

## 1 Severity

>>>	CRI	Critical. Crashes, hangs, loss of data.
	MAJ	Major loss of function.
	MIN	Minor loss of function or workaround available.
	TRI	Trivial, possibly cosmetic problem.
	ENH	Enhancement.
	NOT	Not used.

## 2 Symptoms

Device hangs during boot. LCD shows one line at top of display.

## 3 Affected systems and software

The problem (and solution) is limited to the following devices.

>>> Neon and all variants

The software update involves changes to the U-Boot software package.

## 4 Availability

All U-boot binaries produced by Boundary Devices after 12 January, 2006 contain this update. Customers compiling their own boot loader should apply the patch listed below.

Updated U-Boot binaries are available for [Neon](#) and [BD-2003](#).

U-Boot Source code packages version [1.3](#) and later include this change.

## 5 Description of change

The U-Boot initialization sequence for the SM-501 display controller enabled the controller before initializing all registers. On rare occasions, the uninitialized values cause the SM-501 to attempt to become bus master (and lock up the PXA processor).

The fix involves not setting the ENABLE bit in the SM-501 before all other registers are initialized.

## 6 Source code patches

The following patch file shows the affected lines.

```
Index: neon.c
=====
RCS file: /home/cvs/u-boot-1.1.2/board/neon/neon.c,v
retrieving revision 1.8
retrieving revision 1.9
diff -r1.8 -r1.9
75c75
< /* 80000 dispctrl */      0x0F013104,      // 0f0d0105
---
> /* 80000 dispctrl */      0x0F013100,      // 0f0d0105
455c462
< STUFFREG( dispctrlReg, dispctrl );
---
> if (panel->crt==0) dispctrl |= 4;
548a556
> STUFFREG( dispctrlReg, dispctrl );
```