



Desktop Board CC820 Specification Update

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The Intel® Desktop Board CC820 may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are documented in this Specification Update.

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The CC820 desktop board 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.

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REVISION HISTORY

| Date of Revision | Version | Description |
|-------------------------|----------------|---|
| October 1999 | -001 | This document is the first Specification Update for the Intel® Desktop Board CC820. |
| December 1999 | -002 | Updated revision level tables in the General Information section. |
| April 2000 | -003 | Added Specification Changes 1-2. |
| June 2000 | -004 | Added Erratum 1. |

PREFACE

This document is an update to the specifications contained in the Intel® Desktop Board CC820 Technical Product Specification (Order number 748475). It is intended for hardware system manufacturers and software developers of applications, operating systems, or tools. It will contain Specification Changes, Errata, Specification Clarifications, and Documentation Changes.

Refer to the *Pentium® III Processor Specification Update* (Order number 244453) for specification updates concerning the Pentium III processor. Items contained in the *Pentium III Processor Specification Update* that either do not apply to the CC820 desktop board or have been worked around are noted in this document. Otherwise, it should be assumed that any processor errata for a given stepping are applicable to the PBA revision(s) associated with that stepping.

Refer to the *Intel® 82820 Chipset: 82820 Memory Controller Hub (MCH) Specification Update* (Order Number 290630) for specification updates concerning the 82820 MCH Controller. Items contained in the *82820 MCH Specification Update* that either do not apply to the CC820 desktop board or have been worked around are noted in this document. Otherwise, it should be assumed that any MCH errata for a given stepping are applicable to the PBA revision(s) associated with that stepping.

Refer to the *Intel® 82801 I/O Controller Hub (ICH) Specification Update* (Order Number 290677) for specification updates concerning the 82801 I/O Controller Hub. Items contained in the *Intel 82801 ICH Specification Update* that either do not apply to the CC820 desktop board or have been worked around are noted in this document. Otherwise, it should be assumed that any ICH errata for a given stepping are applicable to the Printed Board Assembly (PBA) revision(s) associated with that stepping.

Refer to the *Intel® 82802 Firmware Hub (FWH) Specification Update* (Order Number TBD) for specification updates concerning the 82802 Firmware Hub. Items contained in the *Intel 82802 FWH Specification Update* that either do not apply to the CC820 desktop board or have been worked around are noted in this document. Otherwise, it should be assumed that any ICH errata for a given stepping are applicable to the Printed Board Assembly (PBA) revision(s) associated with that stepping.

Nomenclature

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

Errata are design defects or errors. Characterized errata may cause the CC820 desktop board's behavior to deviate from published specifications. Hardware and software designed to be used with any given Printed Board Assembly (PBA) and BIOS revision level must assume that all errata documented for that PBA and BIOS revision level are present on all desktop boards.

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 the next release of the specifications.

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

**Specification Update for
Intel® Desktop Boards CC820**

GENERAL INFORMATION

Basic Intel® Desktop Board CC820 Identification Information

| AA Revision | PBA Revision | BIOS Revision | Notes |
|-------------|--------------|-----------------------|-------|
| 744831-406 | 744830-406 | CC82010A.86A.0006.P04 | 1-6 |
| 744831-407 | 744830-407 | CC82010A.86A.0006.P04 | 1-6 |
| 744831-601 | 744830-601 | CC82010A.86A.0012.P06 | 1-6 |
| 744831-602 | 744830-602 | CC82010A.86A.0014.P08 | 1-6 |
| 744834-406 | 744832-406 | CC82010A.86A.0006.P04 | 1-6 |
| 744834-407 | 744832-407 | CC82010A.86A.0006.P04 | 1-6 |
| 744834-601 | 744832-601 | CC82010A.86A.0012.P06 | 1-6 |
| 744834-602 | 744832-602 | CC82010A.86A.0014.P08 | 1-6 |
| A01172-401 | A01171-401 | CC82010A.86A.0006.P04 | 1-6 |
| A01172-402 | A01171-402 | CC82010A.86A.0006.P04 | 1-6 |
| A01172-601 | A01171-601 | CC82010A.86A.0012.P06 | 1-6 |
| A01172-602 | A01171-602 | CC82010A.86A.0014.P08 | 1-6 |

NOTES:

1. The PBA number or AA number is found on a small label on the component side of the board.
2. The 82820 Chipset kit used on this PBA revision consists of three components as follows:

| Device | Stepping | S-Spec Numbers |
|-------------|----------|----------------|
| 82820 MCH | B1 | SL3FT |
| 82801AA ICH | B1 | SL3MA |
| 82802AB FWH | A0 | SB48 |

3. The following errata are contained in the *Pentium® III Processor Specification Update* (Order Number 244453) for the Pentium III processor and either do not apply to the CC820 desktop board or have been worked-around in this PBA and/or BIOS revision: None. All other errata associated with the processor apply to this PBA revision.
4. The following items are contained in the *Intel® 82820 Memory Controller Hub (MCH) Specification Update* (Order Number TBD) and either do not apply to the CC820 desktop board or have been worked around in this PBA and/or BIOS revision: None. All other errata associated with the MCH apply to this PBA revision.
5. The following items are contained in the *Intel® 82801 I/O Controller Hub Specification Update* (Order Number 290677) and either do not apply to the CC820 desktop board or have been worked around in this PBA and/or BIOS revision: None. All other errata associated with the ICH apply to this PBA revision.
6. The following items are contained in the *Intel® 82802 Firmware Hub Specification Update* (Order Number TBD) and either do not apply to the CC820 desktop board or have been worked around in this PBA and/or BIOS revision: None. All other errata associated with the FWH apply to this PBA revision.

Summary Table of Changes

The following table indicates the Specification Changes, Errata, Specification Clarifications, or Documentation Changes which apply to the CC820 desktop board. Intel intends to fix some of the errata in a future revision of the desktop board, and to account for the other outstanding issues through documentation or specification changes as noted. This table uses the following notations:

CODES USED IN SUMMARY TABLE

- Doc: Document change or update that will be implemented.
- Fix: This erratum is intended to be fixed in a future revision of the desktop board or BIOS.
- Fixed: This erratum has been previously fixed.
- NoFix: There are no plans to fix this erratum.
- Shaded: This erratum is either new or modified from the previous version of the document.

| NO. | PLANS | SPECIFICATION CHANGES |
|-----|-------|---|
| 1 | Doc | Diagnostic LED display changes |
| 2 | Doc | Add control jumper block |
| NO. | PLANS | ERRATA |
| 1 | Fix | BIOS does not support Wake On Ring functionality with an Add-In Audio Modem Riser modem card with Advanced Power Management events enabled in the system BIOS |

The errata described in this specification update apply to combinations of PBA revision and BIOS revision as shown in the table below. Descriptions of the individual erratum referred to by number in the table below are found in the ERRATA section of this document.

| PBA Revision | BIOS Revision | Errata That Apply |
|--------------|------------------------------------|-------------------|
| 744830-406 | CC82010A.86A.0006.P04 | 1 |
| | CC82010A.86A.0011.P05 | 1 |
| | CC82010A.86A.0012.P06 | 1 |
| | CC82010A.86A.0013.P07 | 1 |
| | CC82010A.86A.0014.P08 | 1 |
| 744830-407 | CC82010A.86A.0006.P04 | 1 |
| | CC82010A.86A.0011.P05 | 1 |
| | CC82010A.86A.0012.P06 | 1 |
| | CC82010A.86A.0013.P07 | 1 |
| | CC82010A.86A.0014.P08 | 1 |
| 744830-601 | CC82010A.86A.0006.P04 | 1 |
| | CC82010A.86A.0011.P05 | 1 |
| | CC82010A.86A.0012.P06 [‡] | 1 |
| | CC82010A.86A.0013.P07 | 1 |
| | CC82010A.86A.0014.P08 | 1 |
| 744830-602 | CC82010A.86A.0006.P04 [‡] | 1 |
| | CC82010A.86A.0011.P05 [‡] | 1 |
| | CC82010A.86A.0012.P06 [‡] | 1 |
| | CC82010A.86A.0013.P07 [‡] | 1 |
| | CC82010A.86A.0014.P08 | 1 |
| 744832-406 | CC82010A.86A.0006.P04 | 1 |
| | CC82010A.86A.0011.P05 | 1 |
| | CC82010A.86A.0012.P06 | 1 |
| | CC82010A.86A.0013.P07 | 1 |
| | CC82010A.86A.0014.P08 | 1 |
| 744832-407 | CC82010A.86A.0006.P04 | 1 |
| | CC82010A.86A.0011.P05 | 1 |
| | CC82010A.86A.0012.P06 | 1 |
| | CC82010A.86A.0013.P07 | 1 |
| | CC82010A.86A.0014.P08 | 1 |

| PBA Revision | BIOS Revision | Errata That Apply |
|--------------|------------------------------------|-------------------|
| 744832-601 | CC82010A.86A.0006.P04 [‡] | 1 |
| | CC82010A.86A.0011.P05 [‡] | 1 |
| | CC82010A.86A.0012.P06 | 1 |
| | CC82010A.86A.0013.P07 | 1 |
| | CC82010A.86A.0014.P08 | 1 |
| 744832-602 | CC82010A.86A.0006.P04 [‡] | 1 |
| | CC82010A.86A.0011.P05 [‡] | 1 |
| | CC82010A.86A.0012.P06 [‡] | 1 |
| | CC82010A.86A.0013.P07 [‡] | 1 |
| | CC82010A.86A.0014.P08 | 1 |
| A01171-401 | CC82010A.86A.0006.P04 | 1 |
| | CC82010A.86A.0011.P05 | 1 |
| | CC82010A.86A.0012.P06 | 1 |
| | CC82010A.86A.0013.P07 | 1 |
| | CC82010A.86A.0014.P08 | 1 |
| A01171-402 | CC82010A.86A.0006.P04 | 1 |
| | CC82010A.86A.0011.P05 | 1 |
| | CC82010A.86A.0012.P06 | 1 |
| | CC82010A.86A.0013.P07 | 1 |
| | CC82010A.86A.0014.P08 | 1 |
| A01171-601 | CC82010A.86A.0006.P04 [‡] | 1 |
| | CC82010A.86A.0011.P05 [‡] | 1 |
| | CC82010A.86A.0012.P06 [‡] | 1 |
| | CC82010A.86A.0013.P07 | 1 |
| | CC82010A.86A.0014.P08 | 1 |
| A01171-602 | CC82010A.86A.0006.P04 [‡] | 1 |
| | CC82010A.86A.0011.P05 [‡] | 1 |
| | CC82010A.86A.0012.P06 [‡] | 1 |
| | CC82010A.86A.0013.P07 [‡] | 1 |
| | CC82010A.86A.0014.P08 | 1 |

[‡] Note: This combination of BIOS revision and PBA revision has not undergone regression testing. Use of a PBA with down-revision BIOS is an untested combination and is undertaken at the user's risk.

SPECIFICATION CHANGES

The Specification Changes listed in this section apply to the *CC820 Motherboard Technical Product Specification* (Order Number 748475). All Specification Changes will be incorporated into a future version of that specification.

1. Diagnostic LED Display Changes

In Section 5.6, Enhanced Diagnostics, Table 81 will be updated to reflect the following changes of the diagnostic LED's.

Table 81. Diagnostic LED Codes

| Display | | BIOS Operation | Display | | BIOS Operation |
|---------|----------------------------------|---------------------------------|---------|----------------------------------|--------------------------|
| | Amber Amber Amber Amber | Power on, starting BIOS | | Amber Amber Amber Green | Undefined |
| | Green Amber Amber Amber | Recovery mode | | Green Amber Amber Green | Undefined |
| | Amber Green Amber Amber | Processor, cache, etc. | | Amber Green Amber Green | Undefined |
| | Green Green Amber Amber | Memory, auto-size, shadow, etc. | | Green Green Amber Green | Undefined |
| | Amber Amber Green Amber | PCI bus initialization | | Amber Amber Green Green | Undefined |
| | Green Amber Green Amber | Video | | Green Amber Green Green | Undefined |
| | Amber Green Green Amber | IDE bus initialization | | Amber Green Green Green | Reserved |
| | Green Green Green Amber | USB initialization | | Green Green Green Green | Booting operating system |

2. Add Control Jumper Block

Section 2.9.1, figure 16 and Table 47 will be added to the CC820 Technical Product Specification. All subsequent table numbers and figure numbers will be updated.

2.9.1 S5 Control Jumper Block

The addition of jumper block J6B1 provides additional user control over system wake events. When the jumper is in its default location (shorting pins 1-2) the system will resume from S5 when a PME or WOL event is asserted. If the jumper is placed on pins 2-3 the system will no longer resume from S5 when PME or WOL events are asserted. This jumper does not in any way impact S3 resume events. *Please note that in order for the system to resume from S5 the operating system and drivers must also be configured to enable these wake events.*



CAUTION

Do not move any jumper with the power on. Always turn off the power and unplug the power cord from the computer before changing a jumper setting. Otherwise, damage to the CC820 board could occur.

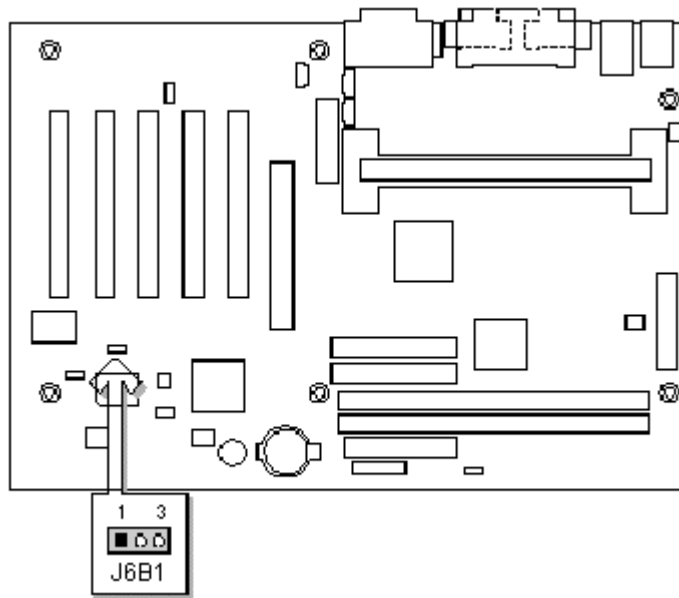
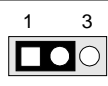
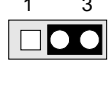


Figure 16. Location of the Jumper Block

Table 47. S5 Control Jumper Settings (J6B1)

| Function/Mode | Jumper Setting | | Configuration |
|-------------------------|----------------|---|--|
| Enable S5 wake events. | 1-2 | <div style="display: flex; justify-content: space-around; align-items: center;"> 1 3 </div>  <p><i>(Default)</i></p> | System will resume from the S5 power state when a PME or WOL wake event is asserted. |
| Disable S5 wake events. | 2-3 | <div style="display: flex; justify-content: space-around; align-items: center;"> 1 3 </div>  | System will NOT resume from the S5 power state when a PME or WOL wake event is asserted. |

ERRATA

1. *BIOS Does Not Support Wake On Ring Functionality With an Add-In Audio Modem Riser Modem Card With Advanced Power Management Events Enabled in The System BIOS*

PROBLEM: Some AMR modem cards may not wake on ring from a power off state when the system BIOS has wake events enabled.

IMPLICATION: It will not be possible to utilize the Wake On Ring function with an AMR modem card.

WORKAROUND: None.

STATUS: This erratum will be fixed in a future BIOS revision.