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Requirements

- A x64/64-bit PC, required for FFmpeg to run.
- FFmpeg (this will be automatically installed and set up by the programs if you don't already have it)

SFDExtractor

This program is intended for extracting video and audio data from Sofdec files. It also converts them to more modern and widely compatible formats by default.

Documentation for the SFDExtractor has been moved into the actual program itself. Please see the question mark icons in SFDExtractor for information on settings.

CMD commands

SFDExtractor supports the use of command line commands. Below is a list of the commands that can be used.

Command toggle	**Command Description**
-cmdmode	Disables the GUI/runs the program in command line mode. Required for the rest of the options to work (while in command line mode).
-batch	Enables batch (multiple file extraction) mode
-file	Input file/directory - if there's spaces, put it in quotes (ex. C:\SFD stuff should become "C:\SFD stuff").
-outputfolder	Output directory for extracted/converted files.
-extractiontype	What type of files to extract from the SFD (ex. 0 = audio + video, 1 = video only, 2 = audio only) Should be used as "-extractiontype X" (w/out the quotes), where X = one of the numbers as described above.
-noconvert	Disables FFmpeg conversion of SFD data.
-videoformat	Output video file format for converted video files. Not used if -noconvert is toggled.
-audioformat	Output audio file format for converted audio files. Not used if -noconvert is toggled.
-audiotracks	List of audio tracks to extract from the SFD. If not toggled, all audio tracks will be extracted.
-splitAIX	Splits AIX audio into the three ADX tracks it's made up of.
-extracttofolder	Enables extracting each SFD to a separate folder. Recommended for batch & individual SFD files. NOT ENABLED by default (except when using the GUI).
-autooverwrite	Automatically overwrites any pre-existing extraction/conversion files, instead of manually asking for each one.
-disable_done_text	Disables the program's done text at the end of an extraction.

-disable_updater	Disables the updater from running.
-disable_ffmpeg_check	Disables the FFmpeg check. ONLY use if only extracting video/audio data, and not converting it. (-noconvert should be toggled if using this command)

Example command: SFDExtractor.exe -file "C:\SFD\E8003.sfd" -outputfolder "C:\SFD\" -cmdmode -extracttofolder -videoformat MKV -audioformat OGG -disable_updater

- (this would extract E8003.sfd to a folder of the same name in C:\SFD, and would convert the video data to MKV, and audio data to OGG.)

Q&A

Q: The video extracted is stretched or squished. Why is this?

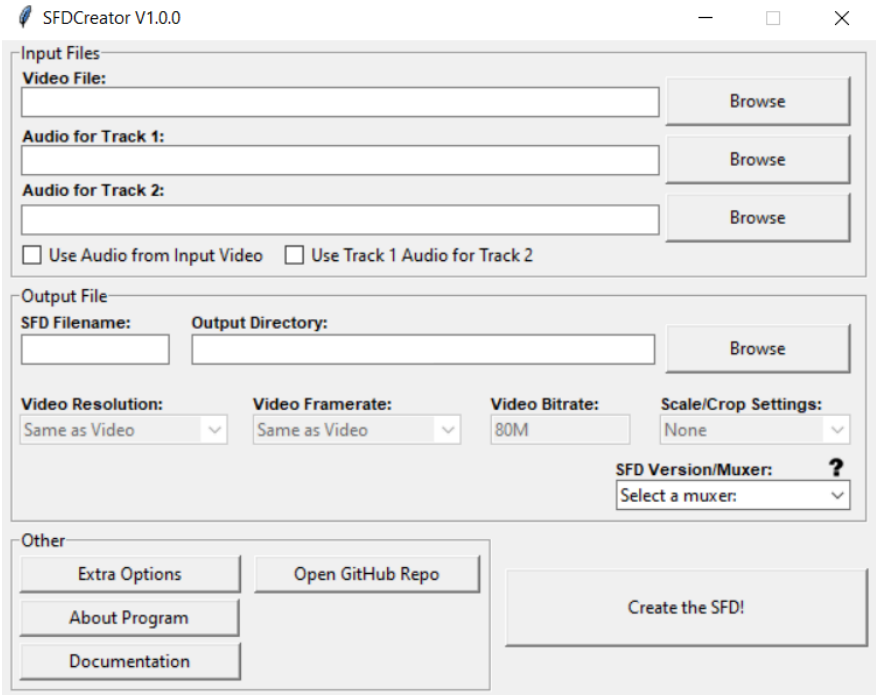
A: This is due to the video dimensions from the SFD file, as SFDExtractor doesn't touch the dimensions of the video file. Some games (especially those on Dreamcast and GameCube) had their videos squished in the SFD file, and then expanded to the correct size in game to save space. To fix this, you'd need to open the extracted video in a video editor and correct its size.

SFDCreator

This program is intended for creating your Sofdec video files, or “SFD” files for use in various games.

Program Overview

Main Window



This is the main window of SFDCreator. Here, you’ll find the main options you’ll need to create an SFD file. More options can be found by clicking on the Extra Options button. Documentation can be accessed in the same way, by clicking the Documentation button. Below, you’ll find brief descriptions of the options on the main menu, and what they do.

Input File Options

Use Audio from Input Video

This checkbox allows you to use the audio from the input video.

Use Track 1 Audio for Track 2

This checkbox allows you to copy any input audio from track 1 to track 2.

Output File Options

Video Options

Video Resolution

This dropdown menu will allow you to change the resolution of the output SFD. The options in the drop down menu are written in the format of 4:3 width/16:9 width x height (resolution). The following options are available in the menu:

- Same as Video
- 320/426 x 240 (240p)
- 480/640 x 360 (360p)
- 640/848 x 480 (480p)
- 960/1280 x 720 (720p)
- 1440/1920 x 1080 (1080p)

Additionally, if none of these options are what you need, you can type a custom resolution in the format of width x height (i.e. “1920 x 1080”, 1920 being the width and 1080 being the height).

Video Framerate

This dropdown menu allows you to change the framerate of the output SFD. The following options are available in the menu:

- 24
- 29.97
- 30
- 59.97
- 60

Do keep in mind that it’s best to not go above what the framerate of the original input video is.

Video Bitrate

This box allows you to change the bitrate of the output video. Unlike the other video options, this does not have a dropdown menu, instead, you must type the value into the box. The default value is 80M, as it creates a near identical output. If you don’t need to change this, or don’t know what to put it at, it’s best to leave it at its default.

Scale/Crop Settings

This dropdown menu allows you to select various options for scaling/cropping the video to either 4:3 or 16:9. A list of the possible options with an example image from Sonic Unleashed is below. Brief descriptions of each option is available above each image example. Do note that you can't have "Same as Video" selected if you wish to use these options.

None (No change to video, can also be 4:3 to 4:3):
This option will make it so no crop or scale is applied to the output video.

Crop (16:9 to 4:3):
This option will cut the left and right side of the video to fit a 4 by 3 (or 4:3) aspect ratio.

Scale (16:9 to 4:3):
This option will put black bars on the top and bottom of the video to make it fit into a 4:3 aspect ratio.

Squish (16:9 to 4:3):
This option will squish the video to make it fit into a 4:3 aspect ratio.

Scale (4:3 to 16:9):
This option will stretch the video to make it fit into a 16:9 aspect ratio.

Audio Options

Audio Bitrate

This box allows you to change the bitrate of the audio in the output video. Similarly to the Video Bitrate option, you must type the value into the box. The default value is 320k. If you don't need to change this, or don't know what to put it at, it's best to leave it at its default.

Audio Hz/Audio Sample Rate

This box allows you to change the bitrate of the audio in the output video. Similarly to the previously mentioned Audio Bitrate option, you must type the value into the box. The default value is 44100. If you don't need to change this, or don't know what to put it at, it's best to leave it at its default.

Audio Channel Type

This drop down menu allows you to change the number of channels of the audio in the output video. The following options are available in the menu:

- Stereo (2 channels)
- Mono (1 channel)

If you don't need to change this, or don't know what to put it at, it's best to leave it at its default.

Output SFD Options

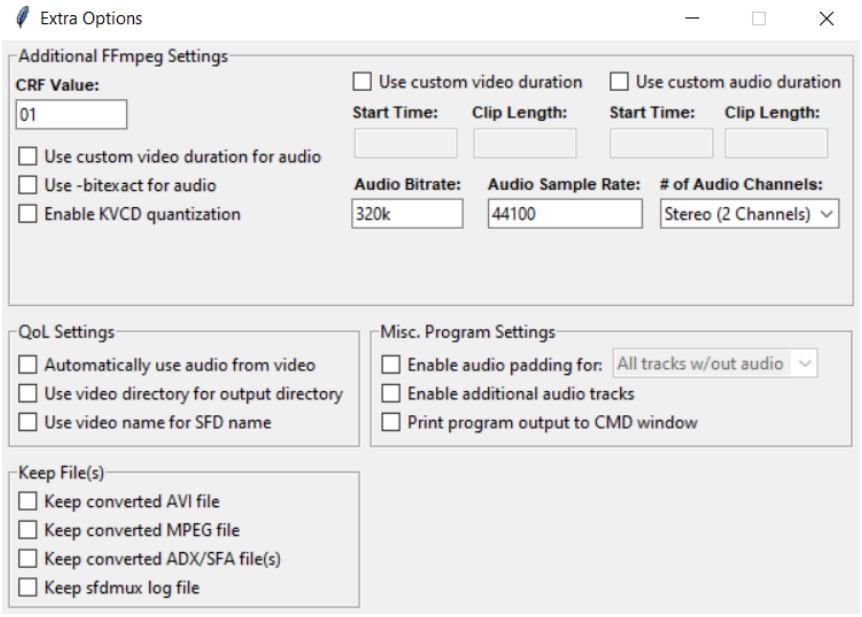
SFD Filename:

This option allows you to set a custom filename for the SFD.

SFD Muxer/Version:

This option allows you to change which version/muxer to use to create the SFD. If you're unsure which one to select, hover over the question mark icon, and click the "Determine SFD Version" button.

Extra Options Menu



This is the Extra Options window. Here, you can change some FFmpeg settings, keep files created when muxing the SFD, use some QoL settings and toggle some other program settings.

FFmpeg Settings

CRF Value:
This box allows you to change the Constant Rate Factor in FFmpeg. Any value from 1 to 51 can be put into this box.

Use -bitexact for audio:
Forces FFmpeg to use "-bitexact" instead of a value in Audio Bitrate.

Enable KVCD quantization:
Enables KVCD quantization, which can allow for smaller SFD file sizes by slightly reducing quality and compressing the video. Helpful for downsampling SFDs for use on Dreamcast CDIs. More details can be found here.

Use custom video duration for audio:
This box copies the value in the custom video duration box to the custom audio duration box, making the files equal in length.

Use custom video/audio duration:
This option allows you to clip the video you're encoding from a certain start time to a certain length. For example, the start time could be 0:00, and the clip length could be 0:02, meaning the video starts at 0:00 and ends at 0:02.

Keep File(s)

These options allow you to keep files used when creating the SFD. Do note that if any one of these are checked, the selected files will be moved to the same location as the SFD file when created.

QoL Settings

Automatically use audio from video:
Automatically inputs audio from the input video file.

Use video directory for output directory:
Sets the output directory to the same one as the input video.

Use video name for SFD name:
Sets the SFD name to the input video's filename.

Misc. Program Settings

Enable audio padding for:
Allows padding audio to be placed onto certain tracks. Intended to be used when needing to get a certain audio file into a certain track. (ex. Sonic Adventure 2, where the English track is audio track 2, but you don't want the Japanese audio to exist).

Enable additional audio tracks:
Enables additional audio tracks on the main window, allowing up to 4 tracks to be added into the SFD.

Print program output to CMD window:
Prints FFmpeg, legaladx and any SFD muxer's output to the CMD window.

SFDPlayer

This program is intended for playing Sofdec video files.

Documentation for the SFDPlayer has been moved into the actual program itself. Please see the question mark icons in SFDPlayer for information on settings.

SFDVersionDetector

This program can be used to determine the version of SFD file/muxer needed to create the file.

CMD commands

SFDVersionDetector supports the use of command line commands. Below is a list of the commands that can be used.

Command toggle	**Command Description**
-no_gui	Disables the GUI/runs the program in command line mode. Required for the rest of the options to work (while in command line mode).
-file	Input file/directory - if there's spaces, put it in quotes (ex. C:\SFD stuff should become "C:\SFD stuff").
-version_only	only prints version and name of SFD, in format NAME: VERSION
-extractiontype	What type of files to extract from the SFD (ex. 0 = audio + video, 1 = video only, 2 = audio only) Should be used as "-extractiontype X" (w/out the quotes), where X = one of the numbers as described above.
-disable_done_text	Disables the "Done, press any key to exit..." input
-disable_updater	Disables the updater from running.

Example command: SFDVersionDetector.exe -file "D:\SFD\E8003.SFD" -no_gui -disable_done_text

Credits, Program Licenses & Other Information

If you come across any issues (bugs, crashes, etc) or have suggestions, please either:

- Leave an issue on the GitHub repo; the issue page can be found here.
  OR
- Leave a comment on the GameBanana page, which can be found here.

If you're experiencing an issue, make sure to specify how to replicate it if possible, and any other important information, such as error messages.

Program Licenses/Credits

FFmpeg is licensed under the GNU Lesser General Public License (LGPL) version 2.1 or later.
For more details, please see this page. Copyright (c) [2000-2024] FFmpeg developers

SFDmux (used in SFDCreator and part of CryTools) is created by ThisKwasior. The license for it can be found here.

SFD_Muxer is created by nebulas-star. The license for it can be found here.

SFDMUX V1.0.7 is from the SEGA Dreamcast Katana SDK.

sfdcrfc (CRAFT V2.98) is taken from the CRI [OG] XBOX SDK (CRI_SDK_113_XB)

legaladx is taken from video2dreamcastdisc, and is licensed under the BSD 3-Clause License. It's license can be found here.

wget is licensed under the GNU General Public License Version 3.0, which can be found here. More info on wget can be found here.

aix2adx is licensed under the MIT License, which can be found here.

A special thanks to snakemeat for his work on VGMToolbox, which was used as a reference during the creation of SFDExtractor (V2.0.0) to ensure SFD files were extracted properly.

And finally, thank you to those who reported bugs, and/or gave suggestions for the programs!