Service Boards

Handling boards

ESD protection

All of the (printed circuit) boards detailed below are equipped with, among other things, large-scale integrated circuits. Voltage surges caused by static charging from persons or objects can easily destroy the circuits.

➠ Mind the following rules to protect your printer against damages caused by electrostatic charge.

- *When handling boards, make sure that you do not endanger the electronic circuits by way of static charging or discharging.*
- *Before opening the printer, place it on a grounded surface.*
- *Earth your body using an ESD bracelet or other suitable means. If no suitable ESD protection is available, touch an earthed object, e.g. a heating radiator, before touching a board.*
- *Only place boards on earthed surfaces.*

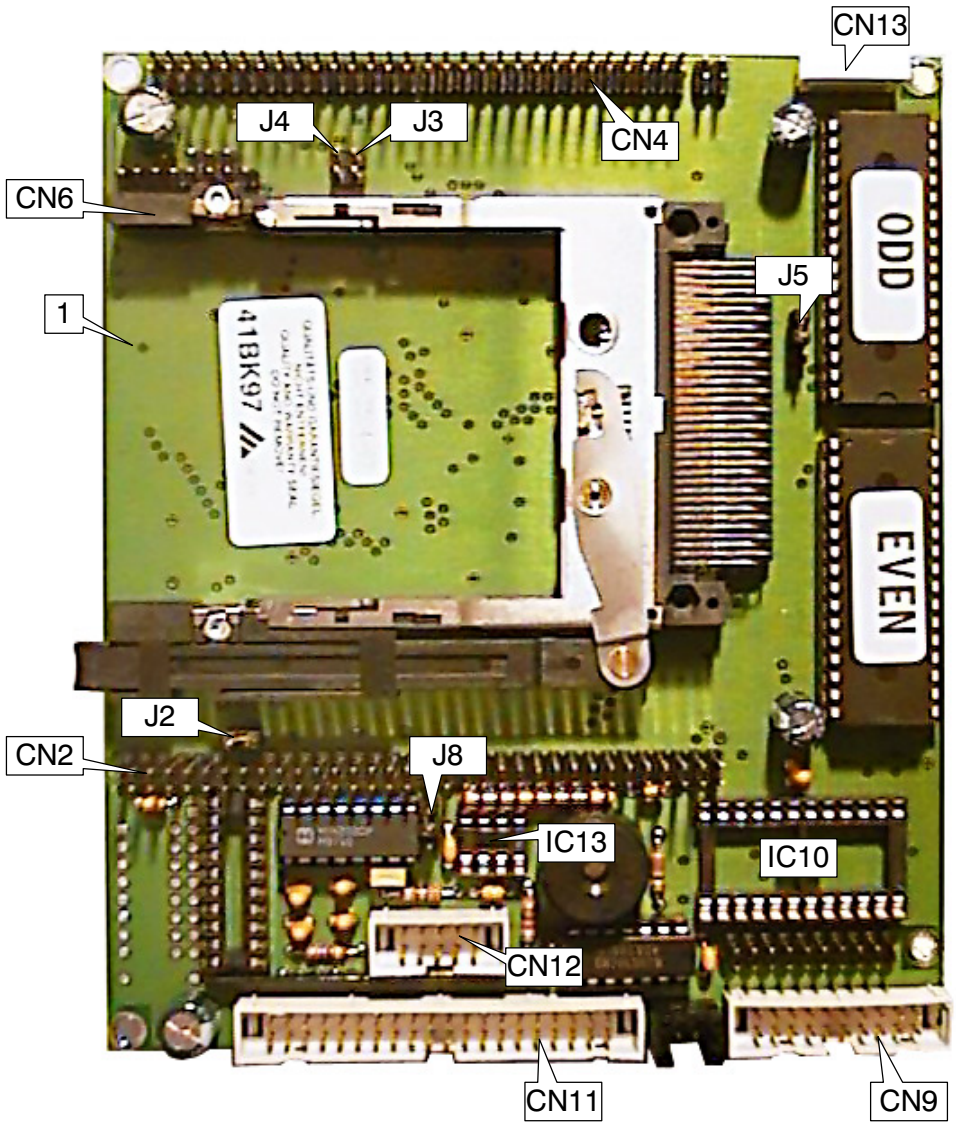
Handling

The conducting tracks of state-of-the-art multilayer boards are very thin. Thus, if the board is bent or warped, the conducting tracks can easily crack.

➠ Avoid bending or warping boards.

➠ Avoid the use of excessive force when removing or inserting boards.

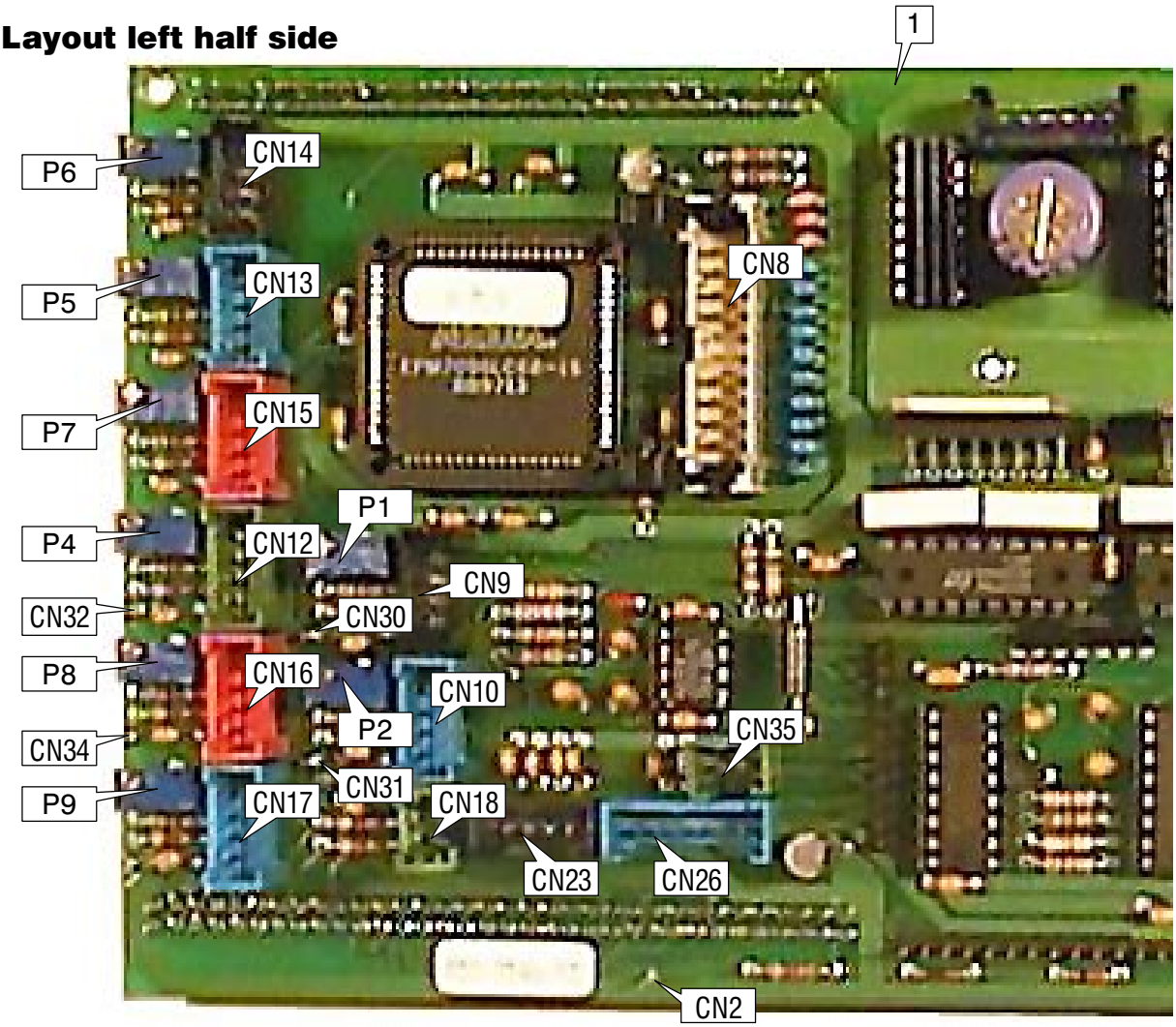
CPU Board



ID	Designation / Function
1	CPU Board 97191
IC10	Base for optional real-time clock
IC13	Base for interface-IC (serial interface RS485 – LTC 490)
J2	Selection analog reference: J2 plugged =internal 5 V, J2 not plugged =external
J3	Selection memory type: J3 plugged =8 MB, J3 not plugged =4 MB
J4	Selection memory: J4 plugged =PROM, J4 not plugged =FLASH
J5	Selection Vcc or A 18: 1-2 plugged =28 pin, 2-3 plugged =32 pin
J8	Selection serial interface: 1-2 plugged =RS232, 2-3 plugged =RS485
CN2	Plug 2 stepper board
CN4	Plug 1 stepper board
CN6	PCMCIA slot 1 and 2
CN9	Connector standard-control panel
CN11	Connector Centronics interface
CN12	Connector RS232/RS485 serial interface
CN13	Connector film control panel

Stepper board

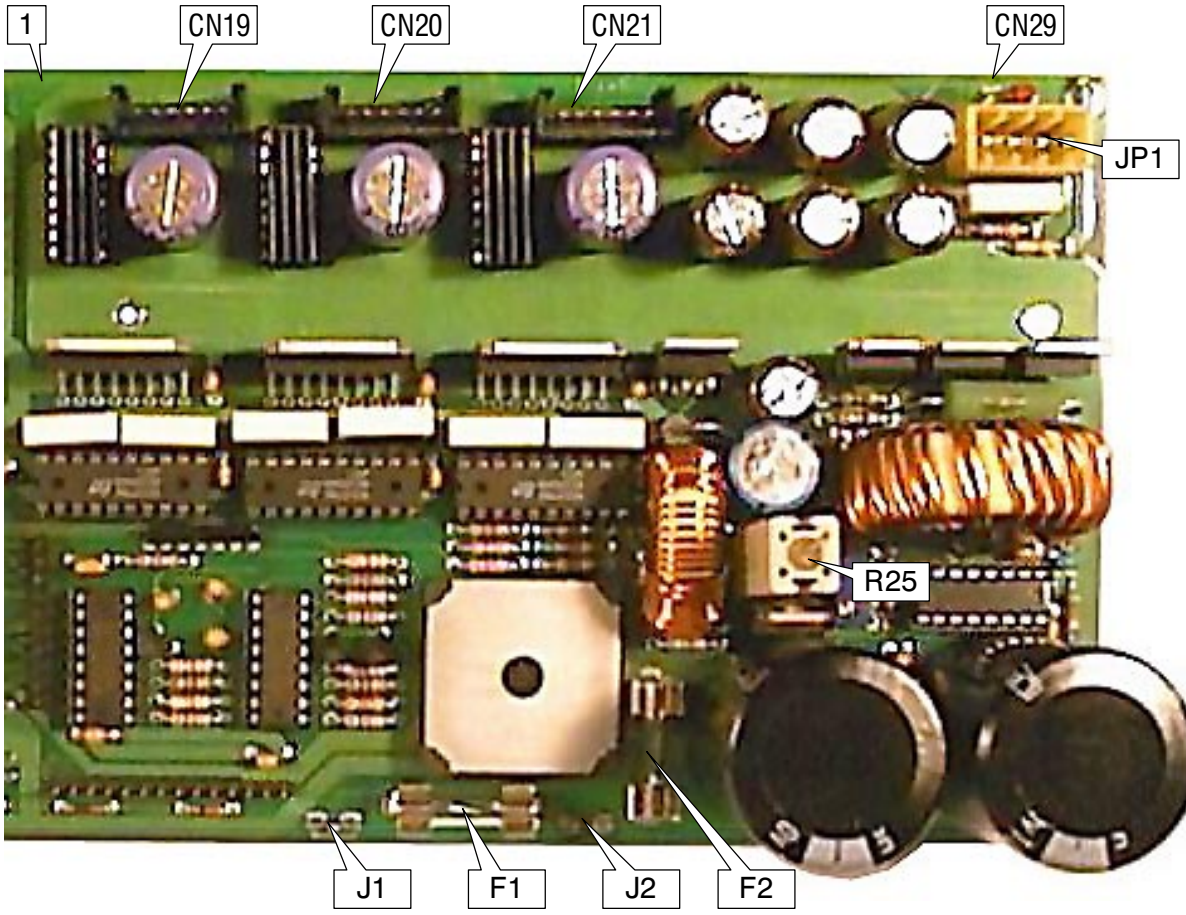
Layout left half side



ID	Function
1	Stepper board 97315
P1	Pot. setting material end sensor (Mxx)
P2	Pot. setting dispenser material transport sensor(Xxx) / color sensor (CLxx)
P4	Pot. setting printhead sensor (Hxx)
P5	Pot. setting punch sensor (reflex, Rxx)
P7	Pot. setting punch sensor (light transm., Pxx)
P8	Pot. setting ribbon end sensor (Fxx)
P9	Pot. setting material speed Oxx
CN2	Ground connector
CN8	Connector data cable printhead
CN9	Connector material end sensor
CN10	Conn. dispenser mat. transport / color sensor
CN10	Connector TDI magazine top pos. sensor (Uxx)
CN12	Connector printhead sensor

ID	Function
CN13	Connector reflex punch sensor
CN14	Connector reflex sensor TDI magazine
CN15	Connector light transmission punch sensor
CN16	Connector ribbon end sensor
CN17	Conn. single start (TTX), material speed (TDI)
CN18	Hood switch
CN23	Conn. magazine bottom position sensor (TDI)
CN26	Power-Stacker (TDI)
CN30	Test point for setting material end sensor
CN31	Test point for setting dispenser mat. transp. / color sensor
CN32	Test point for setting printhead sensor
CN34	Test point for setting ribbon end sensor
CN35	Connector fan

Layout right half side



ID	Function
1	I/O Board 97315
CN19	Connector printhead motor
CN20	Connector ribbon motor
CN21	Connector feed motor
CN29	Test point printhead voltage
JP1	Connector voltage cable printhead
J1	Connector supply voltage (28 V AC)
J2	Connector supply voltage (28 V AC)
F1	Fuse 10 A slowblow
F2	Fuse 1 A slowblow

ID	Function
R25	Pot. setting printhead voltage (HVxx)

Stepper board setting

Setup all sensors as follows:

1. Select OTHR/SCHK (sensor check) in the parameter menu.
2. Press the CUT- or FEED-key until the parameter corresponding to the sensor, which is to be set, shows up on the display (column „Display: parameter“).
3. Arrange the setting condition (column „Setting condition“).
4. Change the setting by turning the corresponding potentiometer (column „Pot.“) until the reading coincides with the entry in the column „Test point: value“ or „Display: value“.

Photo. switches

- The settings of both types of punch sensors (light transmission and reflex) are shown on the display.
- The settings of material end sensor, printhead sensor and ribbon end sensor require the use of a voltmeter at the corresponding test point (column „Test point“).

Mech. switches

- The switches "magazine limit switch" (TDI), "single start sensor" and "hood switch" don´t require any settings. The displayed value – 0 or 15, corresponding to the switch position – indicates the correct function of the switch.

Refer to the values printed with gray background for setting. Make sure to keep the photoelectric switches clear while setting. The values for photoelectric switches with inserted material are only listed to countercheck the setting.

Printhead

The last row of the table below shows the conditions for the printhead setting.

➔ Set the head temperature (HV) to 99 before setting the voltage.

❍ For details refer to topic section "Info-printouts and parameters", paragraph "HV xx printhead temperature".

Don´t use the printer housing as a ground contact, but the ground contact on the stepper board (CN2)!. Otherwise, you will set the voltage too high, what will damage the printhead.

❍ More detailed information about the parameter OTHR/SCHK can be found in the subject section „Info Printouts and Parameters“.

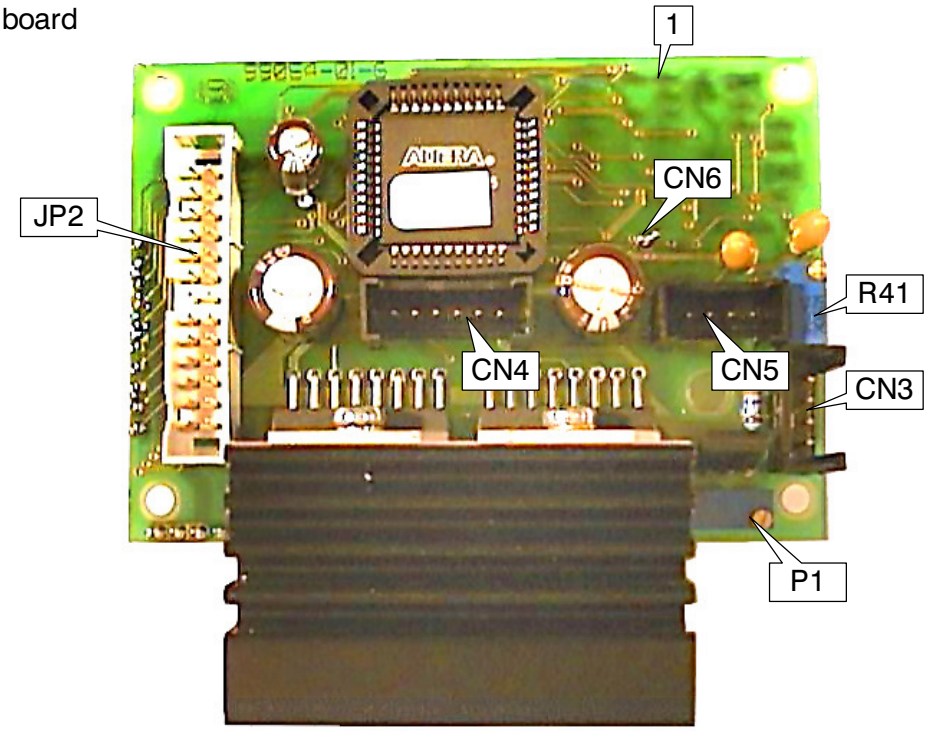
❍ Continue next page

Setting object	Connector	Setting condition	Pot.	Voltage / Test point	Display: Parameter	Display: Value (xx)
Material end sensor	CN9	Without material (sensor clear)	P1	<0,3 V / CN30	Mxx	0
		Material inserted		≥2,5 V / CN30		15
Dispenser mat. transport loop control (TTX)	CN10	Sensor clear	P2	<0,3 V / CN31	Xxx	0
		Sensor covered		≥2,5 V / CN31		15
Color sensor (TTX, Color-Option)	CN10	Without ribbon (sensor clear)	P2	<0,3 V / CN31	CLxx	0
		Ribbon inserted (sensor covered)		≥2,5 V / CN31		15
Separator sensor (TDI)	CN10	Magazine at top position (sensor clear)	P2	<0,3 V / CN31	Uxx	0
		Magazin not at top position		≥2,5 V / CN31		15
Printhead sensor (printhead position)	CN12	Sensor above recess of disc (clear, econ. pos., printhead raised)	P4	Turn P4 anti-clock-wise to the limit	Hxx	0
		Sensor covered (print pos., printhead lowered)		≥2,5 V / CN32		15
Punch sensor / reflex (TTX)	CN13	Without material (sensor clear)	P5		Rxxx	7
		Material inserted				≥7
		Reflex mark				0...9
		White material				10...255
		No sensor assembled				0
Magazine / reflex sensor (TDI)	CN14	Without material (sensor clear)			Sxx	2...5
		Material inserted	P6	max. Wert		10...255
Punch sensor / transmission	CN15	Without material	P7		Pxxx	7
		Material inserted				≥7
Ribbon end sensor	CN16	Sensor above hole in oscillator disc (sensor clear)	P8	Turn P8 anti-clock-wise to the limit	Fxx	0
		Sensor covered		≥2,5 V / CN34		15
Single Start (TTX)	CN17	Without material		check	Sxx	0
		Material inserted		check		15

Setting object	Connector	Setting condition	Pot.	Voltage / Test point	Display: Para-meter	Display: Value (xx)
Speed sensor (TDI)	CN17	Without material	P9	<0,3 V / CN33	Oxx	0
		Material inserted		≥2,5 V / CN33		15
Hood switch	CN18	Hood closed		check	Cxx	0
		Hood open		check		15
Magazine limit switch (TDI)	CN23	Magazine at bottom position		check	Dxx	0
		Magazine not at bottom positon		check		15
Printhead voltage	CN29	Printhead	R25	25,5 V / CN29	HVxx	99

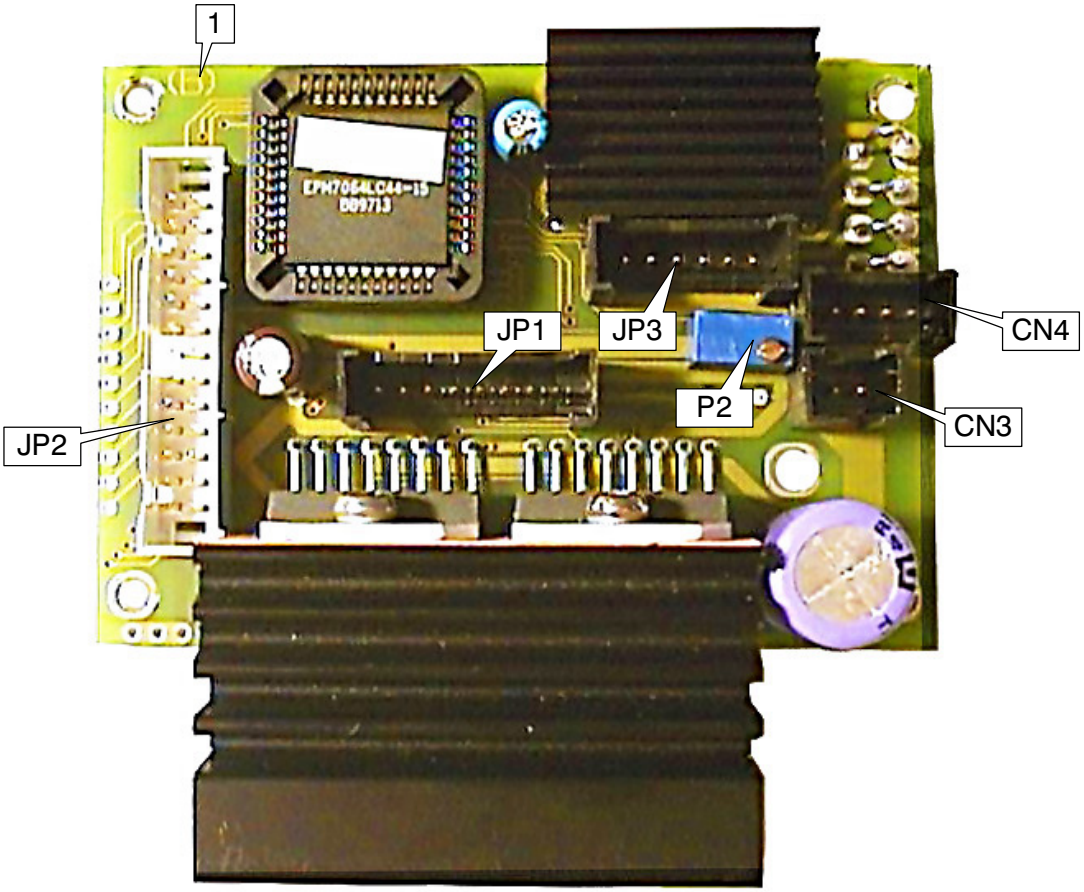
Printhead voltage setting only in off line mode! Setting of the printhead voltage while the printer is performing a print job is not possible!

Peripherals board



ID	Designation / Function
1	Peripherals board 99054 Can be applied with the options Applicator, Cutter, Rewinder, Infeed and Cutter-Stacker.
JP2	Connector signal/power, connection to dispenser board.
P1	Pot. setting infrared-sensor
R41	Pot. setting label present sensor (dispenser)
CN3	Connector infrared sensor. Dependent on the applied option, the infrared sensor is being used in different ways: Cutter-Stacker and Cutter: No setting required. Rewinder and Infeed: Setting of P1 to reach a maximum of difference between both end positions (display). Label present sensor: Setting of R41 to a value of 2.5 V (indicated by a voltmeter applied at test point CN6; sensor clear and hood closed).
CN4	Connector motor
CN5	Connector touch down / home sensor Signal touch down: Applicator plate contacts the product. The applicator changes direction and moves forward to home position. Signal home sensor: The Applicator is in home position.
CN6	Test point

Dispenser board



ID	Designation / Function
1	Dispenser board 99055
JP1	Connector main drive motor
JP2	Connector signal/power, connection to Peripherals board.
JP3	Connector material fixing motor
CN3	Connector main drive switch
CN4	Connector reflex sensor for backing paper
P2	Pot. setting reflex sensor backing paper (parameter Wxx) Setting to a maximum difference between the displayed values of backing paper inserted (low value) and backing paper not inserted (high value).

Index