



"Embedding thoughts into Technology"

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## Internet enabled, remotely operated Medical Electroporation Device

Client:

US based company.

### **Requirement:**

To design and develop an embedded and complete support system to process the medicines which requires pretreatment with electric currents. The complete system can be monitored and upgraded over the internet.

### **Solution:**

The embedded system is based on an 8 bit microcontroller and uses only Microchip brand components. The system is highly user interactive with the aid of 5.7" Monochrome Graphic LCD (320x240 pixels) and a remote Ethernet user interface developed with BC++. The process of electrification is well controlled for precise operation using a FPGA based customized control unit. The system is remotely upgradeable with encryption from the company operated server. All the system operations, events and errors are logged in the small embedded database at the machine as well as auto synchronizing Open source database on the connected Ethernet LAN. Dallas 1 wire encrypted memory based dongles are required to keep the system functional at the user end.

### **Tools/Platforms:**

- » PIC18F8722
- » S1d13700A Graphics LCD Controller
- » Microchip C18 V3.03
- » Microchip MPLAB ICD2
- » MPLAB IDE v7.40
- » BC++ v6.0
- » RAMTEX Graphics Library v2.0