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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?

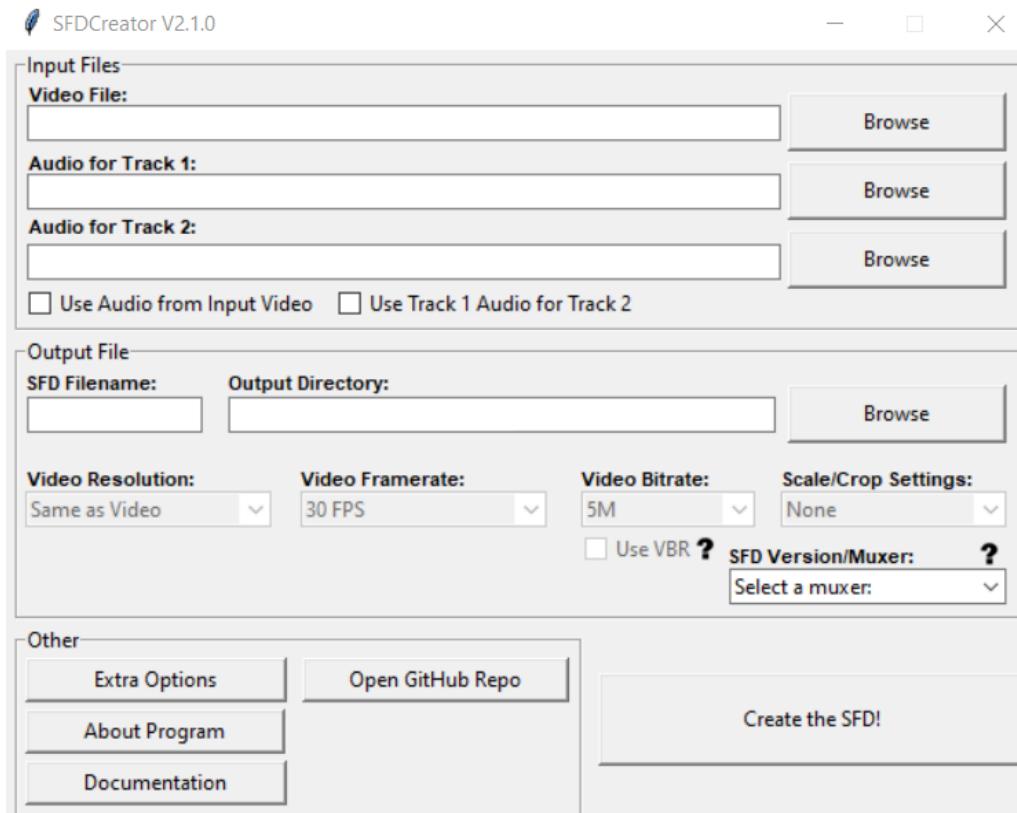
**A:** This is due to the video dimensions from the SFD file, as SFDExtractor doesn't touch the dimensions of the video file. Some games (especially those on Dreamcast and GameCube) had their videos squished in the SFD file, and then expanded to the correct size in game to save space. To fix this, you'd 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. 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 for Nebulas-star's and Kwasiors muxers are written in the format of 4:3 width/16:9 width x height (resolution). For the other available muxers, common 4:3 SFD resolutions are available as preset options.

Additionally, if none of the 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. It's best to choose the same, or near the same, as your original video, to avoid any stuttering.

### Video Bitrate

This box allows you to change the bitrate of the output video. The video bitrate is the main determiner of the output quality - a higher bitrate will result in better video quality, at the cost of a larger filesize. Some games/consoles have a maximum bitrate, due to data read speeds. (For example, a Dreamcast CDI cannot exceed 3600kb/s, or 3600k in the program).

A list of the maximum bitrates from CRI Middleware's own documentation is below:

(Source: [OG] Xbox and Wii (2006) CRI Middleware SDK Documentation)

- **Dreamcast:** CDI: 3600k, GDI: 4000k
- **PS2:** 8Mbps
- **Xbox:** 14Mbps
- **GameCube:** 10Mbps
- **Xbox 360:** 36Mbps
- **PS3:** 40Mbps
- **Wii:** 12Mbps

## 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, and that these options are only available for Nebulas-star's and Kwasior's muxers.

### 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.



## **Output SFD Options**

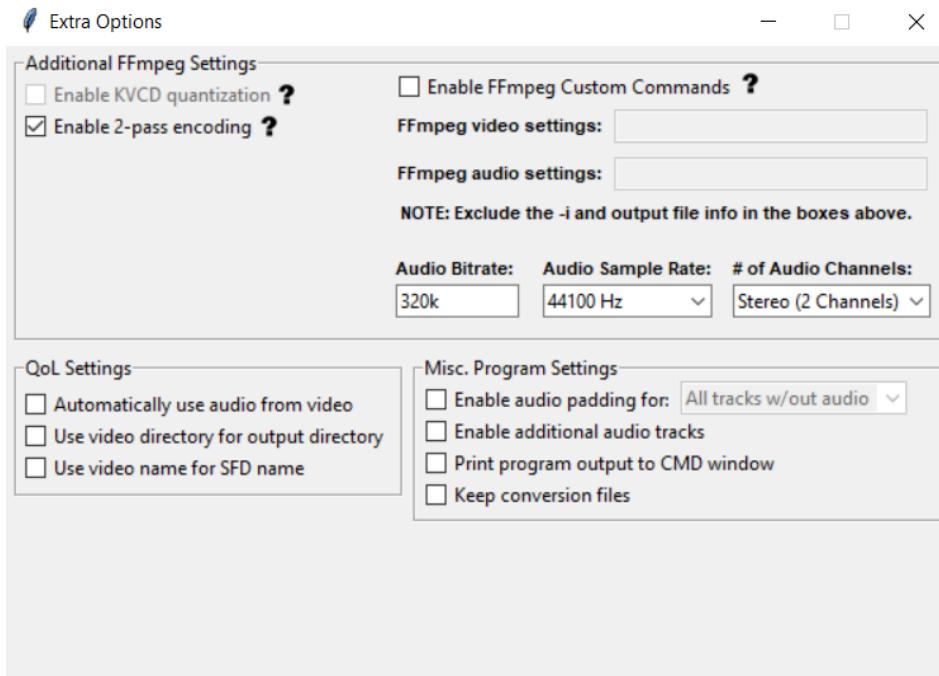
### **SFD Filename:**

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, click on the question mark icon, and use a sample SFD (from the game/app you want to make the SFD file for) to determine the correct muxer and video settings.

## Extra Options Menu



This is the Extra Options window. Here, you can change/add FFmpeg settings, keep conversion files made when creating the SFD, enable QoL settings, and toggle other misc. program settings.

## Additional FFmpeg Settings

### Enable KVCD quantization:

Enables KVCD quantization, an edit of the MPEG-1 quantization matrix, allowing for smaller SFD file sizes, while still maintaining similar quality to without it. Helpful for creating SFDs for use on Dreamcast CDIs. For more info, also see the in-program help-hint. More details on KVCD quantization can be found [here](#).

### Enable 2-pass encoding:

Enables two-pass encoding, which runs a first pass on the file to gain info about motion in the file. Afterwards, a second pass is run, where the file is actually encoded. Overall, this process makes video conversion about 1.5 to 2 times longer than without it, but does reduce the filesize of the output file, while still maintaining quality.

Do note that this option is not available for the CRAFT muxer if the resolution is not 640x480, due to issues with the CRAFT muxer not encoding the SFD if the resolution was not 640x480. Enabling this option will also disable KVCD quantization and VBR encoding, due to them being incompatible with 2-pass encoding.

### **Custom FFmpeg Commands:**

Allows the use of custom FFmpeg commands in video and/or audio conversion. Do note that input and output file data should NOT be included in this. These settings are also applied after the program preset ones, so it is possible to overwrite the program ones, if needed.

### **Audio Bitrate:**

This box allows you to change the bitrate of the audio in the output SFD. 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 Sample Rate**

This box allows you to change the sample rate of the audio in the output SFD. The default value is 44100Hz, a common sample rate for most SFDs. 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 SFD's audio to either be Mono (1 channel) or Stereo (2 channels). Unless audio is needed in mono, it's best to leave it as its default, Stereo.

## **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's, legaladx's and any SFD muxer's output to the CMD window.

### **Keep Conversion Files**

These options allow you to keep files used when creating the SFD. Do note that if this option is checked, the selected files will be moved to the same location as the SFD file when created.

# **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) [2000-2026] 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.

sfdcrcf (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. Its 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!