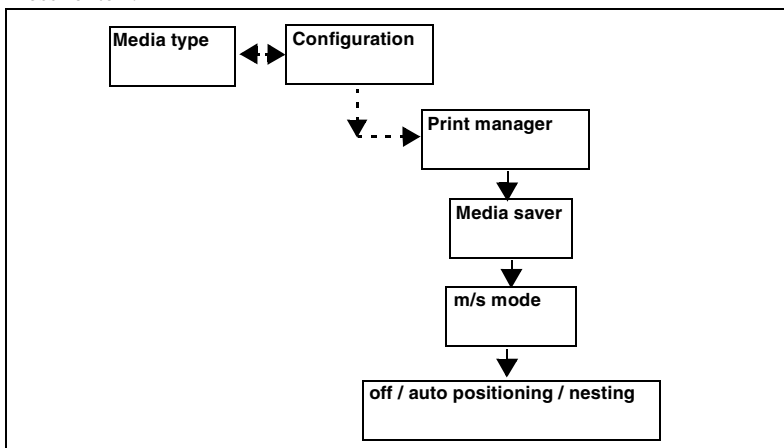
Autopositioning

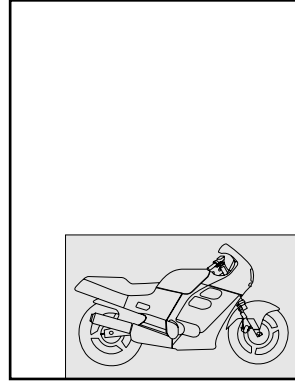
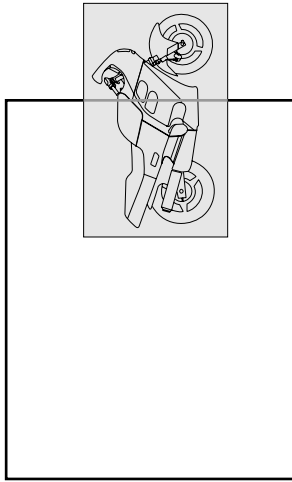
With this option, the printer ignores the origin declared in the print file. The print shifts to the lower right corner of the media. If necessary, the printer rotates the drawing 90°, to save media and limit clipping.

Note: *Auto position applies only with vector files.*

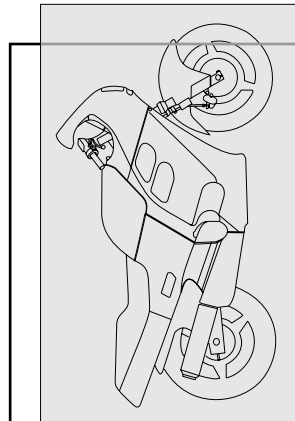
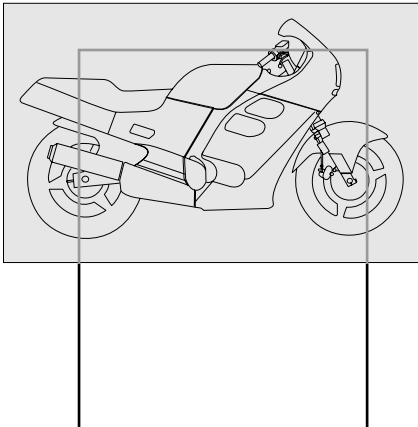
▼ To set autoposition

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'm/s mode'.
- 3 Select 'autopositioning'.
- 4 Press 'enter'.





Print is rotated and shifted to use less media



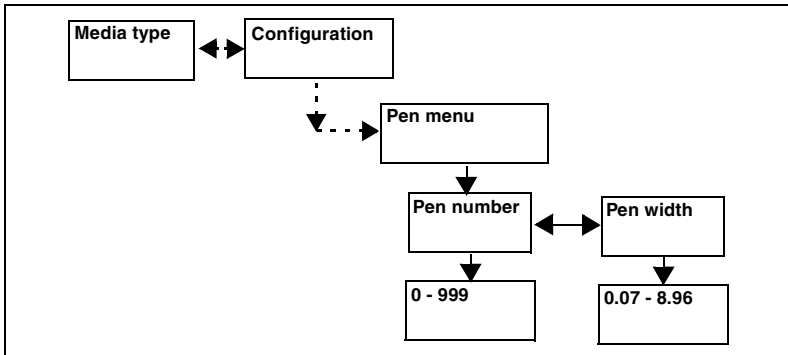
Print is rotated and shifted to reduce clipping

[37] Autopositioning

Defining the pen width

You control the thickness of the print lines by changing the pen widths. Pen widths are available from 0.07 to 8.96 mm (0.003 to 0.353 inches). By default, all pen widths are set to three pixels (0.21 mm). 1 pixel = 0.07 mm.

- ▼ **To set the line widths**
- 1 Press the 'down' arrow once to enter the menu.
 - 2 Follow the flowchart path to get to 'pen number' and press 'enter' to select the pen.
 - 3 Follow the flowchart path to get to 'pen width' and select the width. The values are in increments of 0.01.
 - 4 Press 'enter'.



Making a palette print

The palette option becomes available on the control panel, when you set the colour mode to 'full colour'.

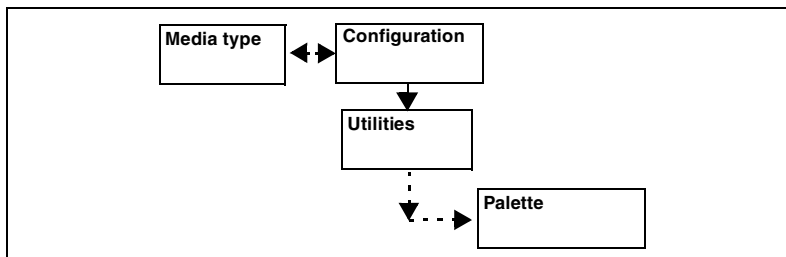
The colours you get on a printout of the colour palette depend on the setting of the HP-GL/2 pen priority setting. If HP-GL/2 pen priority is set to:

Language The palette print shows the full range of standard HP-GL/2 colours, including RGB information. It consists of 256 colour rectangles numbered 0 to 255. Use this printout to choose the colours in which to set your pens. For example, if a pen has colour 55, this pen prints out the same colour as the palette's rectangle number 55.

Setup The palette print shows the colours currently set for each pen. Use this printout as a reference for your current pen configuration.

▼ **To make a palette print**

- 1 Check that you have loaded the media, and that the printer is ready to print.
- 2 Press the 'down' arrow once to enter the menu.
- 3 Follow the flowchart path to get to 'palette'.
- 4 Press 'enter' to print.



Note: The printer always uses pen number 1 to print text. Hence, text colour is the colour you have assigned to pen number 1.

Note: The printer scales automatically the palette print to fit the dimensions of the loaded media or the format chosen on Autoscale menu.

Setting the pen colours and patterns

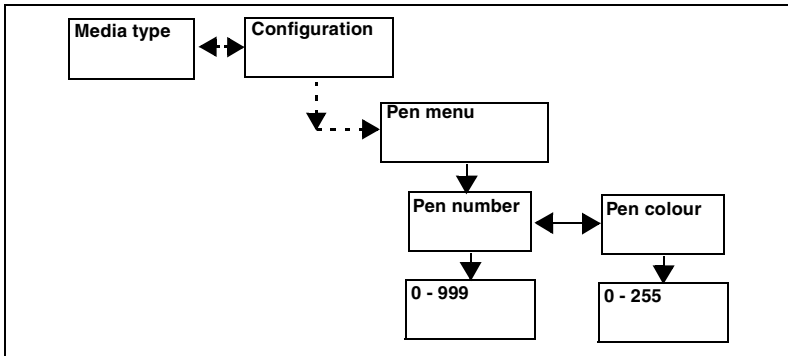
The pen colour menu becomes available on the control panel, when you set the colour mode to 'full colour'. When you set the colour mode to 'monochrome', the pen pattern menu becomes available.

Setting pen colours

You can set the 999 pens to any colour from the 256 in the Océ colour palette. Assign each pen a colour value from 0 to 255, to correspond to the Océ pen palette colours.

▼ **To set pen colours**

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'pen number' and press 'enter' to select the pen.
- 3 Follow the flowchart path to get to 'pen colour' and select the colour.
- 4 Press 'enter'.



Saving pen user configurations

The printer saves the pen colours that you assign to the first 16 pens, when you switch it off. Pens 17 to 999 revert to the factory settings each time you switch on the printer.

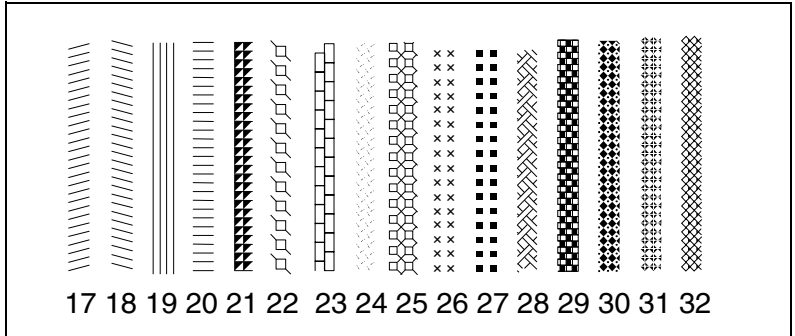
See 'Pen attributes' on page 182 for a list of the default pen settings.

Setting the pen patterns

In monochrome mode, you can set pens to draw a thick patterned line or a filled polygon.

Pens draw all lines or polygons using a predefined pattern or shade of grey.

- Pen patterns 1 to 16 print in increasing shades of grey (1 = white, 16 = black)
- Patterns 17 to 32 are as shown in figure 38.

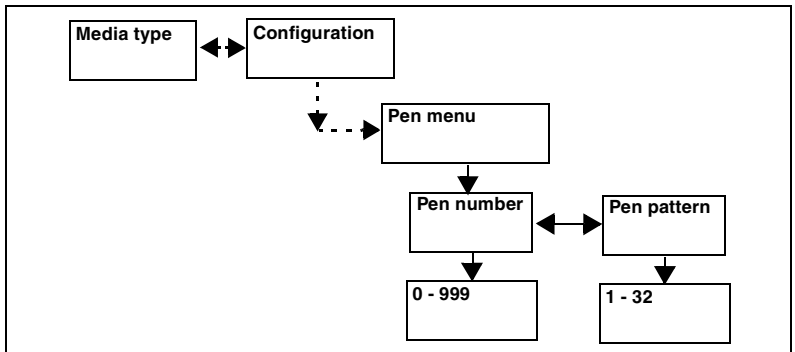


[38] Pen patterns

Note: Avoid using line widths of less than 0.5 mm with patterned lines.

▼ To set pen patterns

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'pen number' and press 'enter' to select the pen.
- 3 Follow the flowchart path to get to 'pen pattern' and select the pattern.
- 4 Press 'enter'.



Defining the pen priority

You can define pen parameters (width, colour and pattern) from within the printing application, from the printer control panel, or in a remote configuration file (RCF).

Use the pen priority option to define which pen parameters set you want to use.

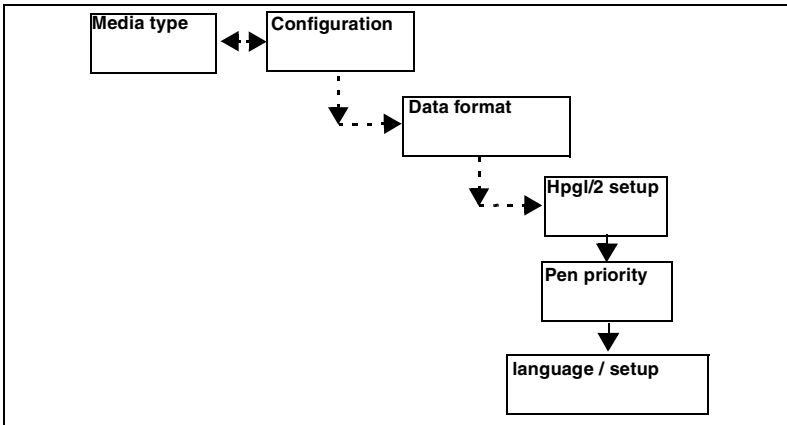
Language The printer uses the pen parameters defined in the print data file.

Setup The printer uses the pen parameters defined in the optional remote configuration file or on the printer control panel if no RCF is present.

The pen priority option is available for HP-GL/2 and CalComp data formats. The example given below is for HP-GL/2 pen priority.

▼ To define the pen priority

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'pen priority'.
- 3 Select 'language' or 'setup'.
- 4 Press 'enter'.



Chapter 4

Advanced functions

- *Setting the menu access level*
- *Calibrating the Océ 5250*
- *Rendering*
- *Upgrading the firmware*
- *Expanding the printer memory*

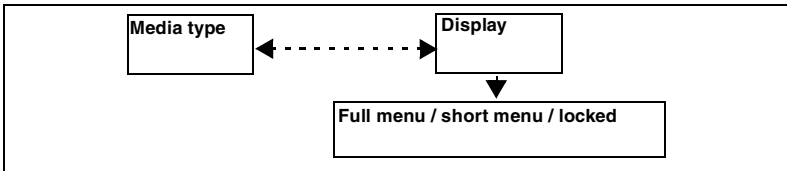


Setting the menu access level

When the printer operates in a work environment with users of different skill levels, you can set three access levels for the control panel menu. Passwords give authorized users access to the different levels. The full menu gives access to all the control panel functions.

▼ **To set the menu access level**

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'display'.
- 3 Select the access level.
- 4 Press 'enter'.



Locking the printer menu

The 'locked' menu option locks most of the printer menu. Only the following menus are accessible in locked mode:

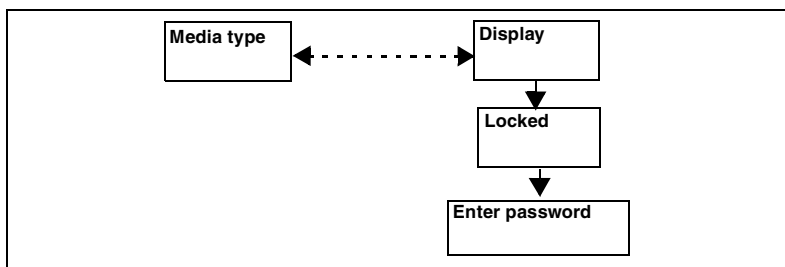
- clean head
- colour mode
- Flush m.saver
- display
- # copies (if 'reprint' is on)

To limit access to the printer menu, you enter a password as described below:



To lock the printer menu

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'enter password'.



- 3 Enter the password, by pressing successively the arrow keys below:



To unlock the menu

- Enter the 'short menu' or 'full menu' passwords, as applicable. See the procedures below to enter the appropriate password.

Setting the short menu

The 'short menu' option allows access only to the following menus:

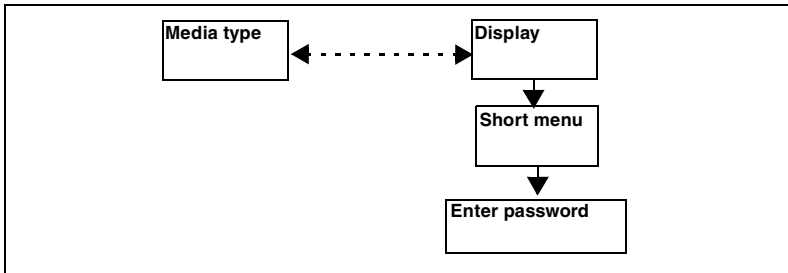
- media type
- clean head
- colour mode
- # copies (if 'reprint' is on)
- flush m. saver
- display

The 'short menu' does not give access to the configuration menu.

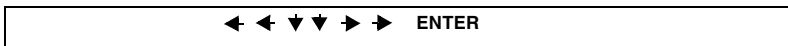


To set the short menu

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'enter password'.



- 3 Enter the password, by pressing successively the arrow keys below:

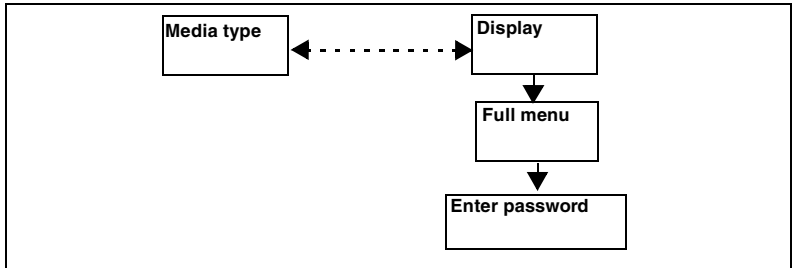


Setting the full menu

The 'full menu' option gives access to all the user menus.

▼ **To set the full menu**

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'enter password'.



- 3 Enter the password, by pressing successively the arrow keys below:

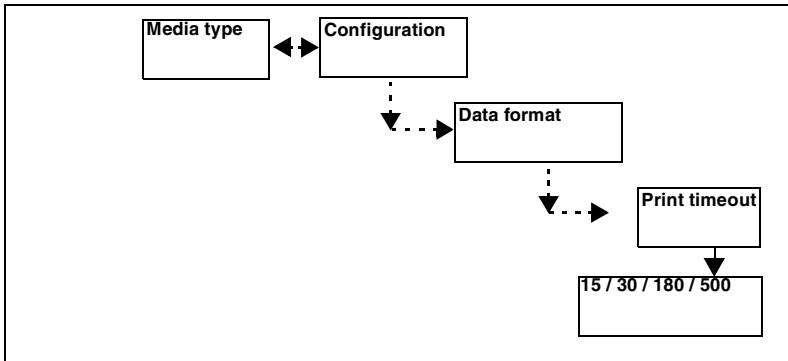


Setting the print timeout

The print timeout sets a time delay (in seconds) after which the printer does not receive any more graphic commands, and starts printing. This is applicable for data files that do not have an end of print instruction. Allow for an adequate time delay for slow computers or complex print data, to avoid incomplete prints.

▼ To set the print timeout

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'print timeout'.
- 3 Select the time delay.
- 4 Press 'enter'.



Printing the dump configuration

A print of the dump configuration gives you the following information:

- The current printer settings (pens, data format, port parameters, etc.)
- The firmware version
- The total memory size (size of RAM installed on the printer)
- The codes of the last 10 error or warning messages

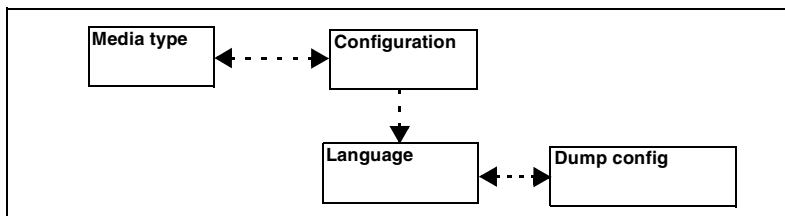
This information is necessary for the Océ technical support, if there is a problem with your printer. Have this information handy when you call a service representative.

Note: *In order for the dump configuration to print correctly, the loaded media must be of A3 size minimum.*



To print the dump configuration

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'dump config'.
- 3 Press 'enter'.



Examples of a dump configuration

```
CURRENT CONFIGURATION
-----
COMMERCIAL ID       : 5250
SERIAL NUMBER      : 20201
LOGIC VERSION      : CC 2.4.3 [PK 11.7.2]
BOOT VERSION       : CB 2.3
ENGINE VERSION     : EC 4.61
MEMORY SIZE        : 32768 KB
LANGUAGE           : ENGLISH
COLOUR MODE        : COLOUR
PRINT QUALITY      : HIGH

MEDIA MODE         : ROLL WITH CUT
MEDIA TYPE         : ROLL          = STANDARD PAPER
                   : CUT SHEET = COATED PAPER

ALIGN PRIORITY     : X ALIGNMENT
X ALIGNMENT MONO   : 0
X ALIGNMENT COLOUR : 0
X ACCURACY         : B

MEDIA SIZE         : E'
END OF PRINT TIMEOUT : 180
DITHERING MODE    : CLOUD 256 levels

PEN WIDTH COLOUR   PEN WIDTH COLOUR
01 0.21 mm 01      09 0.21 mm 09
02 0.21 mm 02      10 0.21 mm 10
03 0.21 mm 03      11 0.21 mm 11
04 0.21 mm 04      12 0.21 mm 12
05 0.21 mm 05      13 0.21 mm 13
06 0.21 mm 06      14 0.21 mm 14
07 0.21 mm 07      15 0.21 mm 15
08 0.21 mm 08      16 0.21 mm 16

CONNECTIONS SETTINGS
-----
RS232 PROTOCOL     : BOTH
RS232 PORT         : DCE
RS232 BAUD RATE    : 9600
RS232 BITS         : 8
RS232 FRAMING      : NONE, 1 STOP

FORMAT SETTINGS
-----
FORMAT SELECTED    : AUTO

HP ORIGIN          : CENTER
HP PAGE ADVANCE    : YES
HP TRANSPARENCY    : MERGE

HP-GL/2 ORIGIN     : LOWER RIGHT
HP-GL/2 PAGE ADVANCE : NO
HP-GL/2 PEN PRIORITY : LANGUAGE
HP-GL/2 TRANSPARENCY : OVERLAY
HP-GL/2 LINE ATTRIBUTE : OCE ROUND

CALCOMP DRIGIN     : LOWER RIGHT
CALCOMP Checksum   : YES
CALCOMP EOM        : 3
CALCOMP Synchro Code : 2
CALCOMP Double Sync : NO
CALCOMP STEP       : 2032
CALCOMP PEN PRIORITY : LANGUAGE
CALCOMP TRANSPARENCY : MERGE
```

- When the printer is in monochrome mode, the dump configuration displays the pen pattern:

PEN	WIDTH	PATTERN	PEN	WIDTH	PATTERN
01	0.21 mm	16	09	0.21 mm	16
02	0.21 mm	16	10	0.21 mm	16
03	0.21 mm	16	11	0.21 mm	16
04	0.21 mm	16	12	0.21 mm	16
05	0.21 mm	16	13	0.21 mm	16
06	0.21 mm	16	14	0.21 mm	16
07	0.21 mm	16	15	0.21 mm	16
08	0.21 mm	16	16	0.21 mm	16

- When the printer is in cut sheet mode, only the 'Auto scale information differs:

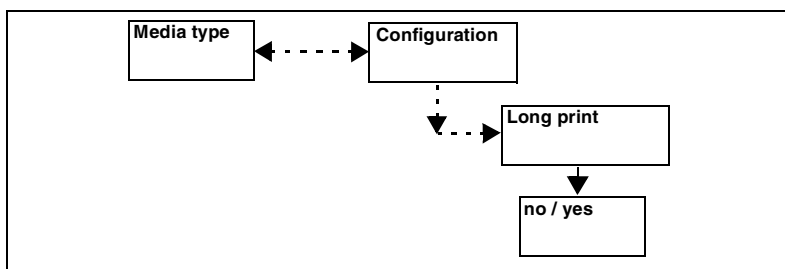
AUTOSCALE (CUT SHEET) : OFF

Printing long prints

The 'long print' option allows to print lengths of up to 16 meters (only from Win NT4 or Win 2000). When you do not use this option, the printer can print up to A0 length (1189 mm, 46.8 inches).

▼ **To set the 'long print' option**

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'long print'.
- 3 Set to 'yes'.
- 4 Press 'enter'.



Note: When you use the HP-GL Frame Advance command (FR), disable the 'long print' option.

Calibrating the Océ 5250

The following three adjustments are available on the printer:

Head alignment (Auto-registration) to control the relative dot position of each print head, to ensure an optimal overlap of coloured dots.

X-alignment to control the smoothness of area fills

X-accuracy to control the accuracy of vector dimensions

The calibration process involves the following phases:

- Printing the registration print (print head alignment)
- Printing the X-alignment print, then entering an X-alignment correction value, if necessary
- Printing the X-accuracy print, and entering an X-accuracy correction value, if necessary
- Setting the priority between the X-alignment and the X-accuracy

Note: *These three adjustments are independent of each other. You can make one or two at a time. All three adjustments are necessary to have a fully calibrated printer.*

Note: *The carriage height also affects the printer precision. To adjust the carriage height, see 'Adjusting the carriage height' on page 146.*

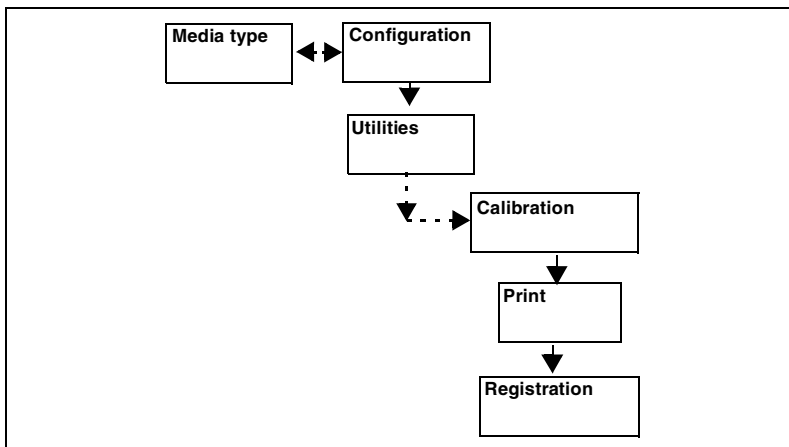
Printing the registration print

You must make a registration print after each print head installation or replacement. This allows the printer to perform an automatic calibration.

You can use cut sheet or roll media, with a minimum A3 media size.

▼ To print the registration print

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'registration'.
- 3 Press 'enter'.



During the registration adjustment, the following message displays:

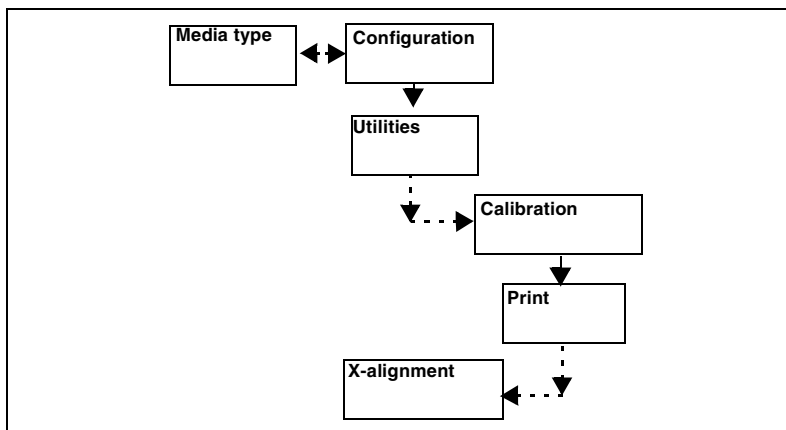
**AUTO-ADJUSTMENT
PLEASE WAIT**

Printing the X-alignment print

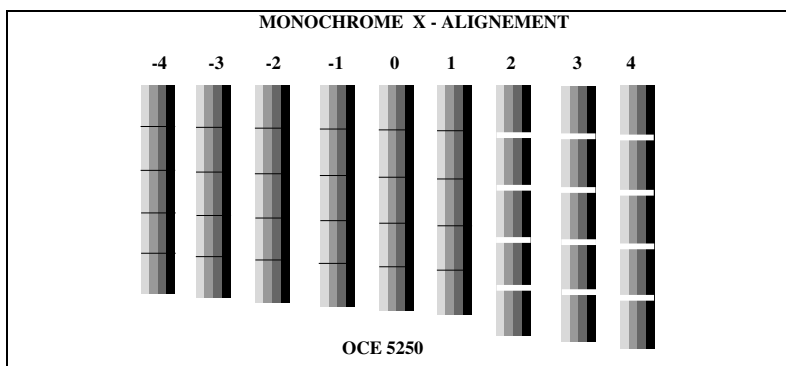
The X-alignment print lets you determine the best values to minimize the jointing effect.

▼ To print the X-alignment print

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'x-alignment'.
- 3 Press 'enter'.



This print contains a series of nine vertical bands made up of a specific pattern. Choose the value (between -4 and 4) that has the least jointing effect (white space or overlap).

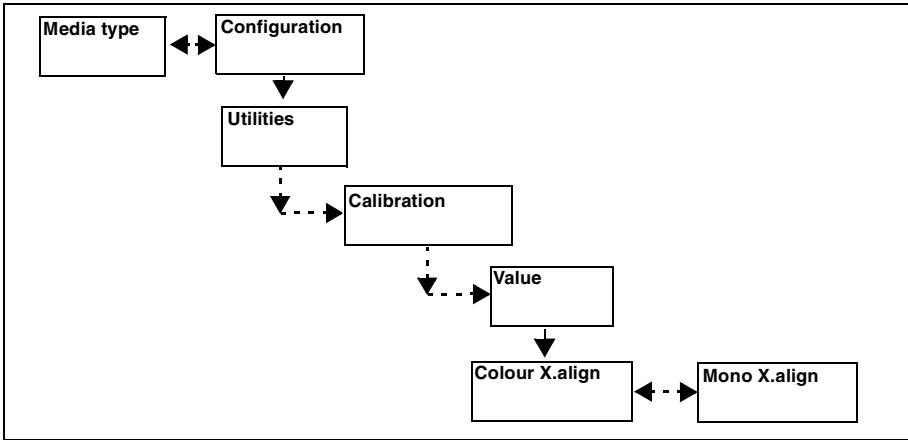


[39] X-alignment print

The values may differ depending on the colour mode. You must perform this adjustment separately for the colour and monochrome modes, then enter the corresponding values.

▼ **To enter a correction value for X-alignment**

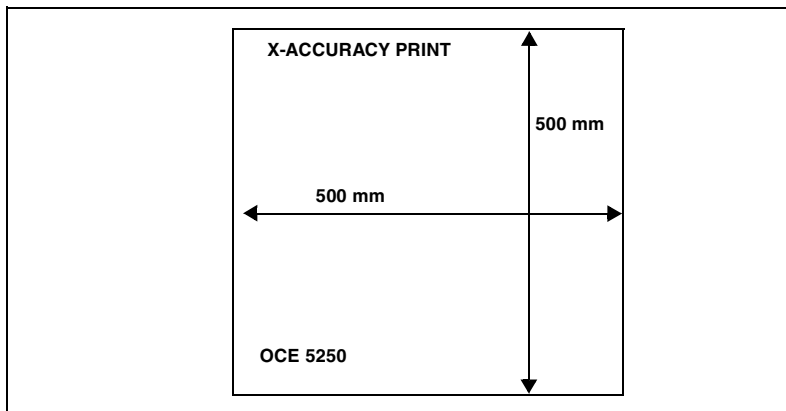
- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'value'.
- 3 Select 'colour x-align' or 'mono x-align'.
- 4 Enter a value between -4 and 4.
- 5 Press 'enter'.



Printing the X-accuracy print

The X-accuracy print checks for the accuracy of vector dimensions. Without any additional adjustment, the machine accuracy is 0.2%.

To make this reference print, use a roll media or cut sheet of minimum A1 size.

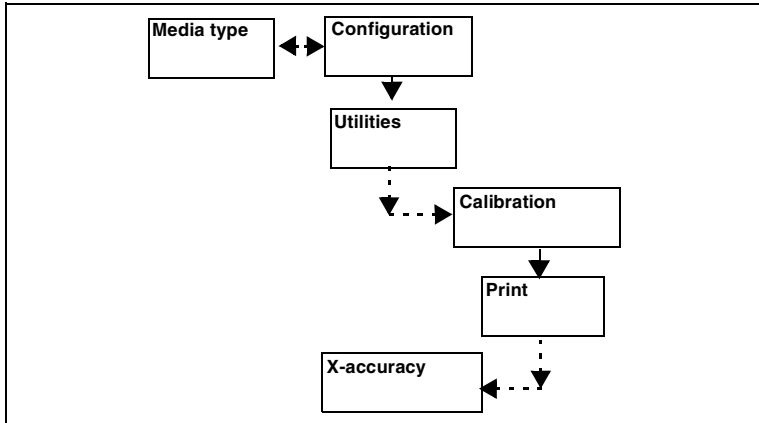


[40] X-accuracy print

Note: *This print never changes, whatever the corrections you might make, since it is a reference print. This reference print represents the technical adjustments of the machine.*

▼ **To print the X-accuracy print**

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'x-accuracy'.
- 3 Press 'enter'.



▼ **To calculate the adjustment value**

- 1 Measure the X direction side (vertical side) of the printed square.
- 2 If the measured value is:
 - greater than 500, enter a negative adjustment value.
 - less than 500, enter a positive adjustment value.

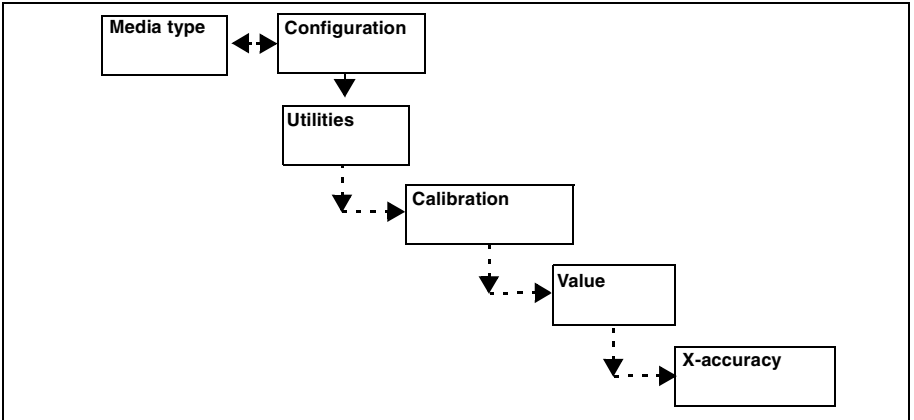
The value range is between -1 mm and +1 mm, by increments of 0.1 mm. On the control panel, this is equivalent to the range of -10 to +10. Example: If you measure 499.6 mm, enter '+4'.

Note: *Be aware that your changes are not taken into account on the X-accuracy print because that print is only a reference print (see 'Printing the X-accuracy print' on page 89).*



To enter the adjustment value

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'x-accuracy'.
- 3 Enter a value between -10 and 10.
- 4 Press 'enter'.



Choosing between accuracy and smooth area fills

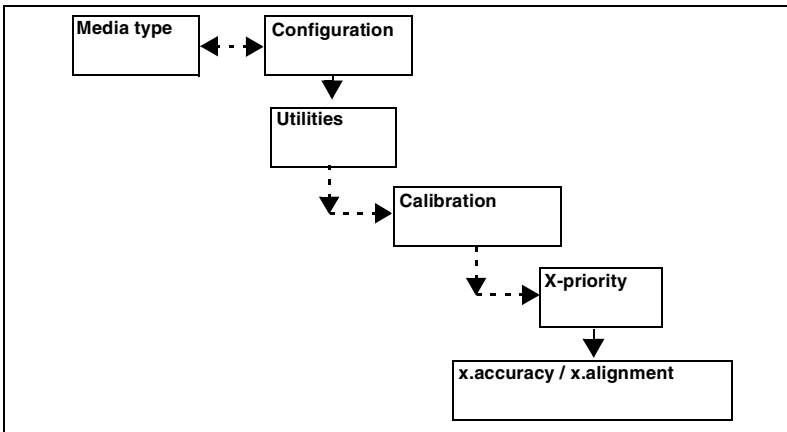
Calibrate your printer for both optimal accuracy (X-accuracy) and smooth area fills (X-alignment), and save both settings. Then choose which setting you want the printer to use as priority, based on the type of drawing you have to print.

- For images or prints with a large number of area fills, set the priority to X-alignment
- For CAD type drawings (architectural, engineering), set the priority to X-accuracy

Note: *The type of media you use affects the printer accuracy. If you change media types, recalculate the X-accuracy setting.*

▼ To set the X-priority

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'x-priority'.
- 3 Select 'x-accuracy' or 'x-alignment'.
- 4 Press 'enter'.



Rendering

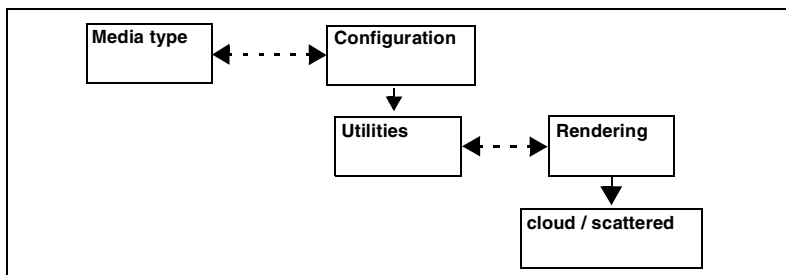
Rendering determines how the printer organizes the pattern of dots on the page to form shades of grey or colours. There are two options:

Cloud uses a random dot pattern. In this mode you can print with 256 shades of gray. Cloud is recommended when you are printing drawings with area fills.

Scattered uses a regular, ordered dot pattern. It produces 256 shades of gray. Scattered is recommended for vector drawings.

▼ **To select the rendering**

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'rendering'.
- 3 Select 'cloud' or 'scattered'.
- 4 Press 'enter'.



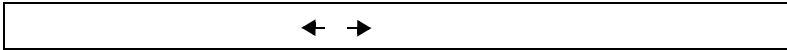
Upgrading the firmware

To upgrade the firmware (for the engine and the controller), you switch the printer into the download mode.

Note: *If the auto-tests indicate that the checksum in the controller application firmware does not match the SIMM flash module, the printer switches automatically into download mode.*

▼ **To switch to the download mode**

- 1 During the initialisation sequence, press the left and right arrow keys simultaneously on the control panel.

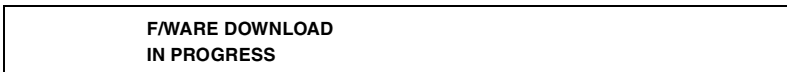


- 2 The following message displays:



▼ **To download the firmware from the computer through the Centronics port**

- 1 To avoid interruption during the downloading process, check that you have done the following:
 - Turn off the screen saver
 - If you use a laptop PC, plug it into an electrical outlet
 - Set the timeout delay to 180 seconds (see 'Setting the print timeout' on page 80)
- 2 Open a DOS window.
- 3 Go to the directory location of the firmware package (example: C:\5250\firmware)
- 4 Type: copy/b cpxxxxxx.bin lpt1: (where 'xxxxxx' corresponds to the firmware revision number).
- 5 Press 'enter' on the keyboard.
- 6 When the controller receives the data, the following message displays:



- 7 During the download process, you have either one of three messages:
 - F/WARE FAILED, PLEASE CALL SERVICE
 - F/WARE FAILED, WRONG FILE, PLEASE POWER OFF/ON

- **F/WARE UPDATE IN PROGRESS.** The controller replaces the current firmware with the updated firmware in the SIMM flash module, or downloads the engine firmware to the engine.
- 8 At the end of the download process, two possible messages appear:
- **UPDATE DONE, PLEASE POWER OFF/ON:** Reboot.
 - **UPDATE FAILED, PLEASE CALL SERVICE:** The SIMM flash module may be defective.

Expanding the printer memory

There are two memory slots available. You can have three possible memory configurations:

- Slot '0' can only have a 32 Mb module
- Slot '1' can either have a 32 Mb, 64 Mb or 128 Mb module

Printer memory			
Configuration	Slot 0	Slot 1	Total Memory
1	32 Mb	None	32 Mb
2	32 Mb	32 Mb	64 Mb
3	32 Mb	64 Mb	96 Mb
4	32 Mb	128 Mb	160 Mb

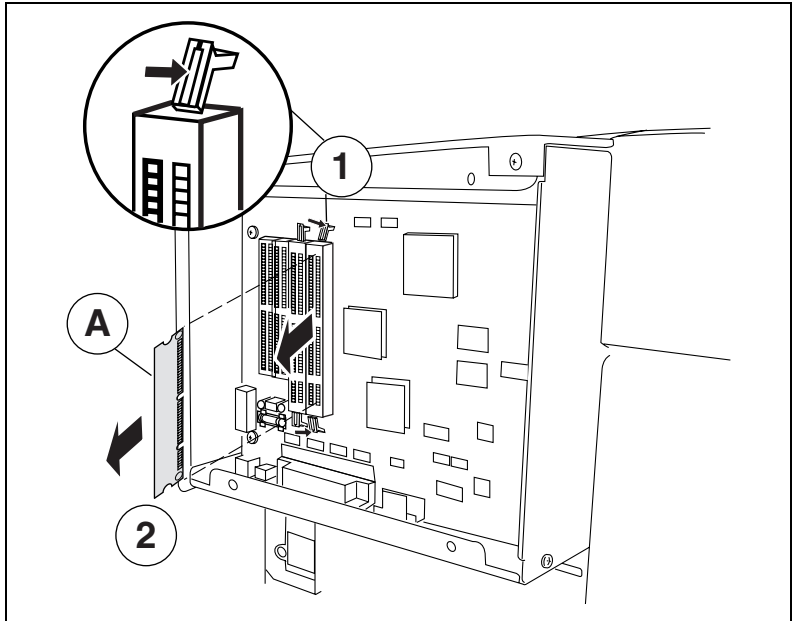
▼ **To remove the printer back cover**

- 1 Check that you have switched off the printer.
- 2 Loosen and remove the 4 screws holding the metallic cover behind the printer. Use the installation tool provided for the printer assembly.
- 3 Remove the cover.



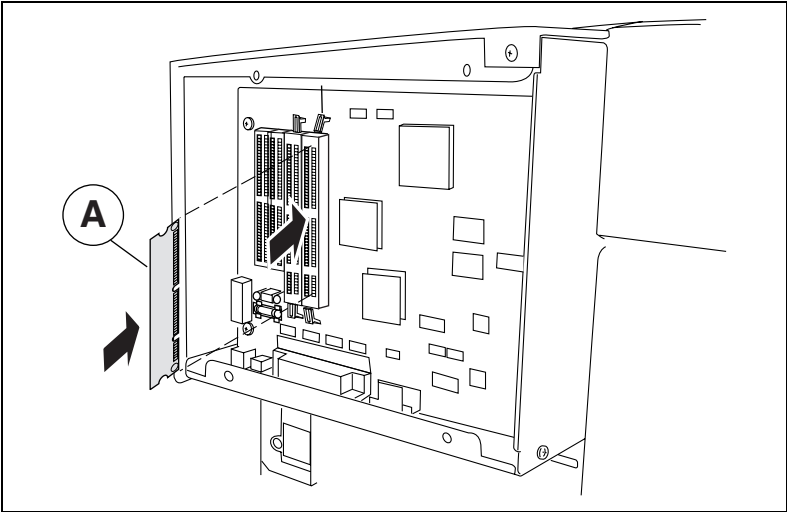
To remove the memory module (from slot 1 only)

- 1 Press the top and bottom tabs that hold the memory module (A). This disengages the module from its connector.
- 2 Hold the memory module firmly and pull it out straight toward you (see figure 41).



[41] Removing the memory module

- ▼ **To install a new memory module (in slot 1 only)**
- 1 Hold the new module (A) at a vertical, with its contact rows toward the printer.
Note: Watch carefully the position of the slots on the contact area of the module. They must match the protusions on the connector of the board.
 - 2 Insert the module straight into the slot (see figure 42).
 - 3 Press the module firmly in the slot, so that the tabs lock it into place.
 - 4 Close the back cover and replace the screws.



[42] Inserting a new memory module

Chapter 5

Print data formats

- *Setting automatic language sensing*
- *Selecting the data format*
- *Using the transparency mode*
- *Setting the print origin*
- *Working with HP-GL, HP-GL/2, Calcomp and PS2 formats*



Setting automatic language sensing

Automatic language sensing enables the printer to switch between different formats in a multi-format environment, using different printer drivers.

The printer automatically recognizes the host data language, and applies the required settings for that print data.

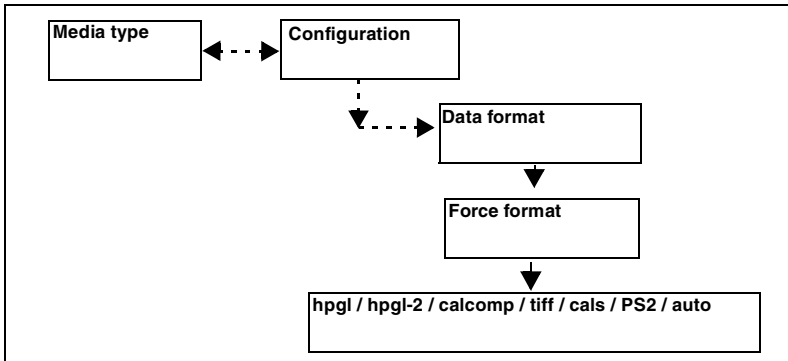
When using automatic language sensing, bear the following points in mind:

- Every print data file must terminate with an end of print instruction.
- If you use HP-GL data format, avoid all HP-GL instructions that modify the protocol (set handshake, etc.) when the automatic language sensing mode is on.

▼ To set automatic language sensing

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'force format'.
- 3 Select 'auto'.
- 4 Press 'enter'.

Note: *The default setting is to 'Auto'.*



[43] To set automatic language sensing

Selecting the data format manually

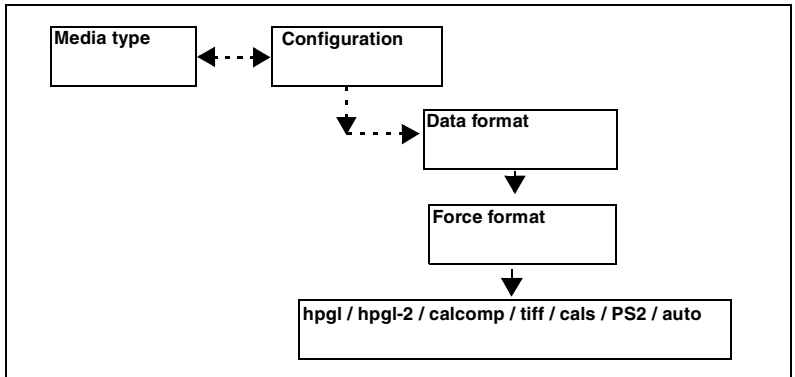
You can also select (force) a data format (HP-GL, HP-GL/2, TIFF, CALS, CALCOMP) manually from the control panel.

Set the data format before you send your file to the printer.

▼ **To set the data format manually**

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get to 'force format'.
- 3 Select the data format.
- 4 Press 'enter'.

Note: See 'Software commands' on page 186 for a brief description of the software commands.



[44] To set the data format manually

Using the transparency mode

This option determines what happens when two or more colours intersect at the same point on a print, especially in area fills. This mode applies only to CalComp, HP-GL, HP-GL/2.

Merge all the specified colours blend together as shown in figure 45. This is the default setting.



[45] Transparency mode: 'Merge'

Overlay* only foreground colours are visible except the white one, which is transparent as shown in figure 46.

Note: *This mode applies only to HP-GL/2 format, when the filter command is set on (default settings).*



[46] Transparency mode: 'Overlay'

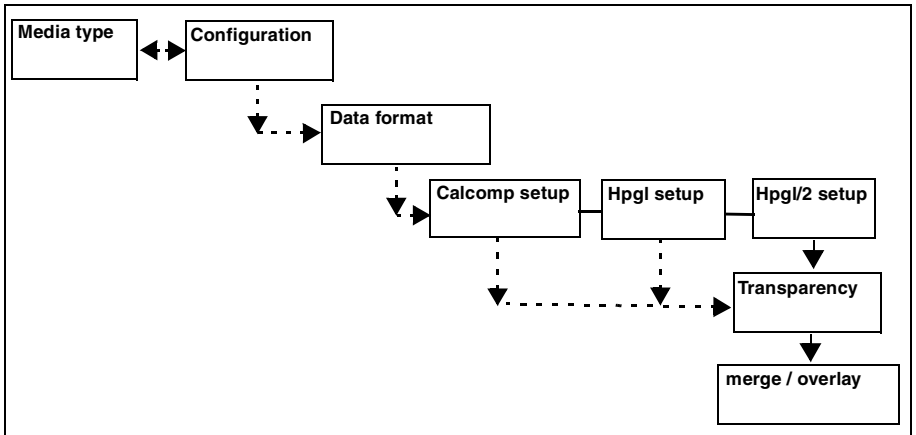
Overlay only foreground colours are visible. In this case, the white colour is opaque as shown in figure 47.



[47] Transparency mode: 'Overlay' with white as opaque.

▼ **To set the transparency mode**

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to get the data format (HPGL, HPGL/2, CALCOMP)
- 3 Go to 'transparency'.
- 4 Select 'merge' or 'overlay'.
- 5 Press 'enter'.

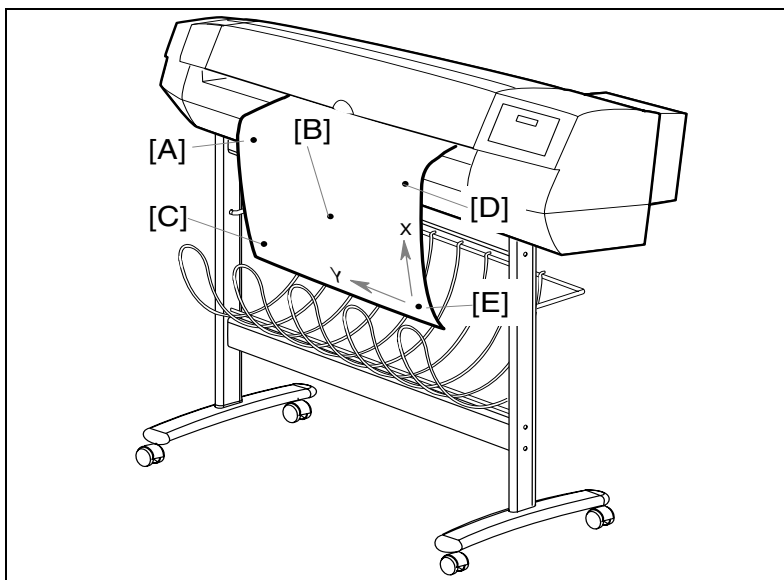


[48] To set the transparency mode

Setting the print origin

The starting position of the drawing on the paper depends on the print origin selected among the following options:

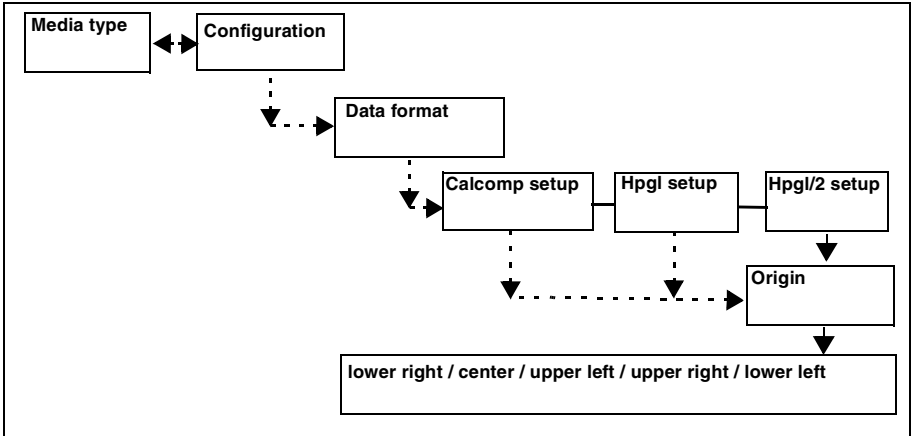
Upper left [A], Center [B], Lower left [C], Upper right [D], Lower right [E]



[49] The Océ 5250

▼ **To set the print origin**

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to the data format you want (HPGL, HPGL/2, CALCOMP, Postscript 2).
- 3 Go to 'origin'.
- 4 Select the point of origin.
- 5 Press 'enter'.



[50] To set the print origin

HP-GL, HP-GL/2

Page advance

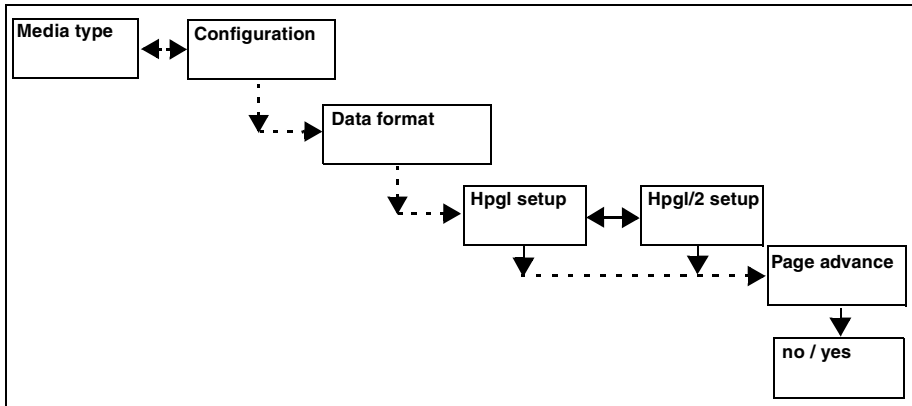
The printer can interpret the SPO command in two ways, depending on the printer emulation (either a pen printer, or a raster printer):

Page advance = yes The printer is compatible with HP-GL print files, in which an **spo** command signifies an end of print.

Page advance = no the printer responds to the HP-GL instruction SPO as 'select pen zero'. It prints all vectors after the SPO command using the current pen zero.

▼ To set the page advance

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to the data format you want (HPGL, HPGL/2).
- 3 Go to 'page advance'.
- 4 Set to 'yes' or 'no'.
- 5 Press 'enter'.



[51] To set the page advance

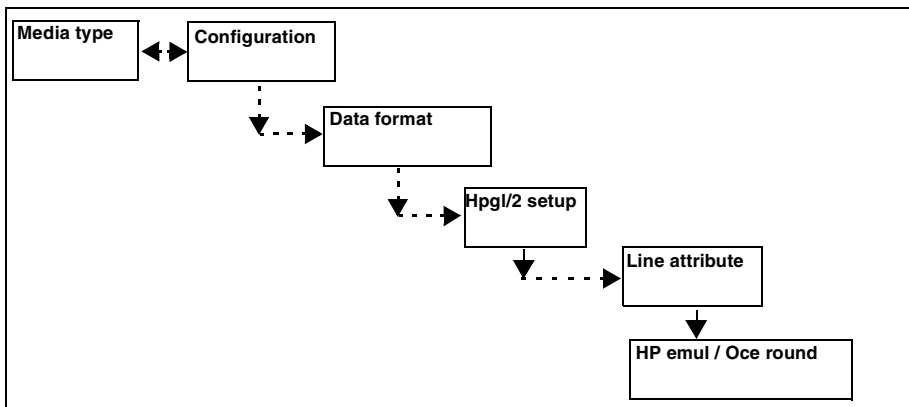
Line Attribute

The Océ 5250 supports LA command (Line Attribute). This command is applied only if the thickness of the vector is greater than 0,5 mm.

Note: *The LA command applies only to HPGL/2.*

HP emul means compatible with HP emulation (see ‘Working with HP-GL, HP-GL/2 format’ on page 108).

Océ round Lines are processed as rounded without join.



[52] To set the LA command

Working with HP-GL, HP-GL/2 format

HP-GL commands

New print	
Command	Explanation
IN	Initialize

End of print	
<i>Command</i>	<i>Explanation</i>
AF	Advance full page
PG	Advance full page
AH	Advance half page
RP	Reprint
SP0	Starts a new print. Ends the current print

The following statements have no meaning and will be treated as no-ops	
Command	Explanation
AP	automatic pen operation
AS	pen acceleration select
BF	buffer print
CC	chord angle
CV	curve generator
DC	digitize clear
DP	digitize point
EC	enable cutter
FS	force select
GC	group count number
GM	graphics memory
GP	designate group
IC	input character
KY	assign key
OB	output box
OD	output digitize point
OG	output count number
OK	output function key
OT	output carousel status
SG	select group

The following statements have no meaning and will be treated as no-ops	
Command	Explanation
VA	activate adaptive velocity
VN	velocity normal
VS	velocity select
WD	write display
ESC. Q	set monitor mode

Note: See 'HP-GL commands' on page 186 for a list of HP-GL commands.

HP-GL/2 commands

New print	
Command	Explanation
BP or ESC%-1BBP.	Begin print

End print	
Command	Explanation
PG;	Advance full page

Note: HP-GL/2 print data files must close with PG;. Some HP-GL/2 commands must end with a semi colon, for example: PG; and TR;.

The following statements have no meaning and will be treated as no-ops:	
Command	Explanation
DC	Digitize clear
DP	Digitize point
EC	Enable cutter
FI	Select primary font by ID
FN	Select secondary font by ID
MT	Media type
OD	Output digitize point
QL	Quality level
SB	Scalable or bit map fonts
ST	Sort
VS	Velocity select

Note: In particular, when there are compatibility problems between several HP printers, the emulation is HP 7586 for pen printers, HP 7600 for electrostatic printers and HP Design Jet 650C for inkjet printers.

See *'HP-GL/2 commands'* on page 188 for a list of HP-GL/2 commands.

Selecting the HP-GL or HP-GL/2 command set

When you select the HP-GL data format (in manual or automatic mode), the printer activates the standard HP-GL command set.

To switch to the HP-GL/2 format, you must use the BP command. Otherwise, the printer gives unpredictable results.

Use the following command to initialize correctly an HP-GL/2 file:

- **ESC%-1BBPIN;** or,
- **BPIN;.....**

- You can select HP-GL/2 format from the control panel under 'data format'.
- You can use a Remote Configuration File (RCF) command to select the HP-GL/2 format, which is the recommended start-up on HP-GL/2.
- The **PG;** command is mandatory to close properly the HP-GL/2 file. Otherwise, the printer gives unpredictable results. The printer may also hang, if the following file is also HP-GL/2.

Use the following commands to close correctly an HP-GL/2 file:

- **PUSP0PG;** or,
- **PUSP0PGRP;** (This will print one additional copy of the file.)

HP-RTL commands

HP-RTL is a subset of HP-GL/2. Hence, all HP-RTL print data files must start with **ESC%-1BBPIN;** or **BPIN;**

To use HP-RTL, set 'data format' to 'auto' or 'hpgl/2' on the printer control panel. You can also select HP-GL/2 via a remote configuration file.

HP-RTL print data files must close with **ESC%0B; PG;** which reverts the printer to the HP-GL/2 format. Otherwise, the printer gives unpredictable results. The printer may also hang.

See 'HP-RTL commands' on page 190 for a list of supported HP-RTL commands.

CalComp parameters

You can set the following parameters when you select the CalComp format or the automatic language sensing option:

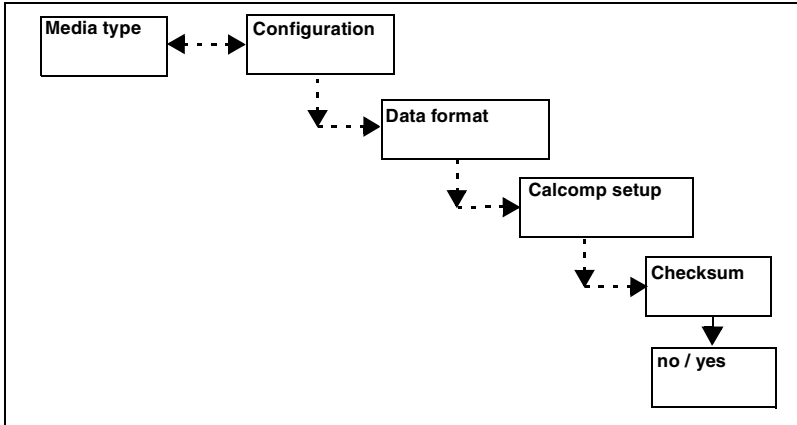
- checksum
- End of message (eom)
- synch code
- double synch
- step size

Note: See 'CalComp commands' on page 192 for a list of supported CalComp commands.

Checksum parameter

▼ **To set the checksum parameter**

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to 'checksum'.
- 3 Set to 'yes' or 'no'.
- 4 Press 'enter'.

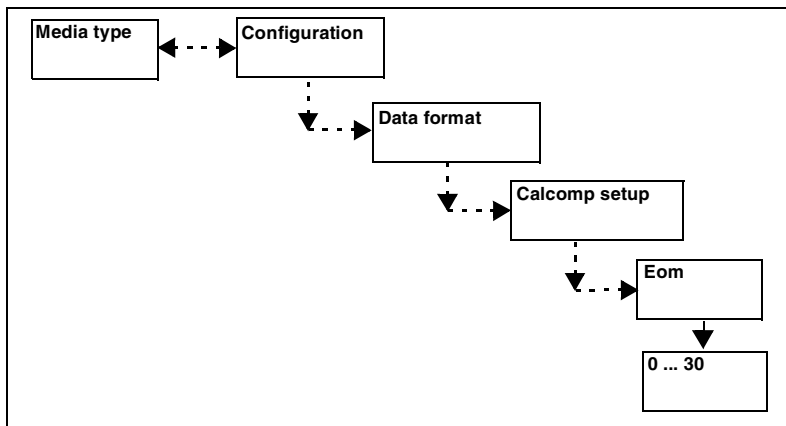


[53] To set the checksum parameter

End of message parameter

▼ To set the end of message parameter

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to 'eom'.
- 3 Select the value. Values range from 0 to 30 inclusive. The selected value is the decimal equivalent of the byte that indicates the end of the data sequence. It should be a unique character in the character set used for coding the data.
- 4 Press 'enter'

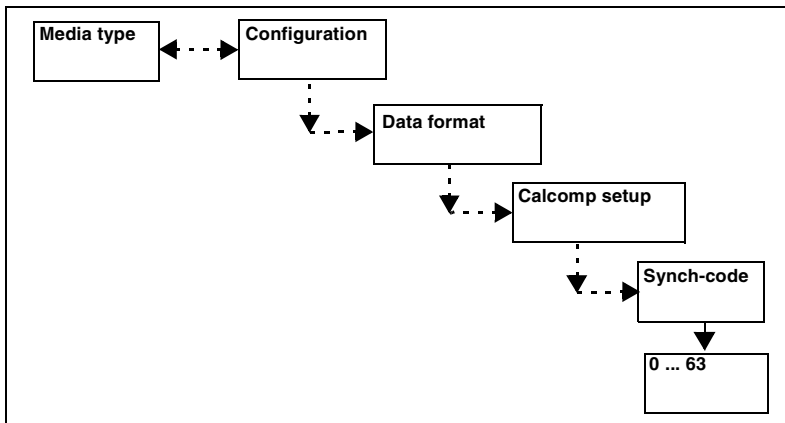


[54] To set the end of message parameter

Synch code parameter

▼ To set the synch code parameter

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to 'synch code'.
- 3 Select the value. Values range from 0 to 63 inclusive. The selected value is the decimal equivalent of the byte that indicates the start of a block of print data.
- 4 Press 'enter'.



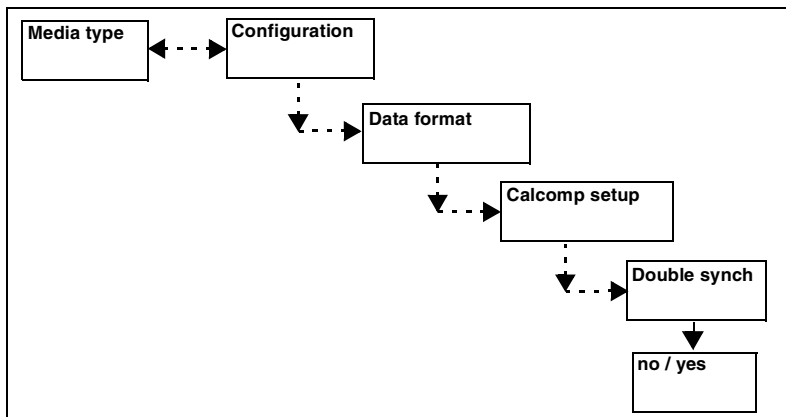
[55] To set the synch code parameter

Double synch parameter

▼ **To set the double synch parameter**

The double synch parameter allows one or two synchronization characters to identify the beginning of a print data message. (If set to double synch enable, the same character is sent twice by the host.)

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to 'double synch'.
- 3 Set to 'yes' or 'no'.
- 4 Press 'enter'.



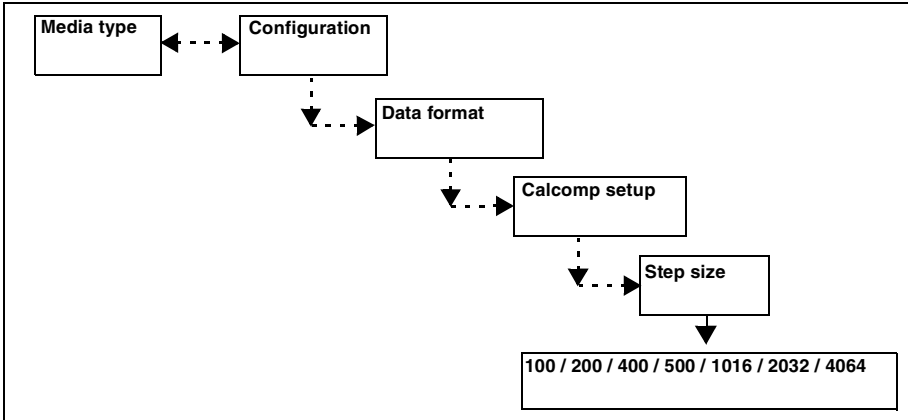
[56] To set the double synch parameter

CalComp step size

▼ **To set the CalComp step size**

There are seven step sizes measured in dots per inch. Please refer to your software documentation to choose the appropriate step size. A wrong step size can affect the scale of your drawing.

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to 'step size'.
- 3 Select the step size.
- 4 Press 'enter'.



[57] To set the CalComp step size

CALS and TIFF

The printer supports the following file types.

CALS

Type 1 files (Untiled, compatible with CCITT Group 4 format)

TIFF

The printer supports the following TIFF monochrome and colour file types:

- Raw (no compression)

Compressed:

- PACKBIT

- CCITT G3 1D and 2D

- CCITT G4

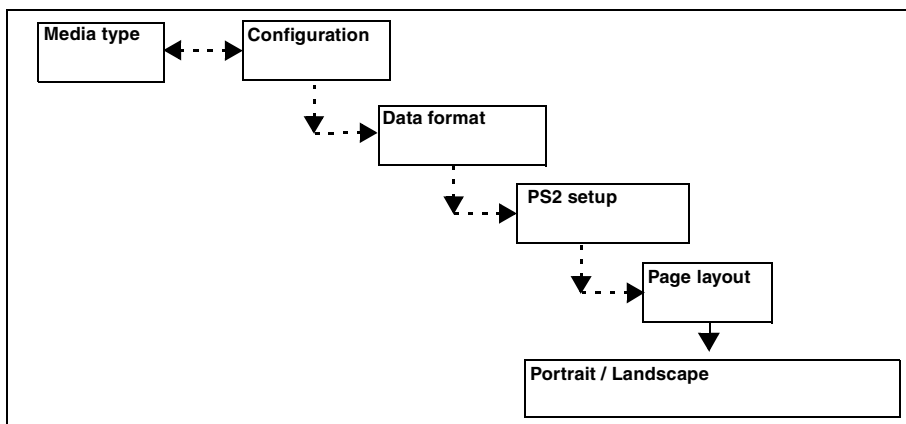
- Modified Huffman (based on CCITT G3 1D)

PostScript 2

PostScript 2 page layout

The orientation of the printed page on the roll can be either horizontal (landscape) or vertical (portrait).

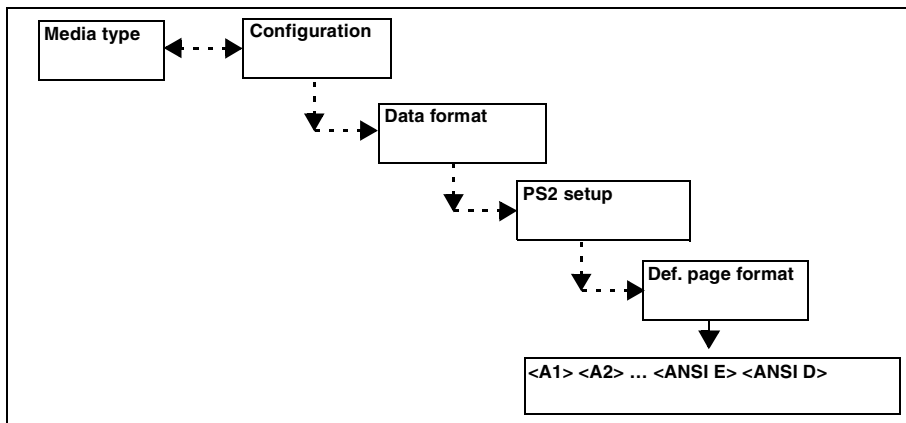
Note: *This is useful in the case where the format is not specified in the PostScript file.*



[58] To set the PostScript 2 page layout

Default PostScript 2 page size

This option indicates the dimensions of the paper on which your document will be printed (For example: ANSI D, A1, A4, Letter, etc).



[59] To set the PostScript 2 default page size

Note: *In case of conflict, the page size defined in the PostScript driver will have priority.*

Manual feed and Autoscale-to-format are not supported by the PostScript driver. However, these functions can be activated in the normal way, from the printer's control panel.

Chapter 6

Use of media

- *Media types*
- *Choosing media*
- *Storing and handling media*



Media types

The Océ 5250 inkjet plotters use roll and cut sheet media. The following Océ media has been thoroughly tested by Océ to give you the best results from your Océ 5250 inkjet plotter.

Standard paper is an inexpensive media suitable for a number of applications. It is especially recommended for check plots and line drawings.

Premium grade paper 90 g/m² is a coated paper recommended for solid fills and presentation drawings. It provides excellent contrast and vivid colours.

Premium grade paper 120 g/m² is a heavyweight coated paper that is particularly recommended for presentation drawings and mapping purposes. It provides excellent stability and handles well.

Tracing paper 90 g/m² gives high contrast and excellent Diazo copies. It is, however, dimensionally unstable and therefore not recommended for archiving. It is recommended for monochrome and colour line drawings. For plots containing a lot of solid fills, we recommend using matt film.

Single matt film is a durable, translucent, polyester film which has one side covered with a special inkjet coating. It offers good dimensional stability and Diazo copying capability. Matt polyester film is recommended for final drawings, for archiving, for presentation, for colour line drawings and for monochrome area fills.

Double matt film has the same qualities and recommendations as single matt film but also has a special inkjet coating on the front and a drafting layer on the back.

White glossy film is a polyester film with a white glossy surface. It is suitable for posters and point of purchase displays.

Choosing media

Use the tables below to choose the type of media best suited to your needs. For article numbers and ordering information, please consult the Océ web site.

Paper media				
	Standard paper 90 g/m²	Tracing paper 90 g/m²	Premium grade paper 90 g/m²	Premium grade paper 120 g/m²
Cost/Quality ratings				
Check prints	good	fair	*	*
Presentation prints	good	good	excellent	excellent
Archiving	N/A	fair	N/A	N/A
Diazo copy	N/A	good	N/A	N/A
Plain paper copy	excellent	good	excellent	excellent
Overlay	N/A	good	N/A	N/A
Quality ratings				
Line b/w	good	excellent	excellent	excellent
Line colour	good	excellent	excellent	excellent
Mapping	good	good	excellent	excellent
Image	good	N/A	excellent	excellent
Photography	good	N/A	excellent	excellent
Note: N/A = Not applicable, * = not best choice				

Film media			
	Single matt film 120µ	Double matt film 95µ	Double matt film 95µ
Cost/Quality ratings			
Check prints	*	*	*
Presentation prints	excellent	excellent	excellent
Archiving	excellent	excellent	good
Diazo copy	excellent	excellent	N/A
Plain paper copy	*	*	*
Overlay	N/A	N/A	N/A
Quality ratings			
Line b/w	excellent	excellent	excellent
Line colour	excellent	excellent	excellent

Film media (continued)			
	Single matt film 120µ	Double matt film 95µ	Double matt film 95µ
Mapping	good	good	excellent
Image	excellent	good	excellent
Photography	good	good	excellent
Note: N/A = Not applicable, * = not best choice			

Storing and handling media

Temperature & Humidity Changes in humidity cause paper media to expand or contract due to the amount of moisture in the air. Media stored in one environment and then moved to another may cause problems when printing because the media did not have time to adjust to the new environment.

Take the following precautions to avoid problems:

- store the media near the printer if possible
- take media out of the packaging and allow it to adjust to the same environment as the printer for a minimum of two days
- air conditioning or humidity control is highly recommended if you have a high humidity level
- use film media if dimensional stability is very important

Heat & Light All media are sensitive to extreme heat and ultraviolet light and therefore should not be exposed to strong sunlight. Store away from light in a dark room or cupboard.

Dirt & Fingerprints The print quality of media, and especially film media, is degraded by perspiration, fingerprints and dirt. If necessary, wear cotton gloves to manipulate the rolls or sheets.

Chapter 7

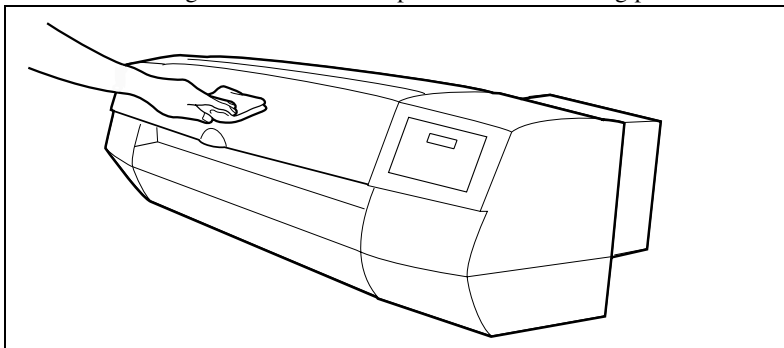
Maintenance

- *General cleaning*
- *Caring for the wiper blades*
- *Replacing the cutter unit*
- *Cleaning the print heads*
- *Transporting the printer*



General cleaning

- ▼ **To clean the exterior of the printer**
- 1 Turn the printer off and unplug the power cord.
 - 2 Clean the outer surfaces of the printer with a damp sponge and some household detergent. Never use abrasive cleaners, cleaning solvents or strong detergents as these can damage the surface of the printer and the moving parts.



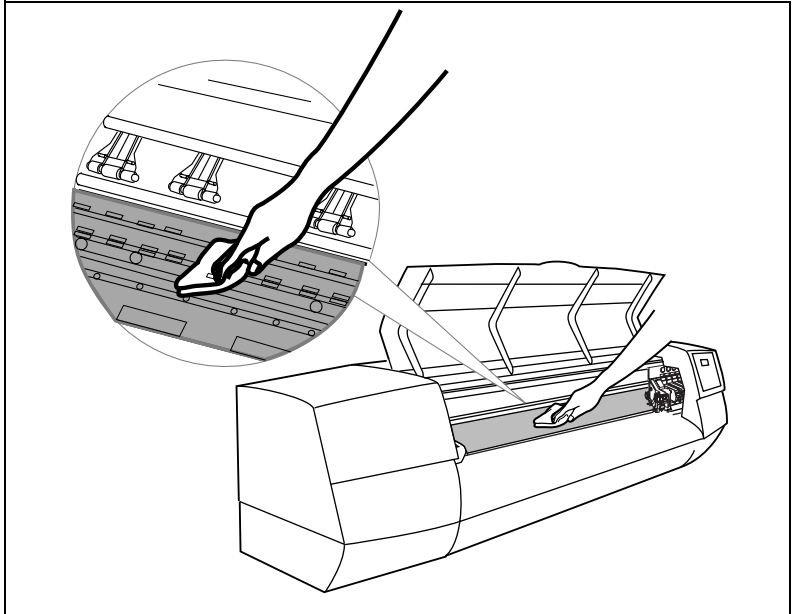
[60] Cleaning the outer surfaces



To clean the interior of the printer

- 1 Open the dust cover.
- 2 Wipe dust and dirt from the platen and carriage rails, using a moistened cloth.
- 3 Clean dust and paper debris from the cutter groove, using 2 moistened cotton swabs.

Note: Do not touch the encoder strip with your fingers, because the slightest fingerprint can cause irregular printing. The encoder strip is located behind the carriage and runs the entire width of the printer. Clean the encoder strip regularly with a dry cloth. Do not use detergent.



[61] Cleaning the platen and carriage rails

Caring for the wiper blades

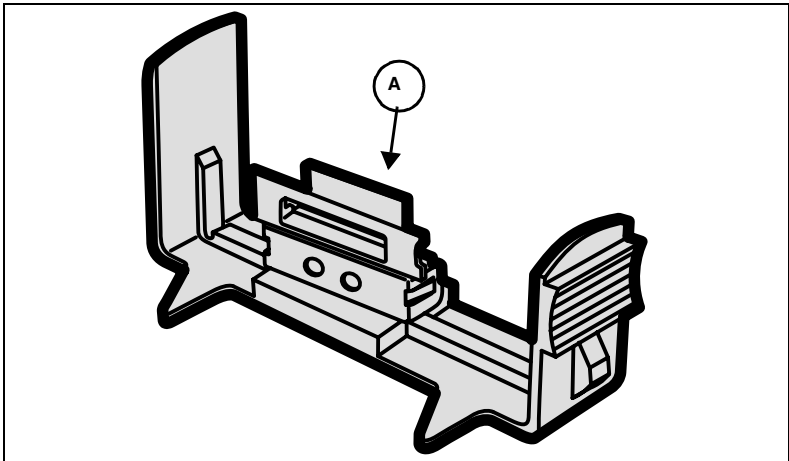
The Océ 5250 printer has a wiper blade unit with two wiper blades, located in the purge station. The wiper blade unit assembly consists of two black blades and two transparent blade.

- The black wiper blades remove excess ink from the print head surface.
- The transparent wiper blades wipes the ink nozzles.

You can clean and replace the wiper blade assemblies, if necessary. For ordering information, consult the Océ web site.

▼ To clean the wiper blades

- Clean the upper surface (A) of the wiper blades occasionally, using a clean cotton swab moistened with water or isopropyl alcohol to remove ink and paper debris.



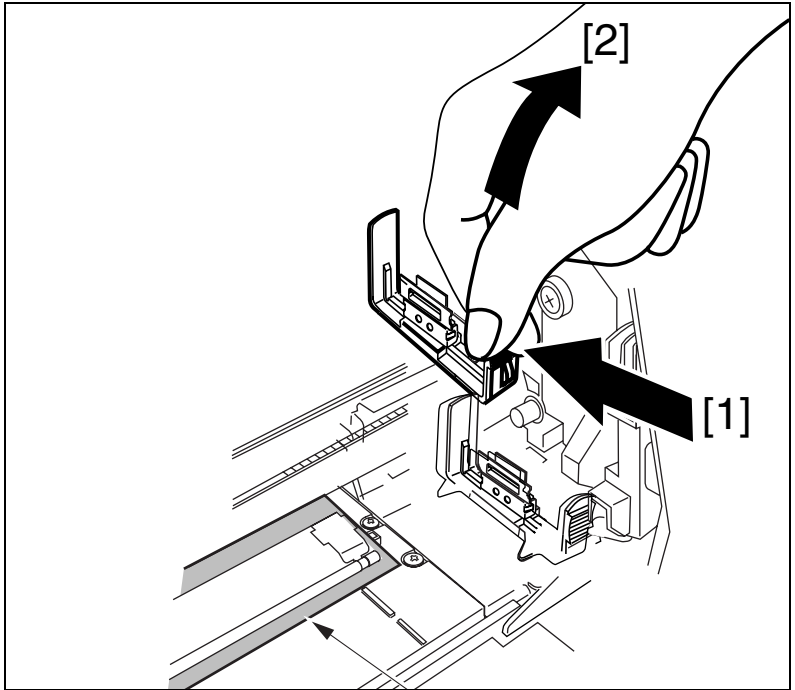
[62] Cleaning the wiper blade

Note: Do not touch the wiper blades with your fingers. The slightest dirt or fingerprint can lead to print head malfunctions.



To replace the wiper blades

- 1 Push the wiper blade assembly forward using the knob.
- 2 Lift out the used wiper blade assembly.
- 3 Insert the new wiper blade assembly into the empty socket and push downward, until it snaps into place.



[63] Replacing the wiper blade

Replacing the cutter unit

If the cutter blade wears down, you can replace the cutter unit (casing and blade). For ordering information, consult the Océ Web site.

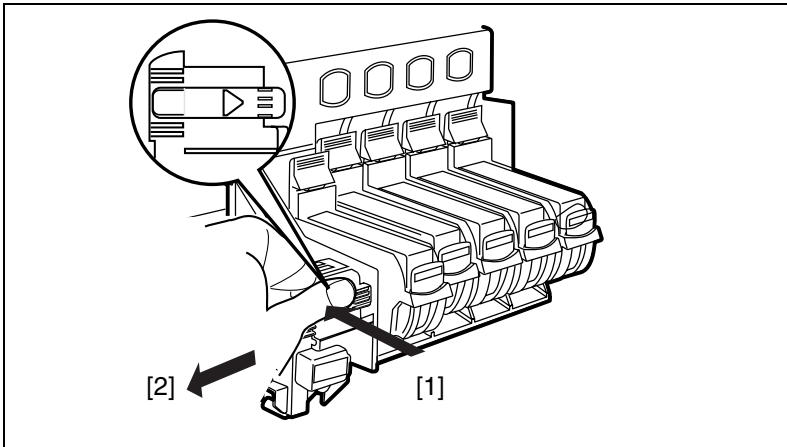
You can have a longer use of the cutter by changing the cutting area of the cutter blade. The cutter unit is designed with 5 different positions that you can optimize before you replace it.

▼ To change the cutting area of the cutter blade

- Turn the black thumbwheel of the cutter unit. The thumbwheel has 5 positions, indicated from 1 to 5.

▼ To replace the cutter unit

- 1 Press the printhead key on the printer control panel. The carriage moves out of the purge station.
- 2 Open the dust cover.
The cutter is located on the left hand side of the carriage, as shown in figure 64 on page 132.
- 3 Press on the cutter unit tab, and slide out the cutter assembly.
- 4 Remove the replacement unit from the packaging and insert in the cutter socket.



[64] Replacing the cutter unit

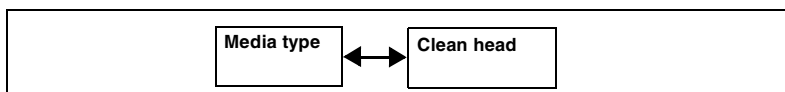
Note: *If you do not put a replacement unit in then an error occurs.*

Cleaning the print heads

The print heads contain a set of nozzles which fire the ink. The printer cleans automatically the print heads when you switch on the power, to prevent the nozzles from clogging. You can also clean the print heads at any time using the 'clean head' function, if you find the print quality poor.

▼ **To clean the print heads**

- 1 Press the 'down' arrow once to enter the menu.
- 2 Follow the flowchart path to 'clean head'.
- 3 Press 'enter'. This initiates a head cleaning cycle and the display reads <cleaning head>. When the cleaning cycle completes, the display reads <ready>.



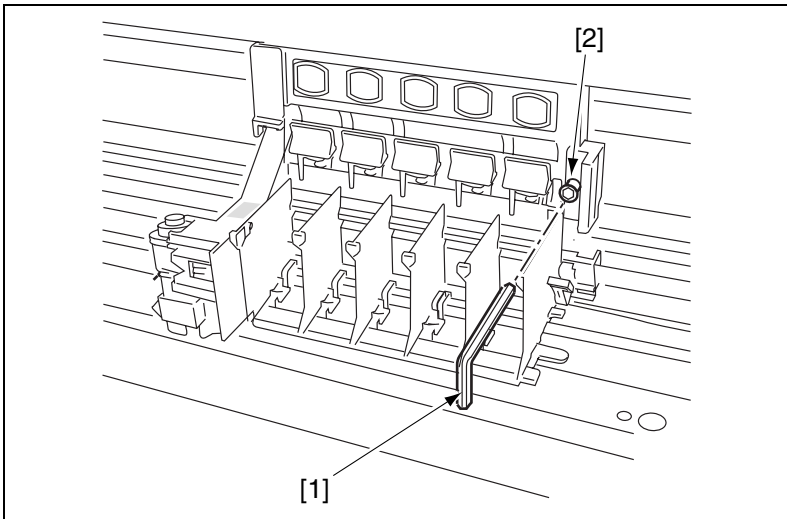
Note: *Head cleaning consumes ink. Carry out the head cleaning procedure only when it is necessary.*

Transporting the printer

Keep the box and packing materials the printer came in, so that you can repack it for safe transportation.

▼ To prepare the printer for transportation

- 1 Press the printhead key on the printer control panel, to move the carriage out of the purge station.
- 2 Remove the print heads and ink tanks.
- 3 Switch the printer off and unplug the power cable and connection cables.
- 4 Fix the carriage to its loading position using the installation tool (1) and the screw (2).



[65] Fixing the carriage to its loading position

- 5 Cover the carriage with the packing mousse delivered with the printer.
- 6 Pack the printer in its polystyrene and put it in its box.

Chapter 8

Troubleshooting

- *Solving printer operations*
- *Understanding printer messages*
- *Improving poor print quality*
- *Checking print head quality*
- *Solving colour problems*
- *Using the statistics menu*



Solving printer operation problems

Printer does not operate	
Problem	Your printer does not operate at all
Solutions	Check that you have plugged the power cord properly into the printer and the electrical outlet (see 'Plugging in and switching on the printer' on page 26)
	Check that the voltage of the electrical outlet is correct for the printer
	If the printer still does not operate, call for service
Problem	Your printer does not operate, and stops at one of the autotests
Solutions	Turn the printer off, and then on again, to see if the problem is of a permanent nature
	If the printer still does not operate, take note of the error message on the display and call for service (see 'Understanding printer messages' on page 137)

Printer does not print anything while data arrive	
Cause	The interface cable is not connected to the printer or the computer
Solution	Connect the proper interface cable to both ends (printer and computer) (see 'Connecting the printer' on page 152)
Cause	The interface parameter settings do not match (in serial connection)
Solution	Check the interface settings (See 'Connecting the printer' on page 152)
Cause	Media saver is on
Solution	Flush the media saver queues, and/or disable this option (see 'Flushing the media saver queues' on page 67)

Note: *The time delay varies, between the data transfer from the host computer to the start of the printing. The variations depend on the host computer, software package, communications protocol, and the amount of data involved.*

Understanding printer messages

The printer control panel displays the following types of messages:

- Status messages
- Warning messages
- Error messages
- Banner messages (occasionally, for certain types of errors during print processing)

Status messages

Status messages give you information about the state of the printer.

Status messages	
Printer messages	Explanation
Init	The printer initialises
Please wait	
Loading media	The printer performs the media loading process
Auto adjustment	The printer performs the automatic printhead registration process
Printhead access	The printer has moved the carriage out of the purge station
Check heads	After a carriage access, the printer checks for the presence and working order of the print heads and ink tanks
Head cooling	The printer waits for the print heads to cool down
Cleaning head	The printer cleans the print heads
Drying	The printer dries the completed print
Media feeding	The printer feeds the media for the next print
Media cutting	The printer cuts the completed print
v for menu	Push the 'down' arrow on the control panel to access the menu
Ready	The printer is ready to process the data (idle)
Analyzing data	The printer analyses the print data format
Processing <language type> (if ALS is on)	The printer receives and interprets the data from the host computer
Rasterizing	The printer processes the vector data from the host computer and converts it into raster data
Printing	The printer prints data

Warnings

Warnings mostly relate to specific prints. These messages generally go off automatically.

Framing error The printer serial line does not match with the host serial line setting (interface related error).

Parity error The parity set for the serial line setting does not match with the host serial line setting (interface related error).

Overrun error Indicates that data got lost during the transfer (interface related error).

Print clipped The output print is larger than the media loaded on the printer (file processing error).

Print aborted The printer cannot process the file received, due to wrong language or wrong file format. There is no printed output (file processing error).

Ink low (k c m y): The ink remaining in the tank indicated is under the warning threshold level (< or = 10%). This message remains as long as the source problem remains.

Error messages

When an error occurs, the control panel displays the nature of the error on the first line, and gives instructions on how to proceed on the second line.

Example:

<p>HEAD MISSING PRESS PRINTHEAD KEY TO INSTALL HEAD</p>

Refer to the relevant sections of this guide for specific procedures. The following are possible error messages:

Out of ink One or several ink tanks are empty. To recover, replace the empty ink tanks (see ‘Installing the ink tank’ on page 39).

No media The printer does not detect any media in the media path. To recover, load the media, then press the 'Enter' key (see 'Loading roll media' on page 43).

Cover open You have opened the dust cover. If the printer is currently printing, it finishes printing the current band, then stops. To recover, close the dust cover.

Note: *To obtain high print quality, do not open the dust cover during printing.*

Head missing (Error 60) One or several print heads are not installed on the carriage. To recover, press the 'Print head' key to move the carriage into position, then install the print heads (see 'Unpacking and installing the print head' on page 36). Close the cover.

Tank missing (Error 61) One or several ink tanks are not installed on the carriage. To recover, press the 'Enter' key to move the carriage into position, then a message indicates which ink tanks to install ('Install tank <type>') (see 'Installing the ink tank' on page 39). Close the cover.

Head error (Error 18, 19, 62) The indicated print head is out of order. To recover, press the 'Printhead' key to move the carriage into position, then replace that print head (see 'Unpacking and installing the print head' on page 36). Close the cover.

Head error (Error 21, 24, 36) A head error has occurred. To recover, press the 'Enter'.

Wrong head (Error 20) The indicated print head is not in the right position. To recover, press the 'Printhead' key to move the carriage into position, then replace that print head (see 'Unpacking and installing the print head' on page 36). Close the cover.

Cutter error (Error 11) The cutter fails to cut the media. To recover, open the dust cover, then release the green lever to remove the media. Check that the cutter unit is installed and in good working order and not damaged, (see 'Replacing the cutter unit' on page 132). Close the cover. Press the 'Enter' key to restart the media loading.

Media error (Errors 1-10, 13-16, 31, 32) The printer cannot correctly detect the size of the loaded media. To recover, open the dust cover, and reinstall the media (see 'Loading roll media' on page 43). Close the cover. Press the 'Enter' key to restart the media loading.

End of media error (Error 25, 26) There is no media left. To recover, open the dust cover, and install new media (see ‘Loading roll media’ on page 43). Close the cover. Press the ‘Enter’ key to restart the media loading.

Media misaligned error (Error 42) The media is skewed. To recover, open the dust cover, and realign the media. Close the cover. Press the ‘Enter’ key to restart the media loading (see ‘To align the media’ on page 47).

Media too small (Error 38, 43, 44) The loaded media is too small to use the automatic adjustment functions (minimum A3 size required). To recover, open the dust cover, and release the green lever to remove the media. Replace with the correct size media (see ‘Loading roll media’ on page 43). Close the cover. Press the ‘Enter’ key to restart the media loading.

Carriage error (Error 37) The printer engine has problems with the carriage. To recover, press the ‘Enter’ key. Another possible cause can be a dirty guide rail. Clean the carriage guide rails (see ‘To clean the interior of the printer’ on page 129).

The following are possible hardware failures. These errors may require a shutdown of the printer to recover:

Comm error (Error 103) The communication between the engine and the controller has failed. To recover, turn the power of the printer off and on. If the error persists, contact technical support.

Carriage error (Error 12, 17, 22, 23) The engine has carriage problems. To recover, turn the power of the printer off and on. If the error persists, contact technical support.

F/W update failed (Error 47, 48, 49 and 102) The update of the firmware has failed. To recover, turn the power of the printer off and on. If the error persists, contact technical support.

F/W download failed (Error 101) The printer received a wrong file. To recover, turn the power of the printer off and on. Download the file again (see ‘To download the firmware from the computer through the Centronics port’ on page 94). If the error persists, contact technical support.

Auto-regi failed (Error 39, 41) The automatic registration of the print heads has failed, or the cover has opened during automatic registration. To recover, turn the power of the printer off and on. If the error persists, contact technical support.

Waste ink tank full (Error 40) To recover, contact technical support.

contr. (controller) error (Error 30, 33, 34, 35, 45, 46) Either the engine firmware checksum or the non-volatile memory is corrupted, or the communication between the engine processor and the engine micro-controller has failed. To recover, turn the power of the printer off and on. If the error persists, contact technical support.

Fan error (Error 28) The fan does not function properly. To recover, turn the power of the printer off and on. If the error persists, contact technical support.

Purge error (Error 27) The purge system does not function properly. To recover, turn the power of the printer off and on. If the error persists, contact technical support.

Banner messages

A banner message appears on the media, at the end of the print, whenever the printer detects an error in the course of a print.

- When using cut sheet media: at the end of the problem print, the display reads 'Print pending'. Load a new cut sheet. The printer then prints out the banner message.
- When using roll media: at the end of the print, the printer prints out the banner message after the cut marks or the actual cut.

The following are possible banner messages:

initRaster Allocation Failure on normal processing indicates a memory allocation failure at the start of rasterization process during normal processing. The printer discards the file, and prints nothing.

initRaster Allocation Failure on the fly mode indicates a memory allocation failure at the start of rasterization during on the fly processing. The printer discards the file, and prints nothing.

Not enough memory for rasterization in polygon buffer indicates a memory allocation failure in polygon rasterization. The printer prints out the file until the error occurrence.

Too many vectors: not enough memory indicates a memory allocation failure in vector rasterization during on the fly processing. The printer prints out the file until the error occurrence.

Solutions

- Verify how much memory (RAM) you have on the printer (print out a list of the configuration settings, (see 'Printing the dump configuration' on page 81). Expand the size by installing an extra RAM module (see 'Expanding the printer memory' on page 96).

Service message

Service needed

This message appears on the LCD when switching on the Océ 5150 and also when the printer is idle.

It warns you that the printer has widely exceeded the maximum production described in the 5150 specifications. Indeed, there is a specific number of prints allowed on a given period of time.

Solution

If this message is displayed on your printer, you **MUST** call your Océ Service representative. A service visit will be mandatory to take care of the printer.

Improving poor print quality

White streaks	
Problem	Unwanted white streaks appear at regular intervals in area fills
Cause	These white lines may result from a mismatch between adjacent passes of the print heads
Solution	Check that the X-priority is set to X-alignment, and not X-accuracy. Then adjust the X alignment value, if necessary (see 'To enter the adjustment value' on page 91)
Cause	Blocked nozzles on the print heads
Solution	Clean the print heads to make sure all the nozzles function correctly (see 'Cleaning the print heads' on page 133).

Ink smearing	
Problem	Ink smears on the media
Cause	The print head comes into contact with the media, due to media wrinkles or bubbles during printing
Solutions	Allow absorbent media (paper) time to adjust to the same environment as the printer before printing. Set the print head height to a higher level, if necessary (see 'Adjusting the carriage height' on page 146).
Cause	Dirty wiper blades, or dirty wiper component at the bottom of the carriage
Solutions	Clean the wiper blades, or the bottom wiper component (see 'Caring for the wiper blades' on page 130)
Cause	Prints with large area fills
Solutions	Use the recommended media that is appropriate for area fills (see 'Choosing media' on page 123)

Parts of print missing	
Problem	Parts of a drawing are missing
Cause	Can be due to dirt or buildup of paper debris
Solutions	Clean the print heads (see 'Cleaning the print heads' on page 133)

Parts of print missing (continued)	
	Replace the used print heads (see 'Unpacking and installing the print head' on page 36)
Solutions	Reprint on a different piece of media and ensure that you are using recommended supplies (see 'Choosing media' on page 123)

Image quality	
Problem	Fuzzy line elements, ragged edges on area fills and poor letter definition
Cause	Printer environment, such as a fan or exhaust vent, that produces high air flow across the printer
Solutions	Ensure that the printer is in a stable, recommended environment (see 'Operating recommendations' on page 16)
	Check the printer calibration - (see 'Calibrating the Océ 5250' on page 85)
	Check that you have set the correct media type on the control panel (see 'Choosing the media type' on page 48)

Warped media after printing	
Problem	Media is warped or wavy after printing, noticeably in places with dense area fill
Cause	Media has absorbed a large quantity of ink
Solutions	Allow enough time for the ink to dry before handling the print; most of the warping will disappear when the ink dries
	Use film media, or the recommended media for the type of print (see 'Choosing media' on page 123)

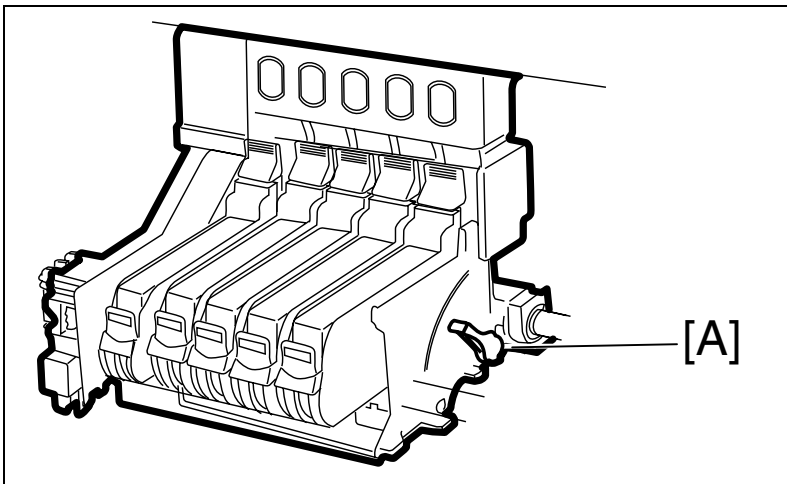
Checking the print head quality

Adjusting the carriage height

During printing, certain types of paper media can rise up from the platen and come into contact with the print head. This is apparent in prints with large area fills, when the paper absorbs large amounts of ink, and becomes warped or crinkled. To avoid this, you can adjust the height between the print heads and the platen.

▼ **To adjust the carriage height**

- 1 Press the printhead key on the printer control panel. The carriage moves out of the purge station.
- 2 Open the dust cover. The cartridge height adjustment lever is located on the carriage [A] as shown in figure 66 on page 146.



[66] Adjusting the cartridge height

- 3 Adjust to one of the three positions:
Low This is the normal height (1.1 mm) between the platen and the head. Set the lever to this position when printing line drawings (CAD applications).
Middle This position slightly increases the height (1.5 mm) between the platen and the head. Set the lever to this position when printing drawings which contain polygon fills and graphics (mixed CAD and image).

Top This position provides the maximum height (2.4 mm) between the platen and the head. Set the lever to this position when printing on thick media and when printing images.

- 4 Push the lever to the required position. Make sure that it snaps firmly into place.
- 5 Close the dust cover.

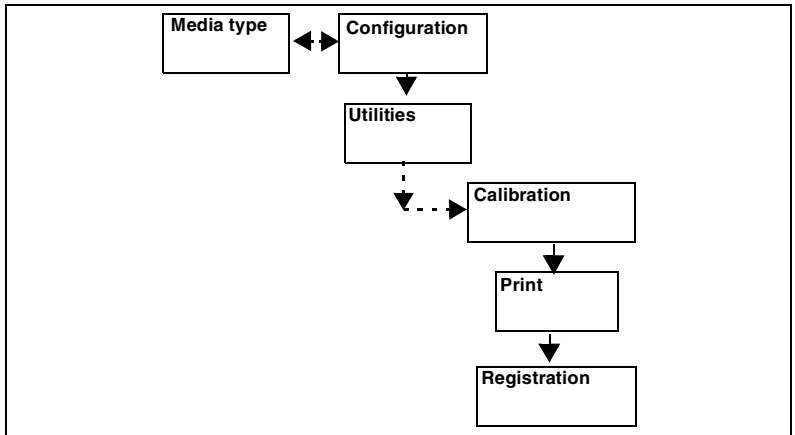
Printing the registration print

You must make a registration print after each print head installation or replacement to check for proper position. You can use cut sheet or roll media, with a minimum A3 media size.



To print the registration print

- 1 Check that you have loaded the media, and that the printer is ready to print.
- 2 Press the 'down' arrow once to enter the menu.
- 3 Follow the flowchart path to get to 'registration'.
- 4 Press 'enter' to print.



During the registration adjustment, the following message displays:

AUTO-ADJUSTMENT PLEASE WAIT
--

Print head problems

To prevent the print heads from drying out, make sure the carriage is in the purge station before turning off the printer. (When the print heads are in the purge station (not in use), they are properly capped).

Print head problems	
Problem	The carriage is moving but no ink appears on media
Solutions	Remove the ink tanks then the printheads, check that the film is removed from the print heads and put back the printheads and ink tanks.
	Ink tanks may be empty, replace empty tanks
	Clean the print heads using the CLEAN HEAD menu (see 'Cleaning the print heads' on page 133)
	Check that the cutter unit is correctly fitted, so that the printer caps the print heads properly in the purge station (see 'Replacing the cutter unit' on page 132).

Problems using colour

No colour	
Problem	Your print is in black and white
Solutions	Check that Colour Mode is set to Full Colour before you send your drawing to the printer (see 'Setting the colour mode' on page 53)
	Check that you have set the 'Pen priority' parameter for the graphic language you are using to 'Setup'. If the 'Pen priority' option is set to Language, you should not define your pen colours on the control panel, or in a remote configuration file (see 'Defining the pen priority' on page 74).

Wrong colours	
Problem	Your drawing is printed with the wrong colours
Solutions	Check the Pen priority setting (see 'Defining the pen priority' on page 74). Choose whether you want to use the pen colours defined in your software application file, or on the printer control panel, or the remote configuration file.
	Check the definition of colours in your printer driver, if applicable

Using the statistics menu

The statistics menu gives information about the printer activity, to use as an indication for the management of supplies or other consumables, for example. It lists the following information:

Print count gives the number of prints that the controller has processed, according to the variables below:

- A0 for files of surface greater than or equal to A0 format
- A1 for files of surface between A1 and A0 format
- A2 for files of surface between A2 and A1 format
- A3 for files of surface between A3 and A2 format
- A4 for files of surface less than or equal to A3 format

Cutter count gives the number of cutter activations.

Power on time gives the total time that the printer has been switched on, in hours

Media length gives the total media length that the printer has printed, in meters (for roll media and cut sheet).

Waste ink tank gives the percentage value of the total capacity used in the waste ink tank.

Carriage time gives the carriage's mechanical time of use, in hours.

Temp env gives the environmental temperature around the printer, in Celsius.

Chapter 9

Connection of the Océ 5250

Connecting the printer:

- *Centronics*
- *Ethernet*



Connecting the printer

This section explains how to connect your printer to your computer. You can connect the Océ 5250 via two connections:

- 1 Centronics
- 2 Ethernet

There are several steps in the connection sequence:

- Connect the appropriate cable to the computer and the printer
- Install and configure the appropriate drivers (see the driver installation instructions)

Additionally, if required, you must do the following for the ethernet connection:

- Configure the printer IP parameters (address, subnet mask and default gateway).
- Configure the printer for the SMB protocol.

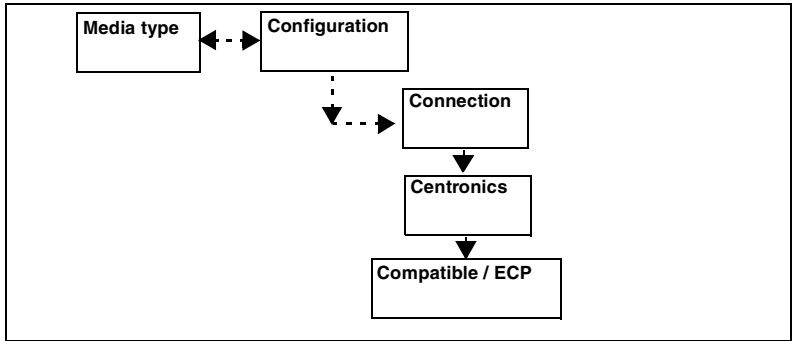
Connecting to a Centronics port

The Centronics port is located at the rear of the printer. It is an Amphenol 36 pin female connector. The maximum Centronics cable length is 4 meters.

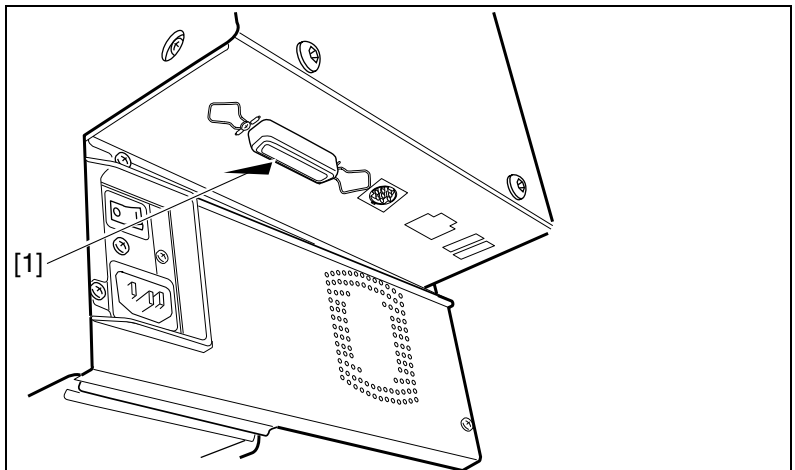
▼ To connect to a Centronics port

- 1 Switch off the printer.
- 2 Connect one end of the Centronics cable to the computer's Centronics parallel port.
- 3 Connect the other end to the printer's Centronics parallel port [1] (see figure 68).
- 4 Switch on the printer, and wait for the auto tests to complete.

Note: *You can set the Centronics port connection to either Compatible or ECP.*



[67] Centronics port mode



[68] Connecting to a Centronics port

Connecting to an Ethernet port

On the back of the Océ 5250 you find an RJ45 connector (10 or 100Mb/s). Ethernet connections use UTP cabling.

Note: *It is advisable to use the RJ45 100 Mbit to have the highest possible performance.*

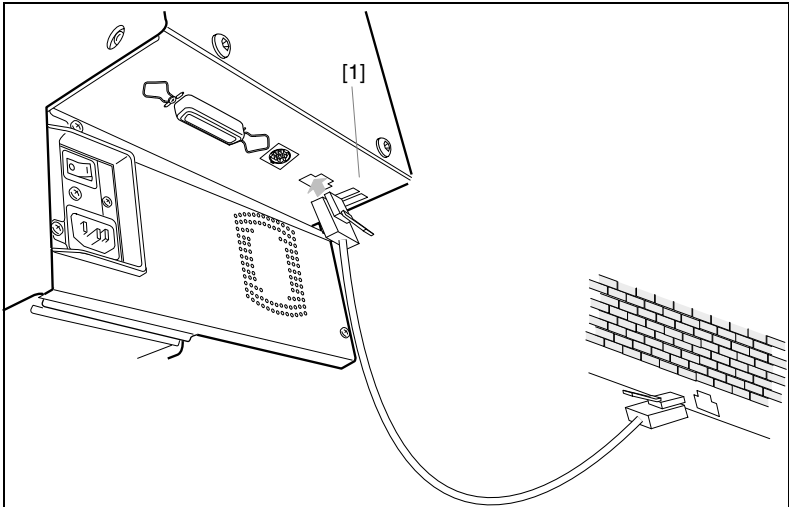
RJ45 (UTP): 10 & 100 Mbit (automatic adjustment).

Ethernet cabling A UTP (Unshielded Twisted Pair) cable looks much like standard phone cable. The cable should have RJ45 plugs.



Connecting Ethernet

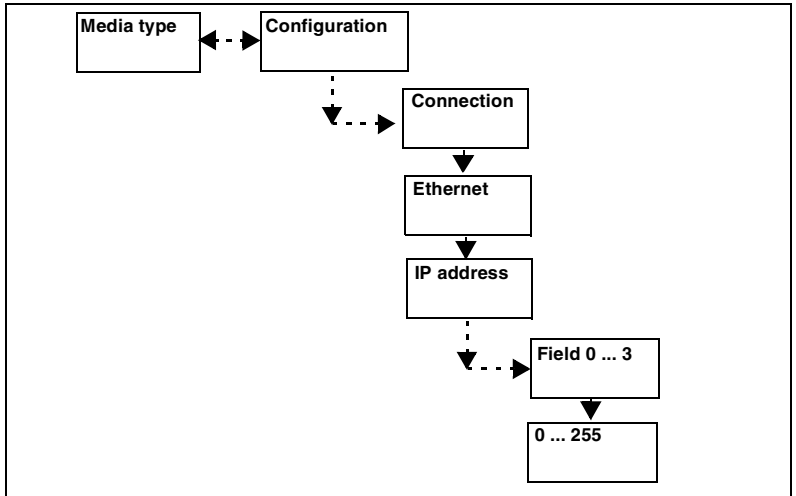
- 1 Connect one end of the Ethernet cable to the computer's Ethernet port.
- 2 Connect the other end to the printer's Ethernet port (see figure 69).



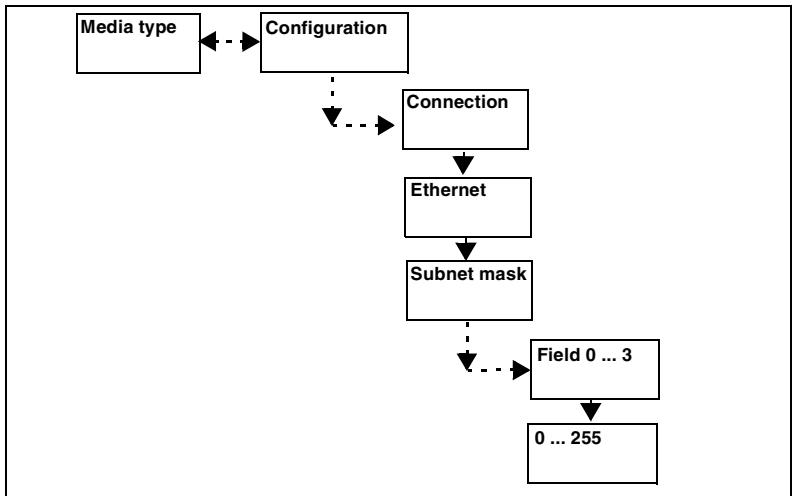
[69] Connecting Ethernet

Setting up the TCP/IP protocol You have to configure the printer IP address, subnet mask and default gateway IP address (check with your local administrator). You can do this on the printer operator panel or via a configuration file.

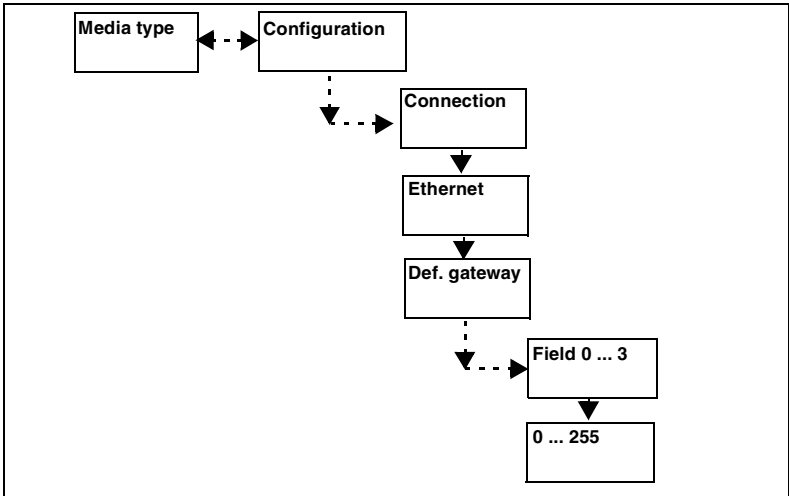
On the printer operator panel Each of these three addresses is composed of 4 numeric fields ranging from 0 to 255. E.g. 194.2.66.146 or 255.255.255.0. On the menu the following order is presented field 0, field 1, field 2, field 3.



[70] Set the IP address



[71] Set the Subnet mask



[72] Set the Default Gateway

Supported printing protocols

The Océ 5250 supports the following printing protocols LPD, FTP, SMB (also known as LAN Manager or Windows networking) on top of TCP/IP. Simultaneous multi protocols and users are supported.

The supported protocols are:

- LPD for Unix, WinNT, MacOS8
- FTP for Unix
- SMB (Netbios over TCP/IP) for all windows platforms

Note: *The mentioned protocols will support printing mechanism. Remote control administration is not supported.*

Preferred printing solution

Windows network

- Use Windows printing through SMB to print directly to the printer from your workstation(s).
- If you experience problems connecting to the printer through SMB or if you want to centralize printing on a server, you can install the printer on the server (for example with a local connection to an lpr port) and then share it to the rest of the network. This can be the case if your printer can be accessed by an important number of clients.

TCP/IP network.

- TCP/IP is common for Unix, Win 95/98/NT and OS/2 operating systems. For Win 95/98 LPD is not standard and must be supplied by third parties. Contact your local service organisation to check the availability of third party shareware or freeware. Use LPD or FTP (in this preference order).

Printing via LPD

After the network connection for the Océ 5250 has been set up (see ‘Connecting to an Ethernet port’ on page 153), you can print via LPD.

The Océ 5250 uses only one queue thus the queue name itself is not important, and you are free to use the queue name you want (e.g. queue 1).

For setting the client side, please contact your system administrator.

Printing via FTP

After the network connection for the Océ 5250 has been set up you can print via FTP.

Note: *The Océ 5250 is web browser compatible and thus the Océ 5250 printer can be accessed like any FTP site from your web browser.*

Note: *For FTP on UNIX systems, please contact your system administrator.*

▼ Printing via FTP (MS-DOS mode)

Note: *Although FTP is not a standard printing protocol, you can send data files to a remote directory via FTP. This remote directory then allows the data files to be printed.*

- 1 Start the MS-DOS prompt.
- 2 Enter the ‘ftp’ command.
- 3 Open a FTP session with the printer using its address or the registered name (HOSTS or DNS).

Note: *Instead of performing steps 2 and 3 you could also enter “ftp host_name” in the FTP client.*

- 4 Enter your user name (e.g. ‘Guest’).
A connection is now set up for the default user ‘Guest’.
- 5 In order to be connected to the remote server, you then validate the user connection by typing in the user password (e.g. ‘Guest’).

Note: *As there is no registered user, you can simply press Enter to initiate the connection. User name and password are not checked by the Océ 5250.*

- 6 Set the transmission mode to binary by entering ‘binary’.
- 7 Go to the jobs directory using the following command: ‘cd jobs’.
- 8 Go to the local directory in which the data you want to print are stored (for example C:\DRAWINGS) by using the following command:

'lcd C:\DRAWINGS'.

- 9 Send the data file (for example: sample.hp) via the 'put' command:
'put sample.hp'.

Note: *The 'mput' command is also supported.*

The data are now sent to the input spool directory of the controller, then processed and finally printed.

- 10 Quit FTP by entering the 'bye' or 'quit' command.

Printing via SMB

On the Océ 5250 SMB (Server Message Blocks) printing is supported for the following types of workstations:

- Windows 95/98,
- Windows NT 4.0.

To make thee Océ 5250 available on Windows 95/98/NT you must do the following:

- Create a configuration file. This file contains information on how the Océ 5250 is known in your network.
- Send the configuration file to the Océ 5250.
- Enable the Océ 5250 on your workstation.



Create a configuration file

- 1 Open the Windows Explorer.
- 2 Browse to the directory where you want to create the configuration file.
- 3 Choose 'File', 'New', 'Text Document'.
- 4 Name the new file in the 8.3 way.

The configuration file is an ASCII file that allows to download a configuration of the Ethernet name items and the SMB name items.

The configuration must consist of the following three parts:

- the file header;
- the configuration definition;
- the file footer.

The file header must be:

[Configuration File]
Océ-Industries S.A. (c) 2000

The configuration definition contains the following keywords:

for the TCP/IP part:

- 1 [IP]
- 2 [SUBNETMASK]
- 3 [DEFAULTGATEWAY]

for the SMB part:

- 1 [WORKGROUPNAME]
- 2 [DEVICENAME]

The file footer must be:

[End of Configuration File]

Below is an example of the content of a configuration file:

```
[Configuration File]
# Océ-Industries S.A. (c) 2000
# ETHERNET
[IP] = 134.188.138.72
[SUBNETMASK] = 255.255.255.0
[DEFAULTGATEWAY] = 134.188.138.4
# SMB
[WORKGROUPNAME] = OCE-PRINTERS
[DEVICENAME] = P-001
[End of Configuration File]
```

You must make the configuration files respecting the following rules:

- 1 Use one keyword per line.
- 2 The keyword must be located at the beginning of the line
- 3 Only one keyword of each type is accepted. If same keywords are found several time in the file, an error message is displayed on the LUI.
- 4 No characters are accepted before the header or after the footer. If there are characters before the header or after the footer the display displays an error message.

- 5 # at a beginning of a line is interpreted as a comment even if there is a keyword in the line.
- 6 The value following a keyword begins after an '=' until the end of the line. If no value is found, an error message is displayed on the controller panel LCDs.
- 7 Ethernet data must be in dot format notation (x.y.z.w).
- 8 SMB names are truncated at 15 characters and must be only composed by space, '_', '-', and alphanumeric characters.



Send the configuration file to the Océ 5250

- 1 Press and hold the left and right keys on the printer operator panel.
- 2 Switch the Océ 5250 on.
The Océ 5250 is in 'download' mode. The text on the display reads 'F/WARE OR CONFIG DOWNLOAD WAITING FOR DATA.'
- 3 Connect the host PC with the configuration file on it to the Centronics port of the Océ 5250.
- 4 Start up the host PC.
- 5 Start up the DOS prompt via the 'Start' menu.
- 6 Browse to the directory where you made the configuration file.
- 7 Enter the following DOS command: 'COPY /B [YOURFILENAME] LPT1'.
A message appears in the display: 'CONFIG DOWNLOAD IN PROGRESS'.
The Océ 5250 reads the configuration file.
- 8 After the configuration file is processed the following message appears in the display: 'CONFIG DONE PLEASE TURN OFF/ON...'.
Turn the Océ 5250 off and on.

Errors

The Océ 5250 does not store the content of the configuration file if the configuration file contains errors. The display shows the following message: 'CONFIG FAILED ERROR #151: PLEASE POWER OFF/ON...'.

If the controller is not able to store the parameters from the configuration file, the display shows the following message: 'CONFIG FAILED ERROR #152: IMPOSSIBLE TO STORE PARAMETERS, PLEASE POWER OFF/ON...'.

In this case, start the machine in normal mode. This is when 'READY' in the display appears. Then power off the machine and try to download the configuration file.

▼ **Enable the Océ 5250 on your Windows 95/98 and NT workstation**

- 1 Log on to your workstation.
- 2 Double-click on the 'Network Neighborhood' icon on your Windows desktop.
- 3 Double-click on the workgroup for which the Océ 5250 has been assigned.
- 4 Double-click on the device name for which the Océ 5250 has been configured.
The list of shared print queues appears.
- 5 Double-click on the desired queue, or,
Right-click on the desired queue then click on install.
Select OCE 5250 PS to be associated with Océ PS driver.
Select OCE 5250 to be associated with Océ Windows Raster driver.
You will be prompted to provide the driver.

Default values:

Workgroup:OCE-PRINTERS

Device Name:P-xxxxxxxxxxxx where xxx are the ethernet address of your printer e.g. P-08003E27E100.

Please contact your local service technician for modifying these default values.

Note: *Be sure that you do not have two printers with the same device name.*

Appendix A

Glossary



Glossary	
ALS	Automatic language sensing. The Océ 5250 printer automatically recognizes the data format of the incoming file.
ANSI	American National Standards Institute for Engineering Drawings. An organization which sets standards for engineering drawings.
Band	One complete line of inkjet printing. One band corresponds to the width of the inkjet head.
Baud rate	The speed at which data flows between the computer and the printer.
Buffer	Area in the printer where data is transferred from the host. Data waits in the buffer to be processed and printed.
Cartridge carriage	Holds the inkjet cartridges and moves them backwards and forwards across the media.
CALS	Computer aided acquisition and logistics support. A raster format which gives very compact files.
CC 906/907	Vector graphic languages designed by CalComp Inc.
Checksum	A method of checking if a block of transmitted data is correct. The checksum character is attached to a block of data.
Compression	Reduces the file size of raster images by encoding the data.
CTS	Clear to send. Serial interface command signal.
Default settings	Factory settings made in the factory.
Dithering	A method of simulating on digital devices the halftone dots used in traditional printing. On black and white devices, dithering produces simulated grayscale; on colour devices it provides varying degrees of colour intensity.
dpi	Dots per inch.
Dump configuration	A printout of the current printer configuration parameters.
Framing	The parity and stop bits necessary for communication over the serial port.
Handshake	An RS-232C communication protocol used to control data flow between a host computer and a printer.
Hardware control CTS	An RS-232C protocol that uses a positive or negative voltage applied to a hardware line (usually CTS) to start or stop data flow.
Host	The source of data sent to the printer, usually a computer.
Inter character delay	A time delay set between each character sent from the printer to the host to allow slower computers time to process one character before receiving the next one.
ISO	International Standards Organization which sets standards for engineering drawings.

HP-GL	Hewlett-Packard graphic language, a vector format designed by Hewlett-Packard.
HP-RTL	Hewlett-Packard raster transfer language, a raster format designed by Hewlett-Packard.
Ink tank	Supplies the ink to the print head.
Media	Material, such as paper and film, used by the printer to create drawing images.
Media sensor	An optical sensor on the printer that detects the presence of media.
Menu access	Access to the printer control panel menu can be limited to selected users by passwords. Three access levels are available.
Origin	The 0,0 point of the print.
Output resolution	The number of dots per inch (dpi) that the output device, such as a printer, produces.
P1	A scaling point that generally specifies the location of a print's lower left corner when using HP-GL format.
P2	A scaling point that generally specifies the location of a print's upper right corner when using HP-GL format.
Parallel port	An interface designed to accept a complete byte of information, including control characters, at the same time. The parallel port on the Océ 5250 is the Centronics port.
Parity	An error checking scheme; parity may be even (even number of ONE bits), odd (odd number of ONE bits) or none.
Pixel	Short for picture element. A pixel is one dot of a bitmap.
Platen	A surface for holding and guiding media while printing.
Print	A drawing produced by the printer.
Print head	The print head on the inkjet cartridge contains very small nozzles which fire droplets of ink onto media to produce a print.
Purge station	A place on the printer where the inkjet cartridge carriage is stored when not in use and where the cartridge head is cleaned and primed.
Purging	A process which cleans the inkjet cartridge head.
Raster file	Also called image or bitmap. A picture composed of individual dots. Raster images have large data files, compared to vector files.
Rasterize	To break down an image into individual scan lines. Nearly all modern graphics monitors and printers are raster-based devices.

RCF	A Remote Control Format file has a file header which contains commands to modify the print attributes such as scale factor, pen definitions, number of copies, etc.
Resolution	The number of dots per inch (dpi) that the output device, such as a printer, produces.
Serial port	An interface designed to accept data one bit at a time. For serial data transmission, the transmission protocol, i.e. baud rate, byte length, stop bits, parity, etc., must be defined before communications can be established so that the printer can recognize the data it receives from the host.
Step size	Aligns the printer and the application input resolution.
Stop bit	In asynchronous transmission mode, a bit that indicates the end of the data byte being transmitted.
Synch character	A character placed at the beginning of a data record to notify the printer that the following data is print data, when using CalComp format.
TIFF	Tag information file format, a raster format.
Time-out	The period of time the printer waits without receiving print data before it considers the print finished.
Turn around delay	When using XON/XOFF protocol over the serial port, a delay can be set between the printer XOFF and XON to allow slower computers the time to process one before receiving the other.
Vector file	Consists of mathematically defined elements, such as a line from A to B, a circle with center and radius, etc. CAD systems use vector drawings because of their accuracy. Vector files are relatively small, compared to raster images.
Wiper blade	A part of the purge station which cleans excess ink from the print head as it passes through.
Xon/Xoff	A coded response from the printer to the computer to control data flow. XON = send more data. XOFF = data buffer is full.

Appendix B

Safety information



Instructions for safe use

Océ designed products have been tested in accordance with the strictest international safety standards. To help assure safe working with these products it is important that you observe the following safety rules:

Maintenance

- Do not remove any screws from fixed panels.
- Do not place any liquids on the machine.
- Use maintenance materials or other materials for their original purpose only. Keep maintenance materials away from children.
- To avoid the risk of introducing hazards, all modifications to Océ equipment are strictly reserved to properly qualified and trained service technicians.

Connection

- If for some reason you have to move the machine yourself, please make sure that the mains power point has the right fuse capacity. See the Océ 5250 safety data sheet in this appendix for information about maximum current.
- Do not bridge any mechanical or electrical circuit breakers.
- Do not use an extension lead to connect the machine.
- It is recommended to connect only those copy-control products (or other products) which meet the (inter)national product safety and radio frequency interference standards, and to use an attachment cable as specified by Océ.
- This equipment has not been designed for connection to an IT power system. (An IT power system is a voltage network in which the neutral wire is not connected to earth).
- For equipment connected via a wall socket: locate the machine close to a wall socket that is easily accessible.
- For equipment connected via a fixed connection to the electricity grid: the disconnect device in the fixed connection should be easily accessible.

Surroundings

- Do not block the ventilation openings of the machine.
- Ensure that the machine is placed on a level, horizontal surface of sufficient strength. See the Océ 5250 safety data sheet in this appendix for information about the weight of the equipment.
- Ensure there is sufficient space around the machine. This facilitates reloading materials as well as maintenance.

- Do not place the machine in rooms which are subject to excessive vibration.
- Do not place the machine in rooms which are too small and insufficiently ventilated. See the Océ 5250 safety data sheet in this appendix for information about space and ventilation requirements.

General

- Always use materials recommended by Océ and developed for this Océ machine. Materials not approved by Océ may result in faults in your machine.
- Do not use the machine when it is emitting unusual sounds. Remove the plug from the power socket or switch off the fixed connection to the electricity grid and contact Customer Service.

Safety data sheet for the Océ 5250

Disclaimer This safety data sheet was compiled as a compact guide to safe product handling and operation, and to the best of our knowledge contains the most complete and accurate information possible. We reserve the right to revise this safety data sheet as new information becomes available. It is the user's responsibility to determine the suitability of this information for the adoption of the appropriate safety precautions for his organization, and to contact Océ to make sure that he is in possession of the latest version of the sheet. If and insofar as limitation of liability is permitted under the applicable laws, we accept no liability for any inaccuracies in this safety data sheet.

Note: *Not all safety data sheets were available at the moment this manual was published. The Océ organisation in your country will be pleased to send you a copy of the missing sheets. You can find the address of the Océ organisation in your country in the last appendix of this manual.*

EPA ENERGY STAR®

Océ-Technologies B.V. has joined the ENERGY STAR® Program of the United States Environmental Protection Agency (EPA). The purpose of the ENERGY STAR® Program is to promote the manufacturing and marketing of energy-efficient equipment in order to reduce combustion-related pollution.

As an ENERGY STAR® Partner, Océ-Technologies B.V. has determined that this copier meets the ENERGY STAR® guidelines for energy efficiency.

The EPA ENERGY STAR® criteria for printers involve:

Sleep mode (also called Low Power mode) This feature prevents unnecessary power consumption and offers economical and environmental benefits.

When the Océ 5250 printer is not producing hard copy output its power consumption immediately is less than the ENERGY STAR® requirement for the sleep/low-power mode and amounts to 22 Watts¹.



Note: ENERGY STAR® is a registered mark.

1. For power consumption data, see 'Safety data sheet for the Océ 5250' on page 170.

Appendix C

Miscellaneous



Notation conventions

There are a number of notation conventions used in this manual. This consistent style enables you to quickly become conversant with the use of this manual and consequently the Océ 5250.

Description Each section or subsection contains a description of the feature or operation identified in the title. It might also include possible applications, as well as any guidelines that you should bear in mind.

Procedures A description is followed by a procedure. A procedure always begins with a phrase which briefly describes the procedure, followed by a series of numbered steps that take you, step by step, through all phases of performing the operation.

Figures and tables Figures and tables are titled and numbered sequentially throughout this manual. Figures include pictures of product components, screendumps, examples, and diagrams of concepts discussed in the description.

Attention getters There are several types of information to which we draw your attention. This information is classified as follows:

Note: *In a 'Note', information is given about matters which ensure the proper functioning of the machine or application, but useful advice concerning its operation may also be given.*

Attention: *The information that follows 'Attention' is given to prevent something (your copy or original, the copier or printer, data files etc.) being damaged.*

Caution: *The information that follows 'Caution' is given to prevent you suffering personal injury.*

Reader's comment sheet

Have you found this manual to be accurate?

- Yes
- No

Could you operate the product after reading this manual?

- Yes
- No

Does this manual provide enough background information?

- Yes
- No

Is the format of this manual convenient in size, readability and arrangement (page layout, chapter order, etc.)?

- Yes
- No

Could you find the information you were looking for?

- Always
- Most of the times
- Sometimes
- Not at all

What did you use to find the required information?

- Table of contents
- Index

Are you satisfied with this manual?

- Yes
- No

Thank you for evaluating this manual.

If you have other comments or concerns, please explain or suggest improvements overleaf or on a separate sheet.

Comments:

Date:

This reader's comment sheet is completed by:
(If you prefer to remain unknown, please do fill in your occupation)

Name:

Occupation:

Company:

Phone:

Address:

City:

Country:

Please return this sheet to:

Océ-Technologies B.V.
For the attention of ITC User Documentation.
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Send you comments by E-mail to : itc-userdoc@oce.nl

For the addresses of local Océ organizations see : www.oce.com

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Appendix D

Technical reference

- *Product specifications*
- *Printer default settings*
- *Serial and Centronics configuration*
- *Software commands*



Product specifications

Print specification			
Accuracy	± 0.2%		
Resolution	addressable 720 dpi		
Drawing Margins	Top	Bottom	Sides
	20 mm	10 mm to 0 mm	5 mm
Min. line thickness	0.071 mm/0.003"		
Max. media length	18000 m		
Max. media width	roll	914 mm (architecture6)	
Media thickness	75mm-165mm / 64-128gr/m ²		
Media	plain paper, coated paper, tracing paper, polyester film		
Min. media width	250 mm (euro-DIN A4)		
Input interfaces	RS-232-C (up to 38400 baud)		
	Centronics (P1284 IEEE Compatible mode)		
	Ethernet		
Input data formats	HP-GL, HP-GL/2, HP-RTL, CALCOMP, CALS, TIFF, PS2		

Environmental specification				
Electrical requirements	Voltages	100-240 V (Automatic switching)		
	Frequency	50-60 Hz		
	Consumption (max.)	120 Watts (max)		
Climatic requirements	Temperature	Operating	15 to 30° C	
		Storage	-5 to 35° C	
	Humidity	Operating	20% to 80% RH	
		Storage (6 months)	35% to 85% RH	
Noise level	20 db (standby), less than 52 db (operating) ISO 9296 compliant			
Ink tank and print head	Cartridge type	separate print head and ink tank		
	Ink tank / print head	Black, Black, Cyan, Magenta, Yellow		
	Storage	Temperature	-10 to 35° C	
		Humidity	10% to 95%	

Printer default values

Controller settings		
Names	Default value	Possible values
Display Access	full	full, short, locked
Colour mode	full colour	monochrome, full colour
Media Mode	roll no cut	roll no cut, roll with cut, cut sheet
Quality	normal	draft, normal, high
Media type	coated	standard, coated, film, other
Language	english	english, french, german, spanish, italian, portuguese, dutch, danish
Priority	X alignment	X alignment, X accuracy
X accuracy	0	
X adjustment	0	[-80..80]
A0 print count	0	[0.. 4294967295]
A1 print count	0	[0.. 4294967295]
A2 print count	0	[0.. 4294967295]
A3 print count	0	[0.. 4294967295]
A4 print count	0	[0.. 4294967295]
Power on time	0	[0.. 4294967295]
cutter count	0	[0.. 4294967295]
Serial number	20201	[10000.. 4294967295]
Media Length	0	[0.. 4294967295]
Rendering	Cloud	cloud, scattered

Language settings		
Names	Default value	Possible values
Data format	auto	hpgl, hpgl2, calcomp, tiff, calcs, auto
HP origin	center	lower right, center, upper left, upper right, lower left
HP page advance	yes	no, yes
HP transparency	merge	merge, overlay
HP2 origin	lower right	lower right, center, upper left, upper right, lower left
HP2 page advance	yes	no, yes
HP2 Priority	language	language, setup
HP2 transparency	overlay	merge, overlay

Language settings (continued)		
PS2 page layout	portrait	portrait / landscape
PS2 page size		A1, A2,...ANSIE E, ANSIE D
HP-GL 2 line attribute	Oce round	HP emul / Oce round
Calcomp origin	lower right	lower right, center, upper left, upper right, lower left
Calcomp checksum	yes	no, yes
Calcomp synch code	3	[0..63]
Calcomp EOM	2	[0..30]
Calcomp double synch	no	no, yes
Calcomp step	2032	100, 2032, 4064
Calcomp priority	language	language, setup
Calcomp transparency	merge	merge, overlay

Pen attributes		
Names	Default value	Possible values
Pen width (pen 0-999)	0,21	0.07, 8.96
Pen colour (pen 0-999)	0..256	[0..256]
Pen pattern (pen 0-999)	16	[1..32]

Print transformations		
Names	Default value	Possible values
Print time-out	180	15, 30, 180, 500
Number of copies	0	[0..99]
Reprint	disable	disable, enable
Long print	disable	disable, enable
Media saver mode	off	off, auto-positioning, nesting
Media saver time-out	off	off, 1, 5, 15, 30, 60,
Media format	Iso	Iso, Ansi, Architect
X scale	100	[5..2000]
Y scale	100	[5..2000]

Print transformations (continued)		
Auto scale	off	off, best fit, A4, A3, A2, A1, A0, A, B, C, D, E, A', B', C', D'
Auto scale cut sheet	off	
Rotation	0	0, 90, 180, 270
Mirror	off	off, x mirror, y mirror

Handshake protocols

Centronics protocol

Centronics uses hardware handshaking. The computer sends a STROBE signal to move each byte of data into the printer, at which time the printer signals BUSY. When the transfer is complete, the printer sends ACKNOWLEDGE to the computer and another cycle can begin.

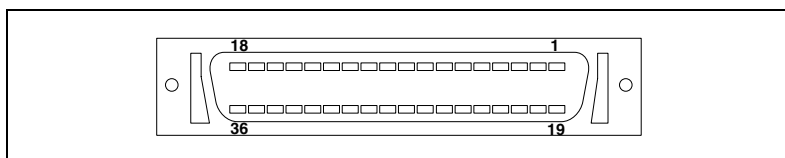
Centronics port configuration

The Centronics parallel port is located at the back of the printer.

The following diagrams describe the Centronics port pin assignment. For further details, refer to the IEEE P1284 standard.

Centronics port pin assignment			
Printer Pin No.	Signal direction	Name of the signal	
11	Printer to Host	BSY	Busy
13	Printer to Host	SELECT	Select
10	Printer to Host	ACKN	Acknowledge
32	Printer to Host	FAULTN	Fault
12	Printer to Host	PAPEROUT	Paper error
2	Host to Printer	Data 1	Data 1 (LSB)
3	Host to Printer	Data 2	Data 2
4	Host to Printer	Data 3	Data 3
5	Host to Printer	Data 4	Data 4
6	Host to Printer	Data 5	Data 5
7	Host to Printer	Data 6	Data 6
8	Host to Printer	Data 7	Data 7
9	Host to Printer	Data 8	Data 8 (MSB)
31	Host to Printer	INITN	Initialize
1	Host to Printer	STROBEN	Strobe
36	Host to Printer	SELECTINN	Select In
14	Host to Printer	AUTOFDN	
18	Host to Printer	+ 5V OUT	
16-17, 19-30	-----	GND	Ground

Note: STROBE is the dialog



[73] Centronics connector

Software commands

HP-GL commands

The following HP-GL commands are implemented on your Océ 5250 printer. Refer to the HP-GL Reference Manual P/N 410220544.

HP-GL commands			
AA	Arc Absolute	FS	Force select (No op)
AF	Advance Full Page (End print)	FT	Fill Type
AH	Advance Half Page (End print)	GC	Group count number (No op)
AP	Automatic penperation (No op)	GM	Graphics memory (No op)
AS	Pen acceleration select (No op)	GP	Designate group (No op)
AR	Arc Relative	IC	Input character (No op)
BF	Buffer Print (No op)	IM	Input Masks
BL	Buffered Label String	IN	Initialize (Start print)
CA	Designate Alternate Character Set	IP	Input P1 and P2
CC	Chord angle (No op)	IV	Invoke Character Set
CI	Circle	IW	Input Window
CM	Character Select Mode	KY	Assign key (No op)
CP	Character Print	LB	Label ASCII String
CS	Designate Standard Character Set	LO	Label Origin
CT	Chord Tolerance	LT	Line Type
CV	Curve generator (No op)	NR	Not Ready
DC	Digitize clear (No op)	OA	Output Actual Position
DF	Set to Defaults	OB	Output box (No op)
DI	Absolute Direction (Characters)	OC	Output Pen Position and Status
DL	Downloadable Characters	OD	Output Digitize Point (No op)
DP	Digitize Point (No op)	OE	Output Error
DR	Relative Direction (Characters)	OF	Output Factor
DS	Designate Character Set	OG	Output count number (No op)
DT	Define Label Terminator	OH	Output Hard-clip Limits
DV	Define Vertical Text Path	OI	Output Identification
EA	Edge Rectangle Absolute	OK	Output Function Key (No op)
EC	Enable Cutter (No op)	OL	Output Label Length
EP	Edge Polygon	OO	Output Options
ER	Edge Rectangle Relative	OP	Output P1 and P2
ES	Extra Space (Characters)	OS	Output Status
EW	Edge Wedge	OT	Output Carousel Type (No op)
FP	Fill Polygon	OW	Output Window

HP-GL commands (continued)			
FR	Advance Frame	PA	Print Absolute
PB	Print Buffered Label	SL	Character Slant
PD	Pen Down	SM	Symbol Mode
PG	Advance Full Page (End print)	SP	Pen Select
PM	*Polygon Mode	SR	Relative Character Size
PT	Pen Thickness	SS	Select Standard Font Set
PU	Pen Up	TL	Tick Length
RA	Fill Rectangle Absolute	UC	User-Defined Character
RO	Rotate	UF	User-Defined Fill Type
RP	Reprint (End print)	VA	Activate adaptive velocity (No op)
RR	Fill Rectangle Relative	VN	Velocity normal (No op)
SA	Select Alternate Character Set	VS	Velocity select (No op)
SC	Scaling	WD	Write display (No op)
SG	Select Pen Group (No op)	WG	Fill Wedge
SI	Absolute Character Size	XT	X-Tick
Note: The maximum number of edges within one polygon is 30, 000 and the maximum number of sub-polygons within one polygon is 30, 000. However, the maximum number of edges you can actually use depends on the amount of memory installed on your Océ 5250.			

HP-GL escape sequences

Escape sequences marked with an asterisk are partially implemented.

HP-GL escape sequences	
<ESC>.A	Output Identification
<ESC>.B	Output Buffer Space
<ESC>.E	Output Extended Error
<ESC>.H	* Set Handshake Mode 1
<ESC>.I	* Set Handshake Mode 2
<ESC>.J	* Abort Device Control
<ESC>.K	Abort Graphic Instruction
<ESC>.L	Output buffer size when empty
<ESC>.M	* Set Output Mode
<ESC>.N	* Set Extended Output and Handshake Mode
<ESC>.O	Output Extended Status
<ESC>.P	* Set Handshake Mode
<ESC>.Q	Set monitor mode (No op)
<ESC>.R	Reset
<ESC>.S	Output Memory Size
<ESC>.T	* Configure Memory
<ESC>.U	End flush mode (No op)

HP-GL escape sequences (continued)	
<ESC>.Y	Programmed on Mode
<ESC>.Z	Programmed off Mode
<ESC>.(Programmed on Mode
<ESC>.)	Programmed off Mode
<ESC>.@	* Set Printer Configuration

HP-GL/2 commands

The following HP-GL/2 commands are implemented on the Océ 5250 printers. Commands are marked as follows:

- an asterisk (*): partially implemented
- (ns): not supported

HP-GL/2 commands			
KERNEL - CONFIGURATION & STATUS			
CO	Comment*	IW	Input Window
DF	Default values	PG	Advance Full Page
IN	Initialize	RO	Rotate co-ordinate system
IP	Input P1 and P2	RP	Reprint
IR	Input Relative P1 and P2	SC	Scale
KERNEL - VECTOR			
AA	Arc Absolute	DT	Define label terminator*
AR	Arc Relative	DV	Define variable text path (ns)
AT	Absolute Arc Three Point	ES	Extra Space *
CI	Circle	LB	Label
PA	Print Absolute	LO	Label Origin
PD	Pen Down	SA	Select Alternate font
PE	Polyline Encoding*	SD	Standard Font Definition *
PR	Print Relative	SI	Absolute Character Size
PU	Pen Up	SL	Character Slant*
CP	Character Print	SR	Relative Character Size
DI	Absolute Direction	SS	Select Standard font
DR	Relative Direction	TD	Transparent data
		RT	Relative Arc Three Points
KERNEL - POLYGON			
EA	Edge rectangle absolute	PM	Polygon mode *
ER	Edge rectangle relative	RA	Fill rectangle absolute
EW	Edge Wedge	RR	Fill rectangle relative
EP	Edge Polygon	WG	Fill Wedge
FP	Fill Polygon *		

HP-GL/2 commands (continued)			
KERNEL - LINE AND FILL ATTRIBUTES			
AC	Anchor Corner (ns)	RF	Raster Fill definition
FT	Fill Type *	SM	Symbol mode
LA	Line Attributes (ns)	SP	Select Pen
LT	Line Type*	UL	User-defined line type
PW	Pen Width	WU	Pen width unit selection
KERNEL - CHARACTER			
AD	Alternate Font definition *	CF	Character Fill mode (ns)
TECHNICAL GRAPHICS EXTENSION			
BP	Begin Print	MC	Merge Control mode (on/off) opcode (logiciel operation) *
CT	Chord Tolerance mode		
DL	Downloadable Character		
EC	Enable Cutter (ns)	FR	Frame Advance
MG	Message	OP	Output P1 and P2
MT	Media type (ns)	OS	Output status
NR	Not ready	PS	Print size
OE	Output Error	QL	Quality level (ns)
OH	Output hard-clip limits	ST	Sort (ns)
OI	Output identification	VS	Velocity select (ns)
PALETTE EXTENSION			
CR	Set colour range for relative colour data	SV	Screened vector
NP	Number of pens	TR	Transparency mode
PC	Pen colour assignment		
DUAL- CONTEXT EXTENSION			
<ESC>% #A	Enter PCL mode	FN	Secondary font selection by ID (ns)
<ESC>E	Reset	SB	Scalable or bitmapfonts (ns)
FI	Primary font selection by ID (ns)		
DIGITIZING EXTENSION			
DC	Digitize clear (ns)	OD	Output digitize point and pen status (ns)
DP	Digitize point (ns)		
ADVANCED DRAWING EXTENSION			
BR	Bezier relative	PP	Pixel placement
BZ	Bezier relative		
ADVANCED TEXT EXTENSION			
LM	Label mode		
Note: The maximum number of edges within one polygon is 30,000 and the maximum number of sub-polygons within one polygon is 30,000. However, the maximum number of edges you can actually use depends on the amount of memory installed on your Océ 5250.			

HP-RTL commands

The following commands are implemented or recognized by the Océ 5250 Printer.

CONTEXT SWITCHING	
<ESC> % # A	Enter PCL mode *
<ESC> % # B	Enter HP-GL/2 mode *
<ESC> E	Reset
<ESC> %-12345X	Universal Exit Language *
<ESC>&b#W[data]	Appel Talk configuration (ns)
DEFINING AN IMAGE	
<ESC> * t # V	Destination raster height
<ESC> * t # H	Destination raster Width
<ESC> * &a# H	Move CAP horizontal (decipoints)
<ESC> * p# X	Move CAP horizontal (RTL units)
<ESC> * p# Y	Move CAP vertical (RTL units)
<ESC>&a#N	Negative Motion (ns)
<ESC>*b#L	Raster Line Path
<ESC>*t#R	Set graphics Resolution
<ESC>*r#T	Source Raster Height
<ESC>*t#S	Source Raster Width
<ESC>*b#Y	Y Offset
DEFINING COLOURS	
<ESC>*v#W[data]	configure image data
	direct by pixel *
	direct by plane *
	indexed by plane
	indexed by pixel
	plane by plane
<ESC>*v#aIA	Set red Parameter
<ESC>*v#bIB	Set Green Parameter
<ESC>*v#cIC	Set Blue Parameter
<ESC>*v#III	Assign colour index number
<ESC>*p#P	Push/pop palette (ns)
<ESC>*v#S	Foreground Colour (ns)
<ESC>*r#U	Simple Colour Mode *
<ESC>*t#jJ	Render Algorithm (ns)
DEFINING PATTERNS	
<ESC>*v#tIT	Current Pattern (ns)
<ESC>*c#W[data]	Download Pattern (ns)
<ESC>*c#qIQ	Pattern Control (ns)
<ESC>*c#gIG	Patern ID (ns)

CONTEXT SWITCHING (continued)	
<ESC>*p#rIR	Pattern Reference Point (ns)
INTERACTIONS BETWEEN PICTURE	
<ESC>*I#oIO	Logical Operation *
<ESC>*v#oIO	Pattern Transparency Mode (ns)
<ESC>*V#nIN	Source Transparency Mode
TRANSMITTING DATA	
<ESC>*r#aIA	start raster graphics
<ESC>*rC	end raster graphics
<ESC>*b#V[data]	transfer data by plane
<ESC>*b#W[data]	transfer data by row/block
<ESC>*b#mIM	set compression method
	unecoded (row, block)
	run-length
	TIFF packbits
	seed-row
	adaptive
	CCITT G31d & 2d, G4

Note: *Some HP-RTL commands must end with an uppercase letter, for example: ESC % # A.*

Note: *Some HP-RTL commands may end with a lowercase or an uppercase letter, for example: ESC % # x or ESC % # X.*

CalComp commands

The following commands are implemented or recognized by the Océ 5250 printers. Commands are marked as follows:

- an asterisk (*): partially implemented
- No op: the command is recognized but not emulated.
- Not supported: the command is not recognized and this could confuse the decoder.

CalComp commands		
Code	Command name	Remarks
00	no operation	
01	*search address	
02	pen down	
03	pen up	
04	pen select	
05	symbol string	
06	controller symbol scaling	
07	radix	
08 00	disable double buffering	Generates end of print
08 01	enable double buffering	
08 {02/03/07}	escape set<cc protocol>	No op
08 {04/05/06/08}	escape set<cc protocol>	No op
08 09	disable Del	No op
08 0A..08 0D	buffer size	No op
09	scaling	
0A	pause	No op
0B 00 03	manual	No op
0B 00 04	no-op	
0B 00 05	printer performance	No op
0B 00 06	new print	Generates end of print
0B 00 08 0B	chordal tolerance	
0B 00 09 0B	*font select	Not all symbols are coded
0B 05 0E	symbol characteristics no slant	
0B 05 0F	symbol characteristics slant	
0B 06	printer dependent	Not supported
0B 07	symbol scaling	
0B 08	dash bypass	May interfere with 0D
0C	circle	
0D	dash line	
0E 00..0E 05	print selected symbol	Not all symbols are coded
0E 06	operator message	No op

CalComp commands (continued)		
0E 07	operator message pause	No op
0E 08..0E 0C	*select symbol set	Not all symbols are coded
0E 0D	define user symbol set	
0E 0E	erase user symbol set	
0E 0F	*print any symbol	Not all symbols are coded
0E 10	diagnostic	Not supported
0E 11	negate print	No op
0E 12	set pen	16 pen thicknesses
0E 13 00	paper cut	No op
0E 13 01	top form	No op
0E 14	async	No op
0E 15	*pattern fill	Only 16 predefined patterns
0E 16	set pattern	No op
0E 17	reserved	No op
0E 18	start print	No op
0E 19	force print	No op
0E 1A	Printer select	No op
0E 1B	Print copies	
0E 1C	printer performance	No op
0E 1D	mirror	
0E 1E	*window	Exclusive window not supported
0E 1F	rotation	
0E 20	*new pen	Inside 999 set
0E 21	extended pattern fill	
0E 22	extended set pattern	
0E 23	colour modify	
0E 24	colour sequence	No op
0E 25	disk I/O	No op
0E 26	new level	No op
0E 27	print status	No op
0E 28	*extended set pen	Inside 999 set
0E 29	set level	No op
0E 2A	raster fill	No op
0E 2B	pixel	No op
0E 2C	area fill	
0E 26	new level	No op
0F	end of print	
10 to 3F	delta	

Index

A

accuracy 180
aligning
 media 49
ansi 56
appendices 179
architect 56
archiving 123
arrow key
 down 27
 left 27
 right 27
 up 27
automatic language sensing 100
autopositioning 68
autoscaling 60

B

banner messages 137
bgl
 commands 192
 escape sequences 192

C

cable
 centronics 152
 power 26
calcomp
 commands 192
 pen priority 74
calcomp parameters 112
calcomp step size 116
calibrating the océ 5150 85
cals 117
carriage locking screw, removal 23
centronics
 port configuration 185

 protocol 184
centronics port connection 152
chapter 8 troubleshooting 135, 151
checksum parameter 112
cleaner blade, installation 22
cleaning
 general 128
 print heads 133
clear film 122
clipped print 69
cloud 93
colour
 problems 149
 setting pen colours 72
commands
 calcomp 192
 hp-gl 186
 hp-gl/2 188
 hp-rtl 190
 software 186
components, printer 12
connecting 32, 152
 centronics port 152
connecting the printer 32
connecting to a centronics port 32
connection 151
control panel 27
control panel, arrows, leds, keys 27
control panel, flowchart instructions 30
control panel, message display window 29
copying
 diaz 123
 plain paper 123
cutter unit replacement 132

D

data format selection 101
default gateway 154
diazocopying 123
double matt film 122
double synch parameter 115
draft mode 54

E

- electrical requirements 180
- end of message parameter 113
- environment
 - storage 180
 - working 16, 180
- escape sequences
 - hp-gl 187
- ethernet connection 153

F

- film 122
- firmware upgrade 94
- flush media saver 67
- format
 - media 56
- ftp 158
- full menu 79

H

- handshake protocols
 - centronics 184
- hp-gl
 - commands 186
 - escape sequences 187
 - frame advance command 84
- hp-gl, hp-gl/2 commands 108
- hp-gl/2
 - commands 188
- hp-rtl
 - commands 190
 - comments 111
- hp-rtl commands 111

I

- i/o power switch 26
- ink
 - smearing 144
- installation, preparing 10
- installation, required space 10

ip address 154

L

- language selection 31
- lpd 158

M

- margins 180
- media
 - aligning roll media 49
 - format 56
 - maximum width 180
 - recommendations 125
 - storing 125
- media mode selection 42
- media saver 64
- media saver, flush 67
- media saver, nesting 64
- media types 122
- media, choosing 123
- menu,full 79
- messages
 - printer 137

N

- nesting 64
- noise level 180

O

- océ
 - pen priority 74
- operating recommendations 16
- overlay 102

P

- page advance, hp-gl, hpgl/2 106
- pen colours and patterns 72

- pen pattern menu 73
- pen priority
 - calcomp 74
 - hp-gl/2 74
 - océ 74
- pen priority 74
- pen width 70
- pens
 - pen priority 74
- poor print quality 144
- port
 - centronics 152
- power
 - cable 26
 - switch 26
- premium grade paper 122
- print
 - non standard size 65
- print
 - ftp 158
 - lpd 158
- print head,quality 146
- print heads 34
- print heads, installation 35
- print heads,cleaning 133
- print origin 104
- print quality
 - setting 54
- print quality problems
 - ink smearing 144
- print queues 64
- printer
 - accuracy 180
 - environment 16
- printer components 12, 18
- printer default values 181
- printer installation 21
- printer, switch on 26
- printer, unpacking 17
- printer,messages 137
- priority
 - pen 74

Q

- quality mode
 - setting 54

- quality setting 54
- queues 64
- quick reference card 15

R

- registration print 86
- rendering 93
- resolution 180
- roll media
 - aligning 49
- roll with cut 42

S

- safety information 168
- saving media 64
- scaling a print 59
- scattered 93
- serial
 - protocols 184
- serial port connection 153
- setting up tcp/ip 154
- short menus 78
- single matt polyester film 122
- smb 159
- sp0 command 106
- specifications
 - environmental 180
- standard paper 122
- statistics menu 150
- subnet mask 154
- switching on the printer 26
- synch code parameter 114

T

- temperature 180
- tiff 117
- time-out
 - media saver 66
- tracing paper 122
- transparency mode 102
- transporting the printer 134

U

- unpacking the printer 17
- upper case in commands 191

V

- voltage 180

W

- white glossy film 122
- wiper blades care 130

X

- x
 - scaling 59
- x-accuracy 89
- x-alignment 87
- x-alignment or x-accuracy 92

Y

- y
 - scaling 59