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OPSD BIOS ENGINEERING
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DATE: September 10, 1998

FROM: Intel Customer Support-Support Engineering

SUBJECT: 4A3NT0X0.86A Standard BIOS Production Build 0095, BIOS Production Release 10.0

About This Release

P10-0095
- Corrected Language files.
- Upgrades Year 2000 code.
- Adds sleep button functionality.
- Fixed Proper CPUID for MMX processor.

P09-0088
- Restores on AC loss feature to full functionality. BIOS setup enables this feature according to hardware stuffing.
- Fixes issues of not being able to detect more than 64 Meg memory.
- Allows flashing and displaying user logo files.
- Fixes shut down resume timer issue.

P08-0086
- Fixed an issue were Windows* 95 OSR2.1 would not boot with an USB device attached.
- Set USB legacy set to disabled.
- Fixes Windows* 95 resume on suspend issue.
- Restore on AC-Loss functional for both hardware and NVRAM methods.
- User can no longer set system defaults when there is a supervisor password.
- Restore on AC-Loss now fully functional when set to stay off.
- Unattended start works with non MMX processors.
- Corrected Intel portion of the Copyright message.
- BIOS now recognizes 64 Mbit memory.
- Setup default value changes: Power management enabled, after power failure - power on, and on modem ring - power on.
- BIOS now comes with two flashable language files. The default English-French-German (usfrgr.lng) and English-Italiano-Espanol (usitsp.lng).
- The Parallel port setup fields have been fixed. In automatic mode the user can select the default mode. When the parallel port is in the enabled mode the DMA options are available for ECP.
- Unattended start has been repaired.

P07-0082
- Fixes user access to IDE fields issue. User cannot change the fields.
- The 'Bootable ISA card' string in the Setup Boot Menu is changed to 'Bootable ADD-IN card'.

P07-0081
- Fixes password security issue that allowed system to boot without password authentication even with user and/or supervisor passwords were set.
- Fixes a USB failure caused by the POST Code 9Ch hang fix.
- Sets the default languages to US, FR and GE
- Fixes memory size reduction alarm and its DMI event log entry.

other brands and names are the property of their respective owners

- Fixes stuck keyboard alarm and its DMI event log entry.
- Fixes an intermittent POST Code 9Ch hang, waiting for the EOS (End of SMI) bit.
- Fixes APM test resume timer issues.
- IRQ12 is now available when no PS/2 mouse is present.
- Adds the sleep button functionality.
- Changes PIIX4 setup register 6Ah to value 80h (enables Host-to-PCI bridge retry enable).
- Fixes some Real Time Clock issues.
- Added SYSID features for desktop manager (1392 and UUID).
- Added security feature that allows the user password to be cleared by the supervisor.
- Added some corrections to the Chipset initialization values.
- Fixed the incorrectly sized boot block.
- Fixes DMI TEST 0x1000 hang.
- Fixed an APM issue that caused a soft off shortly after the power was applied.
- Fixed issues with the LS-120* and ZIP* drives.
- Added detection for add in ISA OPL3 sound cards and disables on board device to prevent EPROM corruption.
- Added hard disk Pre-Delay as setup option
- BIOS code emits beeps when no video device is detected.
- Memory decrease will now generate DMI events.
- Fixed USB issues associated with port swapping, and hubs.

P06-0062
- Fixed issue that caused Windows 95* OSR2 to reassigned the LS-120 drive designators on exit from the command line shell.
- Fixed setup question for IDE heads not showing up
- Fixed an issue where information for FDD and COM ports not showing up in ESCD if Mouse was not plugged into system.
- Added enhanced language translations.
- Fixed APM test hang for Resume on Ring and APM 1.2 SCT failure.
- Fix for reserving shadowed UMB causing Windows 95* resource allocation issues. This was related to a TV card and the Intel EPro100B Ethernet card.
- Fixed an issue where some DOS programs (virus detection scan program) can hang system.

P05-0057
- Incorporated USB fixes for simultaneous use with PS/2 devices.
- Incorporated USB improvements for hot swapping.
- 8G drives are now supported.
- USB legacy support default changed to DISABLED. Now USB legacy keyboard support is always enabled during POST to access setup. After POST is completed, USB legacy support will follow setup configuration.
- German and French languages support added.
- Improved USB hub support.
- Disabled LBA support for all IDE removable drives.
- Fixed issue of some 64Mbyte SDRAM DIMMs not being detected reliably in bank 0.
- DMI now correctly reports SDRAM DIMMs as Type "Other" instead of Type "Fast Page"
- Added time margin adjustment to allow restricted CAS Latency 2 SDRAM DIMMs to work correctly.
- Fixed issue of some 8X CD-ROM drives not being detected if they are alone on the Secondary IDE channel.
- Fixed BIOS to work correctly if suspended in 1999 and resumed in 2000 with the timer.
- Fixed issue of removable IDE disk drive interacting with EMM386 while booting.
- USB legacy support added.
- DMI string fixes for L1 cache
- DMI string fixes for memory types
- Added support for Symbolic CMOS tools.
- Added fix for PIIX4 Bus Mastering for Windows NT*.
- Boot Block recovery retry capability added

P03-0047
- Incorporated fix that will more reliably reset the Yamaha Wave Table component.
- Fixed Unreported IO (Windows 95*) System Configuration Test (SCT) failure.
- ENABLED 32 Bit IO for IDE channels in setup by default. Removed setup screen option to enable or disable 32 Bit IO for IDE devices.
- Fixed issue of some character strings being lost for specific DMI information
- Fix for IDE INT13 (Windows 95*) System Configuration Test (SCT) failure.
- Added new full featured video bios and support code to detect video controller hardware.
- In the Power menu, added support code to detect last known AC state and added support for the Resume on Ring function.
- Fixed IRDA mode for com ports in Windows 95* when set to AUTO in setup
- Fixed event logging issue..
- Added a fix to improve Fault Tolerance.