DESIGN NOTE #023

Programming Problems Using STK200/300 Programmer

Introduction

When using the programming dongle provided with the STK200 and STK300 development boards, the programming software AVR ISP is most often used. When using this combination of hardware and software, several people have observed problems when programming parts both in the STK200/300 boards and in target boards. This document describes the observed problems and the possible solutions to eliminate these.

Overview

The problem observed is that the programming fails. This is obvious when verification of the program in the part is done. Not all parts are equally sensitive to this problem, the AT90S8515, for instance, is often programmed with success, while the ATmega103 is not. The reason for this is that the required timing in the programming process can vary between parts, which the programming software does not handle quite as intended. The problem relates to the following topics:

- The use of Windows NT®/Windows® 2000/Windows® XP
- The use of a "fast" PC

The most commonly used version of the programming software, AVR ISP is, at the present date, version 2.65. This version does not support either Windows NT®, Windows® 2000, nor Windows® XP. If Windows NT®, Windows® 2000, or Windows® XP is used, there are two existing solutions: Use AVR ISP ver. 2.70b, which at its present state is a BETA version (ISP27Beta.exe can be downloaded from http://www.avr-forum.com/avrsource.html). Note that beta versions are not final versions, and that the possibility that bugs exist is higher than for release versions. If AVR® ISP ver. 2.70 is to be used, make sure to have administrator access for correct installation. Another solution, which also applies as a solution when using Windows® 2000, is to use the shareware programming software called "Pony Prog". This program can be downloaded from http://www.lancos.com/prog.html.

If the PC used for the programming is "fast" (an actual level in MHz is difficult to determine), the programming can fail. It is assumed that the problem is related to weak timing in the software controlling the programming dongle. The solutions can in this case be to use a slower PC (obviously) or to use the already mentioned programming software "Pony Prog".

Further, notice that AVR ISP ver. 3.xx, is not a newer version than AVR ISP ver. 2.65 – it is an entirely different software: The AVR ISP ver. 3.xx is for the STK100, which does not use the dongle programmer.