

## **DIFFERENCES BETWEEN CEIBO 251 EMULATORS**

EB-C251 is a system with less features than DS-251 and it supports only the currently available MCS-251 and C251 derivatives from Intel and Atmel MW (former Temic).

EB-C251 has trace and breakpoints less sophisticated than DS-251. EB-C251 has only software breakpoints, meaning that code is replaced by a break instruction, and therefore it can only be applied to the code mapped into the emulator memory.

DS-C251 has hardware breakpoints that can be applied to target memory so if you have your program on an EPROM in your target board, you may need the hardware breakpoints. The DS-251 has testpoint clips that can be connected to any external signals to be recorded in the trace memory as if you have a logic analyzer. These clips can be used also to start and stop the trace recording and generate breakpoints.

FEATURES	EB-C251	DS-251
Frequency of Operation	24 MHz	24 MHz
Emulation Memory	256K	256K
Mapping Resolution	4K, 8K, 16K, 32K & 64K Boundaries	1 Byte
Breakpoints	256K Software Breakpoints	256K Hardware Breakpoints
Break on Opcode Execution	Yes	Yes
Break on Data Read/Write	No	Yes
Break on External Signals	No	AND/OR combination of 2 external signals
Source Level Debugging for C, PLM and ASM	Yes	Yes
Trace	2Kx48 bit records: address, data, status	128Kx128 bit records: address, data, status, program counter, trace clips and time stamps
Leds and Switches for Experiments	No	Yes