Intel® StrongARM® SA-1110 Development Board

Specification Update

February 2000

Notice: The Intel® StrongARM® SA-1110 Development Board may contain design defects or errors known as errata. Characterized errata that may cause the board's behavior to deviate from published specifications are documented in this specification update.

Order Number: 278325-001

Contents

Revision History

Date	Version	Description
1/31/00	001	This is the new Specification Update document. It contains all identified errata published prior to this date.

Preface

As of July, 1996, Intel's Computing Enhancement Group has consolidated available historical device and documentation errata into this new document type called the Specification Update. We have endeavored to include all documented errata in the consolidation process, however, we make no representations or warranties concerning the completeness of the Specification Update.

This document is an update to the specifications contained in the Affected Documents/Related Documents table below. This document is a compilation of device and documentation errata, specification clarifications and changes. It is intended for hardware system manufacturers and software developers of applications, operating systems, or tools.

Information types defined in Nomenclature are consolidated into the specification update and are no longer published in other documents.

This document may also contain information that was not previously published.

Affected Documents/Related Documents

Title	Order
Intel® StrongARM® SA-1110 Microprocessor Development Board User's Guide	278278-005

Nomenclature

Errata are design defects or errors. These may cause the published (component, board, system) behavior to deviate from published specifications. Hardware and software designed to be used with any component, board, and system must consider all errata documented.

Specification Changes are modifications to the current published specifications. These changes will be incorporated in any new release of the specification.

Specification Clarifications describe a specification in greater detail or further highlight a specification's impact to a complex design situation. These clarifications will be incorporated in any new release of the specification.

Documentation Changes include typos, errors, or omissions from the current published specifications. These will be incorporated in any new release of the specification.

Note: Errata remain in the specification update throughout the product's lifecycle, or until a particular stepping is no longer commercially available. Under these circumstances, errata removed from the specification update are archived and available upon request. Specification changes, specification clarifications and documentation changes are removed from the specification update when the appropriate changes are made to the appropriate product specification or user documentation (datasheets, manuals, etc.).

Summary Table of Changes

The following table indicates the errata, specification changes, specification clarifications, or documentation changes which apply to the Intel® StrongARM® SA-1110 Microprocessor Development Board (SA-1110 Development Board), order number SA1110DEVBD. Intel may fix some of the errata in a future stepping of the evaluation platform, and account for the other outstanding issues through documentation or specification changes as noted. This table uses the following notations:

Codes Used in Summary Table

Stepping

X:	Errata exists in the stepping indicated. Specification Change or Clarification that applies to this stepping.
(No mark)	
or (Blank box):	This erratum is fixed in listed stepping or specification change does not apply to listed stepping.

Page

(Page):	Page location of item in this document.

Status

Doc:	Document change or update will be implemented.
Fix:	This erratum is intended to be fixed in a future step of the component.
Fixed:	This erratum has been previously fixed.
NoFix:	There are no plans to fix this erratum.
Eval:	Plans to fix this erratum are under evaluation.

Row

|	Change bar to left of table row indicates this erratum is either new or modified from the previous version of the document.

Errata

No.	Board Revision			Page	Status	ERRATA
	1.*xx*	2.*xx*				
1	X	X		11	Fix.	Pressing the reset button while the unit is reading data from SDRAM may result in a hang condition.
2	X			11	Fix	High core power consumption on Revision A SA-1110 devices may cause power management problems

Specification Changes

No.	System Revision		Page	Status	SPECIFICATION CHANGES
	2	4			
1	X		12		Li-Ion batteries not shipped with systems except for system revisions 4.0 and beyond

Specification Clarifications

No.				Page	Status	SPECIFICATION CLARIFICATIONS
	#	#	#			
1				13		None.

Documentation Changes

No.	Document Revision	Page	Status	DOCUMENTATION CHANGES
1	278278-05	14	Doc	Intel® StrongARM® SA-1110 Development Board Software: Section 2.1.3
2	278278-05	14	Doc	Board Control Register: Table 4-6

Identification Information

Markings

This document contains errata for the SA-1110 Development Board. The board's revision that is affected by this errata can be identified as order number SA1110DEVBD. The SA-1110 Development Boards are labeled with two stickers indicating board revision and system revision.

The board revision is the sticker in the center of the board marked with SA1110DEVBD and a serial number and a board revision starting with 1 or 2.

The system revision is the sticker on the edge of the board marked with SA1110DEVBD-BOX and a serial number and a system revision starting with 2 or 4.

Errata

1. Pressing the reset button while the unit is reading data from SDRAM may result in a hang condition.

Problem: There is about a 10% chance of a hang condition occurring upon any press of the reset button. This is a documented problem with the SA-1110 microprocessor component, for more information see the *Intel® StrongARM® SA-1110 Microprocessor Specification Update*. The hang condition leaves the SDRAM driving the main data bus. Pressing reset will not clear the condition and removing input power for a few seconds is not long enough for the unit to properly reset to a cold start mode.

Implication: The system hangs and remains in a hang state.

Workaround: The hang condition can be cleared by unplugging all connections from the unit including the base station header, compact flash card and power input jack and the J22 battery enable jumper. The unit must be allowed to remain unpowered for at least three minutes in order for the battery backup capacitor to bleed down to zero volts.

Status: Fix.

2. High core power consumption on Revision A SA-1110 devices may cause power management problems

Problem: Board revision 1 of the SA-1110 Development Boards were shipped with revision A SA-1110 devices that have a high core power problem. These revision A SA-1110 devices consume too much power for power management related development, however these devices are still suitable for most non-power management development.

Implication: Board revision 1 of the SA-1110 Development Boards (with revision A components) may not be suitable for developing power management applications.

Workaround: Upgrade your SA-1110 Development Board with a revision B component.

Status: Fix.

Specification Changes

1. Li-Ion batteries not shipped with systems except for system revisions 4.0 and beyond

Only systems revisions 4.0 and beyond have Li-Ion batteries shipped with them.

Specification Clarifications

1. None.

Documentation Changes

1. Intel® StrongARM® SA-1110 Development Board Software: Section 2.1.3

This section has been replaced with the following text:

The following source and executable files are available from the StrongARM section in the developer's area on the Intel website:

- Angel debug monitor – Software component for StrongARM based on ARM version 1.2 that loads an application from a remote host computer or application flash.
- Set of microHal libraries – Lowest level software that provides initialization for the StrongARM evaluation boards. This layer, provided as source-code for a library, resides between the actual hardware and any Real Time Operating System (RTOS) or user application.
- Diagnostics – A set of test programs that analyze the functions of SA-1110 Development Boards and SA-1111 Development Modules.
- A set of sample I/O drivers are provided and available for developers using Windows* CE.

2. Board Control Register: Table 4-6

The values for bit 10, LCD12or16, have been transposed. The definitions for bits 19 and 20 are now I2CENAB and IRDECODE. The rows for bits 10, 19, and 20 now appear as follows:

Table 4-6. Board Control Register

Bits	Name	Description
10	LCD12or16	LCD 12bpp or 16bpp output select Configures the PZ3128 CPLD to map the SA-1110 LCD data pins as 12 bit RGB444 or 16 bit RGB565. 0 – 12RGB 1 – 16RGB
19	I2CENAB	I2C Switch Enable 0 – Off 1 – On Must be set to zero to allow compact flash cards to function
20	IRDECODE	IR Decode Enable 0 – Off 1 – On Must be set to zero to allow IRDA to function

Support, Products, and Documentation

If you need general information or support, call **1-800-628-8686** or visit Intel's website at:

http://www.intel.com

Copies of documents that have an ordering number and are referenced in this document, a product catalog, or other Intel literature may be obtained by calling **1-800-548-4725** or by visiting Intel's website for developers at:

http://developer.intel.com