

## **Errata**

*Sandpoint X3BERR/D  
Rev. C, 2/2003*

*Sandpoint Microprocessor  
Evaluation System  
Errata*



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# **1 Introduction**

This document describes the known errata and limitations of the Sandpoint motherboard for the Sandpoint reference platform. In all cases, if an errata has a workaround, it is applied to the system before shipped to customers.

The errata revision (“A”, “B”, etc.) is updated every time a new problem is found and systems have been shipped. If your current system is a “Sandpoint X3B rev ‘A’”, then it has all rev “A” fixes, but no rev “B” fixes.

The errata should be applied to the published schematics to determine the correct wiring of the MPMC+Sandpoint system (i.e. after changes are applied).

Lastly, note that some errata are not true errors but requests for minor modifications to improve the system. These errata are not performed but may be rolled into possible future revisions of the system, if any.

# ERRATA

**Table 1: Summary of Sandpoint Errata**

#	Type	Problem	Cause	Work-Around	Affects	Rev
1	Arch	In AMODE=10 (Winbond arbitration), SYSCON is low and so the MPMC card is an agent. Configures itself to INTA# as an output, so interrupts are not received.	INTA# and INTO* are shorted on Unity MPMC cards (inadvertently), so this is not a problem. On other cards, this is not true, so either the short INTA# and INTO* (determined to be acceptable) or do not use AMODE=10.	1. Refer to errata for non-Unity cards. <b>For X4: Independant control of AMODE and SYSCON?</b>	X3B	A
2	Chip	MPC8245 V1.2 and earlier does not tolerate 5V PCI activity.	MPC8245 chip errata #18.	1. For the MPC8245 ONLY, alter the PCIVIO on both Sandpoint and the MPMC8245 to 3.3V. The MPC8245 may suffer damage long-term.  2. Clearly indicate that the system is altered and not interoperable with non-altered MPMC cards or Sandpoints.  3. Label the system "A-1" (again, MPMC8245 ONLY).  <b>X4: No change.</b>	X3B	A-1
3	Des	R10 pulls up SERR* and STOP* to 5V.	Wrong voltage and redundant as well.	1. Cut traces exiting RN10 pins 3 and 4.  <b>X4: Delete.</b>	X3B	B
4	Des	REQ64* should not be asserted to 32-bit slots. REQ64* on 32-bit slots is isolated and individually pulled up.	Misinterpreted spec, and no 64-bit cards to test.	1. Cut traces exiting SLOT3 and SLOT4 pins A60.  2. For each slot, connect 10K across A60 to B59 (PCI_VIO).  <b>X4: Isolate and add separate resistor.</b>	X3B	B

**Table 1: Summary of Sandpoint Errata**

#	Type	Problem	Cause	Work-Around	Affects	Rev
5	Des	PCI arbitration may fail when multiple masters are present, particularly on slots 1-3. Slot 4 is generally the only reliable bus master slot.	<p>The FPGA is too slow to adequately forward requests and grants to the internal or external arbiters in the required window. In addition, the internal arbiter is not correctly implemented.</p> <p>Workarounds include:</p> <p>A. Use only slot 4.</p> <p>B. Replace the arbitration selection logic.</p>	<p>For workaround “A”:</p> <p>1. Use slot 4 for bus-master device.</p> <p>For workaround “B”:</p> <p>1. Install “SPF100_Z” firmware.</p> <p>2. For each installed MPMC card, insure that the mode is set to “VITA”.</p> <p><b>X4: As above.</b></p>	X3B	C

Version	Date	Changes
A	2001 Nov 06	Initial Errata
B	2002 Jul 30	REQ64* errata.
C	2003 Feb 14	Arbiter errata.
C	2003 Apr 9	Enhanced #5 explanation.

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