

# **CMD-2001 Addendum**

## ***HARDWARE***

This CMD-2001 Board was shipped with a sample MMC2001 microcontroller. The Mbug monitor on these devices is functionally limited and cannot be used for development purposes. To fix this your board was shipped with a fully functional version of the Mbug monitor in external EPROMS (U5 and U6). The boot chip select (CS0) is mapped to U5/U6. The piggyback jumper 1 is installed so the board will boot from these external EPROMS.

## ***DOCUMENTATION***

The tutorial section of the CMD-2001 owners manual on the CD assumes a fully functional Mbug monitor is running from onchip MMC2001 ROM, which may be confusing. You can still use the tutorial, but remember you must NOT remove the PB2001 jumper 1. You must also use OFFSET programming with the utilities software to program the fixed flash memory (U2). This is necessary due to chip-select conflicts (see Offset Programming section below).

If you later update the PB module on the board with the soon to be released fully functional Mbug monitor, the owners manual on your CD will contain correct operating procedures.

## ***SOFTWARE***

The terminal software AXTERM on the CD is set for 9600 baud. This version of the CMD2001 can operate at a higher clock rate and the Mbug monitor will come up at 19200 baud if PB2001 JP2 is off. By installing PB2001 JP2 jumper on positions 1 and 2 the AXTERM on the CD will operate normally with Mbug.

For operation at 19200 with JP2 open, you must download a newer version of the Programming Utilities and AXTERM from the M\*CORE support section of our web page at [www.axman.com](http://www.axman.com). You can also use any ASCII terminal program (such as windows hyperterminal) running at 19200 baud (n81) with hardware flow control enabled.

## ***OFFSET PROGRAMMING***

You can program fixed flash memory from Mbug running in external memory by changing the Chip-Select jumpers and using the Offset Program option of the utilities software as follows:

1. Make sure the M1-SEL jumpers are ON 3 and 6 and M-SEL jumper 3 is ON so that CS0 is mapped to external EEPROMS and CS1 is mapped to fixed flash. (also make sure JP1 on the CMD2001 board is installed to disable write protection)
2. Create your C program and compile it to Fixed Flash memory using the method described in the users manual (section 2.2.4).
3. Where the manual says to choose program flash eeprom, instead choose **Offset Program Flash EEPROM**.
4. The rom.bat file locates your code to 0x2D000000 (which is defaulted to CS0) but you must offset program it to CS1 address space, so when prompted for the address enter **2F000000**.
5. After the fixed flash is erased you are prompted to send your S19 file to the board.
6. When it is finished programming move the M-SEL jumper to 4. This will remap CS0 to fixed flash.
7. You may also remove JP1 on the main board (not the PB board) to enable write protection.
8. Press Reset on the board and your program should auto start from fixed flash memory.