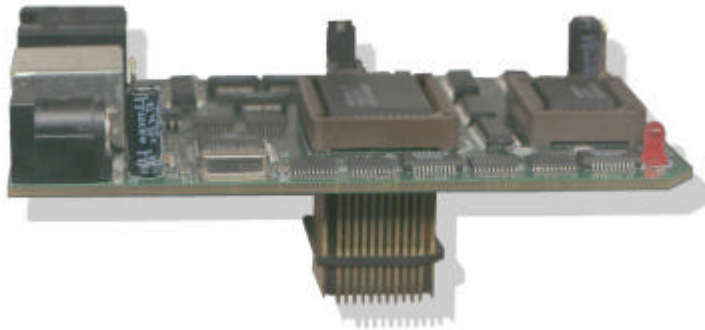


CEIBO FE-C450 Development System



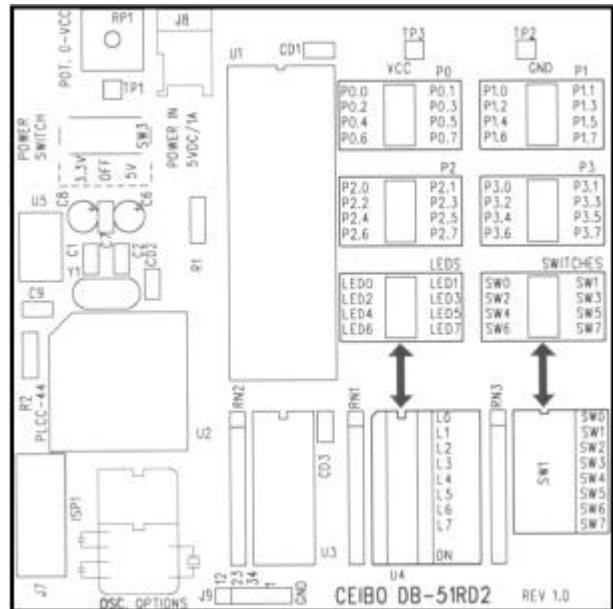
**Development System for Dallas
Semiconductors DS89C450
Microcontrollers**

CEIBO
Development Tools of Choice
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FEATURES

- **Emulates Dallas Semiconductors DS89C450/40/30/20**
- **60K Code Memory**
- **Real-Time Emulation**
- **Frequency up to f_{max} at 3V and 5V**
- **ISP Support**
- **Debugger For C/C++ And Assembler**
- **44-PLCC Emulation Header**
- **Target Board and ISP Programmer Included**
- **RS-232 or USB Interface**
- **64K C/ASM and 8K C++ Included**

Ceibo FE-C450 is a development tool that supports Dallas Semiconductors DS89C450/40/30/20 microcontrollers at any frequency allowed by the devices. It is serially or USB linked to a PC or compatible systems and can emulate the microcontrollers using any clock. Emulation is carried out by loading the system with the user software and an embedded monitor program. FE-C450 locates the monitor in the upper 4K of the code memory space, together with the ISP routines. The system uses standard devices for real-time and transparent emulation. The emulator is not frequency or voltage restricted, so it can be used to emulate the microcontroller in the complete range of parameters defined by the device. Three working modes are available: real-time, in-circuit simulation and simulator. In the real-time mode the user software is executed transparently and without interfering with the microcontroller speed. Breakpoints can be added to stop program execution at a specific address. The in-circuit simulation is used to provide a trace function by slowing down the emulation speed; instructions are executed by the simulator, except the peripheral related instructions. The simulation is intended only for software debugging of the basic 8051 functions. FE-C450 may be disconnected while using the simulation mode. The software includes 64K C Compiler and Assembler, Source Level Debugger, On-line Assembler and Disassembler, 8K C++ Compiler. The system is supplied with MS-Windows debugger software, RS-232 cable, power supply, mechanical adapters and other accessories.



SPECIFICATIONS

SYSTEM MEMORY

FE-C450 provides 64K of code memory. However, only 60K are available for users programs while emulating because the system comes with an embedded monitor program that uses the upper 4K of the memory space. Code memory is mapped as belonging to the FE-C420 Emulator.

BREAKPOINTS

Breakpoints allow real-time program execution until an opcode is executed at a specified address.

WINDOWS DEBUGGER

The FE-C450 software includes a source level debugger for Assembler and high-level languages C and others with the capability of executing lines of the program while displaying the state of any variable. The debugger uses symbols contained in the absolute file generated by the most commonly used Assemblers and High Level Language Compilers. The CEIBO Windows Debugger runs only under Windows 98 or later. Includes 64K C/ASM and 8K C++.

SUPPORTED MICROCONTROLLERS

The supported microcontrollers is DS89C450/40/30/20 microcontrollers and other derivatives that will be announced in the future. The standard supported package for emulation is PLCC.

FREQUENCY

FE-C450 runs from the clock source supplied by the user hardware. The minimum and maximum frequencies are determined by the emulated chip characteristics, while the emulator maximum frequency is 40MHz.

HOST CHARACTERISTICS

PC or compatible systems with 8 MByte of RAM, one RS-232C interface card for the PC or USB, Windows 98 or later.

INPUT POWER

5V, 1.5A power supply supplied.

ITEMS SUPPLIED AS STANDARD

Development system including emulator, programmer and development board, PLCC emulation header, Windows software with source level debugger, on-line assembler and disassembler, user's manual, RS-232 cable and power supply.

OPTIONS

QFP and DIP adapters.

PARTS OF THE SYSTEM

The system includes 3 main hardware boards:

1. FE-C450 - In-circuit Emulator
2. DB-51RD2 - Development Board
3. MP-C450 Microcontroller Programmer



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