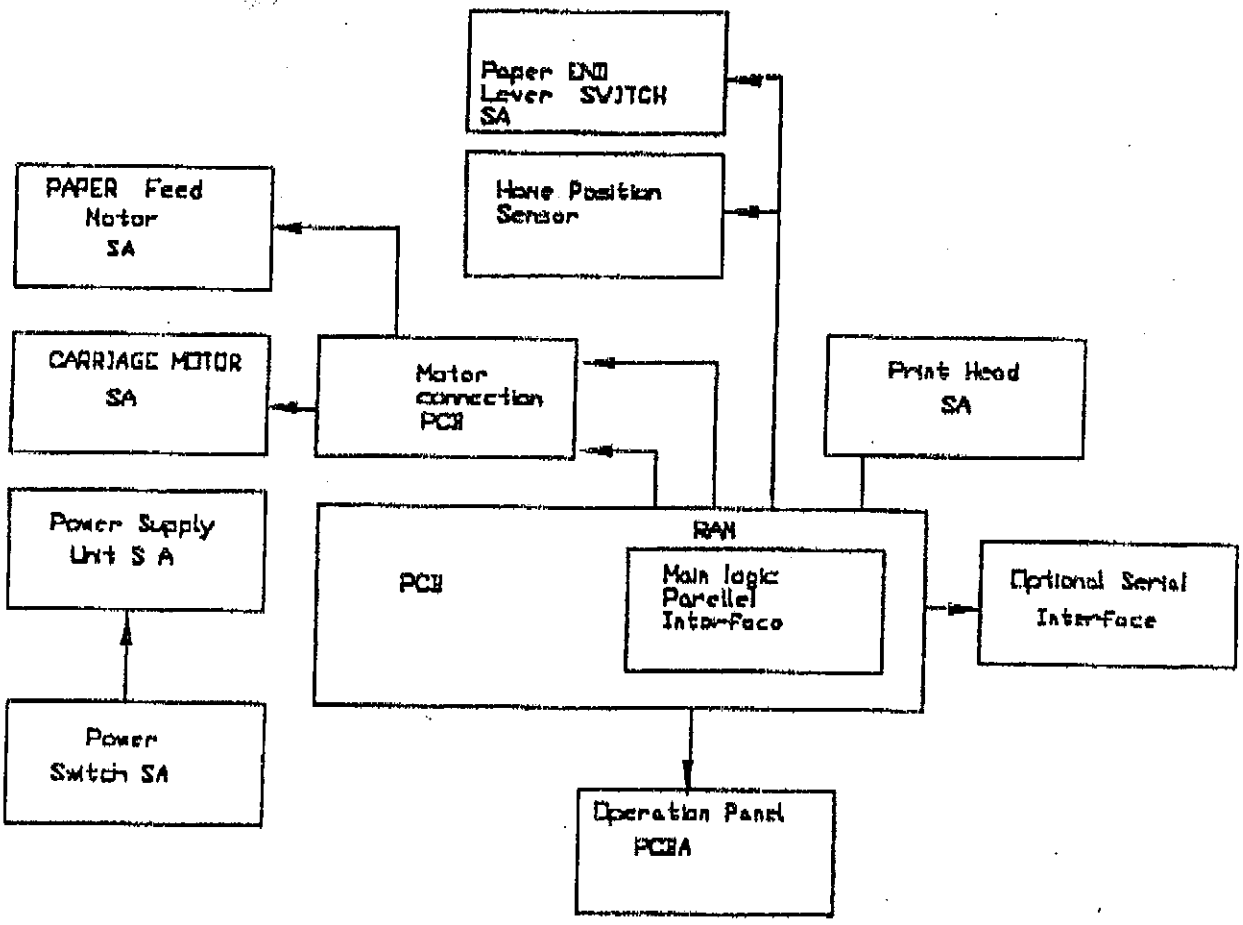
EXHIBIT E

Block Diagram

2. OPERATION OF CONTROL PARTS.

2-1 Configuration of Printer.

The following shows major configuration blocks.



(1) Power Switch SA	Consists of a main switch and a filter circuit to eliminate external noise.
(2) Power Supply	This converts AC Input received through the Power Switch into +5V and +30V DC Output required to drive the printer. The Power supply is controlled with a switching type regulator.
(3) Main PCB	Controls entire operation of the Printer. It consists of CPU, ROM, RAM, CustomIC & Driver circuit , etc.
(4) Operational Panel	This is designed to display and control the operation modes of the printer. It consists of 4 tactile switches &9 LED's It is interfaced directly with the main PCB.
(5) Print Head	The print head consists of 2 rows of 12 print Wires with a diameter of 0.2 mm each. Each print Wire has its own corresponding solenoid and armature. When a solenoid is turned ON, it will attract its armature towards it , projecting the print Wire forward to strike the ribbon against the Platen, producing a dot.
(6) Motors	The motors in this printer include the Carriage motor & the paper feed motor. Both the motors are Stepper motors. These motors are connected to the main logic PCB via a motor connection PCB.
(7) Sensors	There are 3 sensors : Home position sensor, paper end sensor & temperature sensor. The Print head temperature sensor is located inside the print head & a thermistor is used.
(8) Interfaces (I/F)	This CKT is used to transmit & recieve data between the host and the printer. There are 2 types of Interfaces (1)Parallel Interface is also part of the main logic PCB. (2) Serial Interface RS - 232C is optional. It is a separate PCBA. Though serial Interface is an option, it can co-exist.

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2-2 Operation of Control Unit

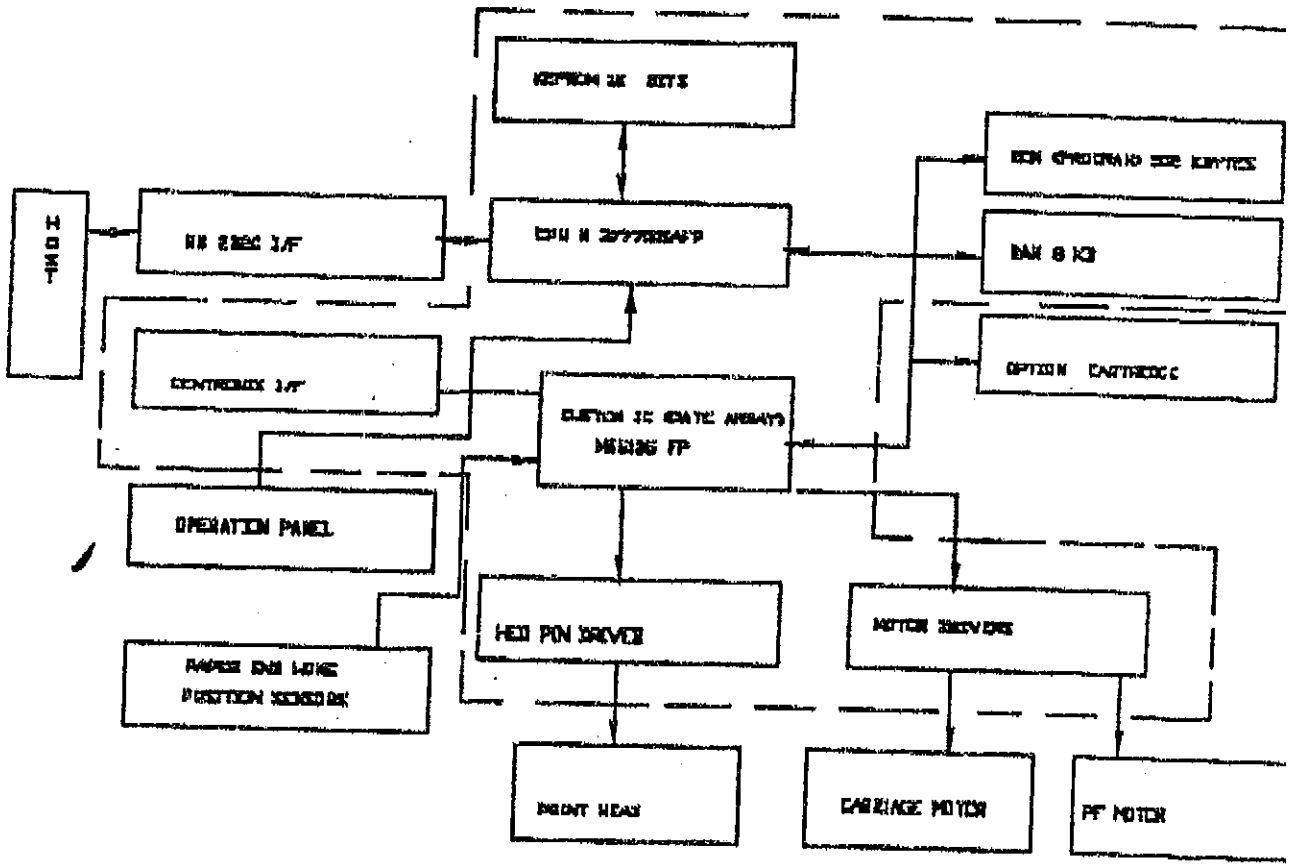
(a) Block Diagram

(1) CPU

The CPU is M37700SAFP (Miitsubishi) and it is a Microprocessor with a 16-bit architecture. The basic clock Hz.

(2) ROM

The C.G.ROM and M.C.ROM put together forms a single PR 4 M Bits (512 K Bytes)



(3) RAM

It is a 64 K chip static RAM, 40 KB available as input buffer

(4) EEPROM

It is a I K bit EEPROM
It is used for storage of various settings such as menu settings.
The stored data is retained even if the power is off.

5) Cusrom IC

It is CMOS Custom IC incorporation a control circuit for the interface I\O Port, Current flow time of each motor and head pins, address decoder etc.

6) **Head Pin Driver**

It is a driving circuit for flowing current to the head pins It consists of the 6 transistor arrays, each transistor array driving 4 pins.

7) **Motor Drivers**

These are the Circuits to drive the carriage motor & Paper feed motor