



OPSP BIOS ENGINEERING

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FROM: Intel Customer Support

SUBJECT: VC82010A.86A Standard BIOS, Production Release 17, Build 0040

About This Release

- VC82010A.86A.0040.P17.0103281616
- PXE v. 2.0 (build 74)

Features/Errata Fixed in This Release

P17-0040

- Added core support for later generation processors.
- Fixed an issue with ECCTEST incorrectly logging ECC errors in the event log.
- Corrected an issue with a graphically corrupted setup display.
- Fixed an issue with PCI Bridges.
- Updated to EBU version 1.11
- Addresses Pentium* III processor E76 Erratum

B-0038

- Fixed the issue of ACFGXREF test that displaying "High 32-bits of address ignore.
- Fixed the issue of "LED doesn't function correctly while in suspend".
- Fixed the issue of "32 clock retry enable bit set incorrectly".
- Fixed "Strings are not translated" and "Strings and field chopped off"
- Fixed issue where system would wake when AC was applied to a board which had a 3Com* 3C905CX-TXM card installed.
- Added support in DMI Structure Type 16, and Type 17 for 256/288 MBit RIMM technology.
- Updated algorithm for dynamic generation of BIOS Copyright date at build time.

B-0037

- Fixed the issue of DMI test that displays "Installed memory size is greater than maximum supported memory size."
- Fixed the issue of LDCM test that reporting "Unknown" for COM2.

P16-0036

- Audio now functions properly after waking from S3.
- Intel Express BIOS Update from version 1.1 included. EBU 1.1 supports update of the BIOS Boot Block and the VPD.
- Fixed issue where CMOS Battery Low Failure shows up after resetting the system in the middle of POST.
- Enhanced audio Setup option. When both onboard PCI and AC'97 audio devices are detected, the selections will change to "Disabled"/"Onboard PCI"/"AC'97".
- Update that allows tape drives and other ATAPI devices to be detected in Windows 98.
- Changed Manufacturing Default for Floppy B to "Not Installed".
- Fixed issue where the system would hang if the system has more than 128KB of total option ROM space needed.
- Enable COMA port control when PnP OS is selected.
- Fixed the issue of bios not being able to recover from CD-ROM with floppy drive attached to the system.

- Made ATAPI Zip 100MB format size available in Windows 98
- Removed DMA 0 from the list of possible DMA's for the ECP LPT port (ACPI).
- Fix to setup to enable dynamically shaded fields.
- Added new AC'97 initialization code. This should be used on ICH & ICH2 products that do not support CNR or AMR slots.
- Fixed APM BIOS INT15 interface issue. Disabling power management through INT 15 did not work.
- Fixed the issue of 766Mhz Celeron CPU speed being displayed as 800Mhz.
- Fixed issue where some AGP Video Cards Speed are not detected correctly and displays as AGP Speed Unknown in Video Configuration Menu in Setup.
- Fixed the issue of Bios not displaying date and time error when CMOS battery is corrupted.
- Changed 'Processor' to 'processor' in Processor Name (POST).
- Fixed S3 suspend hangs the system. (Windows 98 SE ACPI).
- Changed the setup default setting for unused boot devices.
- Fixed DFT 3.1.8 (Mfg defaults) failure. The default option for the Q_On_Lan was the power_on option. It's now set to the stay_off option.
- Fixed Ultra DMA timing error for ATA-100 devices in ICH platforms.
- Added a build option to remove delays for Quickturn.
- Enhanced BIOS build to allow SIO Setup questions to be dynamically hidden.
- Checked in the translation for some un-translated strings. And updated string translations.
- Informational text on the IDE configuration sub-menu setup screens will now disappear when not appropriate. For instance, the "Configuration Options Selected By BIOS" string will now disappear when the drive is not found.

P15-0035

- Made the PCI IRQ routing table information match the ACPI described routing information.
- Corrected Power LED operation for various system states.
- Updated various string translations.
- Added support for RIMM* Overdrive Factor (ODF) (SPD 1.1).
- Changed the way 1 GHz and faster CPUs are shown in POST and SETUP. (For AA-744046 and AA-A23986 desktop boards only.)
- Fixed random register corruption when logging single-bit ECC errors.
- Fixed a hang (POST CODE DD) when power is first applied to system.
- Removed Video Power Down question.
- Added AGP speed informative node.
- Corrected Secondary Slave IDE Type question.
- Refined the password checksum implementation.

P12-0032

- Added support for the Intel (R) Express BIOS Update (EBU) Application to build IntelExpressBIOSUpdate.exe (OS Present Flash Update Utility).
- Added core support for later generation processors.
- Added support for C0 stepping (CPUID 686) processors.
- Enhanced IDE configuration section in BIOS setup menu.
- Language Type Information structure is conformed to the SMBIOS specification.
- Fixed memory allocation error with Adaptec 3940 card.
- Added DEL and F10 keys as methods to enter BIOS setup.
- Stuck key detection improved to omit a rapid key stroke as a stuck key.
- Updated SMBIOS Event Log Address for products with Boot Block Fault-Tolerance support.
- Refined the password checksum implementation.
- Added new strings translation. Shorten some strings to make them fit the setup screen.
- Shortened length of Video Power Down Help string in Setup.
- Enhanced BIOS build to allow SIO Setup questions to be dynamically hidden.
- Fixed issue where there is an error if executing the ABSCMOS read after write in CMOS.
- Add new Setup string for Rapid BIOS Boot.
- Fixed issue when executing iflash /f, the Floppy Controller would get lost in the first reboot.

- Fixed issue where user cannot see submenus in view only mode.
- Fixed issues where certain AGP Video Cards were displayed as Integrated AGP.
- Fixed issues where the DMA Mode of drives are not displayed correctly in the IDE Configuration Menu
- Fixed SBF operation to minimize impact
- Improved CPU context restore after option ROM execution.
- Improved boot floppy and hard disk detection.
- Modified the GPIO programming to be done earlier in POST.
- Fixed issue where Windows* will not work correctly going to Sleep State when switching from S3 to S1 in BIOS Setup.
- Removed AUTO as an option for the "Use ARMD drive as" question.
- Brought VC82010A.86A BIOS up to the latest CORE code.

P11-0031

- **Boot block needs to be updated for this release.**
- Changed the one shot reset workaround to always reset rather than only after identifying an error.
- Added workaround for RAMBUS initialization issue to S3 wake up.
- Banner change to P11-0031.
- CMOS map changed in this release.
- Added workaround for RAMBUS levelization issue.

P10-0028

Boot block needs to be updated for this release.

- Fixed issue where board serial number did not show up in SMBIOS structures.
- Fixed issue where 850MHz Pentium® III processors were reported as 866MHz.
- Brought VC82010A.86A BIOS to latest core code.
- Standardized SIO function names.
- Using newer flash libraries (functionality should be the same).
- Fixed security driver for FWH.
- Removed unnecessary delays associated with an ATA master on primary channel and an ATAPI master on the secondary channel.
- Fixed int15 load BIOS Default path.
- Fixed the issue of invalid custom defaults being loaded in BIOS Setup even though no custom defaults have been saved previously.
- Updated Date and Time stamps.
- Added ability to do source level debugging
- Add Fast Table-Driven POST.
- Added support for higher frequency processors.
- Fixed the issue where invalid CMOS/GPNV error occurred after disabled LPT port from Windows* 95/98 APM mode system device manager.
- Added support for Simple Boot Flag specification version 1.0.
- Implement fix for issue with the Load Custom Default option.
- Fix for Fast Table-Driven POST - POST Timer.
- Added support for USB legacy for dual USB controllers.
- Implement Passwords Checksum fix to prevent phantom password issue.
- Implemented PARTIES support.
- Fixed issue where a floppy seek was occurring when Quick Boot was enabled in BIOS SETUP.
- Fixed issue where the SMBUS base address was not listed in an IO device node.
- Fixes SMDXREF issue where the number of type 17s do not match the total shown in Type 16.
- Resolved CMOS checksum issue with Intel specific INT15 which forces custom defaults to CMOS.
- Enhanced Quiet boot support to add custom BIOS functionality.
- Add POST Timer support.
- Fixed issues with mouse detection and high-frequency processors.
- Fixed issue where BIOS incorrectly detects an option ROM on 3COM EtherLink* XL PCI cards that do not have an option ROM.

- Fixed DMITEST Failures where the SMBIOS Handle is incorrect for the Memory Structures.
- Fixed "Memory Error" with Adaptec* 3940 card.
- Added "Replaceable Module" support.
- Added support for additional processor steppings.

P09-0026

- This BIOS version was not released
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P08-0022

- Resolved WHQL ACPI HCT issue regarding the SBTN lowest wakeable state.

P07-0020

- Added support for new, higher-frequency Intel® Pentium® III Processors.

P06-0019

- This version not released

P05-0018

- Added fix for WHQL Unreported I/O failure (9.5 HCT).
- Enabled Windows* 2000 system wake from the S4/Hibernate state via RTC alarm function.
- Added S4 OS sleep state support in the BIOS.
- Updated ACPI Creator Revision to 1.011.
- Added workaround for ICHx frozen RTC issue.
- Fixed issue where COM2 wasn't functional after S3.
- Optimized event log initialization and updates for faster POST execution. This reduces boot time.
- Fixed issue where Processor Serial Number comes up ENABLED in the SETUP when the board is booted for the very first time.
- Fixed issue where an incorrect Diagnostic LED display was occurring at boot-time.
- Added support for full duplex mode for the Serial Port B. Added Setup question for Half-Duplex/Full-Duplex.
- Fixed programming of PCI Subsystem Vendor & Device IDs for CS4281 audio.
- Modified the translation for "PCI SlotX IRQ priority" to fit the screen
- Corrected "Press F1 toRun SETUP" to "Press F1 to Run SETUP" error message following a CMOS checksum error.
- Updated processor support.
- Fixed Setup options which could not be changed with ABSCMOS.
- Disabled I2O boot device initialization.
- Fixed issues with Option ROMs not getting keypresses.
- Improve setup message handling.
- Fix stuck key handling to allow Setup entry key to be held down without generating keyboard error.
- Added support for multiple languages, including Double Byte Character Set(Kanji).
- Fixed Type 17 SMBIOS failure.
- Fixed hang when booting the Windows 98 CD on a SCSI CDROM, and selecting boot to hard drive when the hard drive is an IDE-HDD.
- Fixed hang when an Intel EtherExpress Pro 100 cards with Novell* BootWare is installed the system.
- Fixed ATAPI Zip* Drive not booting as HDD.
- Fixed issue that caused the LAN Setup option in Boot Order to show up blue instead of gray when the
- User enters Setup in Limited Mode.
- Fixed Wake On LAN* issue with certain network adapter.
- Added new speeds to the Maintenance mode "Processor Speed" pick list.
- Fixed issue that prevented the system from going into S3 when serial port loopbacks were installed.
- Changed the Setup default for the Video Memory Cache Mode option from "Write Combining" to

"Uncached".

P04-0016

- Added fix for potential hot start issue during manufacturing.
- Updated support for Intel® Pentium® III Processors.
- Updated copyright string for year 2000.

P03-0014

- Initial production release.