

intel® Technical Advisory

TA-0194-2

5200 NE Elam Young Parkway
Hillsboro, OR 97124

June 3, 1999

Intel[®] C440GX+ SCSI BIOS Corruption

Information in this document is provided in connection with Intel products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, life saving, or life sustaining applications. Intel may make changes to specifications and product descriptions at any time, without notice. The **C440GX+** may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

Products Affected

BOXC440GX MM# 821094
BC440GX MM# 821095

Description

All products with serial number date codes greater than NCY916xxxxxx have the corrupted SCSI BIOS settings. All factory shipments since April 12, 1999 have corrupted SCSI BIOS settings.

Possible symptoms due to the corrupted SCSI BIOS settings are failure to display the Adaptec SCSI banner or failure to negotiate the correct SCSI transfer rate.

A customer discovered the SCSI performance problems associated with the corrupt SCSI BIOS settings during routine performance testing. The problem has been identified and verified at the Intel factory.

Root Cause

Intel's factory tests the Intel[®] C440GX+ server boards with an ARO-1130U2 RAID controller card installed, and then removes the ARO-1130U2 card prior to shipping the final product. This leaves the Adaptec 7896 SCSI BIOS settings in a random, corrupted, state because they were never completely initialized by the ARO-1130U2 card. The factory began using the ARO-1130U2 RAID controller card during their factory tests work week 16 (serial numbers NCY916xxxxxx) and introduced the problem at that time.

The on-board Adaptec 7896 component and ARO-1130U2 card share a common serial flash EEPROM to store their default values. One half of the EPROM is dedicated to the onboard 7896 component, and the other half to the ARO-1130U2 card. After the ARO-1130U2 card loads its default values into the EPROM upon initial boot of the system, it calculates a checksum for the entire EPROM. Later, when the C440GX+ board is booted without the ARO-1130U2 card installed, the Adaptec 7896 component looks for the checksum, which is valid, and then down loads the random data from its half of the EPROM. This random data is manifested as corrupted SCSI BIOS settings.

Corrective Action / Resolution

The SCSI Setup Utility should be used to restore the corrupted SCSI BIOS settings to default values, as set forth under "Workarounds".

To ensure that this issue is not repeated, Intel is removing the ARO-1130U2 card from the factory test until a satisfactory method is developed for initializing the serial EEPROM. A long-term fix will be developed which changes the factory tests to properly initialize the serial EEPROM.

All product, boxed boards, and OEM boards, shipped from Intel's factory after June 4, 1999 (work week 23) will have the correct default SCSI BIOS values stored in the serial EEPROM.

intel® Technical Advisory

TA-0194-2

5200 NE Elam Young Parkway
Hillsboro, OR 97124

June 3, 1999

Workarounds

The user can restore default SCSI BIOS settings for both Channel A and Channel B by entering the SCSI BIOS set up utility screen after POST.

Procedure is as follows:

1. Type **CNTRL-A** after the following SCSI BIOS screen is displayed:

Adaptec AIC-7896 SCSI BIOS V 2.11
© 1998 Adaptec, Inc. All Rights Reserved.

2. Select Channel A and press <**CR**>.
3. Press **F6** key to load default values for channel A.
4. Exit from Channel A SCSI setup screen to the main menu using the **ESC** key.
5. Select Channel B and press <**CR**>.
6. Press **F6** key to load default values for channel B.
7. Exit from Channel B SCSI setup screen using the **ESC** key.
8. . **Reboot the system.**

Entry/Mid-range Server Division
Enterprise Servers Group
Intel Corporation