

AM18xx Pin Multiplexing Utility

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ABSTRACT

The AM18xx devices use a great deal of internal pin multiplexing to allow the most functionality in the smallest and lowest cost package. This software allows the pin multiplexing registers of the device to be calculated with ease, as well as showing what peripherals can be used together and what devices support the peripherals that are selected. This software is useful to anyone creating a system with AM18xx devices.

Project collateral and source code discussed in this application report can be downloaded from the following URL: <http://www-s.ti.com/sc/techlit/spraba2.zip>.

1 Using the AM18xx Pin Multiplexing Utility

This utility is a stand-alone executable; there is no installation process required. After you have extracted the utility, run the executable (PinSetup.exe) located in the bin directory. Once the utility is opened, there is a user interface with various sections covering the multiplexed peripherals of the AM18xx devices. Note that this utility only contains peripheral selection boxes where a group of pins are needed for the peripheral to operate. Some peripheral selection boxes are not listed here (e.g., JTAG, USB, RTC, TIMER, etc.). Simply select the device and peripherals necessary to your application.

In addition, the utility allows pin-by-pin control. Double-click on a cell to enable or disable the pin. This feature allows you to enable pins of the peripherals that do not have a selection box or to disable pin functionalities not required in your peripheral usage. With this utility, you can determine how many different combinations of peripherals are possible on the AM18xx devices. As the peripherals are selected, the utility dynamically updates the appropriate PINMUX register values.

Once the selections have been entered, the PINMUX register values are used in the application code to properly configure the device; all the peripherals that were selected are enabled. You can save a header file with the appropriate PINMUX register values by going to File → Save → Header File. To save your device and peripheral selection for future use, choose File → Save → Pin Selections.

2 References

- *AM1806 ARM Microprocessor Data Manual* ([SPRS658](#))
- *AM1808 ARM Microprocessor Data Manual* ([SPRS653](#))
- *AM1810 ARM Microprocessor for PROFIBUS Data Manual* ([SPRS709](#))
- *AM1802 ARM Microprocessor Data Manual* ([SPRS710](#))

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