



BIOS Update Release Notes

**PRODUCTS: D945GNT, D945GCZ, D945GTP, D945GPM, D945GBO
(Standard BIOS)**

BIOS Version 3309

About This Release:

- January 09, 2005
- NT94510J.86A.3309.2006.0109.1312
- VBIOS info: Build Number: 1256
- SATA RAID info: Intel(R) RAID for SATA - v5.1.2.1002
- Intel® AMT info:
 - Intel® AMT Firmware: v1.3.10
 - AMTBX Firmware: v1.2.3
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

Note: For boards that support Intel® AMT must first flash to BIOS build 1788 and then flash from 1788 to newer BIOS otherwise the flash will fail.

New Fixes/Features:

- Added workaround for issue where IDER CD-ROM device was intermittently not being detected due to a bug in IDER handling of IDE software resets.
- Fixed issue where Default Modules were not getting loaded upon lflash "/md" switch.
- Added Onboard LAN Mac Address display in Bios Setup under Additional System Information menu.
- Added New Intel Splash screen Logo.
- Fixed issue where default value for Serial Port was not getting loaded after Flash update.
- Fixed "NULL" string in F10 boot menu.
- Fixed an issue where the system hangs while resuming from S3, when certain processors are present. This fix also addresses Core speed difference failure.
- Removed C1E option from setup.
- Fixed issue where serial ports would stop functioning after call to INT14 Function 04 (Extended COM Port Initialize).
- Fixed issue where lflash, reboot method (/rb), would fail to update the BIOS ID.
- Changed ASF Table to signify that ASF PXE boot is supported when ASF is supported.
- Fixed a problem where the BIOS update would report an error trying to flash update the microcode.
- Fixed Intel® Viiv OSB logo was not displayed correctly according to the SATA IDE mode.

BIOS Version 3239

About This Release:

- December 05, 2005
- NT94510J.86A.3239.2005.1205.1900
- VBIOS info: Build Number: 1256
- SATA RAID info: Intel(R) RAID for SATA - v5.1.2.1002
- Intel® AMT info:

*Other names and brands may be claimed as the property of others.

- Intel® AMT Firmware: v1.3.10
- AMTBX Firmware: v1.2.3
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

Note: For boards that support Intel® AMT must first flash to BIOS build 1788 and then flash from 1788 to newer BIOS otherwise the flash will fail.

New Fixes/Features:

- Added HPET support.
- Adding Serial Port enable/disable setup question in Standard BIOS.
- Modified feature to enable USB bootable devices to boot the system first.
- Fix for issue with Intel(R) Integrator Toolkit.
- Fixed Setup Browser would not refresh with F9 default Language.
- Fixed illegal pop-up message box display in setup.
- Modified USB Ports Enable/Disable Setup Option.

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| BIOS Version 3231 |
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About This Release:

- November 28, 2005
- NT94510J.86A.3231.2005.1128.1408
- VBIOS info: Build Number: 1256
- SATA RAID info: Intel(R) RAID for SATA - v5.1.2.1002
- Intel® AMT info:
 - Intel® AMT Firmware: v1.3.10
 - AMTBX Firmware: v1.2.3
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

Note: For boards that support Intel® AMT must first flash to BIOS build 1788 and then flash from 1788 to newer BIOS otherwise the flash will fail.

New Fixes/Features:

- Modified Audio SSID for.
- Fixed security issue with Intel® AMT.
- Added feature to display BIOS Setup string "Intel(R) Integrator Toolkit has modified this BIOS." when appropriate.
- Fixed the problem where operating system could not get Wake up cause after resuming S4.
- Added feature to enable USB bootable devices to boot the system first.
- Allowed PCI and PCIe devices to wake from S4 when 'ACPI Suspend State' set to S1.

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| BIOS Version 3191 |
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About This Release:

- November 12, 2005
- NT94510J.86A.3191.2005.1112.1343
- VBIOS info: Build Number: 1239
- SATA RAID info: Intel(R) RAID for SATA - v5.1.2.1002
- Intel® AMT info:
 - Intel® AMT Firmware: v1.1.40
 - AMTBX Firmware: v1.2.3
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

Note: For boards that support Intel® AMT must first flash to BIOS build 1788 and then flash from 1788 to newer BIOS otherwise the flash will fail.

New Fixes/Features:

- Modified support to dynamically set SATA default based on board sku.

BIOS Version 3165

About This Release:

- November 03, 2005
- NT94510J.86A.3165.2005.1103.1449
- VBIOS info: Build Number: 1239
- SATA RAID info: Intel(R) RAID for SATA - v5.1.2.1002
- AMT info:
 - AMT Firmware: v1.1.40
 - AMTBX Firmware: v1.2.1
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

Note: For boards that support Intel® AMT must first flash to BIOS build 1788 and then flash from 1788 to newer BIOS otherwise the flash will fail.

New Fixes/Features:

- Added feature to display BIOS Setup string "Intel(R) Integrator Toolkit has modified this BIOS." when appropriate.
- Added support for multiple EHCI controllers with USB Legacy.
- Modified support to dynamically set SATA default based on board sku.
- Modified BIOS password character length to 2 through 19.
- Added VT Enabled/Disable setup option.
- Fixed CPU microcode did not get updated for dual core CPU.

BIOS Version 3127

About This Release:

- October 26 2005
- NT94510J.86A.3127.2005.1026.2153
- VBIOS info: Build Number: 1239
- SATA RAID info: Intel(R) RAID for SATA - v5.1.2.1002
- AMT info:
 - AMT Firmware: v1.1.36
 - AMTBX Firmware: v1.2.1
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

Note: For boards that support Intel® AMT must first flash to BIOS build 1788 and then flash from 1788 to newer BIOS otherwise the flash will fail.

New Fixes/Features:

- Fixed issue where certain drives hang during certain DOS IDE reads or writes.
- Added SLP area at F000:E130 for 16 bytes.
- Fixed issue where AMT Virtual LS-120 was not bootable if other boot devices are present in the system.
- Added remote PXE boot capability to Intel® AMT.
- Fixed system reset during S3 resume on TPM skus.
- Added USB Ports Enable/Disable Setup Option.

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BIOS Version 3021

About This Release:

- October 14, 2005
- NT94510J.86A.3021.2005.1014.1930
- VBIOS info: Build Number: 1239
- SATA RAID info: Intel(R) RAID for SATA - v5.1.1.1002
- AMT info:
 - AMT Firmware: v1.1.36
 - AMTBX Firmware: v1.2.1
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

Note: For boards that support Intel® AMT you must first flash to BIOS build 1788 and then flash from 1788 to newer BIOS otherwise the flash will fail.

New Fixes/Features:

- Added additional support to dynamically set SATA default based on board sku in appropriate boot mode.
- Added Intel® Viiv™ badge and support.
- Fixed issue where certain SCSI cards would not function properly.
- Updated the Board Id table.
- Removed French language support.

BIOS Version 2706

About This Release:

- September 29, 2005
- NT94510J.86A.2706.2005.0929.1417
- VBIOS info: Build Number: 1239
- SATA RAID info: Intel(R) RAID for SATA - v5.1.1.1002
- AMT info:
 - AMT Firmware: v1.1.36
 - AMTBX Firmware: v1.2.1
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

Note: For boards that support Intel® AMT you must first flash to BIOS build 1788 and then flash from 1788 to newer BIOS otherwise the flash will fail.

New Fixes/Features:

- Fixed a problem where the PCI slot 2 would not work if the system was in manufacturing mode.
- Fixed issue where AMT client would timeout when both IDER and SOL were active when accessing a Floppy-emulated EI-Torito CD image.
- Fix a logic error for the AMT extend scan key delay algorithm that seen in previous implementation.
- Added support to dynamically set SATA default based on board sku.
- Hide ASF Support setup question on AMT supported skus.
- Fixed BIOS Version update failure during lflash update.
- Added Auxiliary Fan Speed display in Hardware Monitoring page of Setup.
- Allow BIOS to unprovision AMT without password.
- Hide ASF Support setup question on AMT supported skus.
- Fixed issue where system could not boot Windows* XP installation CD from a certain SATA CD-ROM.
- Fixed issue where certain USB thumb drives are not seen in BIOS SETUP.

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- Added feature to fill in Socket Designation field within SMBIOS Type 4 structure.
- Fixed PXE intermittent fail to download Remote Boot Image (NBP).
- Modified SATA support for D945GTP sku.
- Added ability to flash update the Intel® AMT code.
- Fixed issue where terminal Escape key was sometimes not recognized using AMT Serial-over-LAN (SOL).
- Allow BIOS to unprovision AMT without password.
- Update Quick Resume Technology to Bios spec. rev0.95.
- Fixed low throughput on PCI bus.
- Fixed issue where Windows installation or boot hung with SCRU42X RAID card.
- Fixed error when installing Windows* XP over IDER.
- Added S3 support for TPM.
- Fixed ITK workspace issue and WinPE flash (with ITK .BIO) issue.
- Fixed flash issue with BMP logo where badges would disappear.

BIOS Version 2487

About This Release:

- September 6, 2005
- NT94510J.86A.2487.2005.0906.1451
- VBIOS Build Number: 1239
- SATA RAID info: Intel(R) RAID for SATA - v5.1.1.1002
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

Note: For boards that support Intel® AMT you must first flash to BIOS build 1788 and then flash from 1788 to newer BIOS otherwise the flash will fail.

New Fixes/Features:

- Added support for universal 16-bit TPM 1.2 driver binary.
- Updated Video BIOS to Build 1239.
- Fixed SMBIOS Type 16 Memory Error Correction reporting.
- Fixed Discard Changes pop-up message box display in setup.
- Fixed User Access Level question scope in Full Access mode.
- Fixed a problem where F2 enter setup key only worked after Option ROM scan.
- Improved ATAPI CD read performance for AMT IDER CD device read access.
- Added COM2 support for OEMD945GTPT1 and added LAD945GTPL2 board Id.

BIOS Version 2104

About This Release:

- August 25 2005
- NT94510J.86A.2104.2005.0825.1650
- VBIOS Build Number: 1235
- SATA RAID info: Intel(R) RAID for SATA - v5.1.1.1002
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

Note: For boards that support Intel® AMT you must first flash to BIOS build 1788 and then flash from 1788 to newer BIOS otherwise the flash will fail.

New Fixes/Features:

- Fixed flash update issue found when using no reboot method.
- Forced IGD as Primary Video in Manufacturing Mode on supported boards.

BIOS Version 2027

About This Release:

- August 18 2005
- NT94510J.86A.2027.2005.0818.1036
- VBIOS Build Number: 1235
- SATA RAID info: Intel(R) RAID for SATA - v5.1.1.1002
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

For boards that support Intel® AMT you must first flash to BIOS build 1788 and then flash from 1788 to newer BIOS otherwise the flash will fail.

New Fixes/Features:

- Fixed PCIx issue found if a PCI to PCI Bridge was connected with a video card behind it.
- Fixed IGD yellow-bang issue involving the PCI card.
- Updated the ICH7 RAID option ROM to version Intel(R) RAID for SATA - v5.1.1.1002.
- Updated PXE support.
- Corrected IFlash update hang.
- Fixed specific DVD drive detection issue.
- Added support for displaying remote terminal color while using Intel® Active Management Technology Serial-Over-LAN (SOL).
- Fixed issue where certain application's video output would not display on the remote terminal while Intel® Active Management Technology Serial-Over-LAN (SOL) is active.
- Fixed issue where terminal arrow keys and terminal F1-F4 keys were not recognized by Intel® Active Management Technology Serial-Over-LAN (SOL).
- Updated chipset support.
- Updated CMOS battery failure detection.
- Corrected errors found when more than 2 gigs of memory is installed in a system.
- Fixed ECC detection and logging errors.
- Added support for PERR/SERR events detection and logging.
- Added date/time information for ECC events.
- Fixed Key Help alignment & format in setup.
- Updated to Intel® Active Management Technology 1.2.1 release with 16 bit legacy error code return values supported.
- Added dual Heceta6 support.
- Fixed reset hang and boot issues found with specific hardware configurations.
- Fixed long system delays while booting with Intel® Active Management Technology IDER enabled and SATA drives attached to the system.
- Fixed dual display of message pop-up box in Setup.

BIOS Version 2006

About This Release:

- August 10 2005
- NT94510J.86A.2006.2005.0810.1817
- VBIOS Build Number: 1235
- SATA RAID info: Intel(R) RAID for SATA - v5.1.0.1022
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

For boards that support Intel® AMT you must first flash to BIOS build 1788 and then flash from 1788 to newer BIOS otherwise the flash will fail.

New Fixes/Features:

- Added setup option for USB Legacy Enable/Disable.

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- Fixed issue where some USB thumb drives are not detected on hard power-on.
- Fixed issue where user was unable to enter Intel SCSI RAID SETUP if another bootable device was in the system.
- Fixed issue where some operating system installs would hang when 4 SATA drives were attached to the system.
- Fixed issue where certain USB floppy disk drives were inaccessible in Microsoft* DOS after ejecting floppy media.
- Fixed issue where PCI SERR and NMI are disabled at system boot.
- Fixed issue where certain combinations of PS/2 and USB keyboards and mice would not function with USB legacy.
- Fixed SOL window of opportunity issues.
- Corrected flow to send Start ASF Watchdog Timer and OS Boot PET msg.
- Fixed ASF PET message issues & added Stop ASF WDT.
- Set SOL VGA Redirect OPROM code to clear screen before boot to OS.
- Added support for dynamic BIOS Setup changes based on Intel® Active Management Technology.
- Added support for USB mass device emulation in BIOS SETUP boot order.
- Added additional space for CPU microcode at main block.
- Added setup option for USB Legacy Enable/Disable.
- Updated PXE support.
- Enabled Intel® Quick Resume Technology by default.
- Updated the Board Id table.
- Fixed IFlash update hang.
- Fixed dual display of message pop-up box in Setup.
- Added ability to flash update the Intel® Active Management Technology code.
- Modified flash interface.

BIOS Version 1788

About This Release:

- July 28 2005
- NT94510J.86A.1788.2005.0728.1510
- VBIOS Build Number: 1235
- SATA RAID info: Intel(R) RAID for SATA - v5.1.0.1022
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

New Fixes/Features:

- Fixed key help & pop-up message strings to reflect current language in Setup.
- Fixed "Exit Discard Changes" functionality in Setup.
- Corrected functionality of the "USB ZIP Emulation Type" BIOS SETUP question in Manufacturing Mode.
- Enabled future Flashing of Intel® Active Management Technology code for boards that support the feature.
- Updated Video BIOS to Build 1235.
- Updated the ICH7 RAID option ROM to version Intel(R) RAID for SATA - v5.1.0.1022.

BIOS Version 1783

About This Release:

- July 27 2005
- NT94510J.86A.1783.2005.0727.1533
- VBIOS Build Number: 1229
- SATA RAID info: Intel(R) RAID for SATA - v5.0.0.1032
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

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New Fixes/Features:

- Fixed disproportionate .BIO file size increase that occurred when adding a custom splash screen.
- Fixed issue where 16-bit PCMCIA cards were not detected correctly in some operating systems.
- Move the USB ZIP question to BOOT (changed the question name to reflect this move).
- Fixed USB boot issue to match "Boot to USB" setup question.
- Fixed long delay in POST when certain zip drives are attached as a single master drive in the system.
- Fixed issue where some Keyboard-Video-Mouse switches would reset just before system boot.
- Fixed intermittent system hang or long delay just before boot to USB device.
- Fixed USB floppy boot issue.
- Fixed SMBIOS Type10 Onboard Video Device status reporting.
- Added workaround to fix LAN drop issue.
- Fixed Intel® Express Bios Update fail to reboot but shutdown system if FP Audio attached.
- Fixed priority issue in Advance Boot Mode when legacy floppy is installed without media.
- Updated to allow system to wake from S4 via PCI/PCIx devices when ACPI Suspend State set to S1.
- Added feature to Enable/Disable Maximum CUID Value Limit.
- Modified flash interface.
- Added BTX form factor support for Intel® Desktop Control Center.
- Added dynamic support for COM2 based on board features.

BIOS Version 1616**About This Release:**

- July 08 2005
- NT94510J.86A.1616.2005.0708.1742
- VBIOS Build Number: 1229
- SATA RAID info: Intel(R) RAID for SATA - v5.0.0.1032
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

New Fixes/Features:

- Fixed an audio issue that occurred after S3 resume.
- Added support for issuing ATA Security Freeze Lock to IDE devices on resume from S3.

BIOS Version 1590**About This Release:**

- July 06 2005
- NT94510J.86A.1590.2005.0706.1530
- VBIOS Build Number: 1229
- SATA RAID info: Intel(R) RAID for SATA - v5.0.0.1032
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

New Fixes/Features:

- Updated processor support.
- Fixed issue with Intel® Active Management Technology SOL and SATA boot.
- Fixed an issue with some types of DDR667 memory.
- Fixed a delay seen with some CD drives.
- Fixed bios so F9 key loads BIOS defaults in configuration mode.

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BIOS Version 1493

About This Release:

- June 22 2005
- NT94510J.86A.1493.2005.0622.1649
- VBIOS Build Number: 1229
- SATA RAID info: Intel(R) RAID for SATA - v5.0.0.1032
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

New Fixes/Features:

- Updated processor support.
- Fixed 10/100 LAN drop issue.
- Fixed SOL display when booting to DOS.
- Changed menu text in the aggressive settings.
- Fixed specific CD ROM detection issues.
- Fixed POST hang with x8 PCI Express SCSI card.
- Fixed several second delay in POST while performing PS/2 port swapping.
- Changed Intel® Active Management Technology setup entry and messages.
- Updated to Intel® Active Management Technology 1.2 release.
- Fixed convert and restore flash process.
- Added S3 support for the Trusted Platform Module.
- Fixed non-graphics card in PEG slot issue.

BIOS Version 1348

About This Release:

- June 09 2005
- NT94510J.86A.1348.2005.0609.1737
- VBIOS Build Number: 1224
- SATA RAID info: Intel(R) RAID for SATA - v5.0.0.1032
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

New Fixes/Features:

- Resolved hang issues with a specific CPU.
- Fixed TPM enable/disable functionality.
- Fixed certain CD ROMs detection issues.
- Fixed an issue with a specific RAID card.
- All drives now receive the Security Freeze Lock command during POST.
- Set BIOS to use less system memory (2MB) for BIOS usage.
- Fixed boot delay issue when certain optical drives are set as stand alone masters.
- Prevents loss of Intel® Active Management Technology functionality after BIOS update.

BIOS Version 1241

About This Release:

- June 01 2005
- NT94510J.86A.1241.2005.0601.1508
- VBIOS Build Number: 1224
- SATA RAID info: Intel(R) RAID for SATA - v5.0.0.1032
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

New Fixes/Features:

*Other names and brands may be claimed as the property of others.

- Added latest processor updates.
- Added Flex Logo & Optional Module support.
- Updated slow POST with CD-ROM fix.
- Fixed an issue of Microsoft* Windows XP using PIO drive transfer mode instead of DMA.

BIOS Version 1220

About This Release:

- May 27 2005
- NT94510J.86A.1220.2005.0527.1540
- VBIOS Build Number: 1224
- SATA RAID info: Intel(R) RAID for SATA - v5.0.0.1032
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

New Fixes/Features:

- Added latest processor updates.
- Fixed long delay in POST when some CD-ROMs are attached as an IDE master device.
- Fixed issue where Microsoft* Windows was unable to enable DMA on system SATA drives.

BIOS Version 1176

About This Release:

- May 24 2005
- NT94510J.86A.1176.2005.0524.1846
- VBIOS Build Number: 1224
- SATA RAID info: Intel(R) RAID for SATA - v5.0.0.1032
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

New Fixes/Features:

- Added latest processor updates.
- Fixed a problem where PEG video devices that contain bridges do not work as the primary video device.
- Fixed slow POST when certain CD-ROMs are attached to the system.
- Fixed issue with Type 17 SMBIOS information.
- Fixed issue with incorrect SMBIOS PCI/PClx slot information.
- Added Event Log Prompt support.
- Added display of System in Manufacturing Mode.
- Added support for writing SMBIOS data securely via EFI variables.
- Fixed errors with some memory stress tests when USB keyboard is plugged in the system.
- Fixed a benchmark hang with some PCI Express video cards.
- Fixed a problem where the setup option for XD Execute Disable bit did not work correctly.
- Added setup option for SW Single Processor Mode.
- Update MBI support according to spec rev1.3.
- Fixed a problem where the setup option for XD Execute Disable bit did not work correct.
- Fixed issue where system would reboot when calling TCG INT1A functions.
- Added Master Boot Record (MBR) measurement support for the Trusted Platform Module.

BIOS Version 1088

About This Release:

*Other names and brands may be claimed as the property of others.

- May 19 2005
- NT94510J.86A.1088.2005.0519.1710
- VBIOS Build Number: 1224
- SATA RAID info: Intel(R) RAID for SATA - v5.0.0.1032
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

New Fixes/Features:

- Added latest processor updates.
- Updated board features table.

BIOS Version 1042

About This Release:

- May 13, 2005
- NT94510J.86A.1042.2005.0513.1523
- VBIOS Build Number: 1224
- SATA RAID info: Intel(R) RAID for SATA - v5.1.0.1013
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

New Fixes/Features:

- Fixed issue where fifth BIOS drive (84h) is not accessible via INT13h in certain system configurations.

BIOS Version 0980

About This Release:

- May 09, 2005
- NT94510J.86A.0980.2005.0509.1536
- VBIOS Build Number: 1224
- SATA RAID info: Intel(R) RAID for SATA - v5.1.0.1013
- Initializing Intel(R) Boot Agent FE v4.1.17
- Initializing Intel(R) Boot Agent GE v1.2.28

New Fixes/Features:

- Initial release.