## 1.3 Functional Description

*To avoid accidental blowing of fuses, be careful with tools and probes inside the cabinet when power is applied.*

*To avoid electrical shocks from the internal AC voltages, always supply the unit from a low voltage DC power when performing service work. Also switch off the Electro-luminescent Backlight as the voltage from the converter may give slight electrical shocks.*

Adjustments of regulator voltages are not necessary as all resistors are kept within 1%. Voltages outside the specified limits indicate a circuit fault.

The Power Board contains all voltage regulators for the EML224. It also contains various interface components such as relays and current drivers. The following supply voltages are generated:

| | | |
|---|---|---|
| +12V: | +12V±5% | Main regulated supply voltage. Supply for all other regulators, relays and various current sources. This voltage is generated from the basic DC or rectified AC by a switching buck regulator built around IC 101. Monitor the voltage at the positive terminal of C103. |
| -12V | -12V±5% | LCD driver voltage. Provides negative additional drive voltage for the LCD panel. The voltage is generated from +12V by a switching, inverting regulator built around IC102. Monitor the voltage on the negative terminal of C107. |
| +5V | +5V±5% | Main Logic supply. This voltage is used by all general logic components and is generated by a series regulator, IC104, from +12V. Monitor the voltage on the positive terminal of C110. |
| STBY5V | +5V±5% | Standby supply for Clock, Memory and Keyboard. This supply is used as standby supply for clock and internal RAM. The supply is generated by a series regulator, IC103 from the basic DC or rectified AC. Monitor the voltage on the positive terminal of C109 or the cathode of D103. |
| ELAC | 40-85 VAC | Supply for EL Backlight. This voltage is generated by a switching converter from +12V. This converter consist of TR102 and associated circuitry. The voltage from the converter is controlled by the ELCO0-5V signal coming from the Controller Board ( J103, pin 15 ). |

STBY5V is always on as long as there is power connected to the terminals. All the other voltages may be switched off by the POWOFF signal, shutting down the +12V and all supplies that is connected to it.