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DPSD BIOS ENGINEERING
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PRODUCT: Rexburg/Brownsville Standard BIOS

P16-0031 (Production 16, build 0031)

About This Release
- April 11 2003
- RG84510A.86A.0031.P16.0304111002
- Core Baseline version 01.03.00
- VBIOS build 2759
- UNDI 4.1.09 / Gbit UNDI 1.1.09

New Fixes/Features:

- Added APM1.2 support.
- Fixed issue where Adaptec 1200A IDE RAID card is not bootable.
- Fixed system hang when booting to the MS-DOS 6.22 Installation disk Mode III.
- Fixed loss of mouse control after BIOS updates.

New Fixes/Features:

- Banner change.
- Changed ACPI OEM Revision field for all ACPI tables to contain the BIOS build date as YYYYMMDD.
- Updating PXE UNDI ROM to 4.1.09.
- Added support to boot from USB flash devices.
- Fixed an issue where special characters did not work in Password.
- Fixed an issue where Chassis intrusion did not log in the Event log.
- Program FANMON_EN on F0h register at Logical Device 9.
- Enabled the on Screen POST code display.

P13-0024
- Fixed issue where PS/2 mouse was non-functional after resuming from S3 in Windows® 98 SE/ME® while pressing multiple keys on the PS/2 keyboard and using the Microsoft PS/2 mouse driver
- Implemented Dynamic date update for Copyright.
- Fixed WHQL failure that reported, "FADT RESET_REG Register Bit Width can only be 8.
- Fixed issue with password less than 7 characters.
- Fixed an issue of ADC self test fail on MCH register FC BIT2.

P12-0022
- Fixed issue of MTRR register failure when running HT Technology Readiness utility.

P12-0021
- Fixed issue of some registers not being saved and restored correctly when running HT Technology Readiness utility.

P12-0020
- Added Hardware Monitoring screen for setup.
- Updated Video BIOS to build 2759.
- Update from AMI Core 08.00.05 to 08.00.07.
- Fixed issue where system will not wake from S1 if the keystroke is hit before system enters S1 standby.
- Fixed the issue of the minute in setup being reset to 00 if MFG jumper installed.
- Added MPS support.
- Fixed password is required to enter maintenance mode issue.
- Added Machine check.
- Fixed floppy issue with floppy 3-mode enabled.
- Enabled 3-mode floppy support.
- Added Support for HT LOGO.

P11-0019
- Corrected cache size detection code to properly detect Intel® Celeron® Processors.
- Fixed default fan control settings.

P10-0018
- Fixed issue where PC-DOS would not boot from an emulated CD-ROM image.
- Fixed the problem where USB mouse stop working in Win2k when wake on S1.
- Incorrect Processor string displayed in Post.
- Fixed a problem where Fan configuration change warning message was not displayed when exiting Maintenance mode Setup.
- Fixed a problem where Fan configuration change warning message can be seen on Heceta-4 motherboard after updating BIOS.
- Fixed issue where Windows 98SE and Windows ME will show yellow bangs in Device Manager for PS/2 devices if the OS is not installed with PS/2 devices attached.
Fixed a potential system hang problem after CMOS corruption and incorrect CUSTOM CMOS defaults were installed.

P09-0017
- Fixed Gbit LAN issue where error occurs when Windows® ME trying to enter S3.
- Fixed issue where system reboots when entering S4 under certain condition.

B-0015
- Added support for BIOS IDE detection to be more tolerant of drive configurations with slower spin-up times.
- Added the hard-disk pre-delay functionality.
- Added Gbit LAN support.
- Added BMI 1.1 support.
- Fixed issue where an invalid CMOS image can be programmed into the custom CMOS defaults area using INT 15h.
- Updated video BIOS to 2686.

- Removed 3-mode floppy support.
- Fixed an issue where the Memory speed will be displayed incorrectly in Setup for Manufacturing Mode.
- Fixed an issue where USB mouse is slow to respond coming out of S3 in Win2K.

P07-0014
- Removed Wake On Modem Ring question in BIOS setup.
- Updated Intel Boot Agent to 4.1.08.
- Updated memory reference code to 1.50.
- Added the workaround to support backward compatibility in recovery with BL010100 BIOS.
- Added fix to correctly preserve register 70/74 across SMIs.
- Fixed thermal trip detection code for MFG.
- Updated to Baseline BL_01.01.01.

P06-0013

- Fixed an issue of system Hang in POST when a USB device is connected.

B-0012
- Merged Memory reference code 1.4
- Fixed an issue where system will default to S3 instead of S1 for RPG boards.
- Turned off unused clock.
- Configured GPI4 and GPI5 on SIO to be Input.
- Added BIOS workaround for Windows 98SE and Millennium issue where the default Microsoft PS/2 mouse driver does not allow the mouse to wake the system from Suspend-to-RAM (S3).
- Fixed loss of USB mouse upon resume from S4 under Win2000.

B-0011
- Added support for 845GE/PE.
- Fixed the issue of not being able to wake the system up in S3 using the PING command.

P05-0010
- Fixed issue where Windows 2000 would reload hardware profile after entering BIOS Setup.

P04-0009
- Fixed maximum processor speed field of SMBIOS Type 4 structure.
- Enabled 3Mode floppy support.
- Added BIOS workaround for Windows 98 SE issue where ATAPI devices are not reprogrammed on resume from Suspend-to-RAM (S3).
- Fixed an issue where the bus numbers for devices and PCI slots sitting behind Pci-to-Pci Bridge in the ICH were not being saved correctly.
- Fixed a memory issue that could potentially cause boot failures or blue screens.
- Fixed issue where in some configurations, USB devices attached to a hub were not detected.
- Corrected SMBIOS Type 4 structure, "socket designation" field.

- Removed power management TAB for PS2 keyboard and mouse and enabled the devices wake all the time.

P03-0008
- Fixed the issue with small logo getting scrolled with POST messages
- Fixed an issue where system will not resume from S1 on W2K.
- Fixed issue where early revisions of P4s were reported as Celeron.
- Fixed issue where Reserved Bits were being set in the BIS SMBIOS structure.
- Added POST messages for network boot (F12 hotkey).
- Fixed the issue "Press <F4> to run setup" message displayed after entering wrong user/supervisor password.
- Fixed the issue, where system boots to OS in Config Mode, if there is no Key Board (neither PS2 nor USB) is attached.

P02-0007
- Added RPM (Replaceable Module) support.
- New strings translation.
- Added support to scan User Binary code before Video init such that if resource allocations are required they will be provided by the BIOS.
- Fixed issue where POST does not display all the installed option ROMs
- Fixed issue where SMBios information for Celeron Processor cache information and the cache associativity value for most Pentium 4 processors
- Fixed the issue with OEM setup defaults.
- Fixed system hangs with Hauppauge WinTV card.
- Fixed issue where system would power back on immediately after the power button was pressed if "Wake on Ring" was enabled.
- Added support to notify user when a Pentium 4 thermal trip occurs.
- Added code to clear the event log via a CMOS token.
- Updated to the latest memory ref code 1.0 which includes a fix for the soft reset memory hangs at post code d4h for older DIMMs.
- Fixed POST hang with "3D Prophet DDR-DVI" AGP card when LAN/PXE enabled in Setup.
- Fixed the system hang problem where user repeats Win98 Shutdown to DOS many times.
- Corrected Device Locator field and Bank Locator field of Type 17 SMBIOS structure.
- Fixed "Memory Device Type" field of SMBIOS Type 17 Structure.
- Fixed security hole where the user had access to F10 and F12 functionalities even when the Supervisor password set.
- Fixed issue where the system would not boot to or read from LS-120 as slave device.

P01-0006
- Fixed issue where system would lock-up when RTC would roll to midnight and USB Legacy was enabled.

P01-0005
- Made USB device connect/disconnect wake the system from Standby.
- Added support for Small/Splash logos in GPNV user area.

- Fixed a problem where BIOS cannot detect USB legacy devices after the system was shutdown by pressing the power button for 4 seconds when Windows USB 2.0 driver was loaded.
- Fixed system hang with Plextor PX-S88TU USB CD-ROM drive.
- Made the Setup items Discard Changes and View Event Log accessible when the user was in View Only or Limited Access mode.
- Fixed issue of having 2.4 seconds of BIOS S3 resume time.
- Fixed Win98 hang problem with Sandisk USB compact flash reader attached.
- Fixed issue where selecting Setup option "Mark Events As Read" clears all event logs.
- Implemented SMI work around for the S3 video issues associated with onboard video.
- Fixed garbled "Press <F4> to Run SETUP" message when CMOS is corrupt.
- Added support to Dynamically update the SMBIOS Structure for the number of PCI slots according to the SKU.
- Added Celeron strings to Post, Setup, and SMBios.
- Changed the Default Languages to be English and French.

P01-0004
- Updated string translations
- Fixed the SMBIOS type 0 BIOS Characteristics to not always set the ISA bit
- Added SPD Tolerant support and memory override timings.
- Fixed INT15, function DA92h to correctly report system bus frequency when 533FSB processors are installed.
- Fixed a problem where the USB mouse/Keyboard did not function correctly in an OS environment if USB legacy was disabled in setup.
- Fixed POST hangs in BEL's PCI Peer Bridge Test.
- Fixed Numlock behavior when only a USB keyboard is installed during POST.
- Fixed issue where system hangs in POST with Adaptec 3940 and NCR 8250S SCSI cards.
- Fixed the problem where the system cannot boot to legacy Floppy when Sandisk USB compact flash reader is attached.
- Fixed the issues with USB ZIP drive failure under DOS.
- Fixed issue where the OEM ID and the OEM Table ID for each ACPI table was not set correctly.
- Added string to the Chipset Configuration menu in setup.
- Fixed issue where the "Event Logging" page was inaccessible when User Access Level was set to "View Only.
- Fixed SMBIOS Type 6 structure.
- Fixed issue where system hangs in POST with Adaptec 2940 and 29160 SCSI cards when PXE boot enabled in Setup.
- Added ICS and Cypress clock generator code for enabling the Center Spread.
- Fixed issue where setup menu was corrupted when using languages other than the default.
- Fixed the problem of USB 2 controller not being disabled in Windows (yellow bang) even when the control option is set to disable in BIOS setup.
- Added support to change Latency Timer register in PCI devices and ISA Enable bit in PCI-PCI bridges.

- Fixed issue where system would intermittently fail booting to a ZIP drive with floppy emulation.

P01-0003
- Added support to remove ARMD devices from the Setup boot order.
- Fixed issue that caused poor performance when the "Frame Buffer Size" Setup option was set to 512kb or 1Mb.
- Fixed issue where RTC did not always start on the first use.
- Fixed system hang in memory detection after loading custom defaults that where stored when a different memory configuration was present in the System.
- Corrected Board MFG and product strings not being correctly displayed when Switch Board data display is enabled.
- Fixed issue where after the battery is removed and power disconnected, the system boots to the OS without a CMOS error prompt.
- Fixed WHQL unreported I/O for ECP port.
- Updated strings translation.
- Fixed issue where system hangs in POST with several option ROMs.
- Improved POST boot time. Removed unnecessary delays associated with an ATA master on primary channel and an ATAPI master on the secondary channel.
- Added new flash configuration that gives another 32kBytes of space for the BIOS area.
- Updated BBS code to allow BBS to be functional without ESCD enabled.
- Fixed POST hangs in BEL's BBS Boot Sequence test.
- Fixed hang when ITK was run with "install -cmos" option.
- Changed default emulation of USB ZIP drives to hard disk.
- Fixed a problem where the power-management tab on the keyboard did not work correctly in S3 when it was set to disabled.
- Added the Intel 845/E/G Performance Optimizations.
- Updated SMBIOS information structures.
- Added workaround to boot to SCSI CD-ROMs with floppy emulated media when legacy floppy disabled in Setup.
- Fixed an issue with POST screen scrolling.

D-0018
- Fixed the of uninstalling password after restoring Custom Defaults
- Updated string translations.
- Corrected display of the whole line when displaying "Memory Size Decrease" message.
- Fixed issue where Tape Drives would not show up in setup.
- Updated BIOS SETUP IDE Configuration Page look and feel.
- Fixed issue where system hangs in POST when PXE/LAN enabled in certain configurations.
- Fixed issue of SMBIOS structures Type 19 and 20 reporting incorrect memory address range.
- Updated Video BIOS to 2579.
- Added support to skip boot to USB boot devices.
- Fixed display of Total Memory Size in Setup when more than 1000MB of RAM was installed.
- Fixed security hole where a user with limited access could enable/disable the "Silent Boot" and "Intel(R) Rapid BIOS Boot" Setup options

- Fixed failure of BIOS Setup "Load Custom Defaults" when "Save Custom Defaults" was used under a different DIMM configuration
- Changed color of title bar in Setup to black text on a cyan background.
- Updated the help text in Setup.
- Fixed corruption of the memory size string on the POST text screen when USB legacy was disabled.
- Fixed issue where boot order would become corrupted when the boot device configuration changed.
- Fixed POST configuration summary screen display of IDE HDD size.
- Fixed a problem where the PS/2 mouse wouldn't work after Win98SE S3 resume.
- Added error reporting for no keyboard in system.
- Fixed confusing messages when a memory size decrease POST error was reported.
- Fixed Issue where system would hang upon resume from S3 in Win98SE when a USB device was on the system and USB legacy was enabled.
- Fixed a problem where the system would hang when you try to do a reset or shut down after you have done a S3 resume, and the High speed USB controller was disabled in setup.
- Added additional power savings in S1.
- Fixed a problem where the BIOS would hang during the main BIOS checksum calculation, if the backup block had a copy of the BIOS block that contains the BIOS header string.
- Fixed issue where display mode is forced to BIOS (text) during and after the scan of option ROMs when silent boot enabled.
- Fixed issue where system would not wake from ACPI sleep with an external modem on COM1.
- Added POST BMI support and default Heceta-6 initialization.
- Fixed issue where CD-ROM recovery was failing with a F0A, F12 or F13 step processors present in the system.
- Replaced Firmware code for P4 Processors.
- Corrected Event Log Configuration String.

B-0002
- Updated Express BIOS Update to version 1.13.
- *Added "PXE Boot to LAN" Setup option to enable/disable loading of PXE UNDI rom.
  NOTE: The default for this option is disabled. To boot to onboard LAN, you'll need to enable this option.
- Fixed multiple language support. Updated string translations.
- Fixed issue where the system would bounce out of ACPI sleep when a COM port loopback was plugged into the system.
- Fixed USB legacy keyboards after shutting down to DOS in Win98SE. Fixed issues with USB legacy device detection.
- Corrected the system behavior when the exiting setup in Maintenance Mode without saving settings.
- Fixed possible failure of BIOS Setup "Load Custom Defaults" if "Save Custom Defaults" was used under a different DIMM configuration.
- Fixed issue where the bottom half of a small POST logo was being chopped off.
- Added support to dynamically update the SMBIOS information for onboard devices based off the status of the hardware currently in the system.

- Fixed issue where Drive Type setting in setup was set to CDROM on boot. This is a Manufacturing Mode DFT violation.
- Fixed issue where Adaptec 2940 SCSI cards were hanging system during POST.
- Fixed issue where recovery was failing when a certain processors were present in the system.
- Added WMT-N H0 Celeron support.
- Fixed issues with calculation of processor frequencies. This problem could cause 2.00GHz processors to be displayed as 1.99GHz, 2.40GHz to be displayed as 2.39GHz, etc.
- Fixed a problem where the system would hang coming out of S3 with internal graphics.
- Improved Rapid BIOS Boot time.
- Video BIOS 2575.

B-0001
- Initial revision

Known Errata with This Release