

Using the DSP Global series of UART daughtercards with the 5509 EVM

Introduction

In order to use the DSP Global series of UART daughtercards (model numbers DSPG-ICx-Uxxx-x) with the Spectrum Digital 5509 Evaluation Module (EVM), the following two changes are required:

1. Three jumpers need to be added to the daughtercard (or the EVM).
2. Jumper JP12 on the EVM must be placed in the 1-2 position.

Detailed description of changes

The reason for the first change is because the UART daughtercards use some high order address lines that are not provided for on the 5509 EVM EMIF connector. Specifically, the daughtercard utilizes three address lines: A17, A18, and A19. On most other EVMs and DSKs, these lines are made available on pins 5, 4 and 3, respectively, on the 80-pin Memory Interface connector. On the 5509 EVM, they do not exist.

To allow the UART daughtercards to operate with the 5509 EVM, it is necessary to tie other available address lines to pins 3, 4, and 5 of the Memory Interface connector. The following table shows the recommended modifications.

From	To
EVM Memory connector Pin number	EVM Memory connector Pin number
17 (A9)	3
18 (A8)	4
19 (A7)	5

These jumper wires can be made on either the daughtercard or the EVM. It is recommended that the jumpers be added to the EVM, by soldering short wires directly onto the exposed portion of the connector pads of the 80-pin memory connector. ***If the jumpers are added to the daughtercard, then the daughtercard must not be used with any other DSK or EVM, since address line shorts will result.***

To go along with the hardware changes made to the board, the UART register addresses must be changed accordingly. The “.h” include file provided with the 5509 demonstration programs contains a series of #define statements that correctly address the registers of all 4 UARTs. Please refer to this file for a listing of individual hardware UART register addresses.

The reason for the second issue is fairly simple. Jumper JP12 enables the external interface. It must be set to positions 1-2.