

PLAYSTATION TECHNICAL NOTE

Date:
Ref:
Author:

Subject: Passing the Third Party Technical Check (1.1)

ABSTRACT

This Technical Note tells what is required to pass the Third Party Technical Checks, providing details on the following tests:

- Memory Card Test
- Copyright / Piracy Protection
- Symbol List Check
- Master ID Check
- CD Error Check

TEST DETAILS

TEST ONE: Memory Card Test

Part One: Save File Names

The first section of the memory card test refers to the save file name. Each title receives a unique save file name that is determined by the region the game was developed for, mixed with the product code number assigned to the project when it was approved. The regional breakdown is as follows:

- "BASLUS-xxxxx"** for licensed software for SCEA North America territory
- "BASCUS-xxxxx" for SCEA published software for SCEA North America territory
- "BISLPS-xxxxx" for licensed software for SCEI Japan territory
- "BISCPS-xxxxx" for SCEI published software for SCEI Japan territory
- "BESLPS-xxxxx" for licensed software for SCEE European territory
- "BESCPS-xxxxx" for SCEE published software for SCEE European territory

Therefore if your product code is SLUS-12345, an example of a save file name is **BASLUS-12345**.

Use only the bolded file name when submitting to Sony Computer Entertainment America.

After a working disc has been made, the file names can be easily read and checked by using the Memory Card Manager 1.5, located on Sony Computer Entertainment America's Developer's Website. Use the File Name Slot One Option.

Part Two: Save Title

The second section of the memory card test is checking that the developer has written the save title in Shift-JIS and not in ASCII.

ASCII has now been changed to an illegal text format for the save title. The justification for the change came from the existence of a bug in the PlayStation that will rearrange the displayed titles on the PlayStation's Memory Card screen if even one save file name is written in ASCII.

Instructions on how to change ASCII into Shift-JIS can be found on Sony Computer Entertainment America's Developer's Website.

The save title's name can be easily read and checked by using the Memory Card Manager 1.5 located on Sony Computer Entertainment America's Developer's Website. Use the Document Name Slot One Option. If name is displayed with white text and grey background, the file name is in Shift-JIS. A reversed color scheme indicates ASCII is being utilized.

Part Three: Formatting

The final technical memory card check performed on product submission is formatting. This check verifies that the program correctly performs the following save steps:

- Step 1: When the program encounters an unformatted memory card it should ask if the user wishes to format the memory card, with the default of "NO".
- Step 2: Format the memory card.
- Step 3: Save the game to the card.
- Step 4: Notify the user the game has been successfully saved.

Memory Card Manager 1.5, located on Sony Computer Entertainment America's Developer's Website, can also be used to unformat a memory card.

TEST TWO: Copyright / Piracy Protection

Several checks are in place to insure the developer and Sony Computer Entertainment America can protect their copyrights against piracy. If any part of the Copyright / Piracy Protection fails, the product must be resubmitted.

Piracy Protection

Part One: System.cnf File

Several ways have been devised to try to swap finished discs and pirated discs during the load process to enable pirated media to run. To combat this problem, we have the system.cnf file which tells the PlayStation some simple information about the game. Below is an example of the System.cnf file.

```
BOOT = cdrom:\XXXX_AAA.AA;1
TCB = 4
EVENT = 10
STACK = 801fff00
```

The boot line must reflect the executable location on the CD with the complete path. The executable can be located in a sub directory but is recommended to be in the root.

Examples are: `BOOT=cdrom:\SLUS_123.45;1` or
`BOOT=cdrom:\SUBDIR\SLUS_123.45;1`

Any text viewing program can be used to open and verify the `system.cnf`.

Part Two: The executable name

Coupled with the `System.cnf` file is the executable which must be named after the product code. The name must use an underscore in the name and a two digit extension, i.e., if the product code is `SLUS-12345`, the executable name must be `SLUS_123.45`

Copyright

The licensed area of the game is required to be displayed both in the executable's header and upon the second screen displayed when a program is started.

When building the executable file using **CPE2X**, be sure to include the `/CA` switch to include the "Sony Computer Entertainment North America Area" statement in the header. If the switch is left out, the executable will be built for the "Japan Area".

To get the correct logo to appear on start up, include the **LICENSEA.DAT** file with its complete path in the System Area File section of CD-ROM Generator when building master discs. If the disc is supposed to be built for a different region, use one of the following files:

LICENSEA.DAT for US/Canadian market
LICENSEJ.DAT for Japanese market
LICENSEE.DAT for European market

The **LICENSEA.DAT** file can be found on the Sony Computer Entertainment America's Developer's Website.

TEST THREE: Symbol List Check

When the developer signed his or her licensing agreement with Sony Computer Entertainment America, he or she agreed to use the PlayStation's libraries. This check insures the developer did. If this check fails, the developer will be required to rewrite parts of the program's code to insure the developer adheres to the legal agreement.

In the submission package, the developer needs to send a ***.SYM** file along so the check can be performed. To **output** the SYM file, add `"-omain.sym"` to your **make file**.

Example: `ccpsx -O -Xo$80040000 main.c -omain.cpe,main.sym`

Some pitfalls to watch out for are to insure the file is not completely in caps and to be careful the file is not truncated during transfer (Email).

Please do not send a text version of the `*.Sym` file.

TEST FOUR: Master ID Check

The master ID information is required to protect the developer and Sony Computer Entertainment America against piracy. The following is the required information of each of the slots that reside in the Master ID:

<Disc Name> Product number ["SLUS-xxxxx" in US]
<Producer Name> The name of the licensee company
<License Area> One character that signifies the license area [A in the US]
<Creation Date> The time of master disc creation. It is necessary to identify the revision of a master disc at the re-mastering (automatically filled)
<Copyright holder> Must be a company name

The Master ID Information can be easily read and checked by using Mcheck.exe that is found on the Sony Computer Entertainment America's Developer's Website. To run Mcheck successfully you must place the Master disc in the CDR-Writer you used to create the disc.

TEST FIVE: CD Error Check

Disc types required

Sony Computer Entertainment America requires that 4 masters and 5 copies of a program are in the submission package. **Sony CDR 71-PS** must be the media that is used for the **master discs**. Sony CDR 71-P can be used for the duplicates, but is not highly recommended.

Error Check

All discs received are error checked. If a disc fails the error check, the developer must replace it with good media. It is highly suggested that eight master discs are submitted so that in case one of the discs fails, we can still have three good masters that can be sent to the manufacturing house.

What CD Errors do we look for and what do the errors mean?

C1

A C1 error means that in a given second, the error checker was unable to correctly read a variable number of bytes in a sector so it looked in the ECC (error correction code - a table) and FOUND the information it was unable to read previously.

C2

A C2 error means that in a given second, the error checker was unable to correctly read a variable number of bytes in a given sector, so it looked in the ECC, and was still unable to read the information. It then looked at a second reference to the same byte, in the ECC, and then FOUND the information it was unable to read previously.

IP

An IP error means interpolation. The error checker looked on the disc and at the ECC, but never found the information it was looking for. It then made up information to put in its place by taking future and

previous data and averaging them. This is acceptable for audio but not for games. This error means the disc is bad.

TJ

A TJ error is a track jump. This means the laser skipped while writing (possibly from the machine being bumped). This error can be falsely caused by the error checker being bumped while checking. This error means the disc is bad.

The Reason for the Current Error Level Settings

The manufacturing house used to create PlayStation discs requires media to have less than a 220 error rate average across the entire disc. The technicians at the mastering house will not run into any problems mastering discs if the C1 error rate is 50 for any given disc. Therefore, if a disc has a **C1 at 50 or higher**, a **single IP** error, or a **single TJ** error, it will be deemed a bad disc.

It is a common misconception that if a disc seems to operate correctly, the error level is at an acceptable level. This is not true. A hardware CD error checker is the only true way to determine the error rates. Sony Computer Entertainment America uses an ES-70 Start Lab Error Checker. If you wish to obtain one, the contact is listed below. Any hardware error checker should be sufficient to review PlayStation discs.

To get an ES-70 Start Lab Error Checker, contact:

Takaharu Kitada
(03)3288-4321
Start Lab Inc.
3-8-5(Chiyoda CB Building)
Misaki-Cho, Chiyoda-ku
Tokyo 101 Japan