



PSP Tool

User's Manual

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1. Introduction

PSP Tool is a multi-purpose application designed for the PlayStation Portable console to perform various general management functions with the console. One of the main benefits of this software which is not available in most other homebrew applications is the ability to extract the IPL from the Memory Stick, this is useful if the IPL is not obtainable through a file and you wish to make a full backup of your Magic Memory Stick. An example of when this is beneficial is extracting the Datel Action Replay PSP which comes pre-injected with the Memory Stick included with the product. This application allows the user to extract that IPL and use it with another Memory Stick.

This application currently has a number of known problems which I have been unable to fix. These problems are listed in a later section of this documentation, if anyone can assist in fixing these problems please e-mail me at the address included in this documentation, private message me or post a reply on a forum which I have posted this application. I have also included the source code of this application for reference in assisting me fix the issues or for use in your own application. If you are to use any source in your own application it would be greatly appreciated if you acknowledge my work. Any assistance provided in fixing the issues will earn you a place in the contributors list in the application.

2. Feature Summary

PSP Tool allows you to do the following:

- Connect various devices through a USB cable
- Inject a variety of included IPLs or an IPL from a file to the Memory Stick
- Erase the entire IPL space of the Memory Stick
- Check the IPL injected on the Memory Stick or a file located on the Memory Stick
- Create a checksum of the IPL injected on the Memory Stick or an IPL located on the Memory Stick
- Extract the IPL injected on the Memory Stick to a file
- Check, Backup, Restore and change the battery EEPROM
- Backup and Restore the IdStorage of the PSP

3. Recommended System Requirements

- Custom Firmware 3.40 OE-A to 5.00 M33-3 (not compatible with Sony Official Firmware)
- A correctly formatted Memory Stick with 10MB~ of free space to store the application, temporary files and extracted data

4. Feature Descriptions

USB Connection

Allows for various devices to be connected through a USB cable. This function will only mount the Memory Stick when using a firmware through Time Machine or a firmware which does not contain the Dark_AleX custom firmware USB module. The devices which can currently be connected through USB mode are:

- Memory Stick
- Flash 0
- Flash 1
- Flash 2
- Flash 3
- UMD Disc.



Memory Stick Options

Allows the user to Inject an IPL from a file called ipl.bin in the root of the Memory Stick or inject the following included IPLs. The IPLs which are included are:

- Time Machine IPL
- Boosters Multi IPL
- z3ros0ul Single IPL (Sleep Fix)
- z3ros0ul Multi IPL (Sleep Fix)
- Classic Pandora IPL

This mode also allows you to erase the entire IPL reserved space from the Memory Stick. Attempt to identify the name of the IPL injected to the Memory Stick or the file called ipl.bin at the root of the Memory Stick. Check information about the MBR of the Memory Stick and create a checksum of the injected IPL or the file ipl.bin at the root of the Memory Stick, this is useful for adding further detection rules.

Battery Options

This mode allows for manipulation of the battery EEPROM, the functions included are:

- Check Battery Serial: Shows the EEPROM serial of the battery and the mode which is associated with that serial.
- Backup Battery EEPROM: Extracts the entire battery EEPROM to ms0:/eeprom.bin.
- Restore Battery EEPROM: Restores the entire EEPROM file from ms0:/eeprom.bin to the battery.
- Restore Battery Serial: Restores the serial of the EEPROM from the file ms0:/eeprom.bin to the battery.
- Convert to Normal Battery: Changes the serial of the battery to a randomly generated serial (excludes 0x00000000 or 0xFFFFFFFF).
- Convert to Service Mode Battery: Changes the serial of the battery to 0xFFFFFFFF to unlock service mode.
- Convert to AutoBoot Battery: Changes the serial of the battery to 0x00000000.

IdStorage Options

WARNING: Restoring IdStorage keys from another PSP console has the potential of permanently bricking your PSP console or result in loss of almost all function. Invalid IdStorage keys can also cause issues with the PSPs Serial, MAC address, UMD, WLAN and region. The author of this software nor any other developer cannot be held liable for your actions and you agree to use these functions at your own risk knowing that it may be impossible to restore your IdStorage keys once they have been altered. You should also use another application to create a backup of your entire NAND.

This mode allows for backing up and restoring of the PSP consoles IdStorage keys to the Memory Stick.

5. Support

Thanks

Chilly Willy: The IdStorage backup and restore functions are based on his IdStorage Manager.

cory1492: The Battery functions are based on his Open Source Pandora Battery Tool.

Dark_AleX: Created the VLF library, custom firmware and is the PSP hacker constantly working to bring us freedom in using our PSPs.

RainMotorsports: Helped me implement fix issues regarding the dumping of the IPL from the Memory Stick and the features of his application formed the basis of the IPL functions of this application.

Torch: Helped me correct issues which caused corruption of the Memory Stick when injecting an IPL larger than the reserved space.

Frequently Asked Questions

Q: This software does not create a full dump of my IPL?

A: Your IPL may have a blank block (4,096 bytes) within the IPL which causes the application to stop dumping it. Please send the IPL to my e-mail address so I can add detection of the IPL to the next release or send me a checksum of the IPL, the name of the IPL and the original size of the IPL.

A2: Use the second dump method to dump the entire IPL space.

Q: The application freezes when dumping/injecting/erasing/checking the IPL?

A: Your Memory Stick may not be formatted correctly please reformat your Memory Stick using MSPFormat.

Q: This software does not detect my IPL?

A: Your IPL may not be the size of a full block (4,096 bytes).

A2: The application may not have a definition for the IPL please send the IPL to my e-mail address so I can add detection of the IPL to the next release or send me a checksum of the IPL, the name of the IPL and the original size of the IPL.

Q: What is the IPL?

A: The IPL is the startup process of the PSP, when using a Memory Stick injected with an IPL and a battery with the serial 0xFFFFFFFF the PSP can be booted into service mode allowing for the installation of custom firmware and unbricking of a PSP console.

Q: Can this application extract the Datel Action Replay IPL from a Memory Stick?

A: Yes it can, the IPL has also been tested with Memory Sticks of different brands and sizes and has been compatible, however the user must still have Official Firmware and a PSP-1000 unit or PSP-2000 unit without a TA-088v3 motherboard.

Q: The application detects that I have sufficient space to inject an IPL but when I attempt to inject that IPL I get an error saying there is not enough reserved sector space, why?

A: When the IPL is injected it must be written in blocks the size of the sector (default of 512). The application cannot detect the sector size and uses the default of 512 and therefore a maximum extra of 512 KB is required when injecting the IPL, this however will not be an issue in most cases.

Q: The application keeps corrupting my Memory Stick when I inject an IPL?

A: This issue should not arise due to the reserved IPL space being verified before injecting an IPL however if it does please use MSPFormat to format the Memory Stick.

Known Problems and Issues

- Extracting IPLs with blocks of blank data larger than 4,096 bytes within the IPL causes the application to stop dumping the IPL, to dump the full IPL in this case you must currently use the Extract Entire Memory Stick IPL Space option.
- USB mode doesn't work when some plug-ins are loaded (ScreenShotPNG Steady Plugin).
- I haven't added detection of all of the known PSP motherboards as I am unsure what the Tachyon and Baryon versions are of some motherboards.

Change Log

0.7 (???)

- Added: Options to check, change, backup and restore the EEPROM of the battery (based on Open Source Pandora Battery Tool by cory1492)
- Added: IdStorage backup and restore options (based on IdStorage Manager by Chilly Willy)
- Added: System information panel
- Fixed: If the IPL was unknown it was not shown to be unknown if various IPL functions were performed prior to checking the IPL
- Fixed: Issue injecting an IPL from a file if the file was changed through the USB connection prior to injecting the IPL
- Fixed: Improved detection of IPLs smaller than 4,096 bytes

0.6 (Tuesday, 18 November, 2008)

- Added: Option to extract Memory Stick MBR
- Added: Detection of available IPL space and Memory Stick information (thanks to Torch)
- Added: Option to extract entire IPL space from Memory Stick (thanks to Torch)
- Fixed: Bug which caused corruption of Memory Stick when injecting an IPL larger than the reserved space (thanks to Torch)
- Fixed: Entire IPL Area is now erased from the Memory Stick (thanks to Torch)
- Fixed: Issue detecting injected IPLs smaller than 4,096 bytes
- Fixed: The IPL size is only rounded up to the nearest multiple of 512 if it is not already a multiple of 512
- Other: PRXs are now stored internally for easier installation of application
- Other: Reverted IPL injection back to style from 0.4

0.5 (Tuesday, 11 November, 2008)

- Added: Added VLF (XMB) style interface
- Added: USB Connection of Memory Stick, Flash 0, Flash 1, Flash 2, Flash 3 and UMD Disc
- Fixed: Minor bug fixes and changes
- Other: Removed the last 4,096 blank bytes from the Time Machine IPL to reduce size

0.4 (Tuesday, 4 November, 2008)

- Fixed: Issue injecting ms0:/ipl.bin twice in the same session
- Fixed: IPL extraction for unknown IPLs
- Other: Multiple minor alterations

0.3 (Saturday, 1 November, 2008)

- Added: Support for injecting an IPL from ms0:/ipl.bin
- Added: Support for injecting Boosters Multi IPL, z3ros0ul Multi IPL and z3ros0ul Single IPL
- Added: Detection of 8 IPLs
- Added: Another method of extracting IPLs based on detection of the IPL
- Added: Option to create a checksum of the first block (4,096 bytes) of the injected Memory Stick IPL
- Added: Callbacks are now created to allow for exiting the application via the HOME button
- Added: Support for erasing the IPL from the Memory Stick
- Fixed: Increased accuracy of IPL dumps

0.2 (Friday, 31 October, 2008)

- Added: Basic menu for navigating available operations
- Added: Support for injecting Time Machine IPL and Classic Pandora IPL

- Fixed: Now seeks directly to the IPL instead of reading rubbish data before dumping the IPL (thanks to Rain)
- Fixed: Increased accuracy of IPL dumps (thanks to Rain)

0.1 (Saturday, 21 October, 2008)

- Other: Initial Release

Warranty Information

This software is distributed “as is”. No warranty of any kind is expressed or implied. You can use it at your own risk. The authors and the copyright holder will not be liable for data loss, damages, loss of profits or any other kind of loss while using or misusing this software.

Contact Information

If you are experiencing difficulties with any aspect of this software please ensure that you have read and understood the contents of this user manual and attempted re-installing the software before contacting technical support for further help.

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