

ARM/FPGA Changes

- Lower SPU RAM data streaming support added. Fixes freezing, missing animations and/or broken audio in "Crash Team Racing", "Toshinden Subaru", "South Park Rally", "Hercules", "International Track and Field", "WipEout XL", "Internal Section", "Vib Ribbon", "Abalaburn" and any other unknown titles that rely on the lower SPU data.
- SD Card writing capabilities added.
- ATV handler rewritten and moved from the ARM to the FPGA.
- Command handler redesigned to use system tick timing.
- USB subsystem completely rewritten and PSIO will now act as a 'Human Interface Device'.
- New debugging subsystem embedded into the core.
- "40 Winks" no longer freezes on startup at the copyright screen.
- "Langrisser IV" no longer freezes at a black screen when starting.
- "Little Big Adventure" will now play CDDA music correctly.
- "Need for Speed: Porsche Unleashed" will now loop CDDA music correctly.
- "Survivor Redux" will no longer crash the Menu System.
- "Soul Edge", "Soul Blade" and "Salamander" no longer have broken equalisers in their sound test menus.
- "Twisted Metal III" will now play the CDDA character information tracks correctly.
- "WipEout 3" will now loop CDDA music correctly.
- "WipEout XL" will no longer freeze randomly.
- "WWF In Your House" no longer has corrupted music on the character selection screen.

Fastboot Changes

- Added support for K1V5 (fixes 'Crisis Beat').
- Added support for K1V5_SPU (fixes multiple games listed above dependent on the SPU data).

Menu System

Bug Fixes

- When scrolling up in the 'Options Menu', the scrolling sound effect had the wrong pitch.
- 'Fastboot on Game Boot' is now forcefully disabled on some Japanese PlayStation consoles.
- No more 30 FPS slowdowns or bottlenecks in certain areas of the Menu System.
- Lightguns now display an error when no controller is plugged into port 2 instead hiding the games list.
- Fixed potential memory overflows as well as incorrect castings.
- Updating by USB will no longer brick cartridges.
- The on-screen keyboard can now select alphanumeric elements whilst holding the caps lock symbol buttons.
- When resetting the options to their defaults, progressive scan now resets correctly.
- Sometimes when loading the wallpaper it would become semi-corrupted.
- Closing the burn-in timer with no SD Card could execute a select event.
- Loading from the CD-ROM will now show a proper warning dialog.

New Features

- A new EXTDSP hook was added for LoadExec called 'K1V5'.
- Memory Card Manager added.
- 'MemCard Pro' & 'PS1 Digital' support added.

- You can now add the files 'LE_K1V1', 'LE_K1V2', 'LE_K1V3', 'LE_K1V4', 'LE_K1V5', 'MB_K1V4', 'MB_K1V5', 'MB_K1V5_SPUH' and 'MB_K1V5_SPUF' to override the EXTDSP mode for Midboot for each individual game (LE denoting LoadExec and MB denoting Midboot).

- Midboot 'K1V4', 'K1V5', 'K1V5_SPUH' and 'K1V5_SPUF' are now options.
- Wallpapers can now be enabled on older CXD8514Q GPU's.
- Wallpapers now load considerably faster into memory.
- When 'Quick Starting' a game, the selected (auto or manual) EXTDSP mode will now be displayed as a string.
- The background audio track selection menu is no longer visible on firstboot due a bug in the library code.
- The boot times have been slightly shortened.
- Firmware updating is now executed in a system callback.
- Firmware update times have been significantly shortened.
- A warning will now show if you attempt to boot a PAL game on a NTSC-J console.
- The anti-aliasing on the PSIO logo was manually refined so it looks better against wallpapers.
- The selection bar colour can now be set to black.
- Code optimisations and various bug fixes.
- The responsiveness of navigation within the Menu System has been improved.
- There's been an extreme speed increase in 2D and 3D rendering.
- The number of checks done on the SD Card per loop iteration has been reduced to save CPU time.
- When changing SD Cards & the wallpaper option is enabled, the wallpaper will now be displayed.
- Decreased the brightness of the horizontal white lines on the main menu from 255 to 200.
- The scroll position arrows now have a slight fade in and fade out animation.
- The 'List of Changes' and 'Diagnostic' windows have improved scrollers.
- Security implementations severely improved.
- 'Show List of Changes' added to the 'Menu System Options' list.
- CD-ROM loading won't show a warning in the dialog as it's now displayed when booting from the CD-ROM.
- When reading the 'System Information', a message box now displays stating the task being performed.

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