DEVELOPMENT OF A TELEPHONE CALLS CHARGE SYSTEM

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DESIGN, DEVELOPMENT AND CONSTRUCTION OF A TELEPHONE CALLS CHARGE SYSTEM

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SUMMARY

The primary purpose of this project is to design and construct a telephone charge unit based on the latest family of microcontrollers.

Due to this fact the whole construction can be considered a very efficient and fast although it doesn't demand a lot of money.

First the general regulations and conditions of the telephone network in the international level are studied.

After that the important advantages and disadvantages of a charge unit are mentioned.

Then according to the requirements of this project, the block diagram of the unit to be constructed, is given, with a brief explanation on each section. Following this, the operation of the unit is described.

The hardware design then follows, which is fully explained, accompanied with the relevant schematic circuits.

The unit incorporates an 80C31F OKI microcontroller with the appropriate peripherals-all of them are forming the CPU console-as well as the sufficient interface circuitry which provides the data to the CPU. An LCD (Liquid Crystal Display) is also provided to display the CPU information (Time duration of communication, Number called, Number of units consumed).

Also an RS232 circuit is provided which gives to the

system the facility for communication with a printer.

After that the software developed for the operation of this construction is described in detail.

The major conclusion that arises is the advantages that the family of microcontroller incorporates against the traditional microprocessors such as 8080A, 8085, 8086. Advantages that become obvious where space, cost, and speed are prior factors in designing, constructing and producing a serious consumer product.