

\$PSDocId: Document Release 1.0 for Run-time Library Release 4.3\$  
May 1998  
PlayStation(R) Programmer Tool  
Runtime Library Release 4.3  
Library Changes, New Additions, and Known Bugs  
from Release 4.2

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#### Known Bugs and Cautions

##### <Addition of HMD Library libhmd>

- HMD-related functions, which were included in LIBGS and LIBGTE in PlayStation library release 4.2 or earlier, were separated as LIBHMD. Due to this change, HMD-related functions and declarations were removed from LIBGS and LIBGTE libraries and header files. Please use the HMD library (LIBHMD) together with libhmd.h.

The environment map is provided as a Beta version, because the format may change in future releases without keeping compatibility. The Beta-version primitives are not officially supported by SCE at this point. If you want to use them for creating titles, please do so on your own responsibility.

##### <Addition of printver>

- Pkver, used to check the version, was found not to show the version of many files. Printver is introduced in this release.

##### <Deletion of pkver>

- Consequently, pkver was deleted.

##### <Known Bugs>

- When PadInitMtap() is used for initializing, the mouse may not be recognized on rare occasions. Remove the mouse once and insert it again for it to be recognized.

- In the Extended Sound Library (libsnd), the phonation of noise currently does not work properly. Use the Basic Sound Library (libspu) to use noises. This problem will be fixed in the next release.

- When the process for the OT is suspended by BreakDraw(), and the process is resumed after inserting another OT by ContinueDraw(), the last packet of the inserting OT does not be executed. To avoid this problem, please use NULL packet (size 0 packet) for the last of the inserting OT. This problem will be fixed in the next release.

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#### SDevTC Tools

##### <DOS Environment Variable Changes>

- Starting from CCPSX version 3.06.0015, DOS environment variables are handled differently. Due to this change, the place where CCPSX searches for files is described only in sn.ini. Environment variables C\_INCLUDE\_PATH, COMPILER\_PATH and LIBRARY\_PATH will not be referenced. Please refer to pssn\readme.1st for details.

```

<Files Changed>
pssn\aspsx.exe           Updated
pssn\ccpsx.exe           File search method changed (refer to readme.1st)
pssn\debugpsx.exe        Updated
pssn\dbg_read.txt         Debugger README (English)
pssn\psylink.exe         Bug in which -1 (failure) is returned in a warning
                           was corrected
pssn\snpatchj.cpe         Updated
pssn\readme.1st           About DOS environment variable changes
pssn\readme_j.txt
pssn\sn.ini              Modification due to ccpsx changes
pssn\flash25             Updated
pssn\flash27             Updated
pssn\dos\psylinkd.exe     Same changes as psylink
compiler\cpppsx.exe       Updated GNU 2.8.0
compiler\cclpsx.exe       Updated GNU 2.8.0
compiler\cclplpsx.exe     Updated GNU 2.8.0

<Files Added>
pssn\psylib2.exe          A version of psylib.exe in which long file names
                           are supported. Usage complies with psylib.

```

#### DMPSX

- 
- Changed to a 32-bit program.
  - Long file names are supported.

#### Kernel Library (libapi)

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```

<Header File Modification>
- A _card_format() prototype statement was added to libapi.h.

```

```

<Library Bug Fix>
- When a NULL address was passed to free3(), the operation became
unstable. This problem has been fixed.

```

#### C Standard Library (libc/c2)

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```

<Library Bug Fix>
- bsearch() did not work properly. This problem has been fixed.

```

#### CD-ROM Library (libcd)

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```

<Header File Modification>
- Due to multiple-defined prototype statements, a warning message was
returned when libds.h was included before libcd.h. This problem has
been fixed.

```

```

<Library Bug Fixes>
- When CdRead() was used, "sync callback" was called by the "pause"
primitive issued after read was completed. This problem has been fixed
so that this callback is not called at this timing.

- When function CdPlay() or DsPlay() was used, the specified track was
not played, and was skipped. This problem has been fixed.

- When the Disc Cover was opened during the execution of CdDiskReady(),

```

CdlStatShellOpen was not returned. This problem has been fixed.

#### Extended CD-ROM Library (libds)

##### <Library Bug Fixes>

- When DsRead() was used, "sync callback" was called by the "pause" primitive issued after read was completed. This problem has been fixed so that this callback is not called at this timing.
- DsGetDiskType() did not return DslStatShellOpen when the Disc Cover was open. This problem has been fixed.
- When CdPlay() or DsPlay() was used, the specified track was not played, and was skipped. This problem has been fixed.
- When packests issued by DsRead() overflow from the queue, subsequent DsRead() always failed. This problem has been fixed.
- DsCommand() and DsPacket() occasionally returned an error even if a command had been registered. This problem has been fixed.
- When DslGetlocL and DslGetlocP primitive commands were used during 10, 30 and 50-minute sector reads, a DslDiskError occurred. This problem has been fixed.
- When specific functions such as DsRead() and DsSearchFile() were called frequently, data became unable to be read. This problem has been fixed.
- When DsPlay() was used, only the first track was played even if multiple tracks were specified. This problem has been fixed.

#### ETC Library (libetc)

##### <Library Bug Fix>

- VSync(1) occasionally returned undefined values. This problem has been fixed.

#### HMD Library (libhmd)

The following are changes from libgs version 4.2.

##### <Functions Added>

- New animation interpolation drivers were added for 6 variations of rotation order.
- Equipment primitive drivers (camera, light) were added.
- Colored primitive drivers were added.

Refer to "Appendix A: Primitive Type List" in hmd.doc for details on the additional drivers.

#### Basic Graphics Library (libgpu)

##### <Functions Added>

- A macro version of SetDrawLoad(), setDrawLoad(), was added.
- The following functions that obtain the current drawing environment

were added.

GetDrawMode(), GetDrawOffset(), GetDrawArea(), GetTexWindow()

<Library Bug Fixes>

- When KanjiFntPrint() was used, if 256 or more characters were registered to one stream, other part of the memory area was occasionally destroyed. This problem has been fixed.

- When KanjiFntPrint() was used, when an incorrect code that is not included in kanji code was registered, subsequent KanjiFntFlush() became unable to display characters. This problem has been fixed.

Extended Graphics Library (libgs)

<Header File Modification>

- The prototype statements for the following functions declared in libgs.h were corrected.

```
GsA4divNTF3()    -> GsA4divTNF3()
GsA4divNTF4()    -> GsA4divTNF4()
GsA4divNTF4M()   -> GsA4divTNF4M()
GsA4divTG3LGG()  -> GsA4divTG3LFG()
GsA4divNTG3()    -> GsA4divTNG3()
```

Basic Geometry Library (libgte)

<Header File Modification>

- The prototype statements for the following functions were added to libgte.h.

EigenMatrix(), IsIdMatrix()

<Functions Added>

- The following functions that calculate the rotation matrix from the rotation angle were added.

RotMatrixXZY(), RotMatrixYZX(), RotMatrixZXY()

Gun Library (libgun)

<Header File Modification>

- The prototype statement for StartGUN() was corrected (from void to long.)

Math Library (libmath)

<Library Bug Fixes>

- If you tried to convert (int)0x80000000 to a floating or double type, an infinite loop was entered. This problem has been fixed.

- If you tried to convert (floating or double)-0.0 to an int, 0x80000000 was returned. This problem has been fixed.

Extended Memory Card Library (libmcrd)

<Header File Modification>

- For the following functions, the prototype statements in the document and the header file were inconsistent. This problem has been fixed.

```
MemCardInit(), MemCardOpen(), MemCardReadData(),  
MemCardReadFile(), MemCardWriteData(), MemCardWriteFile(),  
MemCardCreateFile(), MemCardDeleteFile(), MemCardSync(),  
MemCardGetDirentry()
```

<Library Bug Fixes>

- When MemCardGetDirentry() was executed against an memory card which had no saved data, a value was not set to "files" (fourth parameter.) This problem has been fixed.

- The required number of VSync for MemCardReadData(), MemCardWriteData(), MemCardReadFile() and MemCardWriteFile() had increased compared to version 4.1. This problem has been fixed.

Controller Library (libpad)

<Library Bug Fixes>

- When a controller was inserted in one controller port, and another was inserted into another controller port halfway, and then inserted all the way, an incorrect value was set to the receive buffer for the the first controller occasionally. This problem has been fixed.

- When an Analog Controller (DUAL SHOCK) was used, if PadStartCom() was executed within three seconds after PadStopCom(), the Analog Controller (DUAL SHOCK) became unable to be recognized. This problem has been fixed.

- While a controller was connected via the Multi Tap, a hang-up occurred, or an incorrect value was set to the receive buffer occasionally. This problem has been fixed.

Serial Input/Output Library (libsio)

<Header File Modification>

- The prototype statement of \_sio\_control() in the document and the header file was inconsistent. This problem has been fixed.

Extended Sound Library (libsnd)

<Library Bug Fixes>

- When a negative value was passed to "fine" of SsPitchFromNote(), a correct value was not returned. This problem has been fixed.

- Starting from version 4.0, the algorithm for converting "note" to "pitch" was different in libspu and libsnd. They were changed to be the same.

- In SEQ data, when NRPN with CC99=16 (such as Reverb depth) was used in a track without a program change, this control became invalid. This problem has been fixed.

- When SsSeqSetCrescendo() or SsSeqSetDecrescendo() was used, the sequence volume value was not equal to the expected value after crescendo or decrescendo. This problem has been fixed.

<Functionality Added>

- SsInit() was changed so that the reverb work area is cleared internally. As a result, the process takes longer compared to previous versions.

(As long as SpuClearReverbWorkArea(SPU\_REV\_MODE\_ECHO) function execution).

Basic Sound Library (libspu)

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<Library Bug Fixes>

- Starting from version 4.0, the algorithm for converting "note" to "pitch" was different in libspu and libsnd. They were changed to be the same.

Multi-tap Library (libtap)

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<Header File Modification>

- The return value type for StartTAP(), InitTAP(), StopTAP() and SendTAP() was corrected (from long to void.)