

Errata

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9. **Incorrect Channel Change in Free Running Mode**

If the ADC operates in Free Running Mode and channels are changed by writing to ADMUX shortly after the ADC Interrupt Flag (ADIF in ADCSR) is set, the new setting in ADMUX may affect the ongoing conversion.

Problem Fix/Workaround

Use Single Conversion Mode when scanning channels, or avoid changing ADMUX until at least 0.5 ADC clock cycles after ADIF goes high.

8. **32 kHz Oscillator may Fail at Higher Voltages**

When using an external 32 kHz crystal as asynchronous clock source for Timer2, the timer may count incorrectly at voltages above 4.0V.

Problem Fix/Workaround

Keep the supply voltage below 4.0V when clocking Timer2 from an external crystal.

7. **Error in Half Carry Flag**

The half carry flag is undefined after executing the commands “ror”, “asr” and “lsr”.

Problem Fix/Workaround

Do not use the half carry flag value after executing the above instructions.

6. **Error in Writing Reset Status Bits**

The EXTRF flag in MCUSR will be cleared when clearing the PORF-flag. The flag does not get cleared by writing a “0” to it.

Problem Fix/Workaround

Finish the test of both flags before clearing any of them. Clear both flags simultaneously by writing “0” to both PORF and EXTRF in MCUCR.

5. **Wake-up from Sleep Executes Instructions before the Interrupt is Serviced**

When waking up from power save, some instructions are executed before the interrupt is called. If the device is woken up by an external interrupt, 2 instruction cycles are executed. If it is woken up by the asynchronous timer, 3 instructions are executed before the interrupt.

Problem Fix/Workaround

Make sure that the first two or three instructions following sleep are not dependent on the executed interrupt.



8-bit AVR[®] Microcontroller with 8K Bytes In-System Programmable Flash

AT90S/LS4434 Rev. F Errata Sheet



4. The SPI can Send Wrong Byte

If the SPI is in Master mode, it will restart the old transfer if new data is written on the same clock edge as the previous transfer is finished.

Problem Fix/Workaround

When writing to the SPI, first wait until it is ready, then write the byte to transmit.

3. Serial Programming at Voltages below 3.0V

At voltages below 3.0V, serial programming might fail.

Problem Fix/Workaround

Keep V_{CC} at 3.0V or higher during In-System Programming.

2. Wake-up from Power Save without Global Interrupt Enabled

When an asynchronous timer interrupt is used to wake up the part from power save, the part will wake up even if global interrupts are disabled.

Problem Fix/Workaround

No workaround necessary.

1. UART Loses Synchronization if RXD Line is Low when UART Receive is Disabled

The UART will detect a UART start bit and start reception even if the UART is not enabled. If this occurs, the first byte after re-enabling the UART will be corrupted.

Problem Fix/Workaround

Make sure that the RX line is high at start-up and when the UART is disabled. An external RS232-level converter keeps the line high during start-up.



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