

The suite of MicroConverter Development Tools include the following components :

- ASM51 : 8051 Cross Assembler

The 8051 Cross Assembler takes an assembly language source file created with a text editor and translates it into a machine language object file in Intel Hex standard format.

The translation process is done in two passes over the source file. During the first pass, the Cross Assembler builds a symbol table from the symbols and labels used in the source file, the second pass is used to generate the machine language hex format output file and is also used to generate a listing file.

The listing file output (.lst) displays the results of the assembler translation, including any syntax or other errors present in the original source code. Every line of the list file includes a copy of the original source line as well as a line number and the cross assembler translation. The list file can be used to debug the source file syntax as well as being used to import symbolic information during a simulation session.

The machine language object file is the second file generated during the assembler process. It is formatted as standard Intel Hex.

This file can be used to program the part in-circuit using the serial downloader described below or to program the part on an external PROM programmer. The hex file is also used in the Simulator and Debug applications as described below.

- ADSIM812 : ADuC812 Windows Simulator

The ADSIM812 is a Windows application that fully simulates all ADuC812 functionality including ADC and DAC peripherals. The simulator provides an easy to use, intuitive interface to the ADuC812 functionality and integrates many standard debug features including multiple breakpoints, single stepping and code execution trace capability.

This tool can be used both as a tutorial guide to the part as well as an efficient way to prove code functionality before moving to a hardware platform.

The Simulator models system memory and I/O and provides a reconfigurable GUI (Graphical User Interface) that allows system designers interactively observe and modify internal register and memory contents. The Simulator accurately simulates the ADC function including conversion timing, auto-calibration, on-chip temperature sensor channel as well as on-chip ADC-DMA mode of operation.

Features offered by the Simulator include the following :

- Program and Data Memory Simulation
- Provides Breakpoint and Single Step Execution
- Trace on Program Execution
- Standard Data Files to simulate ADC and DAC Functionality
- Full Simulation on Serial I/O Ports as well as emulation via PC serial port
- Supports Symbolic Disassembly

Figure 2 below shows a typical screen shot from the ADSIM812 environment during a software debug session

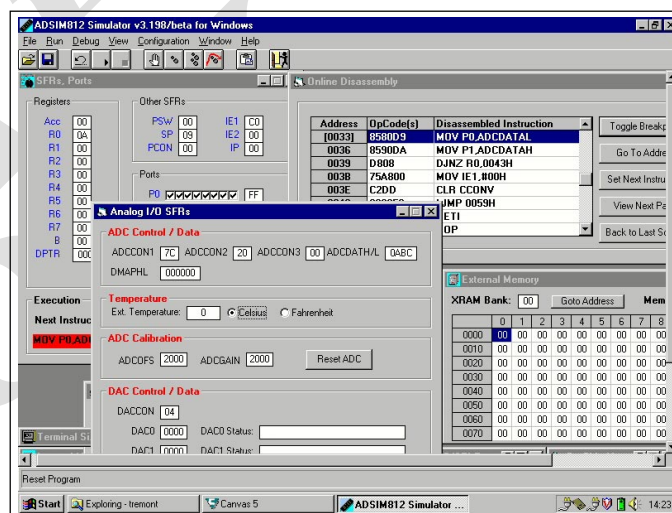


Figure 2. Typical Simulator Debug Session

- DLOAD812: ADuC812 Serial Downloader

The DLOAD812 is a software program that allows you to serially download an assembled program (Intel Hex format file) to the on-chip program FLASH memory via the serial COM1 port on a standard PC.

Once the part is configured for serial download mode (pulling PSEN/ pin low during Reset), a program can be easily downloaded by using the 'copy' command from a DOS shell or alternatively you can use a pre-configured icon provided as part of the development tools.

- DEBUG812: ADuC812 Serial Port Debugger

DEBUG812 is a Windows' application that allows the user to debug code execution on silicon using the ADuC812 UART serial port. The debugger provides access to all on-chip peripherals during a typical debug session as well as basic break point capability.

Features offered by the Debugger include the following :

- Reconfigurable GUI providing a full view of all internal registers locations
- Direct modification/verification of all register/memory contents.
- Breakpoint Execution
- Serial Download, Reset, Go and Resume Options for fully interactive debug session control.

Figure 3 below shows a screen shot from the DEBUG812 environment during a typical hardware debug session.

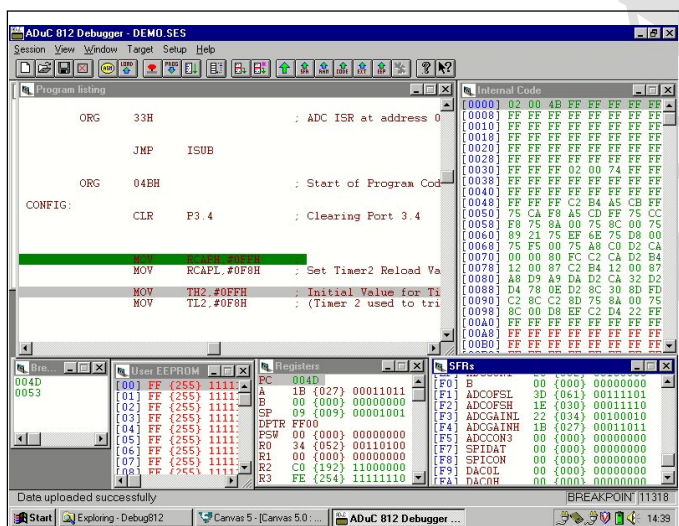


Figure 3. Typical Debug Session

- QuickStart Development System

The QuickStart Development System consists of the above components as well as a fully featured evaluation board on which a user can prove system functionality as well debugging application code before moving to a final target hardware platform. The following components are included in the QuickStart Development System :

- Fully Featured Evaluation Board
- Serial Cable and Power Supply
- 2 additional ADuC812 devices for prototyping
- Disk containing the following software tools :
 - ADSIM812
 - DEBUG812,
 - DLOAD812
 - ASM51
 - Example Code
 - PCB Gerber files.
- Full ADuC812 Documentation Set.

A typical configuration of the QuickStart Development System is shown below in Figure 4.

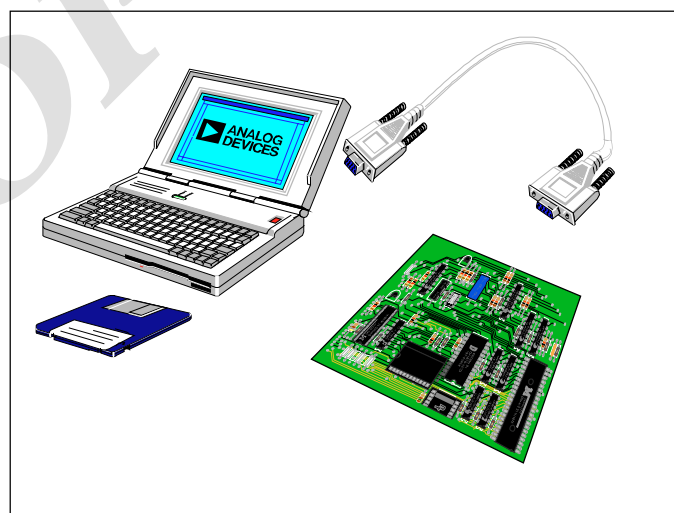


Figure 4. Typical QuickStart System

Ordering Information :

Contact your local Sales Office for pricing and availability information.