Specifications:

a) Software:

- This is a GUI based LADDER LOGIC SOFTWARE. Several manufacturers' software is Window based but truly looks like DOS based diagrams; this is completely eliminated by GUI design, which is JUST USER FRIENDLY.
- DRAG AND DROP (D&D) an instruction instead of typing an instruction. This eliminates errors in typing.
- Ladder diagram looks as it appears in Textbooks,
- All the instructions are displayed ON-SCREEN during Design time.
- Each and every element is directly addressed with their NAMES not by numbers or codes, which are very difficult to remember. Ex: At design time, you call a SWITCH#0 in your Ladder program by D&D the component called SWITCH#0, and that's it, not by typing a few digits numbers or codes.
- Appropriate LIST boxes (input, output) open as you D&D an instruction in LADDER WORKSPACE.
- Ladder workspace is 24X100 instruction CELLs are available for your use.
- TOOL TIP features are available at the end of each instruction prompting you "what to do next"
- Very user friendly
- Extensive ON-LINE HELP menu available
- GUI based STATUS of the entire PLC is displayed during RUN TIME.
- Programs are saved, retrieved, edited by simply clicking on Menu list box
- Extensive EDIT features are available.

b) Hardware:

- TTL Input Switches : 8 Nos.
- TTL Momentary Switches : 8 Nos.
- Proximity Switch : 1 No.
- Optical Transducer (two state) : 1 No.
- Programmable LEDs : 8 Nos.
- Analog input 0 to 5V DC : 8 channels
- Analog output 0 to 5V DC : 1 No.
- 4 to 20mA Transmitter : 1No.
- 4 to 20mA Receiver : 1No.
- Current Meter : 25mA FSD 1No.
- Voltmeter : 10V FSD 1 No.
- Annunciator : 4 Nos.
- Piezo Electric Alarm : 1 bit.
- Built-in power supply.
- Dedicated I/O interface card suitable for IBM computer suitable for ISA slot.
- Experimental programs including SAMPLE LADDER programs.

Note: This trainer uses computer's CPU for executing programs.

Workspace for Ladder Logic Program:

The diagram is called the workspace. This consists of several options and sub-options, for selecting FILE, EDIT, VIEW, RUN, OPTIONS. Each has a specific function to perform. This frame also contains, Graphical Instruction set, which in-turn has many functions and sub-functions. The graphical instructions can be placed on the workspace, by drag-drop method. The collection of such instructions, placed in the works space form Ladder Logic Programs.

Display Panel :

The display panel shown here appears when RUN instruction is executed. This panel shows the ON/OFF status of the PLC trainer's Input / Output components, Timers, Counters, Registers, Flags, Transducers used, TTL Inputs, TTL Outputs, Switches, Keys, LEDs, Digital to Analog output, Relays, Annunciators, 4-20mA Current, Receiver and Analog input status by a BAR graph display and also it's digital equivalent. Instruction set Work Space.

SYSTEM DESIGN USING PLC:

Sample Program

The following are examples of Ladder Logic program implementation. These programs represent only the fundamental