

3.1.17.2 Card 2a Stabilized Voltage + 5 V

The stabilized voltage of approximately 5 V (approximately 4 A) is used to supply power to the integrated system in the upper control panel. The control transformer II in this instance is the source of the voltage supply.

The stabilization is accomplished in conjunction with the power transistor which is mounted on the left side heat sink.

The 3 connection wires are plugged to the front portion of card 2a and it is emphasized that the card 2a should not be powered unless the power transistor is hooked up.

The correct hook-up of these wires are from top down:

Blue	(bu)	No. 1
Grey	(gu)	No. 2
Green	(gn)	No. 3

The same markings can be found on the card itself.

In addition, the connection plug itself is color marked accordingly. The output voltage can be checked on Test Jack 2A G1.

In order to compensate for the voltage loss toward the upper control panel, it is essential to set the voltage with the aid of the Multi-Trim Potentiometer on the outside of the card, to 5.30 V — 5.40 V.

As the next step check the voltage directly on the card N-MAV and make any correction with the potentiometer so that a voltage of 5.10 V — 5.15 V is present on the card N-MAV itself.

It is of utmost importance to have all cards inserted during this voltage check and adjusting procedure, as otherwise wrong voltage conditions may be present.

The given voltage on the card N-MAV (under any circumstances) should not be above the maximum stated range, even if it is only for a very short period of time.

Any higher voltage will, most likely, damage the integrated circuitry with its delicate components.

A red light diode on card 2a is visible if voltage on the card is present but by no means indicates the correct voltage itself. This voltage line is fused with 4A (fuse 2a1).

In addition to the above, this card also provides power for the reset signal for card N-CPU. This signal interrupts the function of the computer if the input voltage to card 2a drops under the prearranged minimum voltage and prevents, therefore, any wrong miscalculation or function of the computer. The cut-off point of the minimum voltage is pre-set at the factory and should not be altered.

3.1.17.3 Card 3a Rectifying and stabilization for +24 and -6V

The + 24 V DC and — 6 V DC are produced from the secondary output of 32 V and 9 V from the control transformer I.

The stabilization of + 24 V is arranged through a power regulator.

The — 6 V DC are produced by an integrated linear rectifier system.

A test jack 3a G1 is provided to check the — 6 V and on test jack 3a G2 the + 24 V can be checked.

Two (2) light diodes are provided to show the presence of

To control the continuation of the — 6 V, an automatic voltage control system is added to the circuit.

In case of an interruption in the — 6 V supply, automatically the 24 V will be cut off to prevent any malfunction of the machine.

Both voltages are fused on the input stage with 0,5 A (-6V) and 4 A (+ 24 V).

3.1.17.4 Card 4a Rectification for + 42 V

Stabilization for + 6 V

The secondary voltage of 50 V from transformer I is fused on card 4a and also will be rectified here.

The input voltage of 6 V is being delivered by transformer II. (As it is done for the 5 V supply on card 2a.)

The above voltage is needed for the read-out display. A trim potentiometer is used to adjust the brightness of the display and it is recommended not to go over approximately 5.5 V

The voltage regulator is mounted on the heat sink. The latter is located on the right guiding post of the card. The 4 connection wires are plugged in at the front of the card. The connection sequence is as follows:

Violet	(vlt)	No. 4
Green	(gn)	No. 3
Grey	(gu)	No. 2
Blue	(bu)	No. 1

The same marking letters are also on the card itself.

The presence of the voltage is visible by a light emitting diode.

Fuses	Ampere	For Voltage
4e1	4 A	for + 6 V =
4e2	2.5 A	for 42 V =
4e3	4 A	for 50 V ~

3.1.18 Control Board D

3.1.18.1 Base Plate

The control board D is mounted on the left of the lower panel box adjacent to the power board P and is connected to the P board with cable P11 - D55. The base plate of the D-Board is used for the plug-in of 6 cards.

The electrical connection between base and cards is made through pin and mating prong terminal strips.

The plug-in cards are numerically marked from the left to right. Since the cards 1a - 2a - 3a - 4a are located on the P-Board, the next card on the D-Board will begin with 5.

3.1.18.2 Plug-In Card 5

This card is needed for special operation features and presently not being used.

3.1.18.3 Plug-In Card 6 Fixomat (optional Equipment)

This card contains all components necessary for the control of the gripper margin motors and lay correction. The command input is received from the respective keys on the key-board. These signals are visible on the then lit up Fixomat keys. The card 6 on the EMC machines is the same as being used on the CE models and, therefore, inter-