Apollo

Apollo 1 / Apollo 2 / Apollo 3

Quick Operator's Guide

Edition 10/99

EU - Conformity Declaration

We declare herewith that as a result of the manner in which the machine designated below was designed, the type of construction and the machines which, as a result have been brought on to the general market comply with the relevant fundamental regulations of the EU Rules for Safety and Health. In the event of any alteration which has not been approved by us being made to any machine as designated below, this statement shall thereby be made invalid.

Description:	Type:
Thermal Transfer Printer	**Apollo 1, Apollo 2, Apollo 3**

Applied EU Regulations and Norms:

- EC Machinery Regulations	**89/392/EEC,Appendix IIA**
- Machine Safety	EN 292 T1 & T2:1991-11
- EC Low Voltage Regulations	**73/23/EEC**
- Data and Office Machine Safety	EN60950:1992 & A1:1993 EN 60950/A2:1993
- EC Electromagnetic Compatibility Regulations	**89/336/EEC**
- Threshold values for the Interference of Data Machines	EN 55022 :1995-05
- Interference Resistance in both Industrial and Small Plants	EN 50082-1: 1992-12

Signed for, and on behalf, the Manufacturer :

cab Produkttechnik Sömmerda
Sömmerda, 09.10.96

Erwin Fascher
Managing Director

Important Safety Information

1. Connect the printer only to an outlet with the correct voltage !
   The printer is configured for either 230V or 115V 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.

2. The printer must only be connected to devices which have extra low voltage.

3. Power must be OFF before plugging in any accessory or connecting the printer to a computer, etc. Also switch power off on all appliances before disconnecting.

4. Do not expose the printer to any moisture, or use in damp or wet areas.

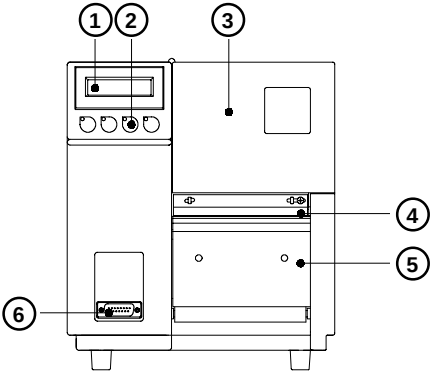
5. The printer will operate with the cover open if necessary. This is not recommended, as moving or rotating parts become accessible. Keep long hair, jewelry, loose clothes away from the moving parts.

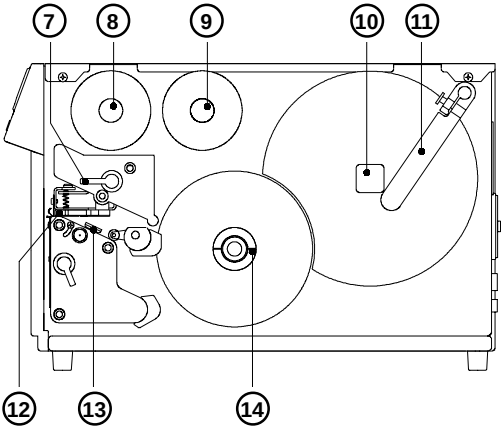
6. During the print process the printhead will become hot. Use extra caution when touching the printhead.

7. Before starting any maintenance, switch the printer OFF and disconnect it from the power supply.

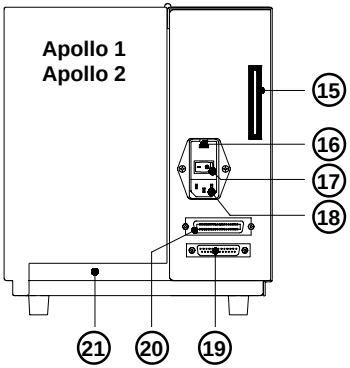
8. Only qualified trained service technicians should attempt to repair your printer if damaged or in need to repair.

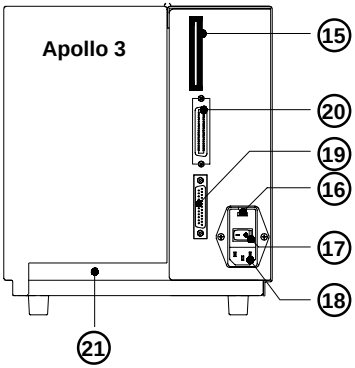
Overview of the Printer Components





1 - Display
2 - Function keys with indicator LEDs
3 - Cover
4 - Ribbon shield
5 - Tear-off plate
6 - Peripheral port
7 - Printhead locking lever
8 - Ribbon take up hub
9 - Ribbon supply hub
10 - Media hub
11 - Media retainer
12 - Thermal printhead
13 - Label edge sensor
14 - Media rewind hub
15 - Memory card module slot
16 - Input voltage selector
17 - Power switch
18 - Power supply connector
19 - Serial interface port
20 - Parallel interface port
21 - Slot for fanfold paper



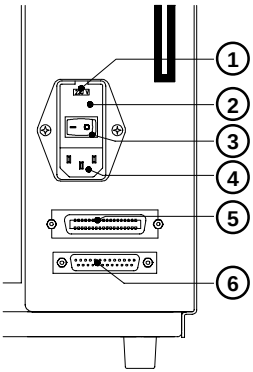


Connecting the Printer

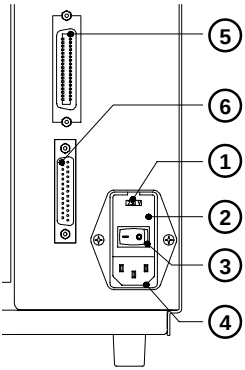
Connection to Power Supply

The **Apollo** is designed for use with 230V A.C/ 50Hz (standard) or 115V A.C/60Hz.

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 !



Apollo 1/2



Apollo 3

1 - Voltage selector
2 - Voltage selector cover
3 - Power switch
4 - Power supply connector
5 - Parallel interface port
6 - Serial interface port

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

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

Apollo 1/2 :	**230V - 2 x T 4A**	**115V - 2 x T 6.3A**
Apollo 3 :	**230V - 2 x T 1.6A**	**115V - 2 x T 3.15A**

When delivered, the correct fuses for the pre-selected operative voltage are installed. You will find the necessary fuses for the other voltage in the accessories package.

Slide the voltage selector back into the power supply module so that the correct voltage is visible in the lid window (**2**).
Connect the printer to a **grounded** outlet using the power cable supplied in the accessories package.

Connection to a Computer

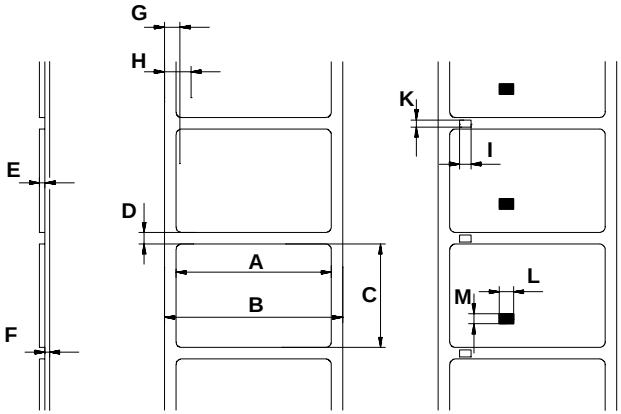
Select the required interface settings using the Setup procedure and connect the printer to the computer by a suitable interface cable.

Make sure that all connected computers and their connecting cables are correctly grounded.

Print Media

The **Apollo** can be operated in direct thermal as well as thermal transfer mode. For direct thermal mode, only use print material with a thermal-reactive coating. In thermal transfer mode, not only standard paper labels are needed but also the thermal transfer ribbon with a color surface. It is possible to pre-set in the setup either the direct thermal mode or the thermal transfer mode, but the setting can be changed for every print job via software.
The **Apollo** is able to print on labels and continuous paper from supply rolls. The printer can also process fanfold label material.

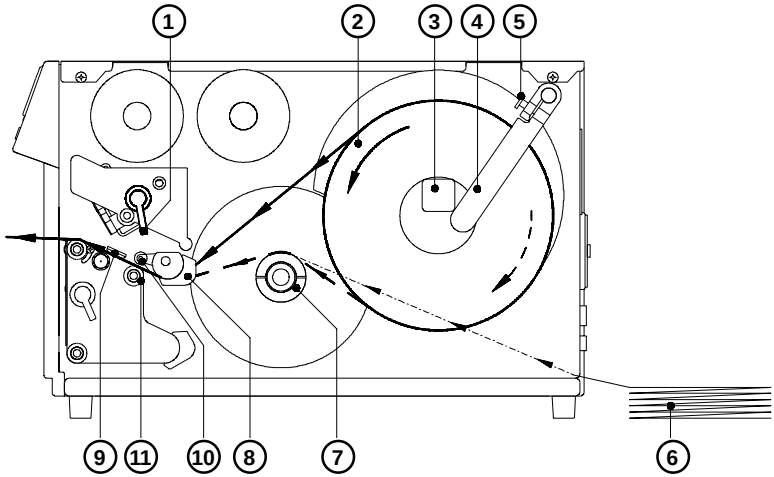
Label/Tag Media Specification



Item		MINIMUM	MAXIMUM
A	Label width	.5 (12)	4.6 (116)
B	Width of silicon liner	.5 (12)	4.6 (116)
C	Label length	.2 (5)	21.5 (546)*
D	Gap between labels	.08 (2)	21.5 (546)*
E	Label thickness	.0024 (.06)	.01 (.25)
F	Thickness of silicon liner	.0024 (.06)	.01 (.25)
G	Distance of the first printing position from the edge of the silicon liner	.08 (2)	
H	Distance of the label sensor from the edge of the silicon liner	.12 (3)	1.9 (48)
For special materials			
I	Width of punch hole	.2 (5)	-
K	Height of punch hole	.08 (2)	.2 (5)
L	Width of reflective mark	.2 (5)	-
M	Height of reflective mark	.08 (2)	.2 (5)

* **Apollo 3** : 37.2 (945), **Apollo 3/300** :16.6 (427) Dimensions in inches (mm)

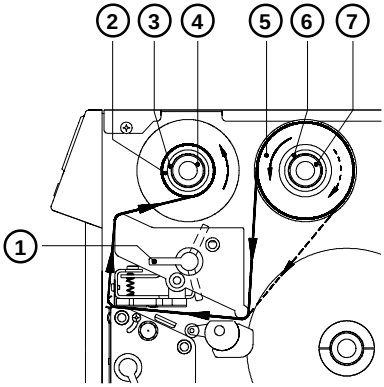
Loading Labels



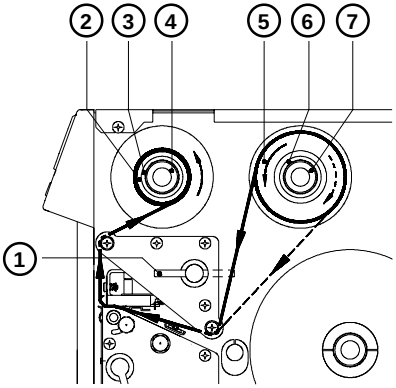
1. Open the cover.
2. Lift the printhead by rotating the lever (**1**) clockwise until it stops.
3. Loosen the media retainer knurled screw (**5**), swing the media retainer (**4**) backwards and place the label roll (**2**) onto the media hub (**3**).
4. Swing the media retainer (**4**) against to the media hub (**3**) and push it inwards until it rests against the side of the label roll. Tighten the knurled screw (**5**).
5. Slide the media guide (**8**) into its outermost position.
6. Unroll a length of label stock from the media roll and feed it through as shown in figure.
   The solid line represents the feed path of outside-rolled labels, the broken line of inside-rolled labels. The broken-dotted line shows the media path of fanfold paper (**6**).

   It is particularly important to ensure that the media strip slides properly between the fittings of the adjustable label edge sensor (**9**).
7. Slide the media strip right through the space between the print roller and the printhead until it comes out of the **Apollo**.
8. Slide the media guide (**8**) back towards the edge of the media strip.
9. Turn the lever (**1**) counter-clockwise until it stops and, thereby, lock the printhead.
10. Close the cover.

Loading Transfer Ribbon



Apollo 1



Apollo 2/3

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.

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, the solid line shows the path of inside wound ribbon, and the broken line represents the path of outside wound ribbon.

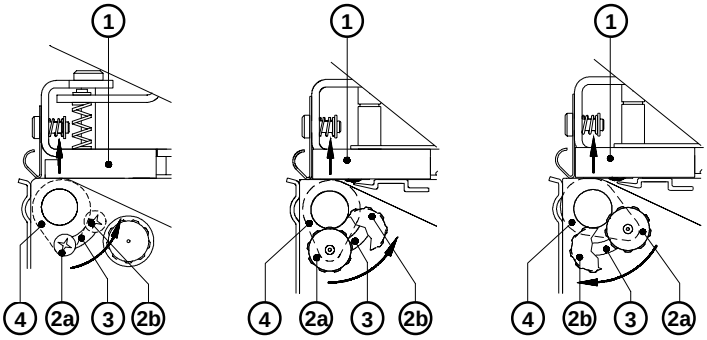
4. Hold tight the ribbon supply hub (**6**) and rotate the knurled knob (**7**) clockwise until it stops. That way the roll (**5**) will be attached at the ribbon supply hub (**6**).
5. Slide an empty cardboard core (**2**) onto the ribbon take up hub (**3**) and fix it by turning the knurled knob (**4**) clockwise.
6. From the side, feed the transfer ribbon along the path as shown in figure, then attach it to the core (**2**) using adhesive tape or a label.
7. Turn take up hub (**3**) in order to smooth and stretch the ribbon. For **Apollo 1**, first turn the lever (**1**) to a central position between the locked and unlocked positions.
8. Turn the lever (**1**) counter-clockwise until it stops and, thereby, lock the printhead.
9. Close the cover.

Adjustments Concerning the Labels

The printer can use a variety of media widths an thicknesses.
Beside it is possible to use materials which have punch holes and reflective marks for the label recognition.

For this reason it is necessary to adapt the printer to the different materials by only a few simple adjustments.

Adjustment of the Printhead Support



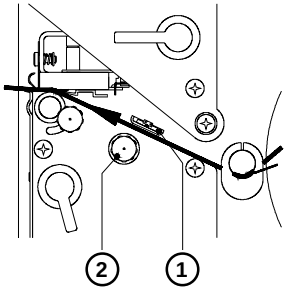
Apollo 1 **Apollo 2** **Apollo 3**

When printing narrow labels (width less than 2.5 in 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, thus, the 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**) may be adjusted.
Adjust 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. It is convenient to use the position **2a** to printout large labels. The printhead support (**4**) is total inactiv here.
4. By using small labels it is necessary to adjust the printhead support. In this case insert a second strip of the label at the front side of the print roller. Now slide the locking screw (**2**) as far as possible to position **2b** in the adjustment slot (**3**), until the printhead support (**4**) touches the printhead mounting (**1**). Take away the second label strip.
5. Tighten the locking screw (**2**).

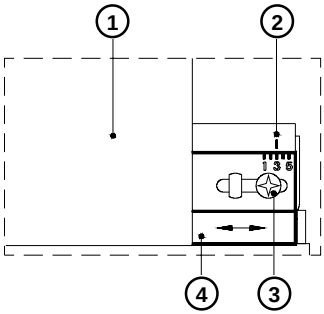
Adjustment of the Label Edge Sensor



To accommodate a variety of print jobs, the position of the label edge sensor (**1**) can be adjusted at right angles to the path of the paper feed.
It is important to ensure that the sensor is positioned in a way that the gaps between the labels or the markings can be recognized by the photocell. (the position of the sensor is marked by a notch in the sensor holder).

Adjust the sensor position 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 Transfer Ribbon

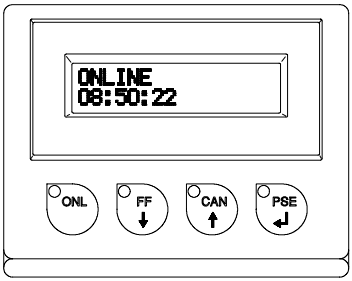


If creases, lines or black patches appear in the print image resulting in a poor print quality, this may be caused by wrinkles in the transfer ribbon (**1**). To remove the wrinkles, the tension of the ribbon should be made even from the left to the right by moving the ribbon shield (**4**) up or down.

1. Loosen the locking screw (**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 adjustment, tighten the locking screw (**3**).

Control Panel

The front control panel of the Apollo is fitted with 4 function keys with indicator LEDs, and a 2x16 character digital LCD display.



The control panel display constantly provides the operator with the actual information concerning the current printer mode and label processing. The indicator LEDs support the information shown in the display by indicating which keys have to be pressed. (e.g. in the event of a fault)

Function of the LED's

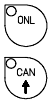
The illuminated LED's show the following printer states :

LED ONL	- **Apollo** is ready to print
LED FF	- Only if an applicator is installed : request to press the FF key to re-synchronize the paper feed after the appearance of an printer error
LED CAN	- Error message ; print job can be cancelled by pressing the CAN key
LED PSE	- The printer is paused ; print job is temporarily interrupted by pressing the PSE key or sending of a PAUSE-command via interface; print job can be continued by pressing the PSE again or sending a PAUSE-OFF command
	- Error message ; LED is flashing, if there is a fault (e.g. "Out of paper) which is easily correctable by the operator,following which the printing process may be continued by pressing the PSE key

Function of the Keys

The function of the keys is dependent on the System Mode of the printer :

System Mode ONLINE

	ONL key	Switch into OFFLINE mode. (LED ONL off)
	FF key	Provides label feed. The leading edge of the next label to be printed is in print position.
	CAN key	Deletes data of the previous print job in internal memory. Following that, "Pause reprint" is not available. (see PSE key)
	PSE key	Repeats the print of the last label, after the previous print job has been completed. (only when setup parameter "Pause reprint" is on)
	ONL key + CAN key	Pressing both keys together for at least 5 seconds will switch into the SETUP mode. (LED ONL off)

System Mode OFFLINE

	ONL key	Switch into ONLINE mode. (LED ONL on)
	FF key	Provides label feed. The leading edge of the next label to be printed is in print position.
	CAN key	Switch into LABEL FROM CARD mode. (only if memory card is installed and formats are stored on it)
	PSE key	Display shows current printer mode. ("Printer info")

System Mode PRINT

	CAN key	short pressing : longer pressing (>1s):	Cancels the current print job. Switch to the next job, which is available in the input buffer Cancels the current print job. Clears the input buffer (LED CAN blinks), Switch into ONLINE mode.(LED ONL on)
	PSE key	Interrupts the current print job. Switch into PAUSE mode. (LED PSE on)	

System Mode PAUSE

	FF key	Provides label feed. The leading edge of the next label to be printed is in print position.
	CAN key	short pressing : Cancels the current print job. Switch to the next job, which is available in the input buffer longer pressing (>1s): Cancels the current print job. Clears the input buffer (LED CAN blinks), Switch into ONLINE mode.(LED ONL on)
	PSE key	Continues the current print job. Switch into PRINT mode. (LED PSE off)

System Mode LABEL FROM CARD

	ONL key	Switch into OFFLINE mode.
	FF key	For scrolling down within the file list stored on the card. Reduces the quantity of labels to be printed.
	CAN key	For scrolling up within the file list of the card. Increases the quantity of labels to be printed.
	PSE key	Confirms file selection. Moves the cursor to the right when setting the quantity of labels to print. Switch into PRINT mode.

Self Test

Power On System Test

When switched on, the **Apollo** automatically performs an internal system test.
If the test is completed successfully, the Apollo proceeds to the ONLINE mode, or otherwise the printer switches to system mode FAULT - IRRECOVERABLE.

The top line of the display shows the version of the printer :
" **** APOLLO 1 **** ".
The bottom line of the display shows the numbers "123456" one after the other depending on the progress of the several test steps.

Test Print

To prepare a test print, load media (labels or continuous paper) which extends over the entire print width of the **Apollo**.

If you want to perform the test print in thermal transfer mode, also use transfer ribbon of the maximum width.

During test print, the Apollo will not sense any label gaps. The length of the printout will be about 9 in (230 mm).

To **initiate a self test printout**, press the 

key when switching on the printer and keep it pressed down until the system test is completed.
The display shows "Test print", and the **Apollo** will print an internal test sample which contains a variety of information about the configuration of the printer as well as the results of the internal test.

The test printout can also include a range of hardware errors which have occurred previously, even if they have disappeared again. This information is important for service purposes and can only be deleted by Technical Support.

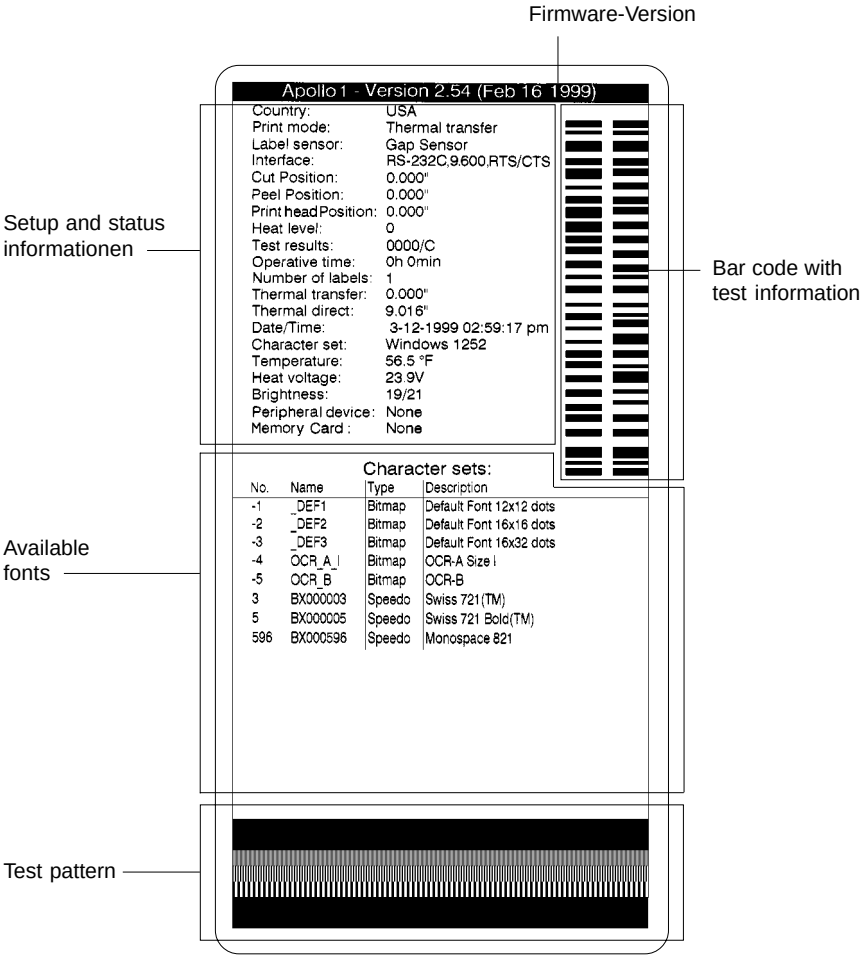
The information in the printout is also useful for checking the print quality, such as differences in the blackness left/right, missing ink dots, etc. It is recommended you carry out a print test immediately after receiving the printer.

After completing the test print, the **Apollo** will run the system test once again.
Then, the printer proceeds to ONLINE mode.

To cancel the test print press the 

key.

Explanation of the Self Test Printout



Setup and Status Information

Country	:	Setting of the "Country" parameter
Print mode	:	Setting of the "Transfer print" parameter
Label sensor	:	Setting of the "Label sensor" parameter
Interface	:	Setting of the "Interface" parameter
Cut Position	:	Setting of the "Cut position" parameter
Peel Position	:	Setting of the "Peel position" parameter
Printhead Pos.	:	Setting of the "Printhead position" parameter

Heat level	:	Setting of the "Heat level" parameter
Test result	:	Result of the system test. Any errors will be shown coded as four digit hexadecimal numbers. **/C** shows when the setup has been altered from the defaults. (**Apollo 1** and **Apollo 2** only) For **Apollo 3**, the letter behind the "/" sign indicates the state of modification of the hardware. (board)
Operative time	:	Cumulative operating time of the printer
Number of labels	:	Cumulative amount of printed labels
Thermal transfer	:	Cumulative length of printed material in thermal transfer mode
Thermal direct	:	Cumulative length of printed material in direct thermal mode
Date/Time	:	Setting of system date and system time
Character set	:	Setting of the "Character set" parameter
Temperature	:	Printhead temperature
Heat voltage	:	Current value of heat voltage (approx. 24V; **Apollo 3/300** approx. 20V)
Brightness	:	Service information on brightness used at gap sensor
Peripheral device	:	Type of device connected to peripheral port
Memory card	:	Type and capacity of memory card (PCMCIA/PC card)

Monitor Mode/ ASCII Dump Mode

If programming directly, the monitor mode provides a method to print control sequences which were received at the interface. The commands will be printed in text format depending on the selected character set. Error messages will be printed directly behind the fault, e.g. for unknown commands.
In monitor mode, the **Apollo** will not recognize gaps between labels nor control the ribbon feed.

To **start the monitor mode**, press the 

key while switching on the printer, and keep it pressed down until the system test is completed. The display shows "ASCII Dump Mode".

To cancel ASCII Dump mode, press the 

key.

In monitor mode, the print of data will be started after every four lines of data received. Therefore, in some cases, the last lines of the label have to be retrieved by pressing the 

key.

Setup

Using the setup mode, the configuration of the **Apollo** may be customized to suit specific requirements. Initial setup should be performed when operating the printer for the first time. Changes which become necessary to process different print jobs, e.g. when different materials are used, can mostly be accomplished by changing the software settings.

Start of Setup Mode

This mode is initiated by **either** simultaneously pressing the ONL key and the CAN key when switching on the printer and keep them pressed down until the system test is completed, **or** in ONLINE mode, press the same two keys down for at least 5 seconds.

Each time a parameter setting has been changed, there will be a request for confirmation. There will not be a general request before leaving the setup mode.

Leaving the Setup Mode

The setup mode can be left at any point by pressing the ONL key. The confirmed parameters will be saved.

If an already confirmed setting is not desired any more, switch off the printer during the setup mode to cancel changes.

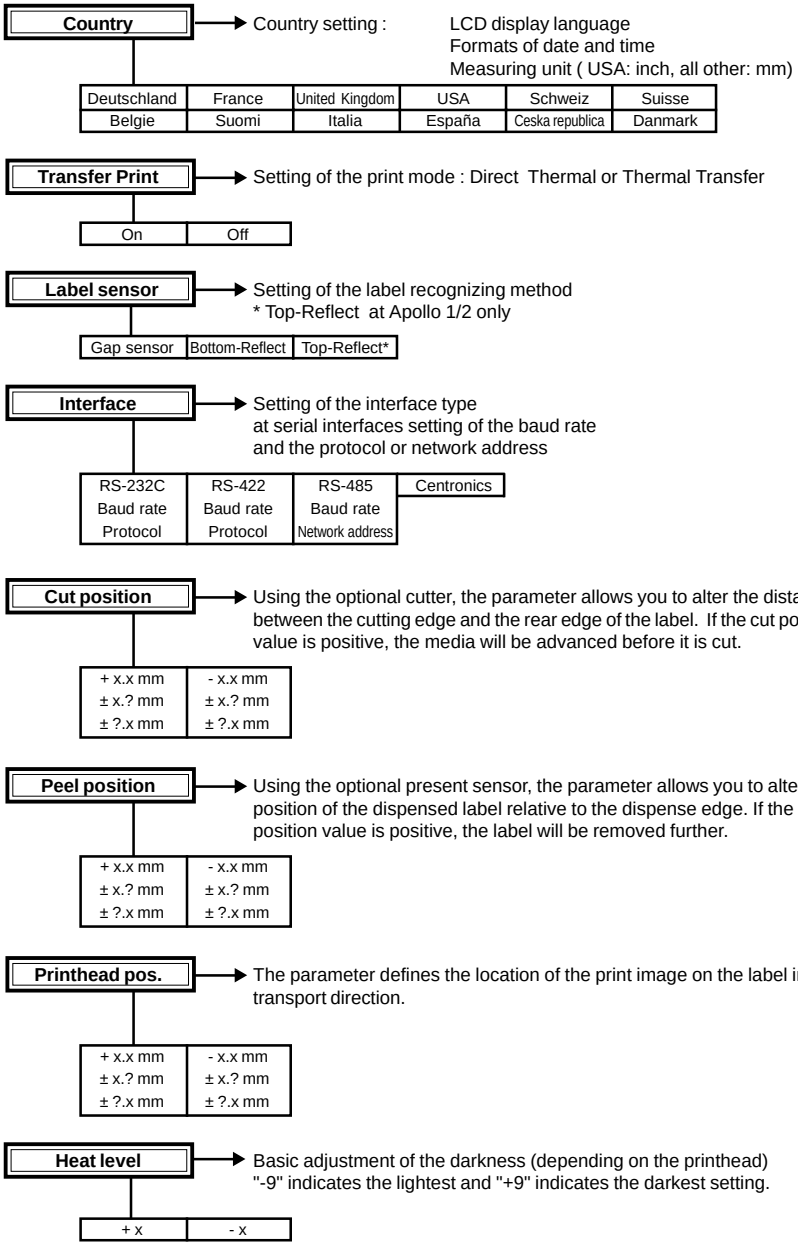
Restore the Default Setup

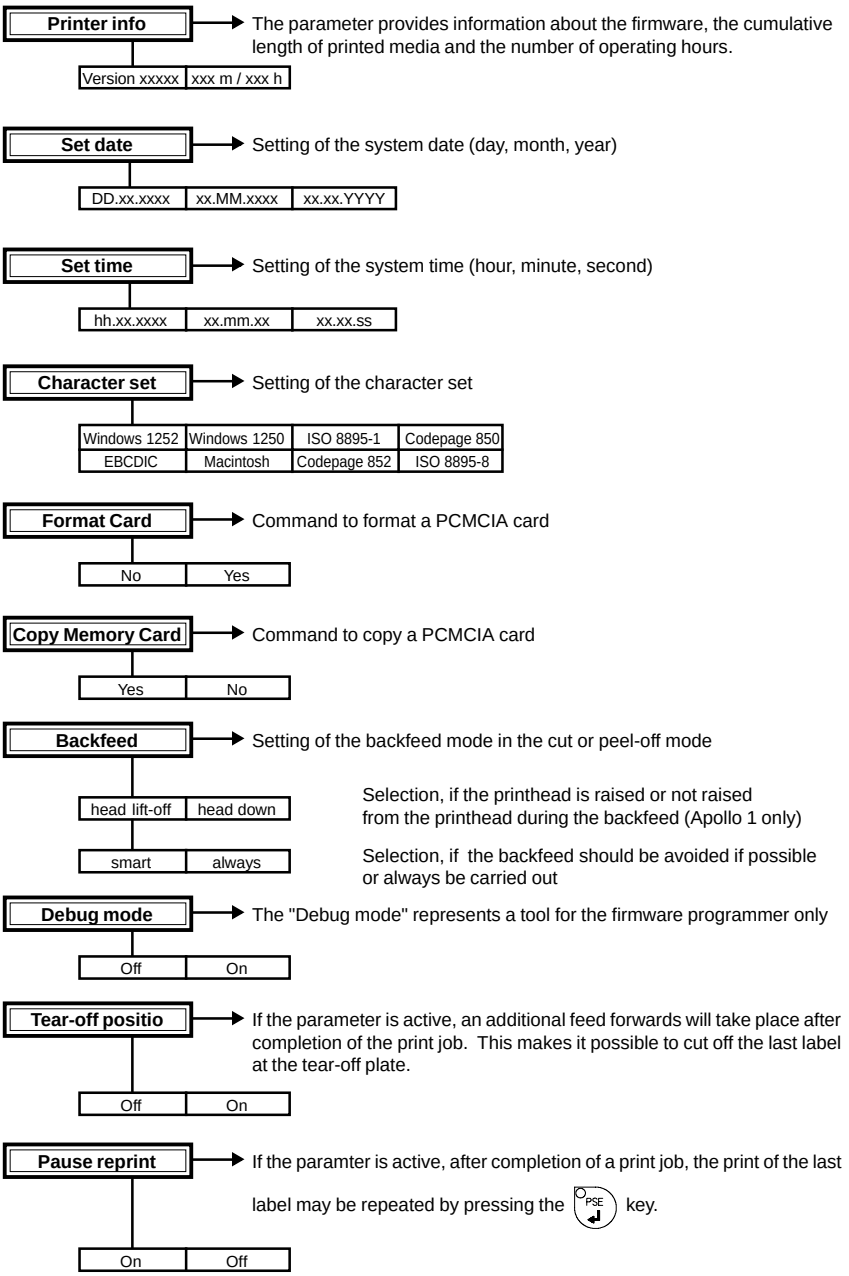
To return to the original factory default settings, press all three keys, the ONL key, the FF key, and the PSE key simultaneously and keep them pressed down until the display shows "--- RESTORE ---".

Function of the Keys in the Setup Mode

ONL	ONL key	Stores the chosen settings of the setup parameters and completes the SETUP mode. (i.e. switch into ONLINE mode/ LED ONL on)
FF	FF key	Skips to next setup parameter. Reduces numerical setup values.
CAN	CAN key	Skips to previous setup parameter. Increases numerical setup values.
PSE	PSE key	Confirms selected settings for parameters.

Overview of the Setup Parameters




Printer info
The parameter provides information about the firmware, the cumulative length of printed media and the number of operating hours.
Version xxxxx
xxx m / xxx h
Set date
Setting of the system date (day, month, year)
DD.xx.xxxx
xx.MM.xxxx
xx.xx.YYYY
Set time
Setting of the system time (hour, minute, second)
hh.xx.xxxx
xx.mm.xx
xx.xx.ss
Character set
Setting of the character set
Windows 1252
Windows 1250
ISO 8895-1
Codepage 850
EBCDIC
Macintosh
Codepage 852
ISO 8895-8
Format Card
Command to format a PCMCIA card
No
Yes
Copy Memory Card
Command to copy a PCMCIA card
Yes
No
Backfeed
Setting of the backfeed mode in the cut or peel-off mode
head lift-off
head down
Selection, if the printhead is raised or not raised from the printhead during the backfeed (Apollo 1 only)
smart
always
Selection, if the backfeed should be avoided if possible or always be carried out
Debug mode
The "Debug mode" represents a tool for the firmware programmer only
Off
On
Tear-off positio
If the parameter is active, an additional feed forwards will take place after completion of the print job. This makes it possible to cut off the last label at the tear-off plate.
Off
On
Pause reprint
If the paramter is active, after completion of a print job, the print of the last label may be repeated by pressing the PSE key.
On
Off

Options

External Rewinder

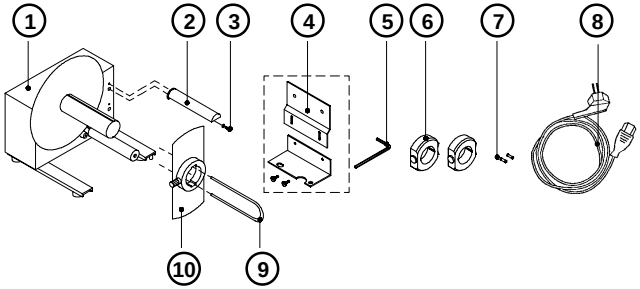
To handle large print jobs, an external rewinder is available which allows you to rewind complete rolls of label material.

Delivery Contents

The rewinder is packed separately from the printer.

Please keep the original packaging in case the rewinder must be returned !

The following components are included in the package :



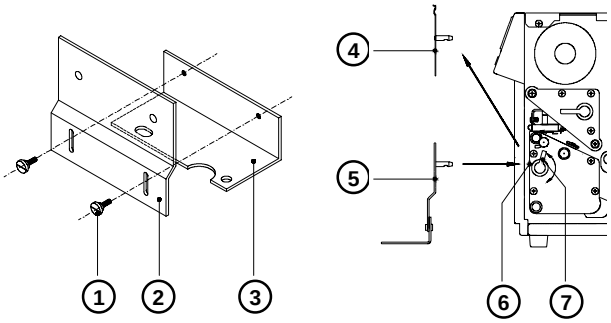
1 - Rewinder
2 - Guide bar
3 - Cylinder screw M5x10 incl. washer A5.3
4 - Printer adapter
(upper adapter plate, lower adapter plate, 2 knurled screws M4x6)
5 - Hexagonal wrench (.16 in or 4 mm)
6 - 2 Rewind axle adapters, with a diameter of 3 in or 75 mm
7 - 2 x 1A Fuses (for use at 115V)
8 - Power cable
9 - Clamp
10 - Flange

Safety Instructions

The printer must be powered OFF before mounting the rewinder.
During operation, the rotating axle is openly accessible !
Therefore, keep long hair, loose clothes, and jewelry away from the moving parts !
Before connecting the rewinder to the power supply, make sure the voltage selected on the power module corresponds with the supply voltage !

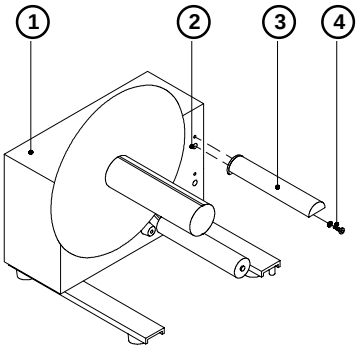
Mounting the Printer Adapter

In order to operate the external rewinder, an adapter unit has to be mounted on to the **Apollo**.



1. Attach upper adapter plate (**2**) to the lower adapter plate (**3**) using the knurled screws (**1**). Put the screws through the circular holes in the upper adapter plate.
2. Rotate the accessory lock/release lever (**7**) counter-clockwise until it stops.
3. Remove the tear-off plate (**4**) from its mountings (**6**).
4. Insert the printer adapter plate (**5**) into the mountings (**6**).
5. Turn the lock/release lever (**7**) clockwise until it stops.
6. Adjust the lower adapter plate (**3**) vertically until only a space of about .08 in or 2 mm is left between the adapter plate and the standing area.
7. Tighten the screws (**1**).

Mounting the Guide Bar

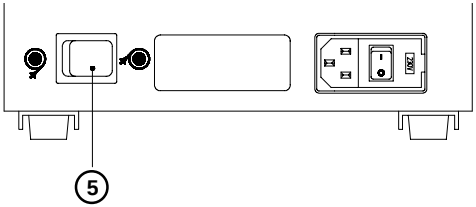


1 - Rewinder
2 - Upper threaded hole
3 - Guide bar
4 - Screw (incl. washer)

Using the hex screw (**4**) and washer provided, secure the guide bar (**3**) into the **upper** one of the two threaded holes (**2**) located on the inside of the rewinder's side cover. A hexagonal wrench is provided.

Selecting the Method of Rewinding

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



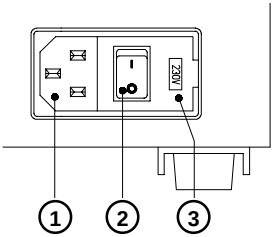
Set the switch (**5**) to the required method of rewinding :

- 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/ 50Hz or 115V/ 60Hz.

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

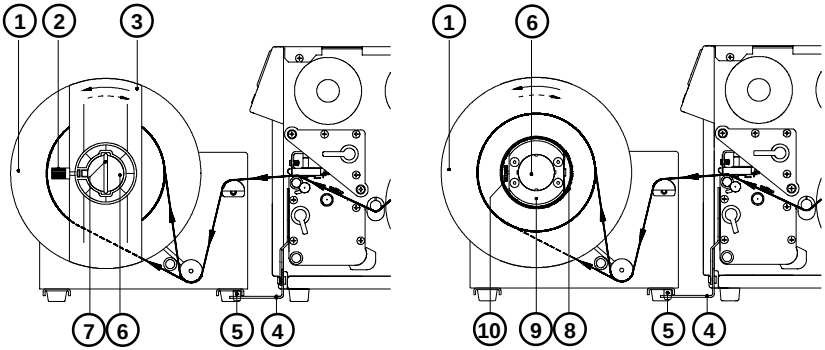
The current voltage setting of the power module is visible in the lid window (**3**).

If you have switched the operating voltage of your rewinder you need to replace the fuses. For the standard setting of 230V, two fuses rated at 500mAT must be used. For operation at 115V, two fuses rated at 1AT must be used. (Both types of fuses are shipped with the rewinder, one of which is installed depending on the voltage setting.)

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 Operation



Rewinding Directly onto the Rewind Axle

1. Attach the rewinder to the **Apollo** by positioning the metal posts on the bottom of the rewinder (**5**) into the holes of the adapter plate (**4**).
2. Feed the label strip over the guide bar and under the roller onto the rewinder axle (**6**) as shown in the left upper figure. Considering the required method of rewinding, secure the label strip appropriately to the rewinder axle (**6**) by sliding the clamp (**7**) over the label strip with the clamp set in the groove. (the broken line shows the path of inside rolled labels)
   Ensure that the label strip is even with the disc (**1**).
4. Slide the clamp (**7**) as far as possible towards the disc (**1**).
5. Slide the flange (**3**) onto the rewind axle (**6**) so that it slightly touches the label strip. The label strip must be able to move slightly between the disc and the flange.
6. Tighten knurled screw (**2**) in the flange (**3**).
7. Switch the rewinder ON.

Caution ! When switched ON, the rewinder immediately starts rotating !

Rewinding on to 3 in (75 mm) Cardboard Rolls

1. Use a cardboard roll (**8**) which is about .04 in (1 mm) wider than the label strip.
2. Attach the rewinder to the **Apollo** by positioning the metal posts on the bottom of the rewinder (**5**) into the holes of the adapter plate (**4**).
3. Mount the first axle adapter (**9**) onto the rewinder axle (**6**) and slide it up to the disc (**1**). Tighten knurled screw (**10**).
4. Mount the second adapter onto the rewinder axle (**6**). Slide it towards the first adapter until the clearance between the edge of the adapter and the disc (**1**) is a little less than the width of the cardboard roll (**8**). Tighten knurled screw (**10**).
5. Slide the cardboard roll (**8**) over the two adapters (**9**) until it is touching the disc (**1**).
6. Feed the label strip over the guide bar and under the roller as shown in the right upper figure up to the cardboard roll (**8**).
7. Using adhesive tape or a label, affix the end of the label strip to the cardboard roll (**8**). (the broken line shows the path of inside rolled labels)
8. Slide flange onto the rewind axle (**6**) until it stops at the cardboard. Tighten knurled screw.
9. Switch the rewinder ON.

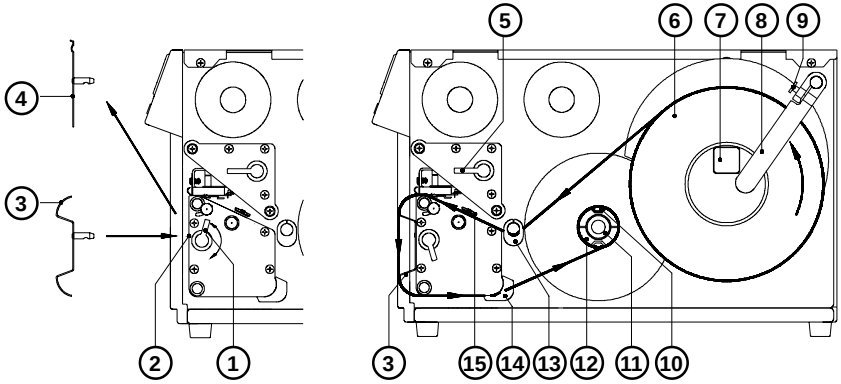
Caution ! When switched ON, the rewinder immediately starts rotating !

Rewind Guide Plate

The optional **rewind guide plate** for printers with **internal rewinder** allows you to rewind small print jobs inside the printer.

The **Apollo** is delivered with a mounted tear-off plate (**4**). For internal rewinding, the tear-off plate has to be replaced with the rewind guide plate (**3**) :

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



5. Lift printhead by turning the lever (**5**) clockwise until it stops.
6. Loosen knurled screw (**9**), then swing the media retainer (**8**) backwards.
7. Place the media roll (**6**) onto the media hub (**7**). Swing the media retainer (**8**) to 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 (**9**).
8. Slide the two media guides (**13/14**) outwards to their outermost position.
9. Unroll a length of stock from the media roll and feed along as shown in the right upper figure. It is particularly important to ensure that the media strip slides properly between the fittings of the adjustable photocell assembly (**15**).
10. Feed the media strip between the print roller and the thermal printhead, and then over the rewind guide plate (**3**) to the internal rewinder (**12**).
11. The internal media rewind hub (**12**) is fitted with an expanding axle that contains clamps (**10**) for securing the media. Slide the media strip from underneath the rewinder clamps (**10**) to the disc. Fasten the media strip to the axle by holding the rewinder and rotating the knurled knob (**11**) clockwise until it stops. To tighten the media, rotate rewinder counter-clockwise.
12. Slide the media guides (**13/14**) towards the edge of the media strip.
13. Lock the printhead by turning the lever (**4**) counter-clockwise until it stops.

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

Cutter Assembly

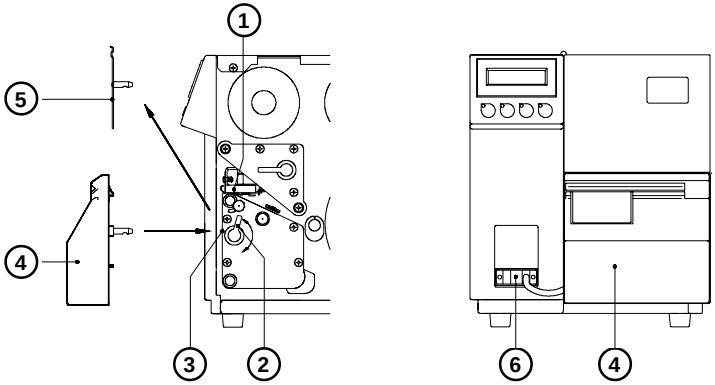
With the optional **cutter assembly** installed, labels or endless media may be cut off immediately after being printed.

The cutter assembly is delivered in a separate package. Please keep the original packaging in case the cutter must be returned !

Installing and Operation

The printer must be switched OFF before mounting the cutter !

The cutter may be used only when mounted onto the Apollo !



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

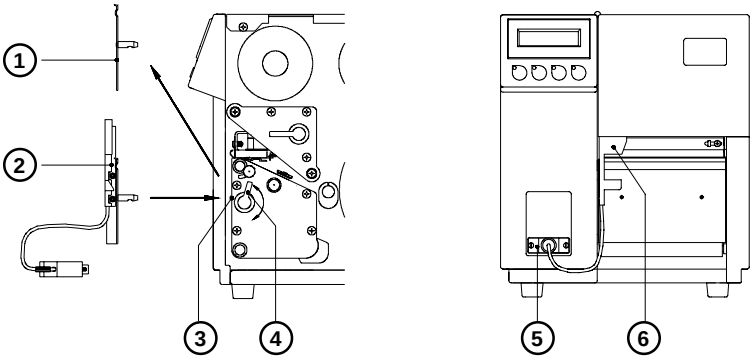
1. Switch the printer OFF.
2. Feed the label stock into the **Apollo** in such a way that the leading edge of the first label is protruding slightly beyond the printhead (**1**).
3. Turn the printhead lever (**2**) counter-clockwise until it stops.
4. Remove the tear-off plate (**5**) from the guide holes (**3**).
5. Slide the cutter (**4**) into the guide holes (**3**) .
6. Turn the lever (**2**) clockwise until it stops.
7. Connect the cutter cable (**6**) to the 15 pin peripheral port on the front of the **Apollo**.
8. Switch the printer ON. The cutter will perform a synchronized cutting cycle.
9. Press the FF key. The printer will feed one unprinted label forwards which will be cut off by the cutter. The label stock feed is now synchronized for the start of the printing process.
10. Activate the cutter function by selecting the cut mode in the software (in direct programming use the "C" command).

Present Sensor

The optional **present sensor** in connection with printers with **internal rewinder** allows for on-demand label dispensing. That means, the labels are removed from the silicon liner immediately after printing, and then available in a dis-pense position ready for further processing.
The present sensor (**2**) consists of two components, the dispense edge (**18**) and the present sensor photocell (**6**). The presence of a label (**19**) in dispense position is observed by the photocell. Through its connection to the peripheral port of the **Apollo**, the signal pauses the print of the next label until the label in the dispense position is removed.

Note : When editing or creating labels in demand mode, make sure that the part of the label which lies directly underneath the photocell is only colored (black) to a maximum of 50%. Higher blackening/ density print may cause malfunctions of the sensor.

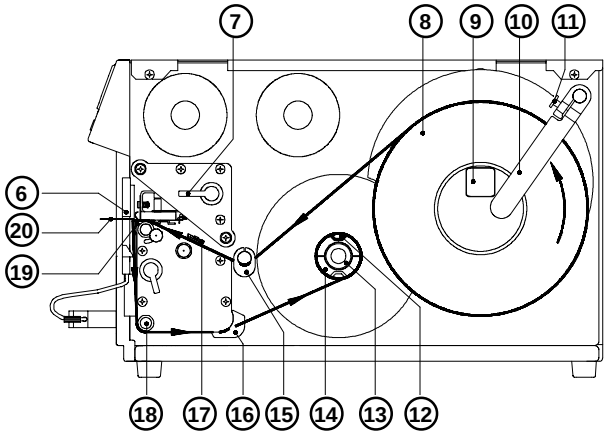
Montage des Spendesensors



The **Apollo** is generally shipped with the tear-off plate (**1**) mounted. When operating in dispense mode, the tear-off plate has to be replaced with the present sensor (**2**) :

1. Turn 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. Turn lever (**4**) clockwise until it stops.
5. Connect the cable (**5**) of the present sensor (**6**) to the 15 pin peripheral port of the **Apollo**.

Inserting the Labels for Peel-off



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 **Apollo** as shown in figure. 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 rewinder (**14**).

7. Slide the media strip from underneath the rewinder clamps (**12**) to the disc. Fasten the media strip to the axle by holding the rewinder (**14**) and rotating the knurled knob (**13**) clockwise until it stops. To tighten the media, rotate rewinder 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.

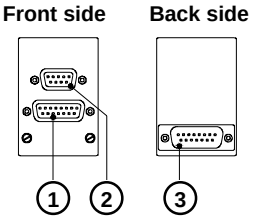
10. Activate the peel-off function by selecting the peel-off mode in the software (in direct programming use the "P" command).

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

Cut-/Peel-off Adapter

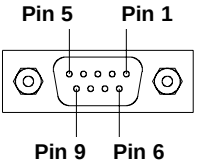
By using the cut/peel-off adapter it is possible, to operate the **Apollo** with cutter assembly or present sensor in a special mode, where the print of one label can be started by an external start signal.
In the peel-off mode, after removing a label from the peel-off position the use of the adapter avoids the immediate print of the next label.
In the cut mode the print job can be divided in single prints.
In both cases, a label will only be printed, if it is required (cut/peel-off on demand).

Connectors



1 - 15-pin SUB-D connector for cutter assembly or present sensor
2 - 9-pin SUB-D connector for an external release switch
3 - 15-pin SUB-D plug to connect the adapter to the peripheral port of the **Apollo**

Pin Assignment of the 9-pin SUB-D Connector



Pin 1/2 - Optocoupler inputs. A short impuls of 24V= at the pins (+ at pin 1, - at pin 2) releases the print of one label (external start signal).
The start impuls has to be shorter than the print time of the label. The current is internally limited to 10 mA.
with present sensor : the print is released only, if there is no label in the presentation position
with cutter assembly : the printed label will be cut

Pin 3/4 - Transistor outputs of an optocoupler (pin 3 - collector, pin 4 - emitter). If the adapter is used with the present sensor, the state of the transistor shows the presence of a label in the peel-off position. If there is a label, the transistor is blocked so that no current can flow between the pins.

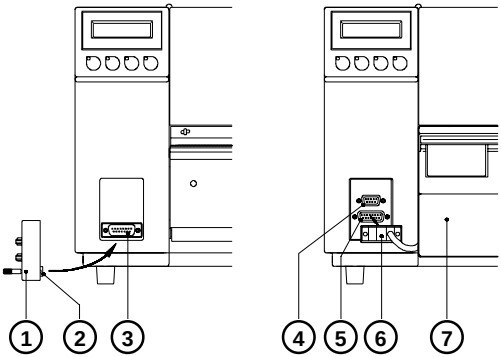
At connecting the pins 3 and 4 **the current has to be limited externally to 10mA.** Otherwise the output will be destroyed.

Pin 5/6 - Pin 5 : Internal operating voltage +24V ; Pin 6 : Ground
The operating voltage can be used to generate the external start signal with a switch.
The use of this voltage for other purposes is prohibited.

Pin 7/8/9 - n.c.

Inputs and outputs are designed with optocouplers, i.e. they are potential free in relation to the Apollo. The isolation voltage is 500 V. The voltage at the outputs should not be higher than 30V.

Installation and Operation



1. Switch OFF the printer.

2. Connect the 15-pin SUB-D plug (**2**) at the back side of the cut/peel-off adapter (**1**) to the peripheral port (**3**) of the **Apollo**.

3. Mount the cutter assembly (**7**) or the present sensor as described in the previous chapters contact the cable (**6**) to the 15-pin SUB-D connector (**5**) at the front side of the cut/peel-off adapter.

4. Plug the cable of the external release switch to the 9-pin SUB-D connector (**4**).

5. Switch ON the printer.
Make sure, that the external release switch is open (no voltage at Pin 1 of the 9-pin connector) when the printer is switched ON.

6. Start a print job in the cut or peel-off mode.

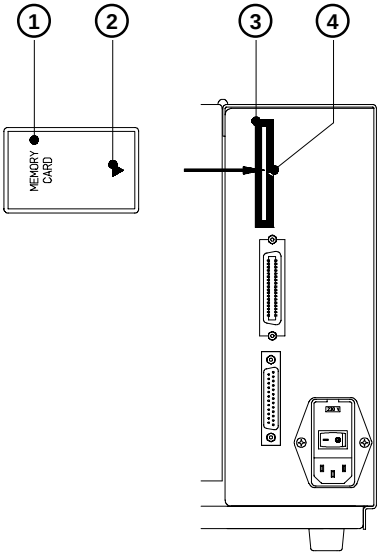
7. Release the print of single labels by actuating the external switch.

Memory Cards

The printers of the **Apollo** series provide an option for using memory cards to permanently save graphics, fonts, complete label formats, or database information. Data transfer may be performed via interface. Alternatively, the printer is able to read from cards which has been written on in PC card drives of lap-tops or other computers, etc.

The **Apollo** is able to read from PCMCIA version 2.1 compatible sRAM cards or Flash-EPROM cards. The maximum memory capacity for **Apollo 1/2** is 4 MegaByte, and for **Apollo 3** 16 MegaByte.

Installation of the Memory Card



The front side of the memory card (**1**) is usually marked by the inscription "MEMORY CARD", and an arrow (**2**) representing the direction of inserting the card into the drive. There is also an arrow (**4**) impressed into the frame of the memory card slot of the **Apollo**.
Insert the card (**1**) into the slot (**3**) so that the front of the card faces the arrow (**4**).

At the connecting side of the card there are different guides on the top and the bottom which make it impossible to insert the card incorrectly.

Printing from a Memory Card

Using a memory card provides the opportunity to print without a connection of the Apollo to a computer.

Follow the instructions below, after the card has been installed and the printer has been switched ON :

1. Switch printer into OFFLINE mode by pressing the ONL key.
2. After pressing the CAN key, the file name of the first label saved on the card will be shown.
3. Using the FF key and the CAN key, you may scroll up and down the contents of the card. Confirm the selection by pressing the PSE key.
4. If you have chosen a label with a set number of labels to print, the **Apollo** will instantly start printing.
5. For labels with a variable number of labels, the top line of the display shows "Number of labels", the bottom line shows "00001" with the first figure flashing. (cursor)

   Using the FF key and the CAN key, the figure at the position of the cursor may be altered. By pressing the PSE key the cursor can be moved on to the next figure. After confirming of the last figure, the **Apollo** starts to print.
6. To pause the selection of a label or the input of the number of labels you may press the ONL key.

The data saved on the card is also accessible via interface and computer.

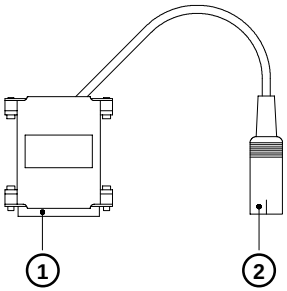
Keyboard Adapter

The **keyboard adapter** option offers to connect the **Apollo** to a standard PC keyboard or any other compatible input device (e.g. a bar code scanner) via its serial interface. Using the keyboard, print jobs of an internal PC card may be loaded and variable data may be altered. Input data requests as well as data received from the keyboard will be shown in the display of the **Apollo**.

The keyboard adapter is designed for use with all keyboards which fulfill the following requirements : MF-2 compatible, having a 5pin DIN plug, supporting code set 3, and also operating with a maximum of 15 kBaud.

The current consumption of the connected keyboard or scanner must not exceed **100 mA**.

Installation of the Keyboard Adapter



1 - 25 pin SUB-D plug
2 - 5 pin DIN connector

1. Change the interface setting to "RS232C, 9600 Baud, RTS/CTS" and confirm.

2. Connect the 25 pin plug (**1**) of the keyboard adapter to the serial interface connector at the rear of the printer.
   Make sure that the printer is switched OFF !

3. Connect the keyboard to the 5 pin DIN connector (**2**) of the keyboard adapter.

Key Assignment

The **Apollo** can easily be adjusted to the keyboard configuration of the particular country by using the setup parameter "Country". For each of the available settings the **Apollo** has a different table of key assignment, which, generally, complies with the assignment under Microsoft DOS.

The [ALTGR] key has no function. Therefore, all signs which are located on the right hand side of the key opposite of the normal characters (e.g. { } [ ] \) can be generated by pressing the [ALT] key. A few of the other special signs (e.g. ¨ × ÷) may also be generated the same way.

Other special characters (e.g. ñ ç œ) can be generated by inserting two characters one after the other, where the second input is a combination with the [ALT] key. Some of the special characters cannot be shown in the display of the printer. In that case, the **Apollo** will use a character which looks similar to the required character.

When using a scanner, the character set of the scanner has to be the same as used by the **Apollo**.

Special Key Functions

[F1]	To enter the list of labels stored on the memory card.
[F2]	To repeat the print of the last label. (as command A 1 CR)
[F3]	To repeat the print of the last label including a new enquiry for variable data.
[Shift]+[F5]	To start the monitor mode/ASCII dump mode.
[Shift]+[F6]	To start the self test printout.
[F7]	Printer Info Display
[F8]	Form feed
[ENTER] or **[RETURN]**	Without a current print job : to switch between ONLINE and OFFLINE; While processing a print job : to confirm the data input.
[ESC]	To cancel the data input. (while printing same effect as CANCEL)
[SPACE]	While printing same effect as PAUSE.
[Shift]+[Del]	To delete the input line.
[↑],[↓]	To scroll up/down the list of labels on the memory card.

Error Messages/ Problem Solution

The **Apollo** is equipped with a comprehensive self diagnostic system which will indicate errors in the display of the printer. Also, the operator will be informed by the LEDs whether the fault is correctable and will, therefore, allow to continue the current print job after corrections (e.g. "Out of paper"), or the fault may require you to cancel the current print job.

Correctable Errors

While processing a print job, an error has occured which may be corrected by the operator, and also allows you to continue the print job after fault correction.

The top line of the display shows alternately the type of fault and the total of the remaining labels of the current print job.
The LED CAN is switched on, the LED PSE is flashing.

Function Keys

	CAN key	short pressing : longer pressing (>1s):	Cancels the current print job. Switch to the next job, which is available in the input buffer Cancels the current print job. Clears the input buffer (LED CAN blinks), Switch into ONLINE mode.(LED ONL on)
	PSE key	Continues current print job after error correction. Switch into PRINT mode. (LED ONL on, LED CAN off, LED PSE off)	

Irrecoverable Errors

While switching on the printer or during printing, a fault has occured which cannot be cleared by the operator without cancelling the current print run.
(e.g. hardware fault)

The display shows the type of fault. The LED CAN is flashing.

Function Keys

	CAN key	Cancels the current print job. Switch into ONLINE mode. (LED ONL on, LED CAN off, LED PSE off) If ONLINE mode cannot be entered, switch printer off and on again. If the fault remains again, contact Technical Service