



# **Malta™ Errata / Functional Change Sheet**

**Document Number: MD00050**

**Revision 01.04**

**December 5, 2001**

**MIPS Technologies, Inc.  
1225 Charleston Road  
Mountain View, CA 94043-1353**

**Copyright © 2000 - 2001 MIPS Technologies Inc. All right reserved.**

Copyright © 2000 - 2001 MIPS Technologies, Inc. All rights reserved.

Unpublished rights reserved under the Copyright Laws of the United States of America.

This document contains information that is proprietary to MIPS Technologies, Inc. (“MIPS Technologies”). Any copying, reproducing, modifying, or use of this information (in whole or in part) which is not expressly permitted in writing by MIPS Technologies or a contractually-authorized third party is strictly prohibited. At a minimum, this information is protected under unfair competition and copyright laws. Violations thereof may result in criminal penalties and fines.

MIPS Technologies or any contractually-authorized third party reserves the right to change the information contained in this document to improve function, design or otherwise. MIPS Technologies does not assume any liability arising out of the application or use of this information, or of any error of omission in such information. Any warranties, whether express, statutory, implied or otherwise, including but not limited to the implied warranties of merchantability or fitness for a particular purpose, are excluded. Any license under patent rights or any other intellectual property rights owned by MIPS Technologies or third parties shall be conveyed by MIPS Technologies or any contractually-authorized third party in a separate license agreement between the parties.

The information contained in this document shall not be exported or transferred for the purpose of reexporting in violation of any U.S. or non-U.S. regulation, treaty, Executive Order, law, statute, amendment or supplement thereto.

The information contained in this document constitutes one or more of the following: commercial computer software, commercial computer software documentation or other commercial items. If the user of this information, or any related documentation of any kind, including related technical data or manuals, is an agency, department, or other entity of the United States government (“Government”), the use, duplication, reproduction, release, modification, disclosure, or transfer of this information, or any related documentation of any kind, is restricted in accordance with Federal Acquisition Regulation 12.212 for civilian agencies and Defense Federal Acquisition Regulation Supplement 227.7202 for military agencies. The use of this information by the Government is further restricted in accordance with the terms of the license agreement(s) and/or applicable contract terms and conditions covering this information from MIPS Technologies or any contractually-authorized third party.

MIPS<sup>®</sup>, R3000<sup>®</sup>, R4000<sup>®</sup>, R5000<sup>®</sup> and R10000<sup>®</sup> are among the registered trademarks of MIPS Technologies, Inc. in the United States and certain other countries, and MIPS16<sup>™</sup>, MIPS16e<sup>™</sup>, MIPS32<sup>™</sup>, MIPS64<sup>™</sup>, MIPS-3D<sup>™</sup>, MIPS-based<sup>™</sup>, MIPS I<sup>™</sup>, MIPS II<sup>™</sup>, MIPS III<sup>™</sup>, MIPS IV<sup>™</sup>, MIPS V<sup>™</sup>, MDMX<sup>™</sup>, SmartMIPS<sup>™</sup>, 4K<sup>™</sup>, 4Kc<sup>™</sup>, 4Km<sup>™</sup>, 4Kp<sup>™</sup>, 4KE<sup>™</sup>, 4KEc<sup>™</sup>, 4KEm<sup>™</sup>, 4KEp<sup>™</sup>, 4KS<sup>™</sup>, 4KSc<sup>™</sup>, 5K<sup>™</sup>, 5Kc<sup>™</sup>, 5Kf<sup>™</sup>, 20K<sup>™</sup>, 20Kc<sup>™</sup>, R20K<sup>™</sup>, R4300<sup>™</sup>, ATLAS<sup>™</sup>, CoreLV<sup>™</sup>, EC<sup>™</sup>, JALGO<sup>™</sup>, MALTA<sup>™</sup>, MGB<sup>™</sup>, SEAD<sup>™</sup>, SEAD-2<sup>™</sup>, SOC-it<sup>™</sup> and YAMON<sup>™</sup> are among the trademarks of MIPS Technologies, Inc.

All other trademarks referred to herein are the property of their respective owners.

## 1 Preface

This document communicates errata and functional changes for the different revisions of Malta™.

The document consists of the following sections:

- **Revisions.** Provides information on Malta revisions. A matrix shows the relation between the RTL revisions and the Errata numbers.
- **Errata.** A detailed description of the errata, the implications, suggested workarounds, and status.
- **Functional Changes.** A description of functional changes made to the Malta. This section reflects new or modified functionality added to a particular version of the Malta, not errata.

The descriptions of the errata and the functional changes include information about the status of the errata/change. The codes listed in the following table are used to describe the status.

**Table 1 Status Codes Used in the Descriptions of Errata and Changes**

<b>Code</b>	<b>Description</b>
Open	This issue is under investigation.
Fix	This issue is intended to be fixed in a future version of the component.
Fixed	This issue has been fixed in a previous version.
NoFix	There are no plans to fix this issue.
Doc	The appropriate documents will be updated in the future.

### *Modifications*

Additions and changes of the contents since the previous revision of this document is highlighted by a vertical bar in the margin and the last page of this documents holds a revision record.

## 2 Overview

### 2.1 Revision Overview

The table lists the revisions of the board.

**Table 2 Summary Revisions for Malta**

Revision	Description	Date
01	Prototypes.	
02	First release.	Sep 1, 2000
03	Removed unused components. No functional changes.	Oct 18, 2000
04	IDE-related fixes	Jan 8, 2001
05	Floppy Disk connector related fixe	Aug 20, 2001

### 2.2 Overview of Errata and Functional Changes

The tables below give a one-line overview of the Errata and the Functional Changes. Each of these are assigned a unique name/number.

**Table 3 Summary of Errata**

Erratum No	Description
E1	Polarization pin is not removed in IDE connectors.
E2	Up to 1 minute delay from reset until disks enabled in multi-disk system.
E3	HDD activity LED only indicates Compact Flash activity.
E4	Polarization pin is not removed in Floppy Disk connector.
E5	Noise spikes generated when hot-plugging USB high-speed devices.

**Table 4 Summary of Functional Changes**

Functional Change No	Description
F1	YAMON version 02.02 or higher supplied in Flash.

### 2.3 Revisions of Malta and Errata/Changes

The table below correlates each erratum or functional change to specific revisions of the product. Where an ECO exists that corrects the issue, this is listed. ECOs that have been performed on a given product are listed on an ECO label, typically on the reverse side of a PCB.

**Table 5 Relation between the Malta Revisions and Errata- and Functional Changes Numbers**

	Revision										
	02	03	04	05							
<b>Errata</b>											<b>ECOs</b>
E1	X	X									01
E2	X	X									02
E3			X	X							
E4	X	X	X								04
E5	X	X	X	X							
<b>Functional Changes No.</b>											
F1				X							

### 3 Errata Description

#### *E1. Polarization pin is not removed in IDE connectors*

**Problem:** IDE connectors should have one of the center pins removed, so that cables which use polarization can be used with the board

**Implication:** Some IDE cables cannot be used as-is with Malta

**Workaround:** Cut the appropriate pin (20) on the connectors, or use a non-polarized cable. The box-type connector provides sufficient polarization alone.

**Status:** Fixed

#### *E2. Up to 1 minute delay from reset until disks enabled in multi-disk system*

**Problem:** Due to the commoning of the HDD activity signal between primary and secondary IDE busses, and some apparent incompatibility with CompactFlash modules, there is a delay of up to one minute before IDE devices can be used in some configurations.

**Implication:** The following configurations do not work until a short time has elapsed since reset:

- HDD on both primary and secondary busses.
- Compact Flash card plus disk on primary bus.

No problem is seen with a single-disk system, or in configurations where two HDDs are placed on the same bus.

**Workaround:** Wait one minute from reset until accessing the IDE devices. Alternatively, cut pin 39 of J18, the primary IDE connector. A side-effect is that a front-panel HDD activity LED will then only indicate secondary activity, but the wait problem will be solved.

**Status:** Fixed

#### *E3. HDD activity LED only indicates Secondary IDE activity.*

**Problem:** The workaround implemented to fix E2 gives this problem as a side effect.

**Implication:** A front-panel LED will only indicate secondary IDE activity

**Workaround:** Use secondary IDE.

**Status:** No Fix

#### *E4. Polarization pin is not removed in Floppy Disk connector*

**Problem:** Floppy Disk connector should have pin 5 removed, so that cables which use polarization can be used with the board

**Implication:** Some Floppy Disk cables cannot be used as-is with Malta

**Workaround:** Cut the appropriate pin (5) on the connector, or use a non-polarized cable. The box-type connector provides sufficient polarization alone.

**Status:** Fixed

***E5. Noise spikes generated when hot-plugging USB high-speed devices.***

**Problem:** Attaching and removing USB devices while power is applied can cause noise spikes on USB and PS/2 signals. Only seen with high-speed USB devices.

**Implication:** Spurious interrupts and PS/2 events generated.

**Workaround:** Do not hot-plug devices.

**Status:** No Fix

## 4 Functional Change Description

*F1. YAMON revision 02.02 supplied.*

This revision of YAMON first supplied as standard from this board revision.



---

# Appendices

## A Revision History

<b>Revision</b>	<b>Date</b>	<b>Description</b>
01.00	2000/09/01	Initial Release.
01.01	2001/01/09	Added E1 to E3.
01.02	2001/01/25	Converted to new template.
01.03	2001/08/20	Added E4 and F1.
01.04	2001/12/05	Added E5.