

intel® Technical Advisory

TA-668-3

5200 NE Elam Young Parkway
Hillsboro, OR 97124

October 10, 2003

Intel® Server Chassis SR1300 SCSI Hot-Swap Backplane Incorrect Crystal

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Products Affected

The part affected by this issue is the SCSI Hot-Swap Backplane, PBA A77570-202, used in the Intel Server Chassis SR1300 products, spares kits, and accessory kits.

847599	BCW1USBPWB
853491	SWV1USKU07

Description

Some SCSI Hot-Swap Backplanes, PBA A77570-202, were manufactured with a crystal that may produce an incorrect frequency of 13.3 MHz. This incorrect frequency will result in loss of hot plug feature and will require a system reset when hard drives are swapped in a RAID configuration. Systems using RAID controllers of any type may fail to build RAID arrays. This incorrect frequency may result in RAID failures when systems configured with any type of RAID controller access the SCSI backplane SAF-TE controller via the SCSI bus using standard SAF-TE SCSI protocol commands. All identified failures to date have been in systems with RAID controllers that were unable to initialize the RAID array.

System configurations that do not use RAID controllers that interface with SCSI hard disk drives installed in the Intel Server Chassis SR1300 hot swap drive bays, and only use SCSI hard disk drives in non-RAID configurations in the Intel Server Chassis SR1300 hot swap drive bays, are not impacted by this issue. The incorrect crystal frequency does not affect non-RAID SCSI applications and does not impact the performance of individual SCSI drives.

Intel has determined that SCSI Hot-Swap Backplanes with PBA number A77570-202 and serial number workweeks between 27 and 36 may be affected by this issue, however, not all SCSI Hot-Swap Backplanes built between workweeks 27 and 36 are affected. The workweek is the second and third number imbedded in the board serial number as exemplified in the following serial number example: IMWE23000001

The following failure signature with affected product was observed at a single customer's integration line. Note, this has only been reported by 1 customer using a SC5200 chassis with SAF-TE card.

- Hard Drives were marked offline
- Failure to complete a RAID initialization

The following failure could be observed in a post integrated system should a customer hot swap a hard drive (this has not been reported, but has been observed in Intel's lab with a failing SAF-TE card).

- RAID controller would not detect hot swap drive
- System would fail to start an auto rebuild on a failed drive

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Root Cause

The SCSI Hot-Swap Backplane design requires use of a fundamental 40.0 MHz crystal. Failing SCSI Hot-Swap Backplanes were built with 3rd overtone 40.0 MHz crystals from a single vendor instead of fundamental 40.0 MHz crystals.

Corrective Action / Resolution

Intel has removed all of the 3rd overtone crystals from manufacturing and is building new product with fundamental 40.0 MHz crystals. Intel has screened all inventory for this issue. All Intel Server Chassis SR1300 chassis products, spares, and accessory kits shipped after September 12, 2003 will have the correct crystal. Intel is adding a light-colored sticker to the shipping label on the shipping box for Intel Server Chassis SR1300 chassis products, spares, and accessory kits with serial number workweeks between 27 and 36 that have been screened by Intel for this issue.

A visual screen for Intel Server Chassis SR1300 chassis products, spares, and accessory kits that may potentially be affected by this issue may be conducted by serial number. Intel embeds a code in all serial numbers to determine product build dates. For example, for serial number of IMWE33110494, the first digit after the IMWE is a 3, which indicates the year (2003), the next two digits indicate the workweek (31), and the next five digits indicate the run number. Customers may check the serial number workweek printed on the shipping label on the shipping box. **Intel Server Chassis SR1300 chassis products, spares, and accessory kits with serial number workweeks prior to and including workweek 26, 2003 are NOT affected by this issue.**

Decision matrix to determine if your product is affected

- ❖ Product **NOT** affected
 - Product built **before** June 30, 2003 (IMWE326XXXXX) or **after** Sept 5, 2003 (IMWE337XXXXX)
 - Workweek is embedded in the product serial number as the second and third numbers in the serial number – IMWE33000001
 - System configuration is a SCSI only
 - System configuration is a non-SAF-TE RAID
 - Crystals marked with a "R400 XXXX" are **NOT** affected
- ❖ Product built between June 30, 2003 and Sept 5, 2003 is potentially affected.
 - Affected embedded date code IMWE327XXXXX through IMWE336XXXXX
 - System integrated as a SCSI configuration will **NOT** be affected
 - System integrated as a non SAF-TE RAID configuration will **NOT** be affected
- ❖ Visual inspection is require at this point if customer is using a SAF-TE RAID configuration of the crystal in location Y2
 - Crystal marked with "40.0[N] XXXX ARE affected. The XXXX is a date code related marking

Customers with Intel Server Chassis SR1300 chassis products, spares, and accessory kits with serial number workweeks between 27 and 36 may screen the SCSI Hot-Swap Backplane to determine if it is affected by this issue. To screen the SCSI Hot-Swap Backplane, follow these steps:

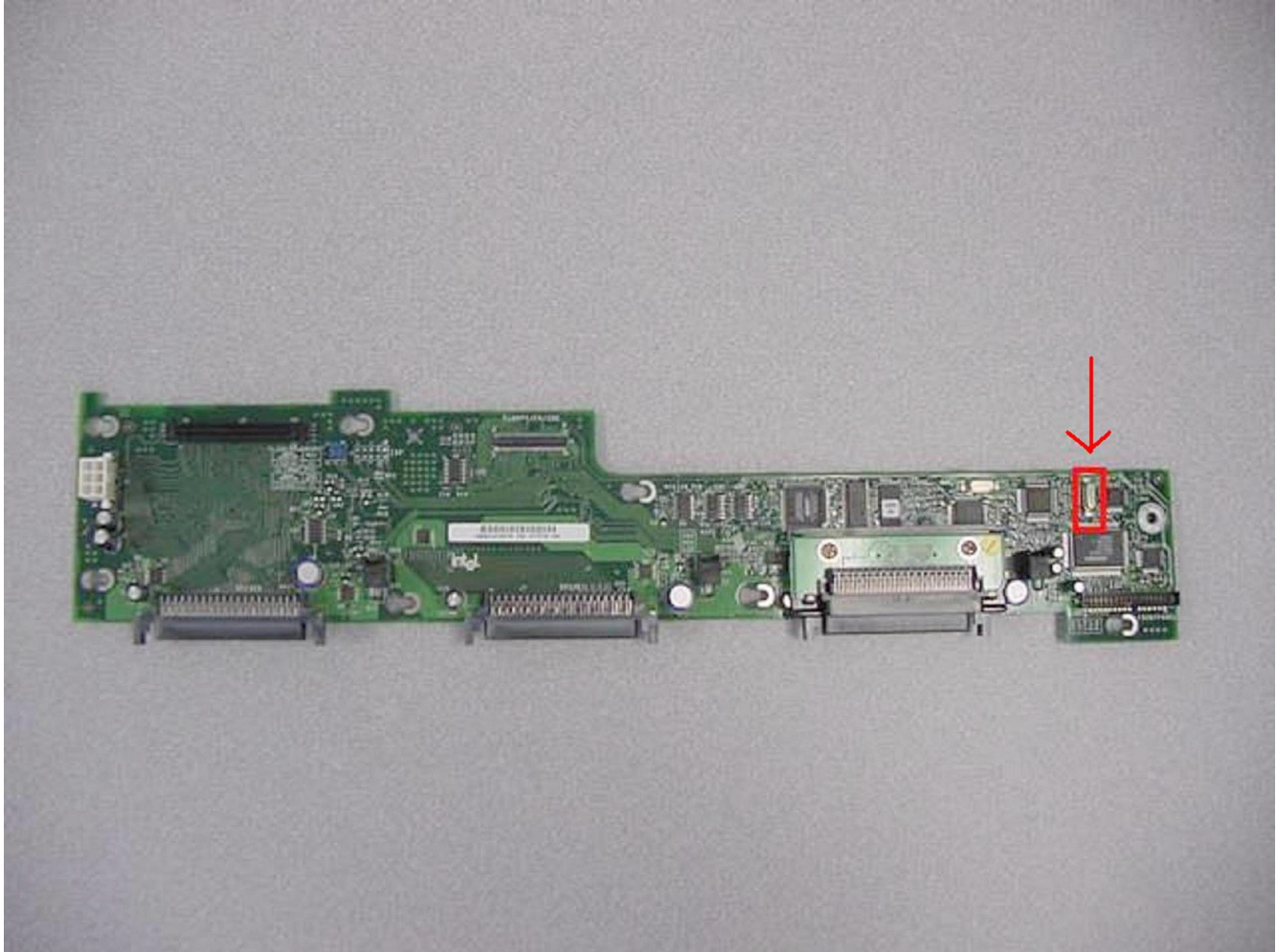
1. Remove the lid from the Intel Server Chassis SR1300 (for systems that have already been integrated).
2. Remove the system fan pack from the Intel Server Chassis SR1300 (for systems that have already been integrated).
3. Find the crystal (silver colored) at location Y2 on the SCSI Hot-Swap Backplane (PBA A77570-202). The crystal location is shown in the following two photographs below.
4. Crystals marked with "R400 XXXX" are NOT affected by this issue. Crystals marked with "40.0 [N] XXXX" are affected by this issue. In both cases, the XXXX markings are date code related and may be different, however, these date code markings are not significant to this issue.

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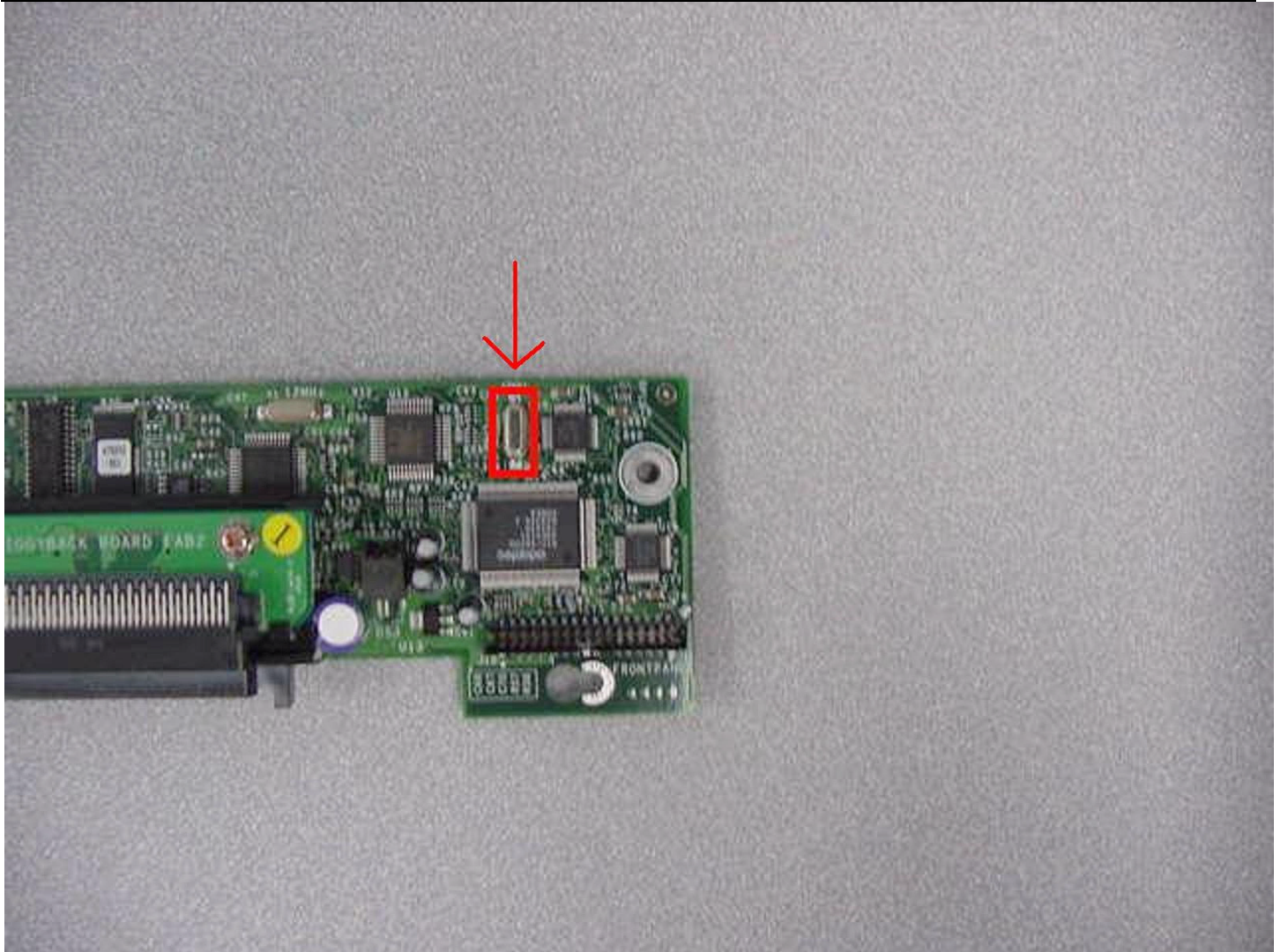


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Customers who have material affected by this issue should obtain replacement product through normal warranty procedures. To get parts contact Intel using your normal warranty process. Please indicate that you are calling regarding TA number 668-3, and have the following information when you call; the part number requested, and the serial number(s) for the system(s) or board(s) needing the replacement part.

Please contact your Intel Sales Representative if you require more specific information about this issue.

Enterprise Platforms & Services Division
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