Spartan-3A Evaluation Kit Errata

August 4, 2009

Revision History

Description	Date
Initial release	July 9, 2008
Update to WinXP SP3 issue. Added link to board forum.	Sept 9, 2008
Added PSoC clock output issues	Dec 2, 2008
Improved instructions for WinXP SP3 issue.	Dec 5, 2008
Update for AvProg 3.4.1 installer. Update on PSoC clocks.	Aug 4, 2009

Introduction

Thank you for your interest in the Avnet Spartan-3A Evaluation Kit. Although Avnet has made every effort to ensure the highest possible quality, these kits and associated software are subject to the limitations described in this errata notification.

Kit Identification

These errata apply to Revision B of the kit, as noted in the Assembly part number on the backside of the board (SP3A-EVAL-ASY-B).

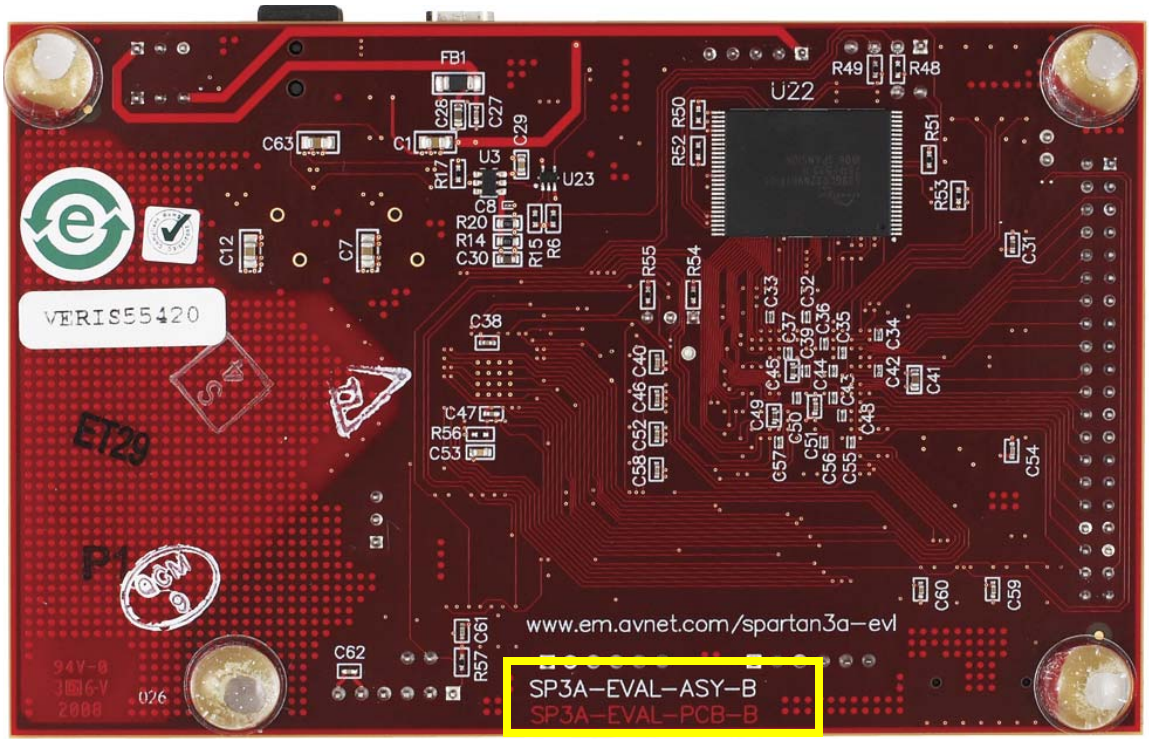

Figure 1 – Location of Assembly Part Number on Rev A board

Errata Summary

Table 1 summarizes the known hardware issues with the Spartan-3A Evaluation Kit. See the

Errata section for a detailed description of each known issue. Table 1 also shows which Revision is affected by a particular erratum.

Table 1 – Errata Summary

Errata Issue	Kit Revision	
	B	
"Avnet Programming Utility Serial Communications Disrupted on non-English Language Computers"	Yes	
"Cypress MiniProg Cannot Source Power to the Board"	Yes	
"PSoC Clock Output Issues"	Yes	

Errata

This section provides a detailed description of each known hardware issue.

Avnet Programming Utility Serial Communications Disrupted on non-English Language Computers

Applications affected

The Avnet Programming Utility (AvProg) for the Spartan-3A Evaluation Kit when used with non-English language computers.

Description

AvProg was designed using Microsoft Visual Basic v6.0. This version of VB creates applications that internally are non-Unicode. Windows XP and Windows Vista are both full Unicode operating systems. When AvProg runs in Windows, the non-Unicode characters are translated to Unicode characters as a function of the O/S. For English language computers, this is not an issue as the Unicode and non-Unicode characters are the same. However, for non-English computers, the non-Unicode characters are not the same as some Unicode characters.

This is an issue since AvProg relies on specific character strings to be sent to the Spartan-3A Evaluation board as commands. When the non-Unicode characters get translated to Unicode, the strings are corrupted, which in turn corrupts the commands and communication between computer and board.

For additional information, see the following websites:

- http://www.microsoft.com/globaldev/handson/user/xpintlsupp.mspx#EVE
- http://msdn.microsoft.com/en-us/library/ms776459.aspx
- http://www.jollans.com/tiki/tiki-index.php?page=vb6unicodesupport

Workaround

The work-around for this is also documented in the *Avnet Programming Utility User Manual*.

To correct this problem, you must change the “Language for non-Unicode programs” on the host system to English. Follow the instructions below to do this on a Windows XP system:

a. Launch the **Control Panel** from the Start Menu.
b. Double-Click **Regional and Language Options**.
c. Select the **Advanced** tab.
d. Select **English** in the list box, as shown below.
e. Click the **OK** button.

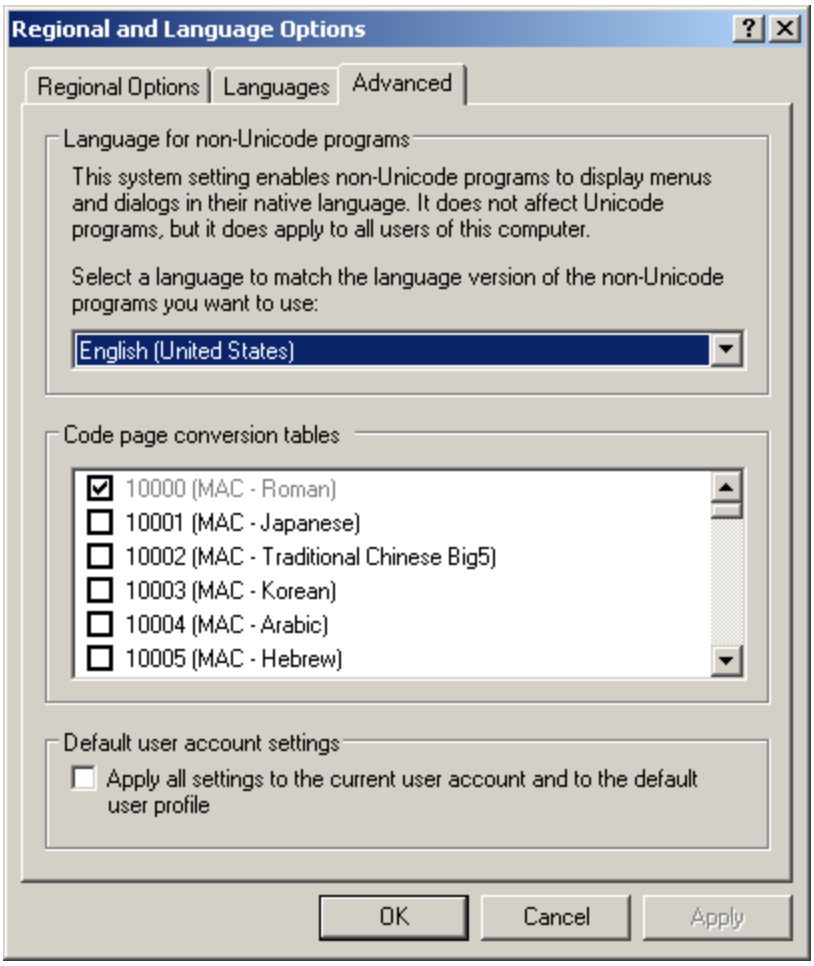

Figure 2 – Setting the Language for non-Unicode programs in Windows

Cypress MiniProg Cannot Source Power to the Board

Applications affected

The board is designed to allow you to source power from the Cypress MiniProg (JP7 in the PROG position). However, the board does not power-up. The 5V LED (D1) may light, but the board does not function.

Description

Due to the large amount of capacitance required by the FPGA (470uF), there is a significant in-rush current that the MiniProg cannot provide. The MiniProg's 5V output droops and trips the on-board voltage supervisor.

Workaround

The MiniProg cannot be used to source power to the board. Board power must be connected separately in addition to the MiniProg being plugged in, and Reset programming must be used in PSoC Programmer. This is documented in the Avnet document *Restoring the Spartan-3A Evaluation Kit to its Original State*.

PSoC Clock Output Issues

Applications affected

The PSoC is intended to output two clock sources to the FPGA: 12 MHz and 32 KHz. With Revision 1.1.0 firmware, the 12 MHz clock is output correctly. However, the 32 KHz clock delivered from the PSoC pin P3[7] to FPGA pin T7.

Description

The Revision 1.1.0 of the PSoC firmware connects a 12 MHz output from a PWM8 to the 12 MHz clock output which feeds FPGA pin N9. The 32 KHz clock output is not connected internally. The PSoC does have the capability to connect a 32 KHz clock to the Global Output Even [0] column (using the OSC_GO_EN register), but P3[7] does not have routing resources to this column.

Workaround

It is not possible to connect both the 12 MHz clock and the 32 KHz clock to the PSoC outputs based on the current PSoC pinout. It is possible to connect the 32 KHz instead of the 12 MHz. To do this, remove the PWM8 and replace with a DigBuf. Connect the 32 KHz clock to the input of the DigBuf, and connect the output of the DigBuf to RO0[3], which can then be connected to P3[7].

Additional Support

For additional support, please review the discussions and post your questions to the Spartan-3A Evaluation Forum at

http://community.em.avnet.com → Spartan-3A Evaluation Kit
(or http://community.em.avnet.com/t5/Spartan-3A-Evaluation-Kit/bd-p/Spartan3A)

Archives of the forum prior to July 2009 may be viewed at

http://groups.google.com/group/avnet-spartan-3a-eval-kit.

You can also contact your local Avnet/Silica FAE.