

# ADC-51-Linux C Compiler, Assembler, Simulator for Linux

AVOCET DEVELOPMENT TOOLS

## Professional Linux Tools Include 12-Months Professional Technical Support

### C Compiler

- Supports all popular 8-bit 8051 derivatives
- Standard C syntax
- C interrupt support
- In-line assembly
- Generates assembly source
- Reentrant banking support
- 32-bit and 64-bit floating point
- Macro support with parameters

### Macro Assembler

- 248 levels of nested conditions
- Generates relocatable code
- Linker supports 32-bit addressing
- Fourteen types of debug formats are directly generated from the Linker

### C Compiler

The 2500AD 8051 C Compiler for Linux is designed specifically for tight, fast running embedded applications on an 8051. Yet the compiler is fully reentrant even when using the built in bank switching features. Floating point operations are processed using included libraries that handle 32-bit floats or 64-bit doubles. The number of accurate digits can be manually set at run time to allow you to execute the routines very quickly when accuracy is not the primary concern. Interrupt routines can also be fully coded in C.

While you may never need to use inline assembly code, the compiler does allow for assembly code, assembly directives and linker directives to be embedded directly into the C source code. Special Function Registers may be directly accessed via C source as well.

### Macro Assembler

The professional grade 2500AD Macro Cross Assembler for the 8051 offers a complete set of macro and relocatability features. Macro capabilities add high level structure and modularity to your assembly code. Conditional expressions can be nested up to 248 levels and can exist inside or outside macro definitions. Macros can be used to assemble in completed sections of code based on multiple parameters.

The Linker handles full 32 bit addressing for bank switching. The relocatable nature of the assembler allows all code placements to occur at link time adding additional modularity to your coding. Commonly used modules may also be organized into libraries for selective linking based on usage. Fourteen types of debug formats are directly generated from the Linker. If your format is not explicitly supported, we may have an existing converter for you or can provide one to fit your needs. Our level of compatibility is incomparable.

### Simulator-Debugger

High-level debugging for the 8051 is a snap with the ADS simulator. Source level debugging is available for C or assembly code. Complete expansion of high-level types is available for C code structures, unions, pointers, etc. A complete disassembler is included with the simulator for creating assembly source from your existing binary or hex files.

Breakpoints may be set on addresses and memory values. Input and Output ports may be mapped to any file, terminal or the keyboard. Automatic error detection can detect problems with stack overflow or underflow as well as out-of-range memory reads and writes. Simulator can step backwards as many as 65,000 instructions. This is crucial for when the breakpoint can only be set on a condition after failure.

### Simulator-Debugger

- Automatic error detection of stack overflows and underflows as well as out of range memory reads and writes
- Full Source Level Support
- Memory & address breakpoints
- Full interrupt simulation
- File, Port or Keyboard I/O simulation
- Viewable Program Trace
- Reverse Program Stepping

The HMI-200-8051 In-Circuit Emulator for the 8051 is also part of our complete solution for 8051 development

The Complete Solution for Embedded Systems Development Tools

