SIMULATORS AND EMULATORS

8051 Simulator

This is a ultra-fast PC based real-time simulation of the 8051 processor, which supports user written device handlers to "install" custom devices and special function registers. The simulator also supports a connection to a resident kernel on the target system, allowing "in-circuit simulation" where the code runs on the PC but physical I/O is performed on the target system.

6502 Simluator

This is a PC based simulator for the 6502 processor, which was developed to test code for an embedded 6502 device. It features simulation of the CPU, Memory and serial I/O device, as well as a comprehensive debugger, and a software debugging/profiling facility implemented via an unused 6502 opcode.

C-FLEA Simulator

As part of my C-FLEA virtual 16-bit processor development package, I have created a PC based simulator for the C-FLEA processor. This includes a comprehensive debugger, and the ability to define I/O devices to the simulation. It also can interface with a target resident kernel to provide "in-circuit simulation" where the code runs on the PC but physical I/O occurs on the target system.

8080/Altair Simulator

As part of my work in microcomputer history. I have created a PC based simlulation of the 8080 processor and a complete Altair 8800 computer system. This includes the CPU, Memory, console, North-Star disk controller and Real time clock systems, as well as the Altair front panel and a comprehensive debugger. The system boots NorthStar DOS and my own DMF operating system.

8008/Mod-8 Simulator

As part of my work in microcomputer history, I have created a PC based simulation of the 8008 processor and a complete Mod-8 system. This includes the CPU, memory, bit-bash TTY controle, parallel I/O ports, and a 1702 EPROM programmer. The system runs the actual MOD8 8008 monitor program.

8080/H8 Simulator

As part of my work in microcomputer history, I have created a PC based simulation of the 8080 processor and a complete H8 computer system. This includes the CPU, memory, H8 console and I/O devices as well as the H17 disk system, and a comprehensive debugger. The system can bootstrap from H8 tape images, and the HDOS system from virtual diskette.

Z80/Horizon Simulator

As part of my work in microcomputer history, I have created a PC based simulation of the Z80 processor and a NorthStar Horizon computer system. This includes CPU, memory, NorthStar mainboard devices and console, as well as the NorthStar single and double density disk systems. A comprehensive debugger is also provided. The system boots CP/M, NorthStar DOS and my own DMF operating system.

6809/CUBIX Simulator

As part of my work in microcomputer history, I have created a PC based simulation of the 6809 processor and my D6809/CUBIX computer system. This includes CPU, Memory, video, keyboard, serial I/O, and disk subsystems, as well as a comprehensive debugger. The system boots my own CUBIX operating system.

Telephone Diagnostic Simulator

As part of my work is developing a small office telephone system, I have created a diagnostic telephone simulator which allows me to simulate telephone sets of various characteristics connected to the system. This includes a hardware component for the physical interface, and control signals generated from the PC parallel port and sound card. This system can generate tones (DTMF etc.) with complete control over amplitude, waveform, frequency and twist.

Feature Telephone Simulator

As part of my work in developing a desktop feature telephone, I have implemented a complete PC based simulation of that phone. This includes a graphical representation of the phone and user interface (keypad/LCD/handset), as well as several different "debug views" and comprehensive debugging capabilities. The system runs the actual phone application exactly as the physical telephone does.

TRANZ/TCL Simulator

As part of my work with financial terminals, I have developed a complete PC based simulation of the Verifone TRANZ terminal and internal TCL operating environment. This simulation includes all TRANZ hardware (CPU, Memory, Display, Keypad, Card Reader, Modem, Serial I/O, real time clock), as well as a

PinPad with DES encryption and DUKPT support. This simulator can load the customers TRANZ application, connect to the actual financial network and performs transactions indistinguishable from the actual terminal. A comprehensive debug and software logging system is incorporated into the simulation.

Windmill Simulator

  As part of my work with power generating wind turbine controllers, I have developed a PC based windmill simulator. This interfaces to the windmill controller via A/D, D/A and digital inputs/outputs, and allows me to create any type of wind/power scenario I wish. The simulator monitors the control outputs of the windmill controller and adjusts the environmental stimuli accordingly. The operational state of the "virtual windmill" is depicted both as digital readouts, and as a graphical "radar" image showing the turbine, true wind, incidental wind and power levels in real time.

Source : http://mediatoget.blogspot.in/2011/05/simulators-and-emulators.html