

User Manual

Passport-Laminator



Table of contents

1. General information.....	5
Product description.....	5
Symbols and conventions.....	6
Intended use.....	6
Safety information.....	6
Environmental information.....	7
2. Connection and commissioning.....	9
Device overview.....	9
Unpacking and setting up the device.....	10
Mounting the feed table.....	10
Connecting the device.....	11
Connecting to the power supply.....	11
Connecting to a computer.....	11
Switching on the device.....	11
Inserting film.....	12
Inserting a document.....	13
3. The control panel.....	15
Control panel configuration.....	15
Key functions in the start menu.....	15
Key functions in the configuration menu.....	16
Device statuses.....	17
4. Configuration.....	19
Configuration via control panel.....	19
Configuration via interface.....	21
Configuration settings.....	23
Test.....	32
System.....	33
5. Control.....	35
Control commands.....	35
Status query.....	36

6. Troubleshooting..... 37

Types of errors and elimination.....	37
Error messages.....	38

7. Service..... 41

Firmware upgrade.....	41
AVR programming protocol.....	42

8. Certifications..... 45

EG-Konformitätserklärung.....	45
Safety Standard FCC.....	46
EMC Zertifikat.....	47

General information

Product description

The passport laminator laminates all pages of the passport including the inside of the cover. A wafer-thin holographic film is applied to the paper surface via a temperature-controlled heated roller. The laminator can be integrated into an automatic personalisation system or can function as an independent station. The passport is fed in from the left, right or front depending on the device configuration.

Symbols and conventions

The following symbols and conventions are applied in this user manual.



The symbol indicates important information, which must be observed. A failure to do so may lead to injuries.



The symbol indicates parts of the device that are hot and should not be touched.



Good advice or information regarding important working steps.

Ready

Text in monospace type indicates contents on the display.

Taste

Framed text corresponds with a key on the control panel.

Intended use

The device is constructed in accordance with the latest engineering practice and per the recognised safety regulations. Nevertheless, danger to the life and limb of the user or third parties or damage to the device and other property may occur when using it.

The device must be operated exclusively when in a technically faultless condition, as intended, with an awareness of safety and potential hazards, and in accordance with the operating manual.

The device is intended exclusively for laminating suitable materials. Any other use or any use exceeding this is considered unintended use. The manufacturer shall not be liable for any damage that results from misuse. The operator is solely responsible for the resultant risk.

Safety instructions

The device is designed for an AC mains supply from 100 V to 240 V. It must be connected exclusively to sockets with a grounded conductor contact.

The device must be operated exclusively in a dry environment and must not be exposed to any moisture (spray, mist, etc.).

Do not operate the device in potentially explosive atmospheres.

Do not operate the device in close proximity to high voltage lines.

If the device is operated with an open cover then it is essential to ensure that clothing, hair, jewellery and similar personal effects cannot come into contact with the exposed, rotating parts.

The device or parts of it may become hot during lamination. Do not touch during operation and allow to cool prior to changing the film if necessary.

Risk of crushing when locking the heated rollers or closing the cover.

Only execute the actions described in this user manual. Further work must be carried out exclusively by trained personnel or service technicians.

Unprofessional intervention or modifications to the device may endanger operational safety.



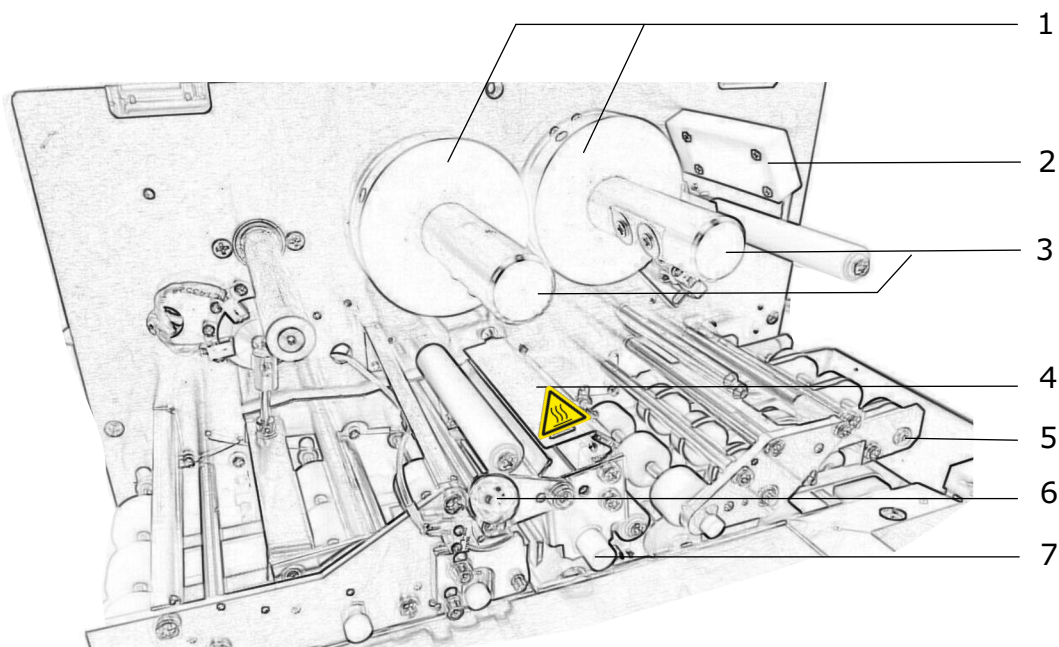
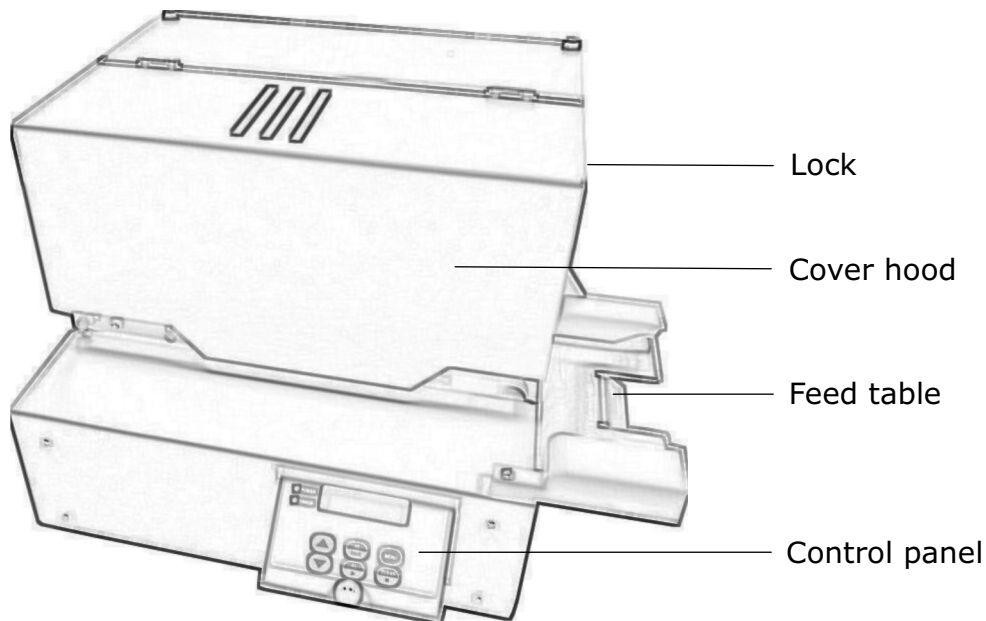
When opening the housing cover a risk of death exists due to live parts.

Environmental information

The device comprises materials that can be reused when processed by specialist recycling companies. The optimum design of the laminator facilitates a straightforward separation of the recyclable materials. Label the device as scrap and dispose of it in accordance with the legal regulations

Connection and commissioning

Device overview



- | | | | |
|---|--------------------------------|---|----------------------------|
| 1 | Spacer ring | 5 | Rocker for passport infeed |
| 2 | RFID module | 6 | Heated roller interlocking |
| 3 | Carrier roller | 7 | Heated roller |
| 4 | Safety guard for heated roller | | |



Unpacking and setting up the device

- Remove the device from its packaging and place on a level surface.
- Check the laminator for transport damage.
- Check delivery for completeness.

Scope of supply:

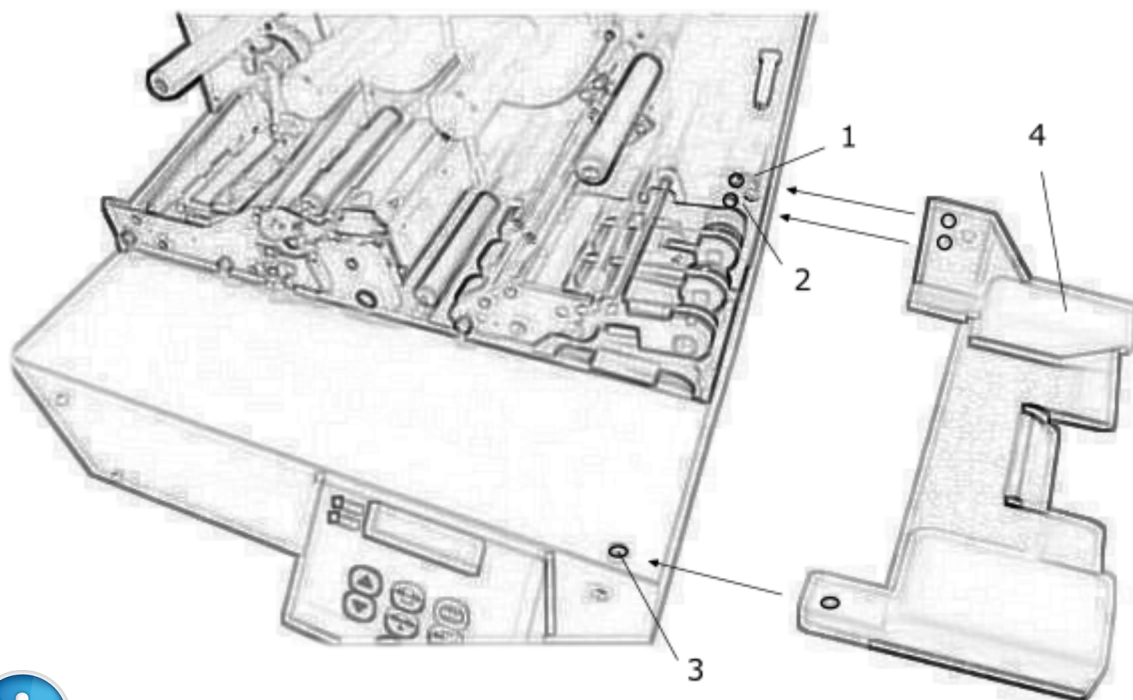
- Passport laminator
- Mains cable
- Feed table
- Key for cover hood



Store original packaging for subsequent transportation.

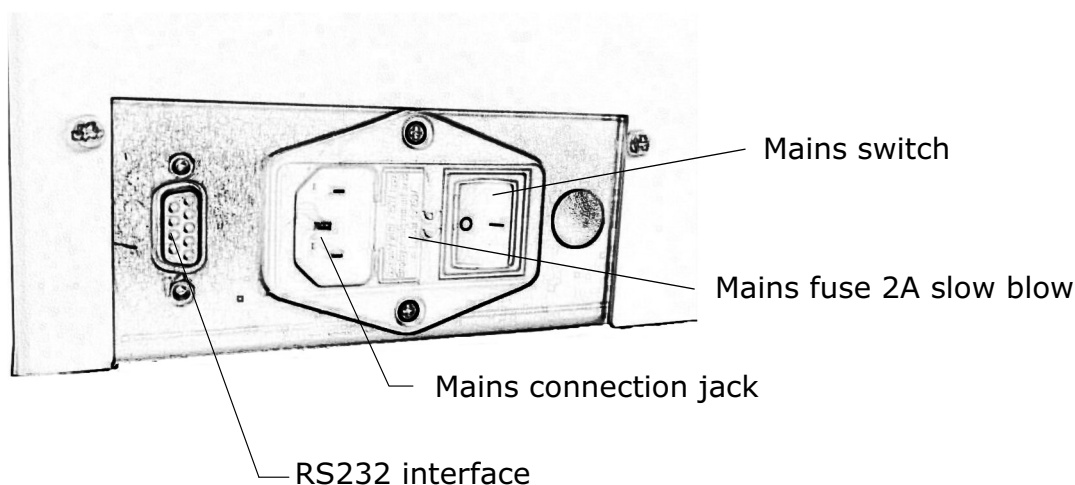
Mounting the feed table

- Open housing cover, if necessary unlock the lock first
- Remove the crosshead screws (1-3) from the device.
- Attach the feed table (4) such that the holes line up and screw in place.



you will need a Philips head screwdriver

Connecting the device



Connecting to the power supply

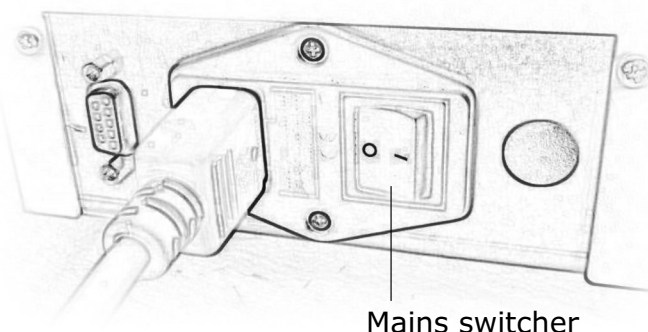
The laminator is equipped with a broad-range power pack for a mains voltage of 100 V to 240 V.

- Ensure that the device is switched off.
- Plug the mains cable into the mains connection jack.
- Plug the mains cable plug into an earthed socket

Connecting to a computer

For configuration and service purposes the laminator must be connected to the computer with a suitable interface cable (optional).

Switching on the device



Once all connections have been established it is possible to switch the laminator on via the mains switch.

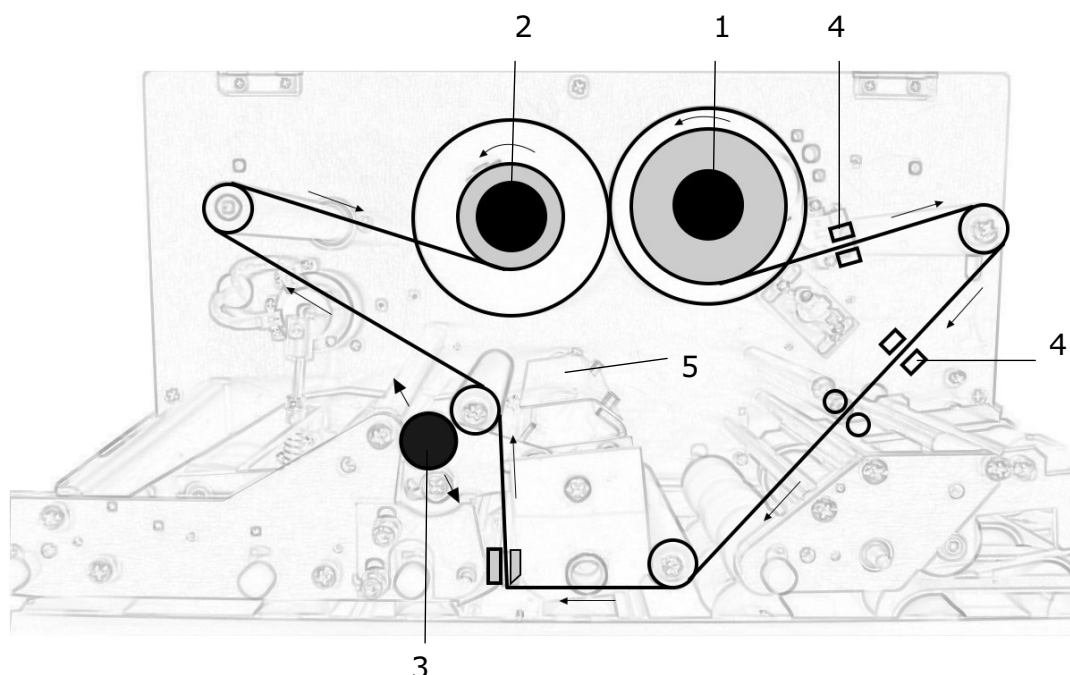
The device carries out initialisation with a simultaneous self-test. If no error is present, heated roller heating commences and the display

indicates **HEATING**. After roughly 10 minutes the laminator is ready for operation and the display switches to the **Ready** status.



It is assumed that film is already present inside the device.



Inserting film



There is a risk of burning on the safety guard for the heated roller (5)

Newly inserted patch film must be subsequently synchronised. This is not necessary in the case of holographic film without an index mark. The process therefore differs very slightly. Refer also in this regard to the menu under Device.


When inserting or exchanging patch film proceed as follows:

- Open housing cover, if necessary unlock the lock first
- Switch off the device and let it cool down
- Release the heated roller interlocking. To do so push the lever (3) up.
- When exchanging the film additionally empty carrier rollers (1,2)
- Switch on the device. An error message is displayed.
- Slide the film roll onto the unwinding carrier roller (1) until it reaches the limit stop.
- Slide an empty film core onto the winding carrier roller (2) until it reaches the limit stop.
- Insert the film in accordance with the drawing shown above. Attach the start of the film to the empty core with adhesive tape.
- Close the heated roller interlocking. To do so push the lever (3) down.
- Transport film with  to the first patch and when doing so check that the film runs correctly and crease-free.
- Delete error message with  . The film is re-synchronised.



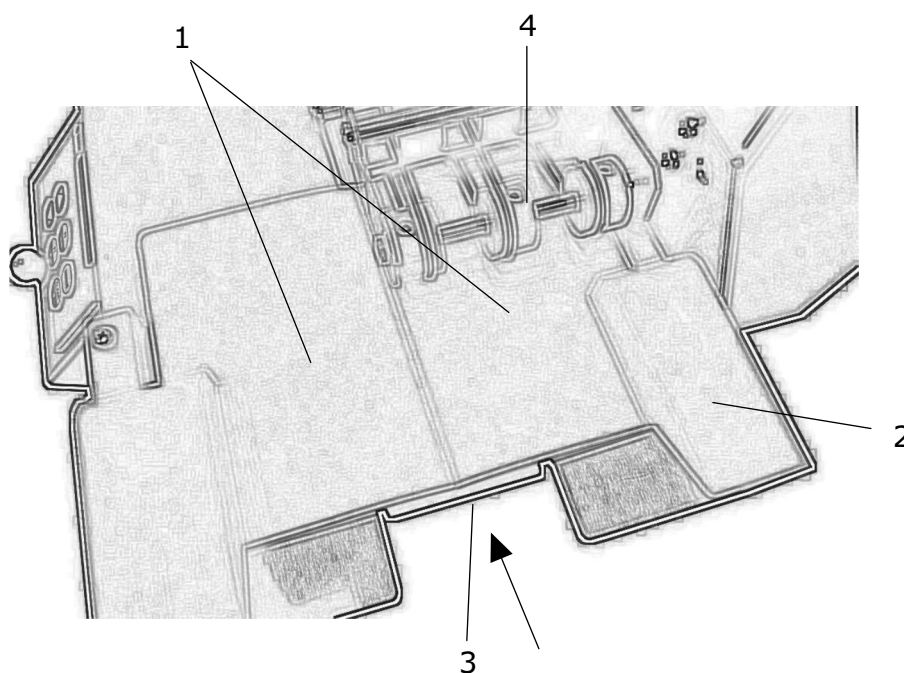
The first index mark on the film should lie between the two sensors (4), in order that no patch is lost.

When inserting or exchanging holographic film without an index mark proceed as follows:

- Open housing cover, if necessary unlock the lock first
- Switch off the device and let it cool down
- Release the heated roller interlocking. To do so push the lever (3) up.
- When exchanging the film additionally empty carrier rollers (1,2)
- Switch on the device.
- Slide the film roll onto the unwinding carrier roller (1) until it reaches the limit stop.
- Slide an empty film core onto the winding carrier roller (2) until it reaches the limit stop.
- Insert the film in accordance with the drawing shown above. Attach the start of the film to the empty core with adhesive tape.
- Close the heated roller interlocking. To do so push the lever (3) down.
- Transport film with  to the start and when doing so check that the film runs correctly and crease-free.

Inserting a document

Insert the passport (1) in the feed table (2) and slide it forwards until it reaches the middle edge (3). The rocker (4) closes, takes hold of the document and draws it in.



The control panel

Control panel configuration



The display informs the user of the current device status, reports errors and indicates configuration settings in the menu.

The keys enable control functions, the accessing of information and navigation within the menu.

If the device is switched on then the green LED illuminates. An error is additionally signalled via the red LED.






The control panel can be folded out for improved ease of operation and legibility. To do this draw the black button on the bottom edge of the control panel forwards

The functionality of the control panel differs in the start menu and the configuration menu.

Key functions in the start menu





The start menu contains all functions on one level, making these directly accessible. Key navigation is not required. During lamination the buttons are locked.

Key	Function
	Transports the film forwards. Useful when inserting new film
	Transports the film backwards. Useful when inserting new film
	Transports a document manually from the tray

Taste	Funktion
F1	Displays the device no. and program version
CLEAR	Deletes error messages
MENUE	Switches to the configuration menu

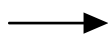
Key functions in the configuration menu

The configuration menu offers setting options across multiple levels, in order to configure the laminator for the specific requirements. It is also equipped with test and service functions in order to support the configuration and function of the device. During lamination the buttons are locked.

Taste	Funktion
MENUE	Start the configuration menu
	One menu level down
	One menu level up
	Scrolls forwards within the respective menu level. At access level changes or reduces the value.
	Scrolls forwards within the respective menu level. At access level changes or reduces the value.
SAVE	Scrolls forwards within the respective menu level. At access level changes or reduces the value.



With some firmware versions please note the following deviation from the table shown above:



MENUE

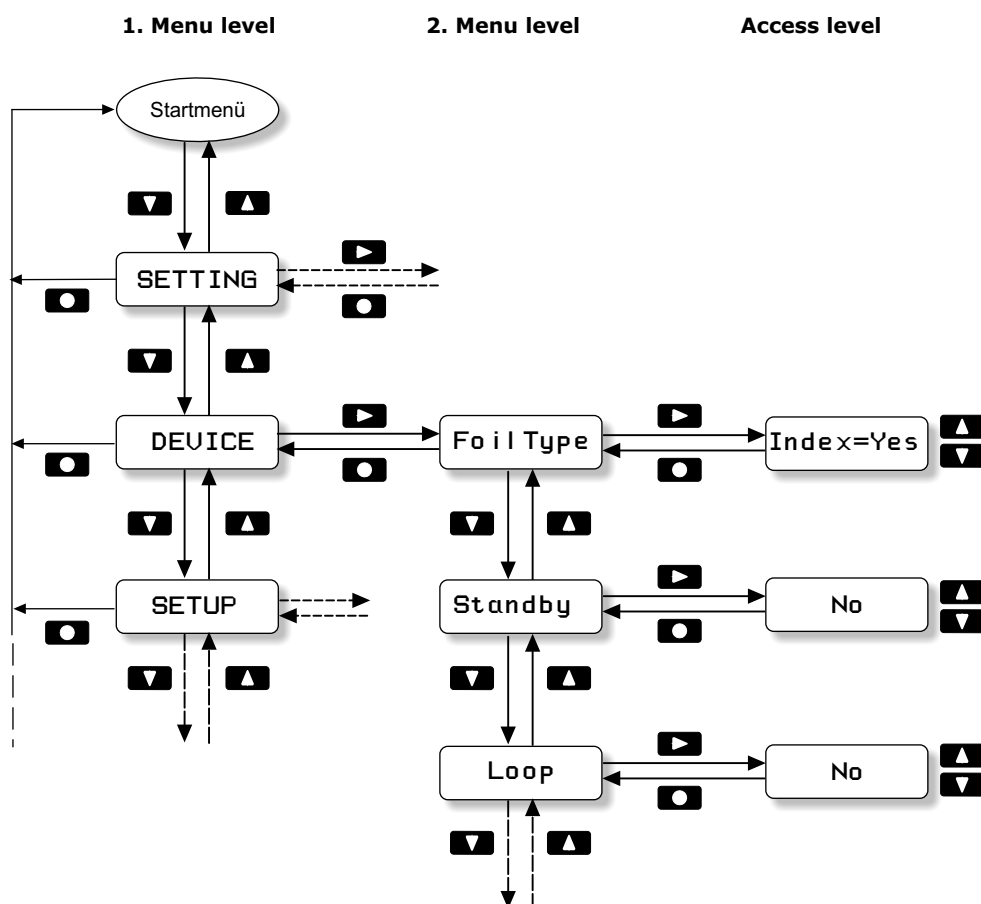
One menu level down



Device statuses

Status	Description
Initialization	After the switch-on process the laminator is in the initialisation phase and carrying out the self-test
-- HEATING --	The laminator is in the heat-up phase
-- COOLING --	The laminator is in the cool-down phase
Ready	The laminator is ready for operation
in process	The laminator is ready for operation
STANDBY	If the laminator is not used for 30 minutes it switches to energy-saving mode. The temperature of the heated roller drops in this mode. Press CLEAR to end. The energy-saving mode must be activated in the menu!
#64 retract	An error is displayed





Configuration

Configuration via control panel



With some firmware versions the button  is to be replaced with 

Within the access level the user works in editing mode:

Key	Function
	Increases / reduces the value or changes an option
	Special functions for some parameters
	Exits the editing mode. Changes are lost after the device is switched off.
	Exits the editing mode. Changes are retained after the device is switched off.

Menu structure

1. Menu level	2. Menu level	Access level = Default value	Special function on Access level
SETTING	Temperature Lamination Speed Delay Heatroller Transport Speed LaminationLength FoilFurtherMove Foil Position	180 °C 8 mm/s 200 ms 60 mm/s 125 mm 35 mm 0 x1/10mm	Test Test
DEVICE	Foil Type Standby Loop Delay 1 retract Delay 2 retract Operation Mode Admin Password User Password	Index = Yes No No 300 ms 300 ms Normal **** ****	
SETUP	Pass Position Lami Length Corr SeparatePosition Heating Cycle Heating Offset Uref Step FP(mU) Uref Step HP(mU) Uref DC re-c(mU) Uref DC de-c(mU) Standby Option	240 x1/24mm 10 -10mm 23 mm 750ms 0 °C T=2500 T=2000 T=2500 T=2500 130 °C	 Test Test Test Test
SENSORS	Status Sensors Sensor LS1 (mU) Sensor LS4 (mU) Sensor INDEX(mU) Sensor INDEX2(mU)	T=3000 T=3000 T=2000 T=2000	Automatic Automatic Automatic Automatic
TEST	DC re-coiler DC de-coiler DC heatroller Solenoid RFID Trigger	no active no active no active no active ...select	Test

Configuration via interface

The parameters accessible via the control panel can also be adjusted via the serial interface. Furthermore, there is an additional command for controlling the device.

The laminator is connected by means of a standard cable
RS-232 SERIAL SUB D9 connector jack
to the computer.

Die RS232-Parameter:

Baudrate	19200
Databits	8
Parity	none
Stopbits	1

The sequences for the command transfer are constructed as follows:

<ESC> cmd [data] <CR>

Example:	Send:	Response:
	<ESC>T175<CR>	<CR>
	<ESC>T<CR>	175<CR>

A few communication rules:

- <LF> is ignored
- Every command transfer is acknowledged with <CR>
- Sequences without parameter data deliver the actual value (ReadBack)
- No data is sent back when not requested

Italic characters in the command description are placeholders and must be replaced:

- *d* = Decimal number
- *p* = Boolean number: 0 oder 1 (1 Byte)
- *h* = Hexadecimal number: 1-9, A-F, a-f (1 Byte)
- *c* = Arbitrary character: 0-9,A-Z,a-z (1 Byte)
- *s* = Arbitrary string: ...
- <...> = Control caracter as <ESC> or <CR>
- **Bold**printed Character are directly be taken on.
- Underline refers to default setting

List of Commands

SETTING COMMANDS

Dd	Delay Heatroller
Gd	Lamination Speed
Hd	Transport Speed
Ld	Lamination Length
Nd	Foil Further Move
Pd	Foil Position
Td	Temperature

DEVICE COMMANDS

K20;p	Foil Type
K40;p	Standby
K02;p	Loop

CONTROL COMMANDS

!!	Reset
!r	Alife-Status
!f	Status
W0	Open Retract
W1	Close Retract


SYSTEM COMMANDS

!c	Clear Error
!v	Read Programm-Version
y8a	Read Serial Number (Board)
y8b	Read Serial Number (Device)
y5	Read Tag-Info
U	Firmware Upgrade
S	Save Macro

Configuration settings

The different setting options configure the laminator for specific requirements. This is carried out either via the control panel or via the interface by means of a command set. There are exceptions, whereby access is only possible via one or the other method.



Simultaneous switching on of the device and pressing of the key  resets all settings to the standard values. The set-up values are an exception to this.

SETTING


Menu: **SETTING / Temperature**
Command: **<ESC>Td<CR>**

Setting the thermal energy for the heated roller for lamination. The correct temperature must be experimentally determined with consideration to the lamination speed, the film and the document. The presetting must be considered a guideline value.

Setting range: 150...180...190 degree C

Menu: **SETTING / Lamination Speed**
Command: **<ESC>Gd<CR>**

Setting of the transport speed of the document during lamination. The correct speed must be experimentally determined with consideration to the lamination temperature, the laminate film and the document. The presetting must be considered a guideline value.

In order to carry out a test it is possible to start the motor via 


Setting range: 4...8...20 mm/s

Menu: **SETTING / Delay Heatroller**
Command: **<ESC>Dd<CR>**

Setting the waiting time, once the heated roller has lowered and lies on the document. Only after this time does the actual lamination start.

Setting range: 0...200...2000 ms

Menu: **SETTING / Transport Speed**
Command: **<ESC>Hd<CR>**

Setting the transport speed of the document outside of lamination. In order to carry out a test it is possible to start the motor via  .

Setting range: 40...60...80 mm/s

Menu: **SETTING / Lamination Length**
Command: **<ESC>Ld<CR>**

Setting the lamination range.

Setting range: 115...125...135 mm

Menu: **SETTING / Foil Position**
Command: **<ESC>Pd<CR>**

With a change in the document intake range, precise placement of the film is carried out.

With an enlarging of the intake range, the lamination of the document starts later. Conversely, with a reduction in the intake range lamination starts earlier.

The direction arrows on the display indicate the direction of travel once lamination starts.

Setting range: -30...0...+30 x 1/10mm

DEVICE

Menu: **DEVICE / Foil Type**

Command: <ESC>K20;p<CR>

Setting the film type.

Setting range: 0 = ohne Indexmarke
 1 = mit Indexmarke

Menu: **DEVICE / Standby**

Command: <ESC>K40;p<CR>

If the laminator is not used for 30 minutes it switches to energy-saving mode. The temperature of the heated roller drops in this mode. Press CLEAR to finish. The energy-saving mode must be active for this!

Setting range: 0 = Standby off
 1 = Standby on

Menu: **DEVICE / Loop**

Command: <ESC>K02;p<CR>

In its switched on status, with the start of lamination the film is drawn taut after a delay. This can influence the quality at the edge of the document.

Setting range: 0 = Loop off
 1 = Loop on

Menu: **DEVICE / Delay 1 retract**

Stipulates the time between detecting the passport and lowering the rocker.

Setting range: 100...300...10000 ms

Menu: **DEVICE / Delay 2 retract**

Stipulates the time for which the rocker remains lowered before the document is drawn in.

Setting range: 100...300...10000 ms

Menu: DEVICE / Operation Mode

The laminator operates in 3 different modes. 2 of these are exclusively suitable for test purposes.

Setting range: Normal
 Test: Hoff
 Test: PassThrough

The standard setting is "normal" and reflects normal operation.

"Test: Hoff" also reflects the normal operating process, although the heating is off in this case.

With the setting "Test: PassThrough" the document is merely driven through the transport tray. The heated roller is not lowered and the heating is also switched off here.

Menü: DEVICE / Admin Password
DEVICE / User Password

In factory state the password protection is inactive (password = 0000). If you activate a password protection, the user must enter a password to start the laminator after power on. The Administration-Access without restriction allows input option of a user password with menu lock.

Keys for entering password:

Arrow key up: increment the digit
 Arrow key down: decrement the digit
 Arrow key right: next digit position
 SAVE key: take password

Set new administrator password:

DEVICE/Admin Password/New Password = 1234
 Repeat Password = 1234

Change administrator password:

DEVICE/Admin Password/ Old Password = 1234
 DEVICE/Admin Password/ New Password = 4321
 Repeat Password = 4321

Delete administrator password:

DEVICE/Admin Password/ Old Password = 4321
 DEVICE/Admin Password/ New Password = **0000**
 Repeat Password = **0000**

The user password is also cleared, so the password protection is inactive.

Set new user password:

DEVICE/User Password/ New Password = 1111
 Repeat Password = 1111

Change user password:

DEVICE/User Password/ Old Password = 1111
 DEVICE/User Password/ New Password = 2222
 Repeat Password = 2222

Delete user password:

DEVICE/User Password/ Old Password = 2222
 DEVICE/User Password/ New Password = **0000**
 Repeat Password = **0000**

SETUP

Menu: **SETUP / Pass Position**

Stipulation of the passport position at the heated roller. This is optimally set in the factory and does not require adjustment.

Setting range: 120...216...360 x 1/24mm

Menü: **SETUP / Lami Length Corr**

Correction of lamination length in "Settings/LaminationLength".

Einstellbereich: 0...10...20 -10mm

Menu: **SETUP / Separate Position**

Stipulation of the position at which the film is separated from the document after lamination by way of a separator. This is optimally set in the factory and does not require adjustment.

Setting range: 5...23...60 mm

Menu: **SETUP / Heating Cycle**

This setting influences the switch-on cycle within the heating control. Too high a value leads to an overshooting of the temperature range. This parameter is optimally set in the factory and does not require adjustment.

Setting range: 250...750...1500 mm


Menu: **SETUP / Heating Offset**

This setting influences the control algorithm of the heating control for the heated roller. The value is optimally set in the factory and does not require adjustment.

Setting range: 0..5 Grad Celsius

Menu: SETUP / Uref Step FP(mV)

Indicates the motor current for the passport transport. It is optimally set in the factory and does not require adjustment.

In order to carry out a test it is possible to start the motor via .

Setting range: 0...2500...5000 mV

Menu: SETUP / Uref Step HP(mV)

Indicates the motor current for the passport transport during lamination. It is optimally set in the factory and does not require adjustment.

In order to carry out a test it is possible to start the motor via .

Setting range: 0...2000...5000 mV

Menu: SETUP / Uref DC re-c(mV)


Indicates the motor current for the DC film re-winder. It is optimally set in the factory and does not require adjustment.

In order to carry out a test it is possible to start the motor via .

Setting range: 0...2500...5000 mV

Menu: SETUP / Uref DC de-c(mV)

Indicates the motor current for the DC film de-winder. It is optimally set in the factory and does not require adjustment.

In order to carry out a test it is possible to start the motor via .

Setting range: 0...2500...5000 mV

Menu: SETUP / Standby Option

Set the standby property, if it is activated.

Setting range: 130 oC
Heating off

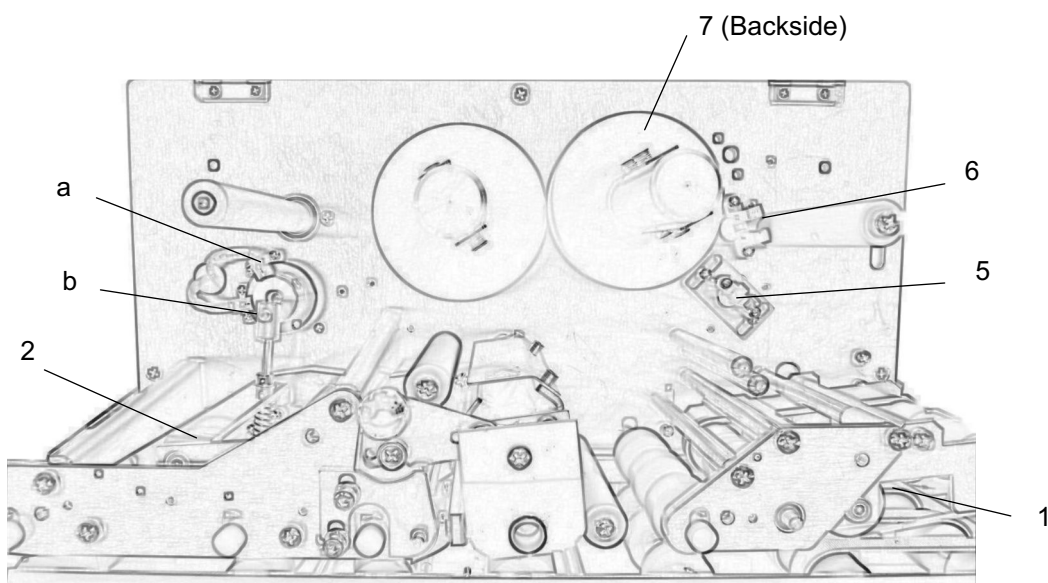
SENSORS

Menü: **SENSORS / Status Sensors**


Shows the actually Status of Sensors:

1 2 3 4 5 6 7 8 a b
☐ . ☐ ☐ ☐ ☐ ☐ ☒ ☒

- | | |
|----------------|--|
| 1 Sensor LS1 | Transport channel 1. Sensor to the right of for retract and pass position
<input type="checkbox"/> Document not identified
<input checked="" type="checkbox"/> Document identified |
| 4 Sensor LS4 | Transport channel 4. Sensor to the right of for controlling transport and eject
<input type="checkbox"/> Document not identified
<input checked="" type="checkbox"/> Document identified |
| 5 Sensor INDEX | Sensor for Film synchronisation (Sensor below)
<input type="checkbox"/> no Sync-Marke identified
<input checked="" type="checkbox"/> Sync-Marke identified |
| 6 SensorINDEX2 | Sensor for Film backward (Sensor above)
<input type="checkbox"/> no Sync-Bar identified
<input checked="" type="checkbox"/> Sync-Bar identified |
| 7 SensorFOLIE | Sensor for controlling the film transport
<input type="checkbox"/> no gap identified
<input checked="" type="checkbox"/> gap identified |
| a Sensor1 | Sensor Exzender (Sensor above)
<input type="checkbox"/> no gap identified
<input checked="" type="checkbox"/> gap identified |
| b Sensor2 | Sensor Exzender (Sensor below)
<input type="checkbox"/> no gap identified
<input checked="" type="checkbox"/> gap identified |




Menu: SENSORS / Sensor LS1 (mV)

Indicates the transmission current for the LS1 sensor. This must be set such that the reception current is shown as approx. 3500mV. The transmission current is aut. determined via . This value is optimally set in the factory and does not require adjustment.


Setting range: 0...3000...5000 mV

Menu: SENSORS / Sensor LS4 (mV)

Indicates the transmission current for the LS4 sensor. This must be set such that the reception current is shown as approx. 3500mV. The transmission current is aut. determined via . This value is optimally set in the factory and does not require adjustment.


Setting range: 0...3000...5000 mV

Menu: SENSORS / Sensor INDEX (mV)

Indicates the transmission current for the INDEX sensor. This must be set such that the reception current is shown as approx. 3500mV. The transmission current is aut. determined via . This value is optimally set in the factory and does not require adjustment.

Setting range: 0...2000...5000 mV

Menu: SENSORS / Sensor INDEX2 (mV)



Indicates the transmission current for the INDEX2 sensor. This must be set such that the reception current is shown as approx. 3500mV. The transmission current is aut. determined via . This value is optimally set in the factory and does not require adjustment.

Setting range: 0...2000...5000 mV

Test



Menu: TEST / DC re-coiler

Test of the DC film winder.

-  The film winder rotates forwards, so that the film is wound on.
-  The film winder rotates backwards, so that the film is wound off.




Menu: TEST / DC re-coiler

Test of the DC film unwinder:

-  The film unwinder rotates forwards, so that the film is wound off.
-  The film unwinder rotates backwards, so that the film is wound on.



Menu: TEST / DC heatroller

Test of the DC motor for the heated roller eccentric:

-  The eccentric rotates forwards
-  The eccentric rotates backwards
-  The eccentric assumes the 2 end positions alternately. In doing so the heated roller switches to the lower and upper position.



Menu: TEST / Solenoid

Test of the electromagnets:

-  The rocker is lowered
-  The separator is actuated

Menu: TEST / RFID-Trigger

Test of the RDK1 module:

-  RDK1 mode: read always
-  RDK1 mode: read by trigger

System

Function: Clear Error
Startmenu: CLEAR
Command: <ESC>!c<CR>

Deletes error messages, refer also to the "trouble-shooting" chapter.

Function: Read Programm-Version
Startmenu: F1
Command: <ESC>!v<CR>

Reads the firmware version. Is shown in line 1 on the display.
 As a response following a command transfer the user receives a sequence in the form e.g. "LAMI-S20/V3.30<CR>

Function: Read Serial Number (Board)
Command: <ESC>y8a<CR>

Reads the serial number of board.
 As a response following a command transfer the user receives a sequence in the form e.g. "PL13091570B06RL<CR>

Function: Read Serial Number (Device)
Startmenu: F1
Command: <ESC>y8b<CR>

Reads the serial number of device. Is shown in line 2 on the display.
 As a response following a command transfer the user receives a sequence in the form e.g. "PL13091570M02RL<CR>

Function: Tag-Info
Command: <ESC>y5<CR>

Reads the 8-digit tag information.
 As a response following a command transfer the user receives a sequence in the form e.g. "12345678<CR>

Function: **Firmware Upgrade**

Command: **<ESC>U<CR>**

Calls up the bootloader to upgrade the firmware in flash. The protocol description is located in the attachment.

Function: **Storage of Macro**

Menu: **SAVE**

Command: **<ESC>S<CR>**

All configuration parameters are stored in the EEPROM so that these values are not lost after the switch-off process. When switching on the laminator the stored settings are reloaded and reused.

The command sequence is acknowledged with "+".

Control commands

Reset

Command: <ESC>!!<CR>

The laminator is reset. The process equates to a restart after a Power On. Settings that are not saved in the macro are lost.

Open rocker

Befehl: <ESC>W0<CR>

Manual opening of the rocker.

Close rocker

Command: <ESC>W1<CR>

Manual closing of the rocker. This is aut. opened again in the process.

Status query

Function: **Status**
Command: **<ESC>!f<CR>**

Delivers detailed information on the current status of the laminator. The status can be requested at any time.

The response consists of 7 Bytes.

Format: **=hh/dd<CR>**

<i>hh</i> : Statuscode	Hint:
00: READY	Device is ready for work
01: WAIT	Temperature of heat roller too high / too low
02: BUSY	Laminator is active
04: ERROR	Errorcode is setting
10: GOT IT	Document identified to start lamination
20: LAMI	Lamination od Document activ
40: EJECT	Ejection of Document activ

<i>dd</i> : Errorcode	Hint
00	no Error
<i>dd</i>	Errorcode, see chapter "Trouble shooting"

Status bits also occur in combination. E.g. status code "42" means that the laminator is active and is presently outputting a document.

Function: **Alife-Status**
Command: **<ESC>!r<CR>**

Delivers information on the current status of the laminator. The status can be requested at any time.

The response only consists of 2 Bytes.

Format: **d<CR>**

<i>d</i> : Statuscode	Hint
0 = OK	Device is ready for work
1 = WAIT	Temperature of heat roller too high / too low
2 = BUSY	Laminator is active
3 = ERROR	Errorcode is setting

Troubleshooting

Types of errors and elimination

If an error occurs then this is signalled by the red ERROR LED whilst the error message is shown on the display. Different error codes indicate the cause of the problem. In a normal case it is possible to delete the error message after eliminating the problem with **CLEAR** after which the device is once again ready for operation.

Status	LED	Display
Rectifiable errors	blinks	errorcode < #80
Non rectifiable errors	on	errorcode > #80
System errors	on	errorcode > #90

"Rectifiable errors" are usually film or transport errors, which are simple to remedy.


"Non-rectifiable errors" are triggered by defective hardware. If a restart does not solve the problem then service intervention is necessary.

In the event of a "system error" the device must be returned to the factory.



As an alternative to the control panel it is also possible to query the error code via the status message and delete this via the Clear command.

Error messages

Error message	Cause	Remedy
#52 Tag verify	Identification or ID does not match with the initial version of the film. Film was probably exchanged after restart.	Reinsert previous film or restart laminator.
#53 Tag invalid	Invalid tag information with initial acquisition of the film.	Use permissible / approved film material.
#54 RFID ERR=dd	Reader:Communication Error dd=24 read err dd=83 write err	Error message from tag reader. Indicates signal between reader and tag too weak. Visual inspection!
#55 RFID CRC	Reader transfer error. Contact problems between board and tag reader	Check connection cable (service)
#56 RFID MSG	No response from tag reader. Tag not seen or not read.	Use permissible / approved film material.
#61 card inside	Document located in the transport tray after restart or after  and could not be ejected	Remove document from the transport tray manually.
#62 eject	Ejection of the document failed.	Remove document from the transport tray manually.
#63 transport	Transport of the document failed.	Remove document from the transport tray manually.
#64 retract	Intake of the document failed.	Remove document from the transport tray manually.
#65 ribbon end	Film end	Insert new film
#66 ribbon synch	Synchronisation of the film failed.	<ul style="list-style-type: none"> - Insert film with index marks - Insert film correctly - Configure correct film type

Error message	Cause	Remedy
#67 ribbon trans	No film transport.	Check film
#81 RFID no data	No response from tag reader.	Check tag reader. Contact service!
#82 ADC problem	Impermissible ADU values	Check temperature sensor. Contact service!
#83 ADC problem	No temperature increase to record	Check temperature sensor. Contact service
#84 heat roller	Heated roller not in limit position	Contact service!
#85 heating	Circuit breaker for high temperature has triggered.	Contact service!
#86 Sensor ???	Both sensors in transport tray see document	Check transport tray, otherwise Contact service!
#98 EEPROM/SETUP	No access to the EEPROM	Contact service!
#99 Call Service	Electronic type plate missing	Contact service!

Service

Firmware upgrade

For service purposes the laminator is connected with the computer via the serial interface. A standard cable RS-232 SERIAL SUB D9 connector jack is used.

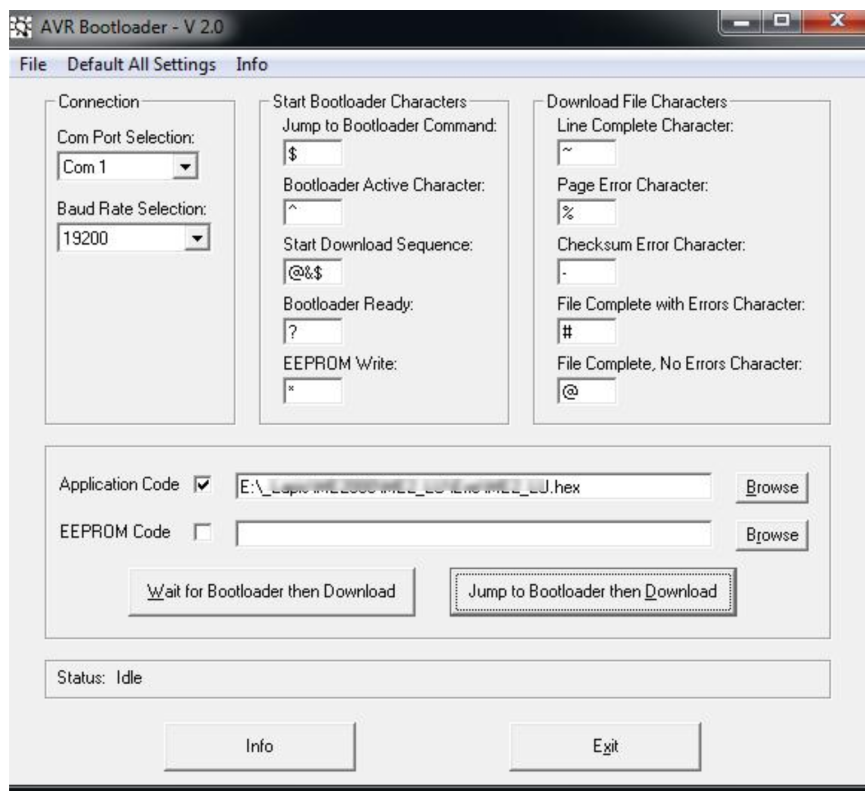
After starting the Windows application *AVR-Bootloader* it is possible to load new firmware. Prior to this the interface agreements as well as the path for the access to the application code (*.HEX) must be stipulated

The download process can be started as follows:

- Switch on laminator
- Press „*Jump to Bootloader then Download*“

or

- Press „*Wait for Bootloader then Download*“
- Switch on laminator and simultaneously hold the **F1** key down



AVR Programming Protocol

The upgrade process can also be started without Windows software via the sequence <ESC>U<CR>. The subsequent protocol must then be carried out independently:

Laminator	Host	Hint
^		BootLoader is ready
	@&\$	Start Download Sequence
V1.31		
?		ready for Download
XON		enable Interface
-	:naatddd...c	Send 1 HexLine (Intel-Hex-Format)
XOFF		if Checksum Error
%		disable interface
~		if Verify-Error in Flash-Page
#		HexLine closed
@		EOF identified, exit with error
		EOF identified, exit without error

After the AVRBL is started (via a reset, a power-up, or a jump from the main application), the following protocol must be observed:

1. Upon power-up, reset, or as a result of a jump from the main application, the AVRBL sends a '^' (BOOTLOADER_ACTIVE_CHAR) at your selected baud rate.
2. The host is then required to send the three-character entry sequence. This is used to prevent an inadvertent attempt of reprogramming from taking place. If the AVRBL does not receive these characters within the timeout period, the AVRBL tests to see if there is code located in the main application area of flash. If there is, then the AVRBL jumps to it, otherwise, execution stays within the AVRBL indefinitely, waiting for the entry sequence.
3. Once the three-character entry sequence has been sent, the bootloader sends the version string (Vx.xx) followed by a '?' (READY_CHAR).
4. Upon receipt of the READY_CHAR, the host application should send the hex file for the new/updated application program observing an X-ON / X-OFF handshaking protocol to control data flow. The handshaking is very important as the flash memory area writes much more slowly than the serial port can send data.

The programming software continues sending the hex file until it is all sent. After each line of ".hex" file is received by the bootloader, one of three characters is transmitted by the bootloader:

- '~' Line received with no errors.
- '%' Line received with no error, but an error occurred while flashing.
- '-' Checksum error detected while receiving the line.

5. After the programming is complete, the AVRBL sends either a '#', meaning the programming is all right, or an '@' indicating that an error has occurred and the program did not load successfully. In most cases an error during programming means that the main application program is corrupted and will need to be resent.

6. The AVRBL then starts the newly programmed application software. As stated in step 2, the AVRBL tests to see if there is code located in the main application area of flash. If there is, the AVRBL jumps to it, otherwise, execution stays within the AVRBL indefinitely, waiting for the entry sequence.

Character Definition

```
//define three character string to enter boot loader
#define char1 '@' /* reset codes.. start load codes.. */
#define char2 '&'
#define char3 '$'
```

```
// define bootloader active char
#define BOOTLOADER_ACTIVE_CHAR '^'
```

```
//define bootloader ready for file character
#define READY_CHAR '?'
// define line complete with no error character
#define LINE_COMPLETE_CHAR '~'
```

```
// define checksum error character
#define CS_ERROR_CHAR '-'
```

```
// define flash page error character
#define PAGE_ERROR_CHAR '%'
```

```
// define file complete, no errors character
#define FILE_COMPLETE_CHAR '@'
```


Certifications

Lapis

Drucktechnologie GmbH

Weinheimerstr. 62
D-68309 Mannheim

EG – Konformitätserklärung
Im sinne der EG – Richtlinie 89/392 / EWG, 89/336 EWG
72/73 EWG
Anhang II A

Hiermit erklären wir, daß die nachfolgend bezeichnete Maschine aufgrund ihrer Konzipierung und Bauart sowie in der von uns in Verkehr gebrachten Ausführung den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der EG – Maschinenrichtlinie entspricht.

Bei eine nicht mit uns abgestimmten Änderung der Maschine (Hard oder Software), sowie Verbrauchsmaterial oder des Verwendungszwecks verliert diese Erklärung ihrer Gültigkeit.



Gerätetyp :

Passport Laminator
“Roll Laminator PL-LR“
“Roll Laminator PL-RL“

Angewandte EG Richtlinien und Normen

- EG- Richtlinie EMV	89/336/EWG
- Elektromagnetische Verträglichkeit Störfestigkeit	EN 50082-1 : 1997
-Niederspannungsrichtlinie	72/73 EWG
- Einrichtungen der Informationstechnik Funkstöreigenschaften	EN 55022 : 1994
- EG Maschinenrichtlinien	89/392/EWG, Anhang II A

Mannheim den 29.10.2005
17.03.2012

Dr. F. Sisani Geschäftsführer

Lapis Drucktechnologie GmbH
Safety Standard

Passport
Laminator
Model
Roll Laminator LR

Electromagnetic Compatibility

SAFETY STANDARD

WE CONFIRM HEREBY THAT THE FOLLOWING PRODUCT

Passport Laminator Model " Roll Laminator LR"

Carrying the Serial Number beginning by

PLAM 92 XXXX

Is manufactured in compliance with :

EU 73/23EU, 93/68/EU and 89/336/EU for electromagnetic compatibility directives, applying the following standards:

EN 55022 Class B , EN50082-1

and The Power Supply of this Unit complying with

FCC CFR 47 PART 15 Class B
UL 60950-1 2nd , TÜV 60950-1 2006

This certificate is issued based on certification of our suppliers for the applied Material or Components

Dated: 01.01.2010

Signed and sealed



Stand: 01/2010

Lapis Drucktechnologie GmbH Weinheimer Straße 62 · 68309 Mannheim /Germany

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1/1

ZERTIFIKAT CERTIFICATE



Nr. /No. 120197-AU01+E01

ADRESSE: Lapis Drucktechnologie GmbH
ADDRESS: Weinheimerstr. 62
 68309 Mannheim
 Germany

PRODUKT: Passlaminator
PRODUCT:

BEZEICHNUNG: PL-RL-LL
MODEL No.:

Dieses Zertifikat basiert auf dem, unter der Vorgangsnummer 120197-AU01+E01, geprüften Gerät. Der Inverkehrbringer ist dafür verantwortlich, dass die Produktion dauerhaft den beschriebenen Anforderungen entspricht.

This certificate is based on the device tested under reference number 120197-AU01+E01. The manufacturer is responsible to ensure that production meets the specified requirements on a permanent basis.

SCHUTZZIELE: OBJECTIVES:	GEPRÜFT NACH: TESTED ACCORDING	ENTSPRICHT IN KANADA: EQUIVALENT IN CANADA
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EMV Normen	DIN EN 55011 Group 1 Class B	CAN/CSA-CEI/IEC CISPR 11-04 Group 1 Class B
EMC Standards	DIN EN 61000-4-2 DIN EN 61000-4-3 DIN EN 61000-4-4 DIN EN 61000-4-5 DIN EN 61000-4-6 DIN EN 61000-4-8 DIN EN 61000-4-11 DIN EN 61000-3-2 DIN EN 61000-3-3	CAN/CSA-CEI/IEC 61000-4-2-01 CAN/CSA-CEI/IEC 61000-4-3-07 CAN/CSA-CEI/IEC 61000-4-4-06 CAN/CSA-CEI/IEC 61000-4-5-08 CAN/CSA-CEI/IEC 61000-4-6-09 CAN/CSA-CEI/IEC 61000-4-8-02 CAN/CSA-CEI/IEC 61000-4-11-05 CAN/CSA-CEI/IEC 61000-3-2-06 CAN/CSA-CEI/IEC 61000-3-3-06

AUSSTELLUNGSDATUM:
DATE OF ISSUE:

17. April 2012

UNTERSCHRIFT:
SIGNATURE:

Rudi Klein
 Geschäftsführer / managing director

