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DATE:　　　September 21, 2000

TO:　　　OPSD Business Unit

CC:　　　iPG / OPSD BIOS Engineering

FROM:　　　iPG / OPSD BIOS Engineering

SUBJECT:　　EA81510A.86A Standard D815EEA BIOS Production 07

About This Release

- EA81510A.86A.0031.P07. 0009211842
- 815 Video BIOS 5.1 Production Candidate 2.0 2231
- ICH2 PXE Ver. 81

Features/Errata Fixed in This Release

P07-0031

- Fixed game port for boards with hard audio, this was not an issue for soft audio boards.
- Enhanced CD-ROM boot emulation detection.
- Reset SIO keyboard controller early in POST to prevent hangs of D1, 0C, and 15 POST Codes.
- Fixed data issue that would cause "ABstract CMOS" (ABSCMOS) Editor to return corrupted strings.
- Added second COM port to SMBIOS structure. This resolves a LDCM issue.
- Changed the display of IDE devices in setup. Formerly under the IDE screen menu for each drive, informative text was always shown. Now it disappears when a drive is not present, or is selected as type None. This was accomplished by converting the static text items to dynamic text items.

P06-0028

- Removed AUTO as an option for the "Use ARMD drive as" question.
- Allow more audio options when board with PCI audio stuffing is detected. Previously only one onboard audio device was supported. If onboard PCI audio was detected, AC'97 audio was automatically disabled. This prevented CNR audio from ever working on a board with PCI audio stuffed. Now allow the user to enter Setup and select whichever audio device they want to use.
- Updated the Italian setup strings and some help messages.
- Fixed up the drive table late in POST so operating systems can find everything.
- Fixed code to check the Validate command when calling a SMBIOS function 54 subfunction 4006.
- Fixed issue where the AC'97 PCI SSID and SSVID were incorrectly programmed (their locations were swapped).
- Added support for third party Firmware Hub (FWHx).
- Changed AML code to consistent Byte wide access for PS2E.
- Remove code that checks for PnP OS for COMA serial port setup.
- Fixed memory programming issue for some PC 133 DIMMs. The previous method of determining DCT (Tras and Trc) was based on

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DIMM SPD Data. However, there is ambiguity in the spec in interpreting the SPD Data such that some PC 133 DIMM that are supposed to run Tras=5, Trc=7 will fail randomly. This fix will always programmed PC 133 Memory to Tras=7, Trc=9.

- Fixed an issue of bios not being able to recover from CD-ROM with floppy drive attached to the system.
- Changed code so that removable media size will be returned to the operating system even when no media is present. This allows ATAPI ZIP* drives to return 100MB when no media is present, so these drives can be formatted once the operation system has booted.
- Fixed the issue of BIOS not meeting SMBIOS 2.3.1 spec
- Removed DMA 0 from the list of possible DMA's for the ECP LPT port (ACPI).
- Fixed the issue where the 766Mhz Celeron® processor speed was being displayed as 800Mhz.
- Improved AGP card speed display in setup.
- Fixed the issue of Bios displaying "Memory size decrease", when it should have displayed "Cmos battery low" and date & time error when Cmos battery is corrupted.
- Fixed issue In suspend handler, added code to set PWRBTN_EN so power button will function as expected.
- Added additional processor support.
- Changed the default in BIOS Boot menu for On_Lan to the stay_off option. This resolves the issue where the CMOS mfg defaults do not match the DFT spec.
- Added version 1.1 of EBU to the BIOS Build.
- Changed the Timer 0 from mode 2 (rate generator) to mode 3 (square wave generator). This is the default AT setting defined by IBM.
- Disallow AGP 4X if card is operating at 3.3 Volts

P05-0026

- Fixed an issue where the system would hang if the system has more than 128KB of total option ROM space required.
- VBIOS 5.1 Production Candidate 2.0 2231
- Fix ACPI S3 state that caused certain operating systems shutdown problems.

P04-0014

- Added support for the Express BIOS Update (EBU) application.
- Added support for the New Flash Product (ICH2NS) for the Non-Secure BIOS update.
- Added a BIOS work-around, where the read/write transactions were not considering the A16 inversion, when DTE bit is set in the ICH2.
- Added code to lock SDRAM Read/Write Throttle Control Register.
- Fixed issue that caused USB Legacy mode not to work in DOS.
- Moved location of PnP OS switch in BIOS.
- Limit the amount of Memory Loads to 4 for PC133. For 5 or 6 rows, it will always run at PC 100.
- Fixed an issue where some 66 MHz processors were not configured correctly.
- Added code to restore all segment register after returning from an option ROM execution.
- Added code to look at the number of floppies and hard drives in the BIOS Data Area (BDA) before and after an option ROM execution to determine if a drive was added.
- Changed method of accessing data through SMBUS. The TCO Timer will now be halted so it will not interrupt the SMBUS transaction.
- Altered Flash update monitoring to make it more robust.

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- Added fix that will temporarily allow the BIOS to clear RTC, PME, and WOL Status early in POST to prevent a hang while the system is trying to reset.
- Added a flag for ICH2 specific code.
- Add new Video BIOS Production 05 Build 2197
- Fixed reset issue in Windows 2000 where a hard reset was not working as expected.
- Implemented check/fail-safe for Audio Device initialization.
- Added new Processor BIOS Update.
- Added code that allows USB Legacy Support and the second USB controller to work reasonably at boot.
- Add flag for USB ICH2 INF inclusion.

P03-0007

- Changed the Buffer Strength values for PC100 memory. This change is to address Soft DVD Issues.
- Implemented changes to remove unused code that was not being used to implement access level control for user's " VIEW ONLY" access within the Setup utility.
- Updated Buffer Strength and Control Register values for PC133 memory configurations.
- Some bits that were residing in the same CMOS byte as the " Memory Configuration" bits were not included in the checksum. This byte is now included in the CMOS checksum, which allows loading these bits with the CMOS default values. NOTE: this will cause a CMOS checksum error in the first re-boot after flashing in this BIOS revision on a board with a previous BIOS revision.
- Fixed issue where certain AGP Video add-in cards were displayed as " Integrated AGP" if these cards did not report that they supported 1X, 2X, or 4X speeds. These cards will now be displayed as " AGP Speed Unknown" .
- DMA Mode drives now displayed correctly in the IDE Configuration Menu.