

Stream Data Creation

© 2001 Sony Computer Entertainment Inc.

Publication date: October 2001

Sony Computer Entertainment Inc.
1-1, Akasaka 7-chome, Minato-ku
Tokyo 107-0052, Japan

Sony Computer Entertainment America
919 E. Hillsdale Blvd.
Foster City, CA 94404, U.S.A.

Sony Computer Entertainment Europe
30 Golden Square
London W1F 9LD, U.K.

The *Stream Data Creation* manual is supplied pursuant to and subject to the terms of the Sony Computer Entertainment PlayStation® license agreements.

The *Stream Data Creation* manual is intended for distribution to and use by only Sony Computer Entertainment licensed Developers and Publishers in accordance with the PlayStation® license agreements.

Unauthorized reproduction, distribution, lending, rental or disclosure to any third party, in whole or in part, of this book is expressly prohibited by law and by the terms of the Sony Computer Entertainment PlayStation® license agreements.

Ownership of the physical property of the book is retained by and reserved by Sony Computer Entertainment. Alteration to or deletion, in whole or in part, of the book, its presentation, or its contents is prohibited.

The information in the *Stream Data Creation* manual is subject to change without notice. The content of this book is Confidential Information of Sony Computer Entertainment.

 and PlayStation are registered trademarks of Sony Computer Entertainment Inc. All other trademarks are property of their respective owners and/or their licensors.

Table of Contents

Stream Converter Overview	5
Creating IPU Stream Files (.ipu)	6
Creating MPEG2 Program Stream Files (.pss)	7

Stream Converter Overview

The ps2str stream converter is provided as a tool to convert stream data of movies and sound to PlayStation 2 stream data.

Main Features

The following are the main features of the stream converter

- Conversion of IPU movies from MPEG movies
- Format conversion and ADPCM compression of uncompressed sound data
- Multiplexing of movies / sound / data, etc. with multiple elementary streams
- Demultiplexing of multiplexed streams
- Displays attribute information of various types of stream data

Platforms

Three versions of the stream converter are provided. The functions are roughly the same between the versions.

- Windows GUI version
- Windows command line version
- Linux command line version

Creating IPU Stream Files (.ipu)

For the IPU stream files (.ipu) used in the libipu ezmovie sample programs, create MPEG2 video stream data (.m2v) consisting only of I-Pictures using commercial MPEG encoder software. This data can then be converted and .ipu files created using the stream converter (ps2str).

The procedure is shown below when using the Windows GUI version of the stream converter (ps2strw).

1. Create .mv2 data consisting only of I-Pictures

Use commercial MPEG encoder software to create MPEG2 video stream data.

At this time set the data to "I-Picture" only.

2. Verify file format

Start ps2strw, open the Info tab and either enter the filename of the created .m2v file in the File column or drag and drop the file from Explorer. Then, click the Show button to display the file information. If the following display appears, I-Picture-only data will have been created.

IPU compliant : yes

If instead, this appears:

IPU compliant : no

then reconfirm the output settings of the encoder.

3. Read and convert .m2v files

Open the IPU Convert tab, click the Add... button and either select the .m2v file or drag and drop the file from Explorer. As necessary, enter the folder name of the output destination in the Output Folder column and click the Start button to create the .ipu file.

Creating MPEG2 Program Stream Files (.pss)

The .pss files used in the libmpeg sample program mpegstr can be created using the stream converter ps2str, from video streams and wav files created using commercial MPEG encoder software. The procedure is shown below for the Windows GUI version of the stream converter (ps2strw).

1. Create video stream (.m2v)

Use commercial MPEG encoder software to create data that satisfies the following conditions.

- Main Profile at Main Level(MP@ML)
- Simple Profile at Main Level(SP@ML)
- Size: Min. 32 X 32 ~ Max. 720 X 576 Height and width (number of pixels) is a multiple of 16

2. Create audio stream (.ads)

Prepare a 48 KHz .wav file, use ps2strw to convert the file and create an .ads file. The procedure is as follows.

1. Start ps2strw.
2. Open the SPU Encode tab.
3. Read the .wav file
Either click the Add... button to open the .wav file or drag and drop from Explorer.
4. Convert the file

As necessary, enter the folder name of the output destination in the Output Folder column and click the Start button.

3. Multiplex the video stream and audio stream

Use ps2strw to multiplex the .m2v and .ads files to create a .pss file.

1. Start ps2strw.
2. Open the Mux tab.
3. Click the Add New button.
The Program Stream Setting dialog box will be displayed.
4. Click the Add button to register the .m2v file.
The Stream Setting dialog box will be displayed. Enter the filename of the .m2v file in the Source File column. Confirm that the Stream column changes to Video and click the OK button.
5. Click the Add button once again to register the .ads file.
The Stream Setting dialog box will be displayed. Enter the filename of the .ads file in the Source File column. Confirm that the Stream column changes to PCM and click the OK button.
6. Save the registered file.
Click the OK button to close the Program Stream Setting dialog box. Registration details can be saved here. As necessary, save the file.
7. Click the Start button
Click the Start button to return to the Mux tab. The file will be converted and a .pss file created.

Using ADPCM Sound

The sample program mpegstr is only compatible with straight PCM as sound data although .pss files and the stream converter are compatible with ADPCM streams.

When using ADPCM the frequency of original .wav files is arbitrary. Use caution when specifying ADPCM in the Stream column when registering an .ads file in the Stream Setting dialog box, if the AD-PCM checkbox in the SPU Encode tab is checked when creating an .ads file.