



Gemini 2

Thermal / Thermal Transfer Windows Label Printer

Operator's Manual





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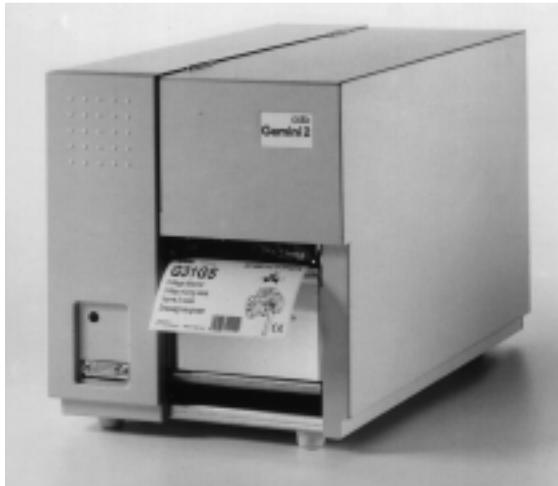
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Gemini 2

Thermal Transfer Printer Operator's Manual



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1 Introduction

Introducing the Gemini 2 Windows Barcode Printer

The **Gemini 2** is an innovative printer designed to work only in a Windows™ environment. Instead of buttons on a printer's front panel, printer configuration and control is provided by the Gemini Control Panel Application running under Windows. The **Gemini 2** driver allows printing from almost any Windows application, such as MS Word™, Write, WordPad, Access® and Visual Basic™, as well as Lotus® Approach®, Paradox® and dBASE® among others. Bar code labels can be created with existing Windows applications using the special barcode fonts built into the driver, eliminating the need for special labeling software.

Gemini 2 uses the true type fonts available with your Windows applications, and accepts all graphic types supported by Windows, resulting in exceptional flexibility in font and graphic choices. Fonts and graphics are downloaded as needed with the high-speed bi-directional Centronics interface, providing an exceptionally quick time to first label printing.

The **Gemini 2** is built to work only with Windows, and takes full advantage of Windows features. Its simple design requires a minimum of effort and expertise for loading and maintaining the printer. From configuration and setup to ongoing operation, use of the online Gemini Control Panel Application simplifies the operator's job. Extensive Online Help is provided covering all features and functions available within the Control Panel Application and Printer Setup. In addition, help topics covering 'Printing from Windows Applications' and 'Barcode and Symbology information' are included.

The **Gemini 2** standard device is manufactured without an internal rewind, but the internal rewind is available as an option, that can be installed very simply. The internal rewind can be used to rewind the label backing paper when using the printer in dispense mode or it may be used to rewind short runs in the printer. To rewind a full roll of labels the optional external rewind is required.

Agency Compliance and Approvals

Gemini 2 complies with the following safety regulations:

CE : Conforms to the following guidelines:
EC guideline for low voltage (73/23/EEC)
EC guideline for machinery (89/392/EEC)
EC guideline "electro-magnetic compatibility" (89/336/EEC)
 foll. 93/31/EEC

FCC : **Gemini 2** complies with Part 15 of FCC rules.
Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions in this manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Technical Specifications

Printing

Type:	Direct Thermal or Thermal Transfer
Resolution:	203 dots per inch (dpi) = 8 dots/mm.
Print Speed:	2" (50mm) - 4" (100mm) per second
Maximum Print Width:	4.1" (104mm).
Maximum Print Length:	12" (305mm)

Printed Images:

Character Sets:	All character sets supported by Microsoft Windows.
Font Expansion:	Dependent on font selected, as supported by Microsoft Windows.

Bar Code Symbolologies:	Barcode symbolologies along with a variety of check character options are provided as fonts in the Gemini 2 Driver. These include: Codabar, Code 128, Code 39, Code 39-Mod 43, EAN13, EAN8, Interleaved 2 of 5, Interleaved 2 of 5-Mod 10, MSI+10, PDF417, POSTNET, UCC, UPC/EAN 2 digit Add On, UPC/EAN 5 digit Add On, UPC-A, UPC-E0, UPC-E1, NW 7, QR, Datamatrix
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Bar Code Density:	Fixed choices are available which further define the font being selected. Depending on the symbology, ratios including 2:1, 3:1 and 5:2 may be selected. Also dependent on the symbology, the bar width multipliers range from 1 to 8.
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Graphics:	All monochrome graphic types supported in Windows.
Label Rotation:	Portrait and Landscape, Reverse Portrait and Reverse Landscape with Flip Format option.

Media

Label Width:	up to 4.5"(116mm)
Label Length:	.3" - 11.8" (6 - 300mm)
Label Type:	Roll-fed, die-cut or continuous labels, tags or tickets; most direct thermal or thermal transfer materials.
Supply Roll:	Up to 8" (200mm) diameter on 1.6" - 3" (40 - 75mm) cores. Labels may be wound face-in or face-out on the roll.
Label Material:	Standard labels and Cardboard / Tags Thickness: 0.0024" to 0.0098" (0.06mm to 0.25mm) Direct Thermal, Thermal Transfer and various Synthetics including: thermal transfer plaincoated papers, vinyl, Mylar, metalized paper, non-woven fabric, fine woven

fabric, thermal visible light scannable paper, infrared scannable paper, thermal ticket/tag stock, thermally sensitive plastic stock.

Transfer Ribbon:

Width up to 4.5" (114mm);
Length 1182' (360m);
Rolls up to 3" (75mm) diameter on 1" (25mm) cores.

Printer

Memory:

Internal memory 256KB

Interface:

High-speed bi-directional Centronics Parallel

Peripheral Connector:

15-pin Sub-D socket for cutter or present sensor

Indicators/Switches:

Power-on LED on front panel;
Power Switch on back of printer above Power Cord

Physical

Dimensions:

Height: 10.6" (280mm)
Width: 9.8" (250mm)
Depth: 18" (432mm)

Weight:

28.7 lbs (13Kg)

Electrical

Operating Voltage:

Switchable between 115V / 60 Hz or 230V / 50 Hz

Circuit Protection:

115VAC / 60Hz use 3.15 AT fuses;
230VAC / 50Hz use 1.6 AT fuses;

Environmental

Operating Temperature:

50°F to 95°F (10°C to 35°C)

Humidity:

30% to 85%.

Other Features

Status Indication:

LED on front panel uses slow blink to indicate pause and rapid blink to indicate error
Status provided through the on-screen Gemini Control Panel application includes:

- Number of labels left in printer
- Out of labels / Out of ribbon
- Printer state - paused or not paused
- Demand Mode indication
- Miscellaneous error messages

Sensors:

"See-through" for die-cut labels; bottom reflective for black stripe sensing; horizontally adjustable from .12" to 2.20" (3 - 56mm)
Ribbon-out sensor

Optional Features

Internal Rewinder

This option (including a rewind guide plate) offers to rewind small print jobs internally. The maximum rewind diameter greatly depends on the size of the remaining media roll.

The rewriter will be attached on the mounting plate of the printer with three screws.

For operation in the demand mode with the option "Present Sensor" the use of the internal rewriter is necessary too.

External Media Rewinder

For rewinding large print jobs, an external rewriter is available to handle an entire label roll. Please note, that for an external rewriter, the maximum size of the supply roll is limited to 8 in (200 mm) with a core diameter of 3 in (75 mm), or a supply roll may be up to 7.5 in (190 mm) with a core diameter of 1.6 in (40 mm).

The external rewriter is mechanically linked to the **Gemini 2** by an adapter plate, but works independently through its own power supply. Consequently, the rewriter requires its own separate outlet for operation.

Cutter Assembly

With the optional cutter unit, labels or continuous media (up to 180 g/sqm) may be cut immediately after printing.

The cutter is powered and controlled directly by the peripheral connector of the **Gemini 2**.

For cutter operation, the firmware of the **Gemini 2** will automatically backfeed the label, so that after cutting, the label roll will be repositioned for the print of the next label.

Present sensor (for Gemini 2 with installed internal rewriter)

This option allows for on-demand labelling. The present sensor consists of the tear-off plate and the sensor itself. The sensor, which is attached to the **Gemini 2** by the peripheral connector, indicates the presence of a label, and pauses the printing process until the label is removed.

2 General Safety Regulations



CAUTION !

The **Gemini 2** is built exclusively to print die-cut labels, continuous media, and similar materials as listed in the Technical Specifications.

- Connect the printer only to an outlet with the correct voltage. The **Gemini 2** is configured for either a 115V or 230V power supply, which can be switched using the input voltage selector at the back of the printer. Connect only to a power outlet with a **grounded** contact.
- The printer must only be connected to devices which have extra low voltage.
- Power must be off before plugging in any accessory, connecting to a computer and before performing any maintenance on the printer.
- Do not expose the printer to any moisture, or use in damp or wet areas.
- The printer will operate with the cover open when necessary. This is not recommended, as it might allow debris to collect within the printer. If the printer must be operated with the cover open, extra care must be taken to avoid allowing hair, jewelry, clothing, etc. near the rotating parts.
- During the printing process the printhead will become hot. Use extra caution when touching the printhead.

3 Unpacking and Delivery Contents

Please inspect the **Gemini 2's** packaging and contents immediately after receipt for possible damage during shipment. The Gemini is shipped in a styrofoam package and is enclosed in plastic to reduce the chance of moisture damage during shipment.

The supplied equipment of the Gemini 2 depends on the requested options. Compare the delivered accessories with your order.



NOTICE !

Please keep the original packaging in case the printer must be returned.

4 Printer Component Location

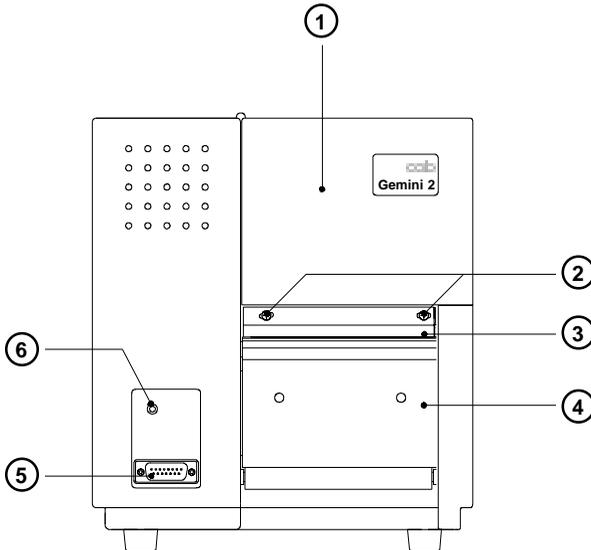


Figure 4a Front view

- 1 - Cover
- 2 - Ribbon shield screws
- 3 - Ribbon shield
- 4 - Tear-off plate
- 5 - Peripheral port
- 6 - Power LED

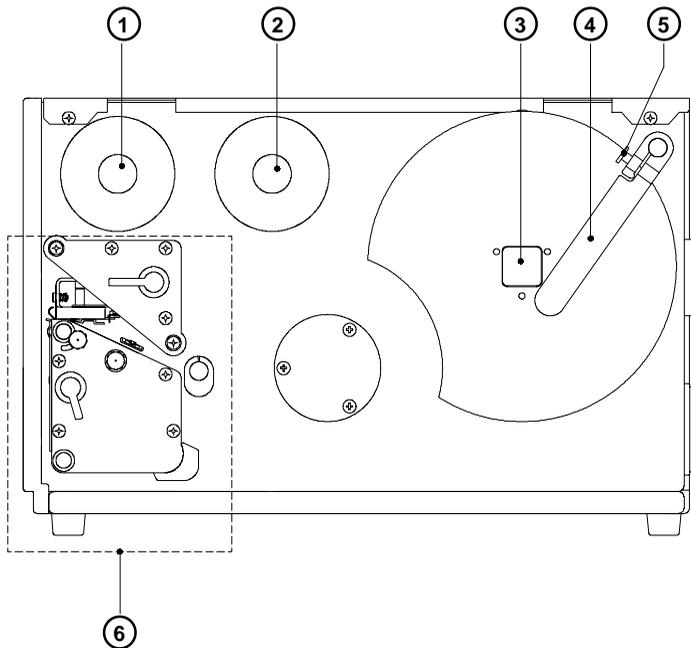


Figure 4b Side view Gemini 2 (with cover open)

- 1 - Ribbon take up hub
- 2 - Ribbon supply hub
- 3 - Media hub
- 4 - Media retainer
- 5 - Media retainer knurled head screw
- 6 - Print mechanism (for details see Fig. 4d)

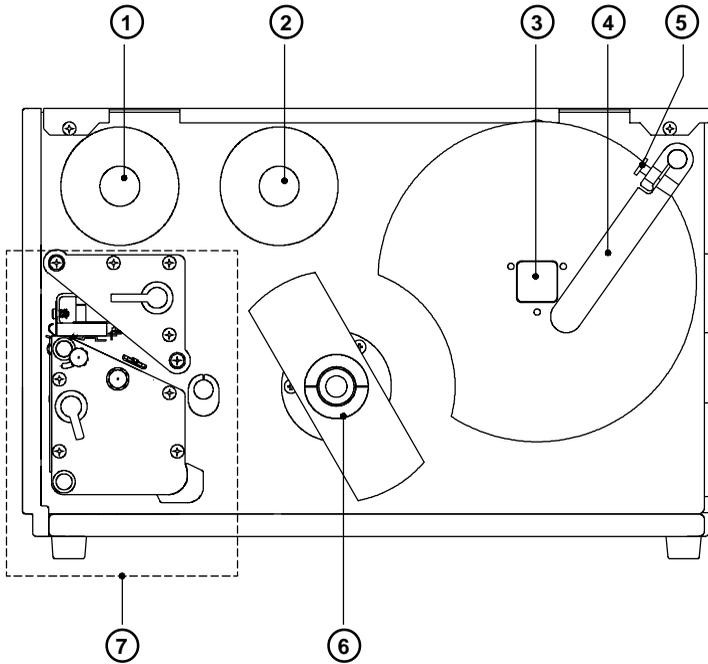


Figure 4c Side view Gemini 2 with optional internal rewinder (with cover open)

- 1 - Ribbon take up hub
- 2 - Ribbon supply hub
- 3 - Media hub
- 4 - Media retainer
- 5 - Media retainer knurled screw
- 6 - Internal rewinder
- 7 - Print mechanism (for details see Fig. 4d)

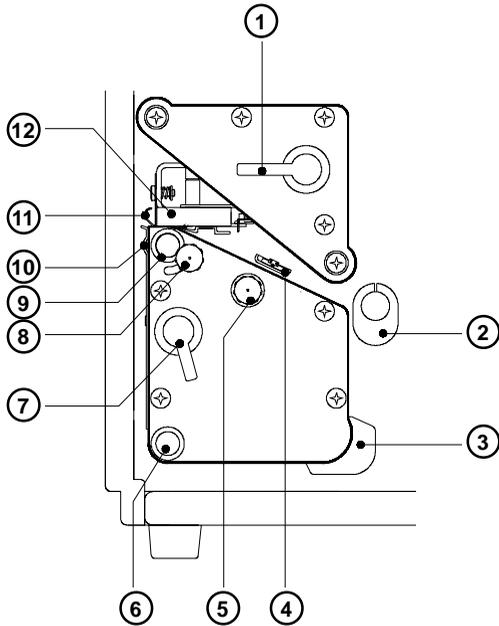


Figure 4d Detailed view of the print mechanism

- 1 - Printhead lever
- 2 - Media guide
- 3 - Rewind media guide
- 4 - Label edge sensor
- 5 - Label sensor adjustment knob
- 6 - Rewind assist roller
- 7 - Accessory lock/ release lever
- 8 - Printhead levelling adjustment screw
- 9 - Media feed roller
- 10 - Tear-off plate
- 11 - Ribbon shield
- 12 - Thermal printhead

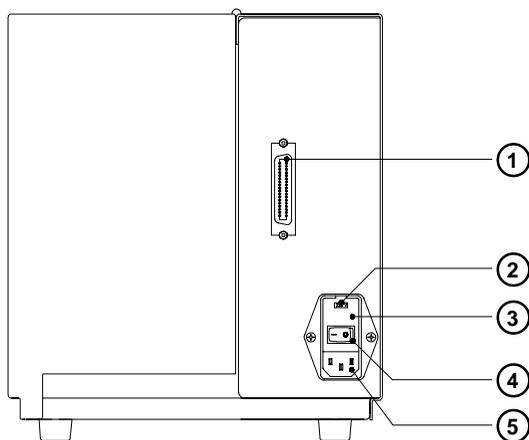


Figure 4e Back view

- 1 - Parallel interface port
- 2 - Input voltage selector / Fuse holder
- 3 - Input voltage selector cover
- 4 - Power switch
- 5 - Power supply connector

5 Connecting the printer

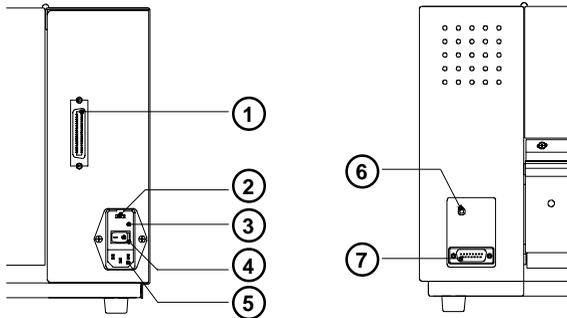


Figure 5 Connection the printer

Connection to a Computer

The **Gemini 2** is fitted with a Centronics parallel interface which uses a 36-pin port (1). Obtain a standard parallel cable in a length suited to your needs (not exceed 10 feet in the length) and use it to connect the printer to your computer.



CAUTION !

Ensure that the interface cable is correctly grounded.

Connection to Power Supply

Gemini 2 is designed for use with 230 V A.C./ 50 Hz or 115V A.C./ 60 Hz.



CAUTION !

Before connecting the printer to the power supply, make sure that the voltage selected on the power supply module of the printer is the same as your main power supply !

To change the voltage setting, open the cover (3) and remove the voltage selector (2) from the power unit.

If you have changed the operating voltage of your printer the fuses at the voltage selector need replacing as stated below :

230 V : T1,6A

115 V : T3,15A

You will find necessary fuses for the other voltage in the accessories pack.

Slide the voltage selector back into the power supply module so that the correct voltage is visible in the lid window.

Connect the printer to a **grounded** outlet.

Switch the printer ON with the power switch (4). If the status LED (6) does not light up, check the fuses inserted in the power supply module.

6 Media Loading

Loading Labels

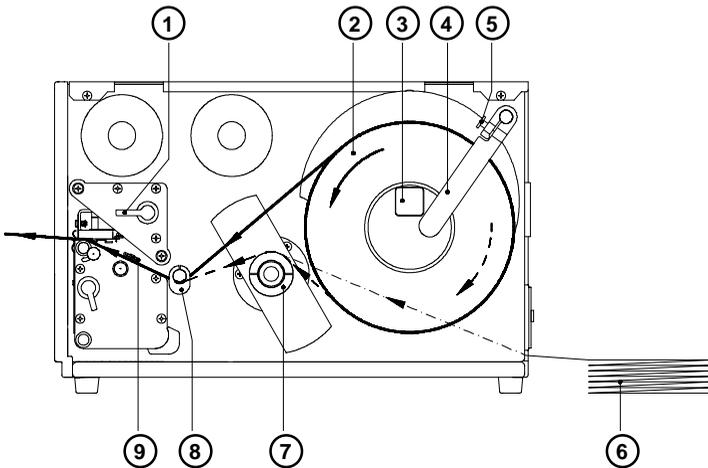


Figure 6a Loading Labels

1. Open the cover.
2. Raise the printhead by rotating the printhead lever (1) clockwise until it stops.
3. Loosen the media retainer knurled screw (5) and swing the media retainer (4) backwards.
4. Place the media roll (2) onto the media hub (3) and slide it against the printer's center wall. The solid line is used for outside-rolled labels, the broken line for inside-rolled labels and the broken dotted line shows the media path for fanfold paper (6). If the optional internal rewinder has been installed, make sure the media is guided above the internal rewind hub (7) when you are loading the media.

5. Swing the media retainer (4) against the media hub and push it inwards until it rests against the side of the roll. Tighten the knurled screw (5).
6. Slide the media guide (8) outward, allowing enough clearance for the label stock's width when loaded.
7. Unroll a length of label stock from the media roll and feed it through as shown in Figure 6a.



NOTICE !

It is particularly important to ensure that the media strip slides properly beneath the arm of the adjustable photocell assembly (9).

8. Check the position of the media guide (8) and if necessary, slide the guide inward until it lightly touches the side of the media strip.
9. Lower the printhead by rotating the printhead lever (1) counter-clockwise until it stops.
10. Close the cover.



CAUTION !

If you do not use the printer for an extended period of time, raise the printhead to avoid possible flattening of the print roller.

Loading Transfer Ribbon

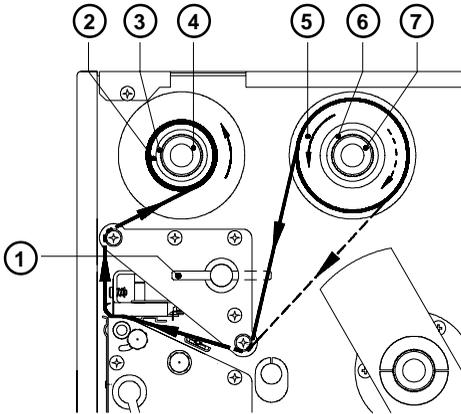


Figure 6b Loading Transfer Ribbon

1. Open the cover.
2. To lift the printhead, turn the printhead lever (1) clockwise until it stops.
3. Slide the roll of transfer ribbon (5) onto the ribbon supply hub (6) as far as possible.



NOTICE !

Pay attention to the side of the ribbon material which is coated with ink ! The inked side is generally the dull side. When the ribbon is inserted, the inked side must face the opposite side of the printhead !

In Figure 6 b, the solid line shows the path of inside wound ribbon, and the broken line represents the path of outside wound ribbon.

4. Turn the knurled knob (7) until offering resistance and so jam fast the transfer ribbon (5) at the ribbon supply hub (6).
5. Slide an empty cardboard core (2) onto the ribbon take up hub (3) and jam fast it by turning the knurled knob (4).
6. From the side, feed the transfer ribbon along the path as shown in Figure 6b, then attach it to the core (2) using adhesive tape or a label.
7. Turn take up counter-clockwise hub (3) in order to smooth and stretch the ribbon.
8. To lock the printhead, turn the lever (1) back counter-clockwise.
9. Close the cover.

7 Adjustments Concerning the Labels

Adjustment of the Label Edge Sensor

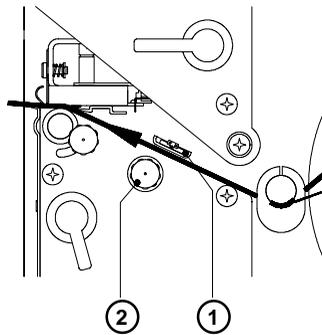


Figure 7a Adjustment of the Label Edge Sensor

To accommodate a variety of print jobs, the position of the label edge sensor (1) can be adjusted until it is at the proper sensing position. This setting is particularly useful when the labels to be printed are narrow, perforated, bear reflective markings, or are labels which are not square or rectangular in shape.

It is important to ensure that the sensor itself (the position of which is indicated by a notch in the sensor holder) is positioned so that the space between the labels can be recognized by the photo cell. In the case of labels which have an unconventional shape (ie. round or curved), the photo cell should be positioned at the leading edge of the label.

Adjustment of the sensor is performed using the knurled knob (2). By turning the knob clockwise the sensor moves outwards, and by turning the knob counter-clockwise the sensor moves inwards.

Adjustment of the Printhead Support

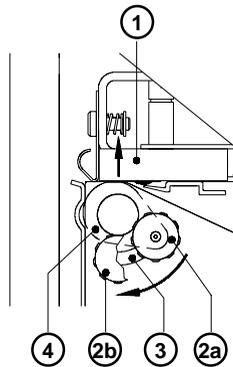


Figure 7b Adjustment of the Printhead Support

When printing narrow label stock (width less than 2.5" or 60 mm), it is possible that the printhead will come into direct contact with the drive roller. This will lead to premature wear on the printhead. In addition, the printhead will be at a slight angle to the label, and this uneven pressure may result in an inconsistent image density from one edge of the label to the other. To correct this problem, the printhead support (4) should be adjusted.

Adjust the printhead support as follows:

1. Loosen the locking screw (2).
2. Move the locking screw (2) as required within the adjustment slot (3). This will cause the cam shaped printhead support (4) to rotate, in effect, providing a higher or lower base on which the printhead mounting (1) rests.
3. When using wide labels, start with a setting of "2a"; this places the printhead support at its lowest position, providing the most complete contact of the printhead to the drive roller along the entire width. When using very narrow labels, a setting of "2b" is recommended; this places the printhead support at its highest position, reducing contact of the printhead with the drive roller at the outside edge.
At the adjustment criterion, check the quality of the print image.
4. Retighten the locking screw (2).

Adjustment of the Transfer Ribbon Feed

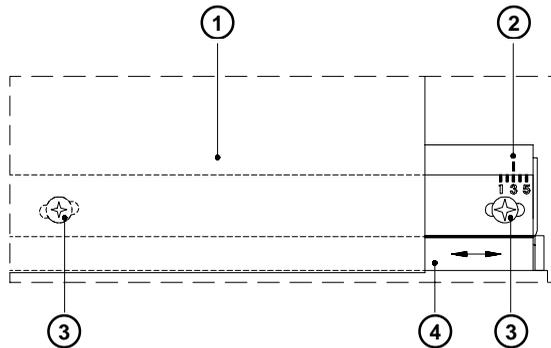


Figure 7c Adjustment of the Transfer Ribbon Feed

If creases, lines or black patches appear in the print image resulting in a poor print quality, this may be caused by wrinkles in the transfer ribbon (1). To remove the wrinkles, the tension of the ribbon should be made even from the left to the right by moving the ribbon shield (4) up or down.

1. Loosen the locking screws (3).
2. Shift the transfer ribbon shield (4) sideways into the direction of the wrinkle. Moving it to the left will increase the tension on the left. Use the scale (2) provided to monitor the adjustments made. If the screw is in position "1", the tension is highest on the outside, and if it is in position "5", the tension is highest on the inside.
3. After completing the adjustments, tighten the securing screws (3).

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8 Options

External Rewinder

To handle large printing jobs, an external rewriter is available which allows for complete rolls of labels to be rewound. The maximum size of the media supply roll is 8" (200mm) with a core diameter of 3" (75mm), or a roll of 7.5" (190mm) with a core diameter of 1.57" (40mm).

The rewriter requires its own power source and electrically independent from the printer.

Package Contents

The rewriter is packed separately from the printer.



NOTICE !

Be sure to preserve the original packaging for possible later shipping.

The following components are included in the package:

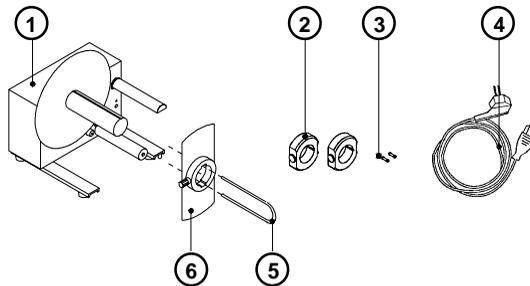


Figure 8a Packaged Components of the External Rewinder

- 1 - Rewinder
- 2 - 2 Rewind Axle Adapters
- 3 - 2 x 1A Fuses (for use at 115V)
- 4 - Power Cord
- 5 - Clamp
- 6 - Flange

Safety Precautions



CAUTION !

The printer must be powered OFF before attempting to mount the Rewinder.

Keep loose articles away from the rotating axle! During operation, the rotating rewinder axle is openly accessible, and caution must be used to ensure that any loose, hanging jewelery, clothing, hair, and so on, is kept clear of the rotating rewinder axle.

Before connecting the rewinder to the power outlet, make sure the power module on the rewinder is set to the correct voltage.

Selecting the Method of Rewinding

The external rewinder allows rewinding of labels in both ways, inside and outside winding.

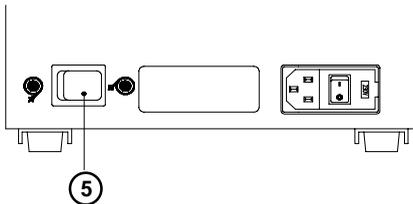


Figure 8b Selecting the method of rewinding

Set the switch (5) to the required method of rewinding :

-  - Rewind with labels on the outer side of the silicon liner
-  - Rewind with labels on the inner side of the silicon liner

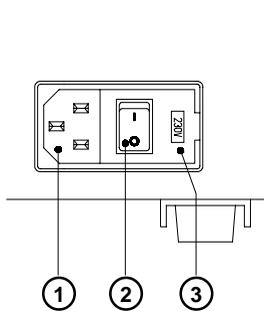
Connecting the Rewinder to the Power Supply

The rewinder operates with a supply voltage of 230V/ 50 Hz or 115V/ 60 Hz.



CAUTION !

Before connecting the rewinder to the power supply, make sure that the voltage selected on the power supply module is the same as your main power supply.



- 1 - Power supply connector
- 2 - Power switch
- 3 - Voltage selector cover

Figure 8c Power supply module of the external rewinder

The current voltage setting of the power module is visible in the lid window (3).



CAUTION !

When the voltage setting of the rewinder is altered, it is essential that the two fuses be changed accordingly.

For a setting of 115V., fuses rated 1 AT must be used.

For a setting of 230V., fuses rated 500 mAT must be used.

(Both types of fuses are shipped with the rewinder; one type is installed, and the other is with the rewinder accessories.)

To alter the voltage, open the cover (3) and remove the voltage selector. Replace the fuses as explained above. Slide the voltage selector back into the power supply module so that the correct voltage is visible in the lid window.

Connect the rewinder to a **grounded** outlet using the power cable supplied in the accessories package.

Rewinding Directly onto the Rewind Axle

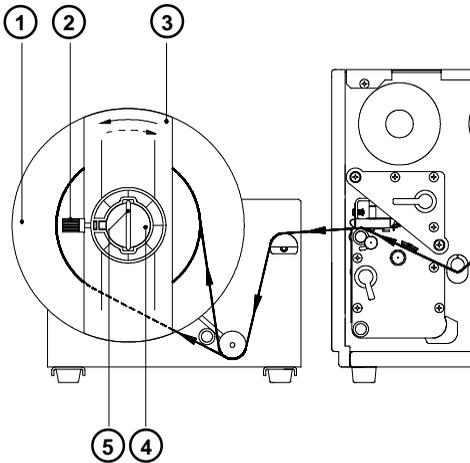


Figure 8d Rewinding directly onto the rewind axle

1. Align the rewriter in relation to the printer so that the label strip can run straight and without hindrance from the printer to the rewriter.
2. Feed the label strip over the guide bar and under the roller onto the rewriter axle as shown in Figure 8d. Ensure that the label strip is flush to the disc (1).
3. Considering the required method of rewinding, secure the label strip to the rewriter axle (4) by sliding the clamp (5) over the label strip with the clamp set in the groove (the broken line shows inside rolled labels).
4. Slide the clamp (5) towards the disc (1) as far as possible.
5. Slide the flange (3) onto the rewind axle (4) so that it slightly touches the label strip. It must be possible for the label strip to move slightly between the disc (1) and flange (3).
6. Tighten knurled screw (2) in the flange (3).
7. Switch the rewriter power switch ON.



CAUTION !

When switched ON, the rewriter immediately begins rotating.

Rewinding onto 3" (75mm) Cardboard Rolls

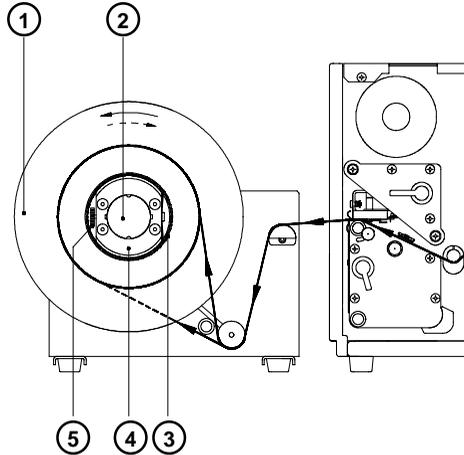


Figure 8e Rewinding onto 3" (75mm) cardboard rolls
(view without flange)

1. Use a cardboard roll (3) which is about .04" (1mm) wider than the label strip.
2. Align the rewinder in relation to the printer so that the label strip can run straight and without hindrance from the printer to the rewinder.
3. Mount the first axle adapter (4) onto the rewinder axle (2) and slide it up to the disc (1). Tighten the knurled screw (5).
4. Mount the second adapter onto the rewinder axle (2). Slide it towards the first adapter until the clearance between the two adapters is a little less than the width of the cardboard roll (3). Tighten the knurled screw (5).
5. Slide the cardboard roll (3) over the two adapters (4) until it is touching the disc (1).
6. Feed the label strip over the guide bar and under the roller as shown in figure 8e up to the cardboard roll.
7. Using adhesive tape or a label, affix the end of the label strip to the cardboard roll (3). (The broken line shows inside rolled labels).
8. Ensure that the roll and label strip are flush to the disc (1)
9. Slide flange onto the rewind axle (2) until it stops at the cardboard. Tighten the knurled screw.
10. Switch the rewinder power switch ON.



CAUTION !
When switched ON, the rewinder immediately begins rotating.

Cutter Assembly

With the optional cutter unit installed, labels or continuous media may be cut when desired. For cutter operation, the **Gemini 2** will extend the label for cutting based on specified displacements, then automatically backfeed the label, so that after making a cut, the label roll will be repositioned and ready for printing of the next label.

Control and power supply for the cutter is provided via a peripheral connection to the **Gemini 2**. The cutter is supplied packaged separately from the printer.



NOTICE !
Be sure to preserve the original packaging for possible later shipping!

Installing the Cutter



CAUTION !
Be sure to power-off the printer and disconnect from the power outlet before attempting to mount the cutter!
The cutter may only be used when mounted on the Gemini 2 !
Make sure the label stock or continuous media complies with the Gemini 2 media specifications as shown in the Technical Specifications.

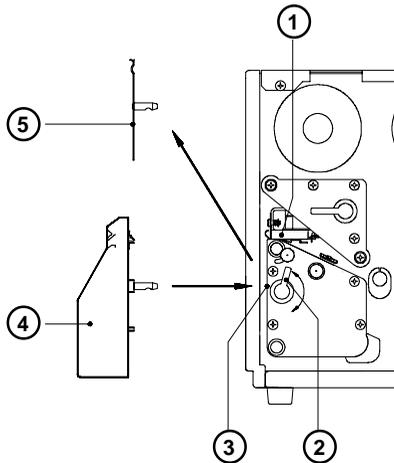


Figure 8f Mounting of the Cutter Assembly

The **Gemini 2** is delivered with the tear-off plate (5) installed.
Before mounting the cutter, the tear-off plate has to be removed :

1. Switch the printer OFF.
2. Feed the label stock into the **Gemini 2** in such a way that the leading edge of the first label protrudes slightly past the printhead(1).
3. Rotate the accessory lock/release lever (2) counter-clockwise until it stops.
4. Remove the tear-off-plate (5) from the mounting holes (3).
5. While guiding the first label into the cutter slot, slide the cutter (4) into the mounting holes (3).
6. Rotate the accessory lock/release lever (2) clockwise until it stops.

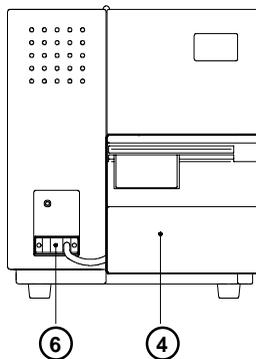


Figure 8g Electrical connection of the cutter assembly

7. Connect cutter cable (6) from the cutter (4) to the 15-pin peripheral port on the front of the **Gemini 2**.
8. Switch the **Gemini 2** ON. The cutter will perform a synchronized cutting cycle.
9. In the Gemini Control Panel (Printer parameters/Options), set the printer to "Demand Mode/Cutter".
10. Using the Gemini Control Panel, click the Formfeed button. The printer will feed a blank label forward, and then the label will be cut off by the cutter. The paper feed for the start of printing is now synchronized. An amount can be entered in Presentation Position in the Printer Mode Window to adjust the cut position.

Internal Rewinder

This option (including a rewind guide plate) offers to rewind small print jobs internally. The maximum rewind diameter greatly depends on the size of the remaining media roll.

The internal rewriter is also needed for operation in the demand mode with the option "Present Sensor".

Package Contents

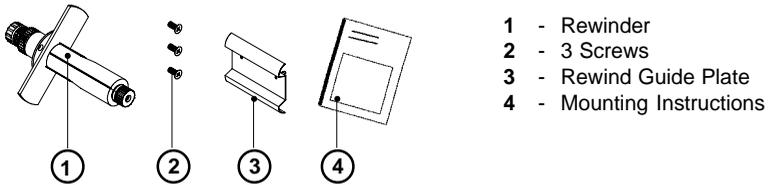


Figure 8h Packaged Components of the Internal Rewinder

Safety Precaution



WARNING !
Unplug power cord before mounting the internal rewriter !

Preparation of the Printer

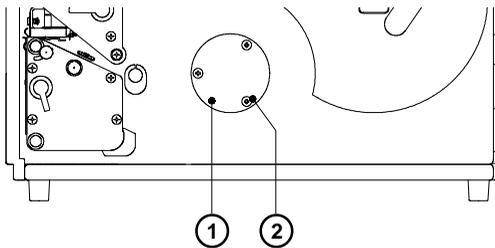


Figure 8i Removing the lid

- Loosen the screws (2) and remove the lid (1).

Installation of the Internal Rewinder

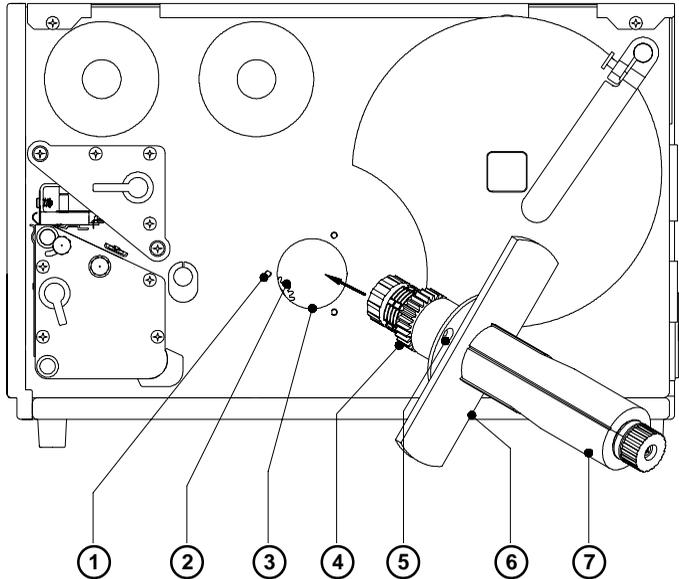


Figure 8k Installation of the internal rewriter (1)

The internal rewriter will be fixed at the mounting plate of the printer with three screws.

1. Rotate the rewind hub (7) and the rewind plate (6) in relation to the flange (5), so that one of the holes in the flange is accessible.
2. Push the rewriter assembly into the opening (3). To make sure that the gearwheel (4) snaps into the gear (2) it is recommended to turn a little the rewriter during inserting. Push the assembly further into the printer until the flange (5) fits tightly the mounting plate.
3. Turn the whole assembly counterclockwise, so that the accessible hole in the flange (5) matches with the threaded hole (1) on the mounting plate.
4. Fix the rewriter at this point with on screw.

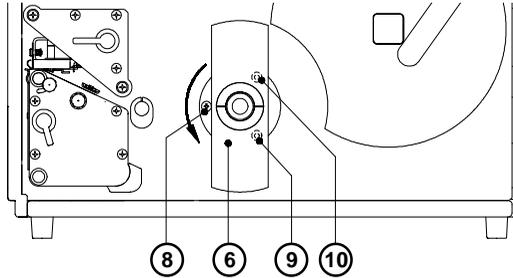


Figure 8l Installation of the internal rewriter (2)

5. Turn the rewind plate (6), so that the two other holes (9,10) become accessible one after the other and insert screws at this two positions too.
6. Tighten all screws (8).

Mounting the Rewind Guide Plate

Gemini 2 is delivered with a mounted tear-off plate (1).

For internal rewinding, the tear-off plate has to be replaced with the rewind guide plate(2) :

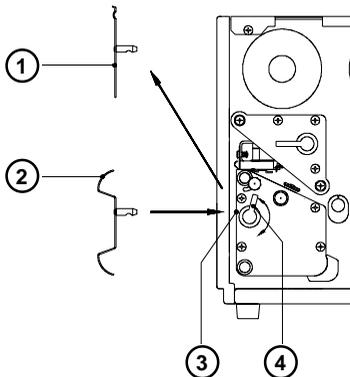


Figure 8m Mounting the rewind guide plate

1. Rotate the lever (4) counter-clockwise until it stops.
2. Remove the tear-off-plate (1) from the mounting holes (3).
3. Slide the rewind guide plate (2) into the mounting holes (3).
4. Rotate the lever (4) clockwise until it stops.

Inserting the Labels for Internal Rewind

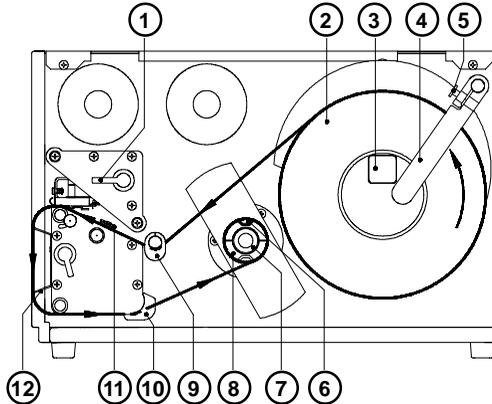


Figure 8n Inserting the labels

1. Lift printhead by turning the lever (1) clockwise until it stops.
2. Loosen knurled screw (5), then swing the media retainer (4) backwards.
3. Place the media roll (2) onto the media hub (3). Swing the media retainer (4) against the media hub and inwards until it rests against the side of the roll (roll will slightly be slowed down when unwound). Tighten knurled screw (5).
4. Slide the two media guides (9/10) outwards to their outermost position.
5. Unroll a length of stock from the media roll and feed along as shown in Figure 8n.
It is particularly important to ensure that the media strip slides properly between the fittings of the adjustable photocell assembly (11).
6. Feed the media strip between the print roller and the thermal printhead, and then over the rewind guide plate (12) to the internal rewinder (8).
7. The internal media rewind hub (8) is fitted with an expanding axle that contains clamps (6) for securing the media. Slide the media strip from underneath the rewinder clamps (6) to the disc. Fasten the media strip to the axle by holding the rewinder and rotating the knurled knob (7) clockwise until it stops. To tighten the media, rotate rewinder counter-clockwise.
8. Slide the media guides (9/10) towards the edge of the media strip.
9. Lock the printhead by turning the lever (1) counter-clockwise until it stops.



CAUTION !

If you do not use the printer for an extended period of time, lift the printhead to avoid possible flattening of the print roller.

Present Sensor

The optional present sensor on the **Gemini 2** allows for on-demand label dispensing.



NOTICE !

For operation in the demand mode the internal rewinder has to be installed additionally.

The present sensor (2) consists of two components, the dispense edge and the present sensor photocell (6). Control and power supply for the present sensor is provided via a peripheral connection to the **Gemini 2**. The present sensor is packaged separately from the printer.



NOTICE !

When editing or creating labels in demand mode, make sure the portion of label directly under the present sensor is 50% or less printed (black). Higher density print can cause the present sensor to perform incorrectly.

Mounting of the Present Sensor

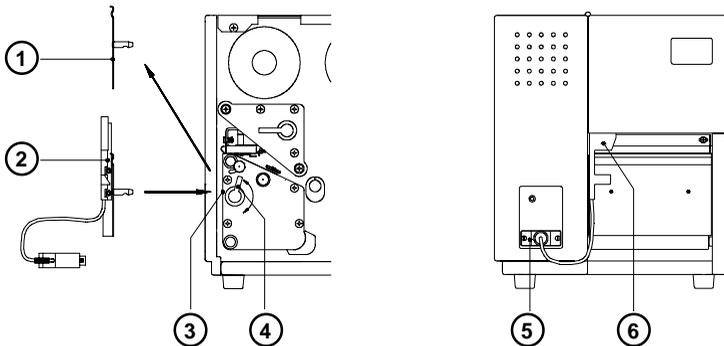


Figure 8o Mounting of the present sensor

The **Gemini 2** is delivered with a mounted the tear-off plate (4). When operating in peel-off mode, the tear-off plate has to be replaced with the present sensor (3) :

1. Rotate the lever (4) counter-clockwise until it stops.
2. Remove the tear-off plate (1) from the mounting holes (3).
3. Slide the present sensor (2) into the mounting holes (3).
4. Rotate the lever (4) clockwise until it stops.
5. Connect the present sensor cable (5) from the present sensor (6) to the 15-pin peripheral port on the front of the **Gemini 2**.

Inserting the Labels for Peel-off

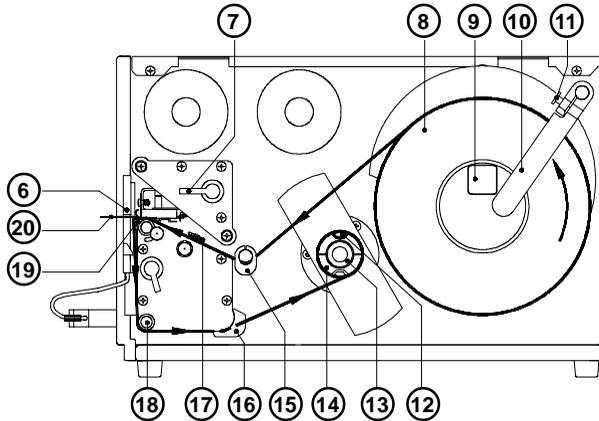


Figure 8p Inserting the labels

1. Lift the printhead by turning the lever (7) clockwise until it stops.
2. Loosen the knurled screw (11) and swing media retainer (10) backwards.
3. Place the media roll (8) onto the media hub (9). Swing the media retainer (10) to the media hub and inwards until it rests against the side of the roll. Tighten the knurled screw (11).
4. Slide the two media guides (15/16) to their outermost position.
5. Unroll a length of media stock and feed it through the **Gemini 2** as shown in Figure 8p. It is particularly important to ensure that the media strip slides properly between the adjustable fittings of the photocell assembly (17).
6. Feed the media strip between the print roller and the thermal printhead, and then over the dispense edge (19) up to the internal rewriter (14).
7. Slide the media strip from underneath the rewriter clamps (12) to the disc. Fasten the media strip to the axle by holding the rewriter (14) and rotating the knurled knob (13) clockwise until it stops. To tighten the media, rotate rewriter counter-clockwise.
8. Slide the two media guides (15/16) against the edge of the media strip.
9. Lock the printhead by turning the lever (7) counter-clockwise until it stops.
10. In the Gemini Control Panel (Printer parameters/Options), set the printer to "Demand Mode/Cutter".



CAUTION !

If you do not use the printer for an extended period of time, lift the printhead to avoid possible flattening of the print roller.

9 Installing and Using the Software

Introduction

The diskette(s) provided with the printer includes installation files to install the following:

1. Gemini 2 Windows Printer Driver - The interface between the printer and your Windows application, which also provides the capability of printing barcodes using its special built-in fonts.
2. Barcode Display Font - Provides a general representation of a barcode on the screen to assist in field placement during label design (Not intended as an accurate representation)
3. Gemini 2 Control Panel Application - Provides control of the printer and current print job.

Gemini 2 drivers are available for Windows 3.1X and Windows 95/98 as well as for Windows NT 4.0 and greater.

Installation information

Depending on the Windows version used, the Gemini 2 Printer software needs to be installed through

either : the setup program of the software package

or : via the Add Printer Wizard.

Detailed information regarding the installation of the Gemini 2 Printer software are to find in the "readme.txt" file of the applicable software package.

Updates

Updates for the Gemini 2 Printer software are available on the internet at :

<http://www.tharo.com>

The Gemini 2 Control Panel Application

The Control Panel Application is necessary to provide control of the printer. It is possible to print to the **Gemini 2** without having started this application. But, without it, there would be no way to check status, see error messages, check number of labels remaining, pause the printer, and so on. Detailed information on the options currently provided with the Gemini Control Panel is available through Online Help, and will not be included here.

To start the application, (double-)click on the Gemini program group, then (double-) click on the **Gemini 2** icon . Once started, this application should be left open as long as the printer is turned on.

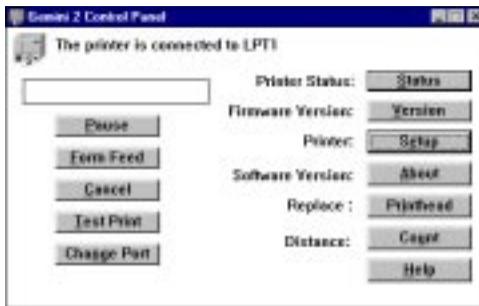


Figure 9a Startup window of the Gemini 2 Control Panel under Windows 3.1X, Windows 95 and Windows 98



Figure 9b Startup window of the Gemini Control Panel under Windows NT 4.0

Gemini 2 Test Print

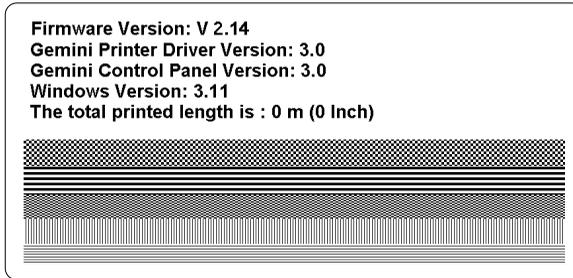


Figure 9c Gemini 2 Test Print Example

The test print on the **Gemini 2** Label Printer is available by clicking the 'Test Print' button in the Gemini 2 Control Panel Window (Figure 9a,b). The Test Print contains a test pattern and the following information:

Firmware Version:

The **Gemini 2's** current firmware version.

Gemini Printer Driver Version:

The current version of the Gemini 2 Windows Printer Driver.

Gemini Control Panel Version:

The current version of the Gemini 2 Control Panel software.

Windows Version:

The version of Windows the Gemini 2 Control Panel software is running on.

Total Print Length:

The total length in inches and meters that the **Gemini 2** Printer has printed.

Printer Setup

Printer Setup is performed on an as-needed basis. Generally, when any printer is installed, various options such as operating mode or paper size may need to be modified from the default setting. With the **Gemini 2**, in addition to the usual printer default values, barcode symbology selection should be made. The **Gemini 2** driver provides a long list of available sybologies in various ratios and multipliers. From this list, you must select those symbologies that should be made available to your Windows applications. Detailed information on the features and options currently available in Printer Setup is available through Online Help, and will not be included here.

Printer Setup can be reached in a variety of ways. This can take place from Windows Control Panel-Printers group, or from various application software in the Printer Setup function. In addition, the Gemini 2 Control Panel application provides the most convenient, direct access to Printer Setup.

Printer Setup Windows under Windows 3.1X, Windows 95 and Windows 98

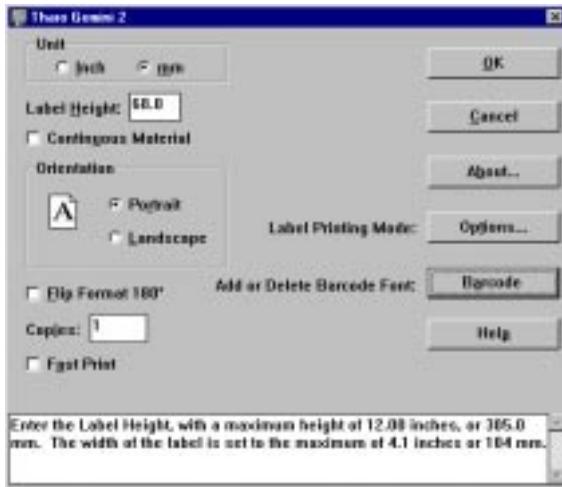


Figure 9d Printer Setup - Main Window under Windows 3.1X / Windows 95 and Windows 98

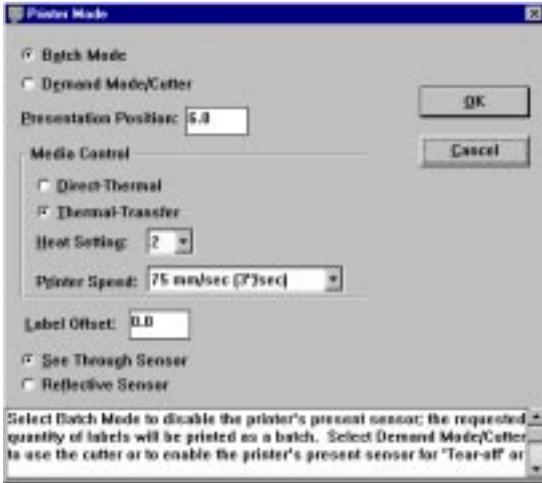


Figure 9e Printer Setup - Printer Mode Window under Windows 3.1X / Windows 95 and Windows 98

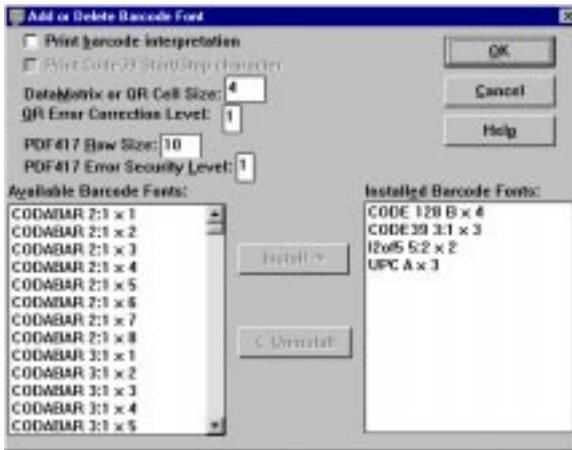


Figure 9f Printer Setup - Add or Delete Barcode Font Window under Windows 3.1X / Windows 95 and Windows 98

Printer Setup Windows under Windows NT 4.0



Figure 9g Printer Setup - Printer Properties Window under Windows NT 4.0
Window accessible from Gemini 2 Control Panel by the "Properties" button only



Figure 9h Printer Setup - Document Properties Window under Windows NT 4.0 (Overview)



Figure 9i Printer Setup - Document Properties Window under Windows NT 4.0 Section "Print Mode and Media Control "



Figure 9k Printer Setup - Document Properties Window under Windows NT 4.0 Section "Bar Code Options"

Printing from Windows Applications

Printing to the **Gemini 2** is accomplished in the same manner as printing to any other Windows installed printer. The **Gemini 2** must be selected as the default printer by using either Windows Control Panel-Printers or the application in use. What can be printed and how printing is initiated is then dependent on the application being used.

The following is a general description of the steps required to print a label:

1. Select the **Gemini 2** as the default printer.
2. Start the Gemini 2 Control Panel Application by (double-)clicking the icon, then minimized if desired.
3. Specify the label size, processing mode, etc. with Printer Setup.
4. In your Windows Application, set the margins to 0 and set the page size to match the label size specified in Printer Setup.
5. Design the label, considering the label's dimensions, even if your application does not display a work area that matches the actual label size. Place text, graphics and barcode fields within the dimensions of your label.
6. If possible, use Print Preview to assist in proper field placement.
7. Print a single test label to see actual layout and size of the fields. This is the only way to see an accurate representation of barcode fields.

The ease with which a label can be designed, and the results that can be achieved, depend directly on the software being used. The range of software types, including word processors, databases, spreadsheets and graphic applications, offers a similarly wide range in results.

To assist the user in designing labels, variety of topics is available in the **Gemini 2's** Online Help. These topics include general tips and techniques that are independent of the specific software being used. Also included are observations and tips regarding label design and printing with specific Microsoft® and other vendor applications.

10 Error Messages

If an error occurs while operating the **Gemini 2**, a message box is displayed on the screen and the printer is paused. After solving the problem, the print job is continued by clicking OK in the error message window. If the problem is corrected, the print job will continue. However, if the problem still exists, the message box will reappear.

Additionally, an error is indicated by a **rapid blinking** LED on the printer's front panel. A **Slow blinking** LED indicates the printer is paused.

The following table contains a reference of error messages, possible causes and solutions to the problems.

Error message	Possible cause	Solution
The printer is out of label stock	Label material has run out.	Insert new supply roll, click OK.
	Label is not inserted properly in the label sensor photo cell.	Check paper edge, then click OK.
The printer is out of ribbon	Ribbon has run out.	Insert a new ribbon.
	Printer is loaded with thermal labels for direct thermal mode, and no ribbon is loaded, but the software is set for transfer printing.	Cancel print job. Correct software for direct thermal mode. Start a new print job.
Can not find gap	On the label material, several labels are missing.	Click the Formfeed button in Gemini 2 Control Panel until the next label on the material is accepted by the printer.
	The label format size specified in the software is different from the actual label size.	Cancel print job, change label format setting in the software and start new print job.
	Continuous (endless) media is loaded, but the software is not set for continuous media.	Cancel print job. Correct the media type to continuous (endless) in the software. Start a new print job.
The printer cutter is jammed	Refers to the optional cutter. The cutter is unable to cut the labels and stays in an undefined position	Switch printer off and on again. Start a new print job. If error recurs, use a thinner label material.
The printhead is overheated	The printer has sensed an overheating condition in the printhead, and has not been able to compensate successfully by decreasing the heat setting internally.	The printer will wait until the printhead has cooled sufficiently, then it will automatically resume printing. After clicking OK, no other operator action is required.

Table Error messages

11 Maintenance / Cleaning

The **Gemini 2** is designed with a minimum of maintenance requirements. The most important concern is the regular cleaning of the thermal printhead. This will guarantee a consistent quality print image. It will also help to avoid premature wear of the printhead. Otherwise, maintenance is limited to an occasional general cleaning.

Adjustments are needed only on an occasional basis. In general, the printer will not vary its performance. Adjustments may be necessary by a change in media (see chapter 7). If a very narrow or thick media will be used, adjustment of the printhead support may be needed. If a different type or width of ribbon is loaded, adjustment of the transfer ribbon feed may be needed to maintain wrinkle-free operation.



WARNING !

Before beginning any maintenance, turn off the power and disconnect the power cord!

General Cleaning

Remove particles of dust and paper that have accumulated inside the printer with a soft brush.

Wipe the cover with a standard non-abrasive cleaner as needed.

Accumulations of dirt on media rollers and guides can impair the smooth movement of media. After removing media, remove deposits with isopropyl alcohol and a soft cloth.

Cleaning the Media Feed Roller

Accumulations of dirt on the roller can lead to impaired material transport.

Clean the roller as follows:

1. Open the printhead.
2. Remove labels and ribbon from the printer.
3. Remove all deposits with isopropyl alcohol and a soft cloth.

Cleaning the Thermal Printhead

During printing, the printhead will accumulate dirt such as paper dust or particles of ink or back coating from the ribbon. This accumulation can cause a deterioration of the print quality. To correct or avoid this problem, the printhead should be cleaned at regular intervals.

Frequency of cleaning:

Direct Thermal printing: - at every label roll change

Thermal Transfer printing: - at every ribbon change



CAUTION !

Do not use sharp objects for cleaning the printhead.

Do not touch the protective layer of the printhead with your hands.

To clean the printhead:

1. Turn the printer power off, and disconnect the power cord.
2. Raise the printhead as far as possible.
3. Remove the labels and the ribbon from the printer.
4. Clean the surface of the printhead with a cleaning pen, or use a cotton swab dipped in isopropyl alcohol.
5. Let the printhead dry approximately 2-3 minutes before powering on and restarting the printer.

12 Printhead Horizontal Alignment

For optimum print quality, the line of the heating elements on the printhead must be parallel and aligned correctly to the print roller. This alignment has already been performed in the factory. Nevertheless, it may become necessary to adjust it.

A misaligned printhead causes a poor print quality which appears as described below :

- the print image looks generally light, spotted, and irregular; or
- the print image appears uneven from one side to the other.

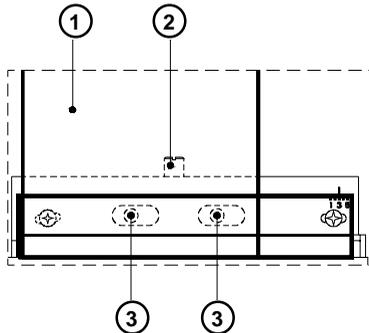


Figure 12 Printhead horizontal alignment

Adjust the printhead as follows :

1. You may leave the transfer ribbon (1) inside the printer, and simply poke through it with your tools.
2. Loosen the locking screw (2) on the printhead by half a turn. This will allow for the required horizontal adjustment of the printhead.
3. By turning the two screws underneath (3) you may shift the printhead as follows :
 - The overall distance for adjusting is .1 in or 2.5 mm.
 - By turning the screws clockwise, the printhead will be shifted backwards. (about .02 in or .5mm per turn)
 - Adjust in small steps ! (quarter turns only)
 - First, turn both screws constantly until at least one side of the print image is optimum.Following, adjust the screw which is located at the side of the label where the quality is still poor.

4. Note, that the printhead must be opened after every single adjustment step to make the change effective.
5. Tighten the locking screw (2).
6. Perform a test print, for instance a wide black line over the whole width of the label, and review the results.
7. Repeat steps 2 to 6 as necessary to complete the adjustment.

13 Troubleshooting

The following information covers common printer problems and possible solutions. Additional troubleshooting information on both hardware and software related problems is available in Gemini 2's Online Help.

Poor print quality - smears or voids appear within the printed image.

The printhead is dirty. Clean the printhead (Page 48)

The ribbon is creasing. Adjust the transfer ribbon feed (Page 23)

Poor print density - the image is too light or too dark.

The heat setting is too high or too low. Adjust the heat setting with Printer Setup.

The wrong ribbon/paper combination is being used. Check with your Dealer for recommendations on media.

The resistance value has not been adjusted for the printhead currently installed. Check the value preceding the ohm (Ω) sign on the printhead and enter it under Windows 3.1X/ Windows 95/ Windows 98 in the Gemini Control Panel, Replace Printhead function or under Windows NT 4.0 in the Gemini Control Panel, Printer Properties, Set Printhead Resistance function.

Print density is uneven - the image is light on one side of the label.

The printhead is adjusted for a narrow label.
Readjust the printhead support (Page 22).

The printhead is out of alignment. Adjust the printhead (Page 49)

Printer form feeds more than one label at a time

Media is loaded incorrectly. Make sure media is beneath the arm of the photocell assembly.

Label edge sensor photocell needs adjusting or is malfunctioning.
Call for Service.

Printer will not turn on

Voltage of the printer and power supply do not match. Check that the printer is configured for the correct power supply.

Fuse is blown. Remove the fuse holder from the power supply module and inspect or replace the fuses as needed.

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Haid-und-Neu-Straße 7
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EC-Conformity Declaration

Herewith we declare that the following described machine, from the design and style and as we sell it, comply with the relevant EC Safety and Health Requirements.
This declaration will lose the validity if there are any changes of the machine or the purpose without our consent.

Description:
Transfer Printer

Type:
Gemini 2

Applied EC-Regulations and Norms

- | | |
|---|--|
| - EC-Machinery Directive | 89/392/EEC, Appendix IIA |
| - Safety of machines | EN 292 T1 u.T2:1991-11 |
| - EC-Low-Voltage Directive | 73/23/EEC |
| - Safety of Equipment in Information Technology including electric Office Equipment | EN60950:1992+A1:1993
EN 60950/A2:1993 |
| - EC Electromagnetic Compatibility Directive | 89/336/EEC |
| - Limits for electromagnetic interferences of equipment in information technology | EN 55022:1995-05 |
| - Immunity from noise or disturbance commercial area as well small enterprises | EN 50082-1:1992-12 |

Signature for the producer

cab Produkttechnik Sömmerda
Gesellschaft für Computer-
und Automationsbausteine mbH
99610 Sömmerda
Germany

Sömmerda, 10.09.96

Erwin Fascher
Managing Director