

Application Notes

Overview

The following Application files are a part of the Assembler package:

File Name	Description
1200def.inc	AT90S1200 I/O register and bit definitions. By including this file, all I/O register and bit names referred in the data book can be used in assembly programs.
2313def.inc	AT90S2313 I/O register and bit definitions. By including this file, all I/O register and bit names referred in the data book can be used in assembly programs.
2323def.inc	AT90S2323 I/O register and bit definitions. By including this file, all I/O register and bit names referred in the data book can be used in assembly programs.
4414def.inc	AT90S4414 I/O register and bit definitions. By including this file, all I/O register and bit names referred in the data book can be used in assembly programs.
8515def.inc	AT90S8515 I/O register and bit definitions. By including this file, all I/O register and bit names referred in the data book can be used in assembly programs.
m103def.inc	ATMEGA103 I/O register and bit definitions. By including this file, all I/O register and bit names referred in the data book can be used in assembly programs.
AVR100.asm	Application note for EEPROM read and write access. Both random and sequential read/write access are implemented.
AVR102.asm	Contains application routines for data block copy Flash → SRAM and SRAM → SRAM.
AVR128.asm	Application example showing how to setup and control the Analog Comparator.
AVR200.asm	This application note contains implementation of code-efficient version of the following Multiply and Divide operations: <ul style="list-style-type: none"> • 8 x 8 → 16 bit unsigned • 8 x 8 → 16 bit signed • 16 x 16 → 32 bit unsigned • 16 x 16 → 32 bit signed • 8 / 8 → 8 bit unsigned • 8 / 8 → 8 bit signed • 16 / 16 → 16 bit unsigned • 16 / 16 → 16 bit signed
AVR200b.asm	This application note contains implementation of speed-efficient version of the following Multiply and Divide operations: <ul style="list-style-type: none"> • 8 x 8 → 16 bit unsigned • 16 x 16 → 32 bit unsigned • 8 / 8 → 8 bit unsigned • 16 / 16 → 16 bit unsigned

8-Bit AVR

Assembler and Simulator

File Name	Description
AVR202.asm	This application note contains implementation of some 16-bit arithmetic operations: <ul style="list-style-type: none"> • 16 + 16 bit addition • 16 + immediate 16 bit addition • 16 - 16 bit subtraction • 16 - immediate 16 bit subtraction • Compare two 16 bit variables • Compare 16 bit variable with 16 bit immediate • Negate a 16 bit variable
AVR204.asm	This application notes supplies the following BCD arithmetic routines: <ul style="list-style-type: none"> • Binary 16 to BCD conversion • Binary 8 to BCD conversion • BCD to Binary 16 conversion • BCD to Binary 8 conversion • 2 Digit BCD addition • 2 Digit BCD subtraction
AVR220.asm	This application note shows how to sort a block of data in SRAM using the code efficient Bubble Sort Algorithm.
AVR222.asm	This application note shows an example on a moving average filter.
AVR300.asm	This application note shows an implementation of an I2C master in a single master system.
AVR302.asm	This application note shows an implementation of an I2C slave.
AVR304.asm	This application note implements a half-duplex software UART.
AVR305.asm	This application note implements a polled half-duplex software UART.
AVR400.asm	This application note shows how to use the Analog Comparator to implement a low-cost ADC.
AVR401.asm	This application note shows how to use the Analog Comparator to implement a dual-slope-alike ADC.
AVR910.asm	This application note shows how to implement a simple In-System Programmer.

All “AVRxxx.asm” files contains runnable example/test programs for demonstration and verification of the implementations.