4.2. ELECTRICAL AND ELECTRONICS ASSEMBLIES

4.2.1. CONFIGURATION BLOCK DIAGRAM:

The following shows major configuration blocks of the printer.

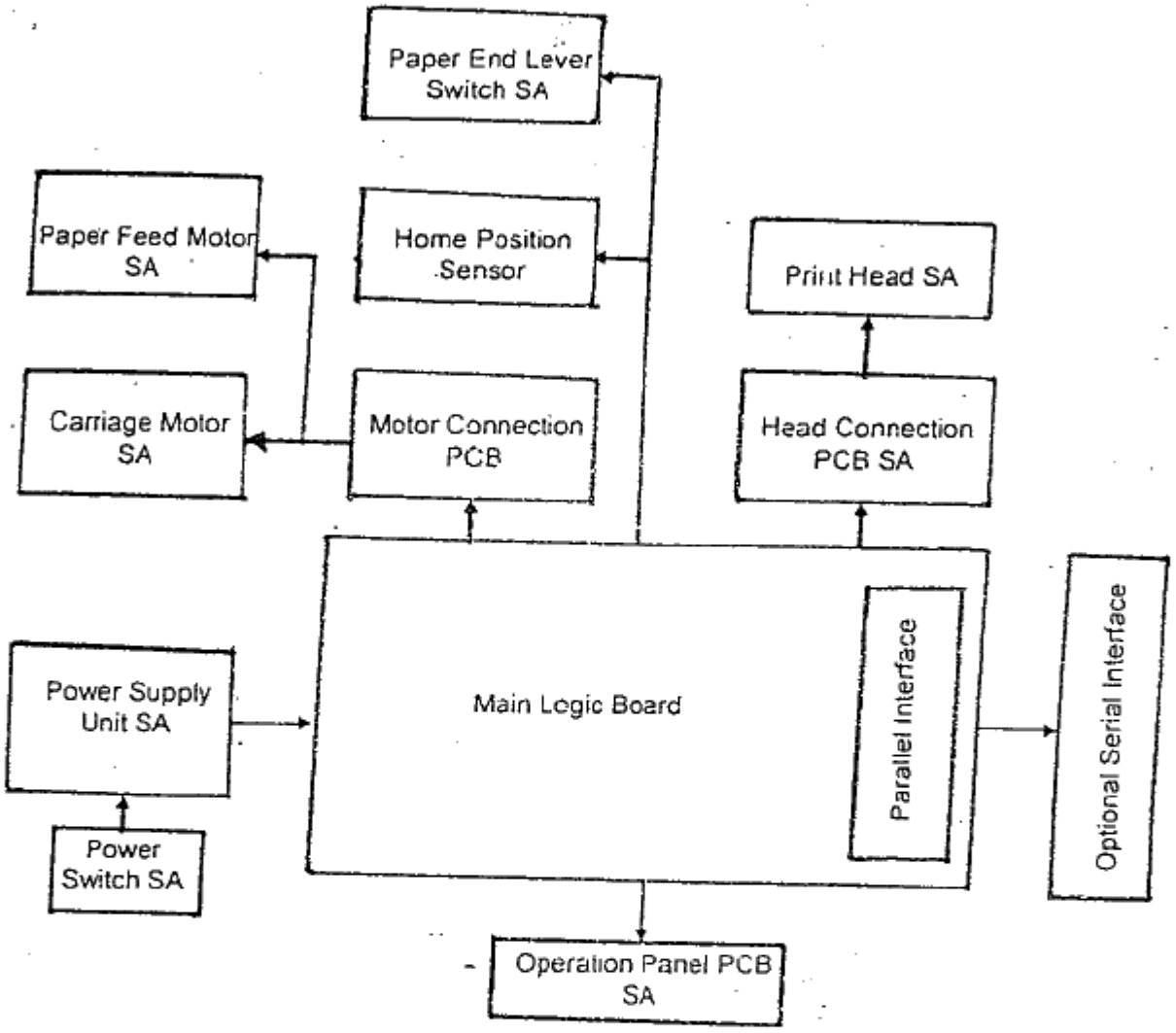

Fig. 4.2.1. Configuration Block Diagram

Major functions of the individual blocks are described below.

Main Logic Board : This controls the entire operations of the printer. It consists of CPU, RAM, EPROM, EEPROM, Driver Circuits, Parallel Interface connector, and connectors for interfacing with other SA.

Power Supply : This converts AC input received through the Power Switch, into +5V and +25V DC output required to drive the printer.

This is an SMPS, based on a CURRENT MODE CONTROL FLY BACK CONVERTER principle with an universal input voltage range of 90V to 270V AC.

Operational Panel	:	This is designed to display and control the operation modes of the printer. It consists of 4 tactile switches, and 6 LED, and is interfaced directly with the MAIN PCB.
Parallel Interface	:	Centronics Interface connector is built in the main PCB. Printer can be interfaced to any host computer with Centronics printer port, to receive and transmit data.
Serial Interface	:	This is an option to interface with host computer through RS232C port. This is a separate PCB SA, which can be connected directly to the Main PCB.
Carriage Motor	:	A four phase stepper motor, with a step angle of 1.8° controls the movement of the Print Head carriage.
Paper Feed Motor	:	A four phase stepper motor, with a step angle of 7.5°, controls the rotation of the platen, and paper feeding.
Print Head	:	This is a 9 wire Print Head. Each wire, made of tungsten alloy, has a diameter of 0.304 mm. The 9 wires are arranged vertically, each activated by a coil having resistance of 4.2 Ohm, when a voltage of 24V DC is applied across it. The Print Head is vertically mounted on a carriage block, which moves parallel to the platen. It is connected to the Main PCB through a Head connection PCB SA.