



Eszett Solutions

Sz - FRC to FDR Converter

Version 1.1

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INTRODUCTION

“Sz - FRC to FDR Converter” is a tool which helps you to convert flights recorded by FS Recorder (www.fs-recorder.net) to flights that can be replayed by Sz – Flight Data Recorder.

Please note that it does not and cannot do a perfect conversion of all details, because the recorded data and the methods of playback of the two programs are slightly different. But it is doing that part of conversion that can be done automatically. And with some additional manual effort, the result might even become perfect.

Version History

Version 1.1

January 2009

- Conversion from FS Recorder 1.3 to Sz – Flight Data Recorder 1.1 enabled

INSTALLATION / UNINSTALL

Sz - FRC to FDR Converter is part of the installation package of Sz – Flight Data Recorder V 1.1.

USAGE

Basics

Sz - FRC to FDR Converter does not convert a flight record file *.frc recorded by FS Recorder directly, but uses an ascii text file to which the recorded data has been exported with FRC (FS Recorder).

Also Sz - FRC to FDR Converter does not directly convert the input data into a flight recording, but it creates an ascii text file that can be imported into Sz - Flight Data Recorder.

So what it is doing is a mere conversion of one ascii file to another.

Preparing the input

The input file has to be an export file of a FS Recorder recording, as produced by the "Conversion Tool 1.0 for FS Recorder frc2ascii.exe" which can be downloaded from the FS Recorder website.

Run frc2ascii.exe to convert the FRC flight recording into an ascii file.

Doing the conversion

Sz - FRC to FDR Converter is a command line program, which means that you won't see a graphical user interface. So it is a good idea to save the following command in a windows batch file (simple ascii file with .bat extension) and run the batch file (double click on it).

After installation of Sz - Flight Data Recorder the executable Sz-frc2fdr.exe is placed in the directory <installdir>\Programs, where <installdir> is the installation directory for Sz - Flight Data Recorder, e. g. C:\Program Files\Eszett Solutions\Sz-FlightDataRecorder.

Sz-frc2fdr.exe requires some of the libraries also placed in the Program's directory. So do not copy the executable into a new location, but call it with the full path specified.

The first parameter you have to specify is the filename of the frc file in ascii format, as you have prepared in the first step.

The second parameter you have to specify is the file you want to be created and filled with the converted data.

If the input and output files are not located in the same directory as the batch file, include the full path names with the file names.

The third parameter you may specify is a switch "-m" which means that altitude data in the input file is to be handled as meters instead of feet.

So we've got:

```
<installdir>\Programs\Sz-frc2fdr.exe <frc ascii file> <fdr ascii file> [-m]
```

Don't forget to enclose the parameters in double quotes, if they contain blanks.

When conversion has been successful, you will find the fdr ascii file in the location that you have specified.

If conversion fails, an error message will show (on standard error output of the console of the batch file) and the program stops until you press a key.

Using the output

You can now start Sz - Flight Data Recorder and import the created fdr ascii file as a new flight log. Specify international culture in the import options. See Sz - Flight Data Recorder manual for details.

Looking inside

Data Selection

Sz - FRC to FDR Converter processes just some of the data sections that may be contained in a frc ascii file:

- Data entry "#Data:" and flight data section

Only the first data entry and its flight data is being processed.

If the next data entry or any special entry (starting with a "#") is found while processing the data section, processing will be finished.

Flight data that is not preceded by a data entry is ignored.

- Aircraft entry "#Aircraft:"

The aircraft entry before the data entry is processed. The aircraft title is read out and will be appended to the data entries in the output file.

Data Conversion

Sz - FRC to FDR Converter reads in the columns in flight data section. It will transfer many of them to the output file, applying conversions to some of them, and it will even ignore some columns.

For all processed columns the header column is converted to the key word expected by Sz – Flight Data Recorder.

This is a list of the columns in the data entries that are transferred to the output file.

Frc key word	Conversion	Remark
latitude		
longitude		
altitude		Depending on the third program parameter „altitude(ft)“ or „altitude(m)“ is used as column heading
pitch	use opposite sign	For some reason FS Recorder uses negative pitch, where Sz – Flight Data Recorder uses positive values and vice versa.
bank	use opposite sign	For some reason FS Recorder uses negative bank, where Sz – Flight Data Recorder uses positive values and vice versa.
heading		
onground		
elevators	Convert elevators position (-16383 to 16383) to percentage (-100 to +100)	
ailerons	Convert ailerons position (-16383 to 16383) to percentage (-100 to +100)	
rudder	Convert rudder position (-16383 to 16383) to percentage (-100 to +100)	
spoilers	Convert spoiler position (0 to 16383) to percentage (0 to +100)	
flaps		
gear		
smoke		
timestamp		
lights		The bit field is converted to ten columns with a boolean value.

Note that Sz - FRC to FDR Converter does not validate the data in the data section. If it contains invalid or incomplete data, conversion will succeed, but importing to Sz - Flight Data Recorder will fail.

Enhancing the output

As you might have noticed, FS Recorder does not record some data that Sz - Flight Data Recorder could play back. This is for example the position of flaps and gear (not the handle position, but the flaps and gear position themselves).

Naturally not recorded data cannot be contained in the conversion output. And when importing this incomplete data, Sz - Flight Data Recorder will use default values and this will result in a less-than-perfect play back.

If you want to get a better play back of the gear position(s), feel free to add the missing gear position columns and the retractable flag. If you want to get a better play back of the flaps, add the missing flaps position columns.

And if you want to have the actual recording time saved in the flight recording, feel free to add a #StartInfo section.

For more details please refer to the description of import data in Sz - Flight Data Recorder manual.

FURTHER INFORMATION, SUPPORT

For further information about Sz – FRC to FDR Converter please visit our website www.eszett-solutions.com where you can find product and purchase details, updates, additional files and information about Sz – FRC to FDR Converter.

For technical support please have a look at the latest FAQ on the website or contact us via the web form provided in section "Support".

For sales enquiries and especially key replacements please do not contact us direct but the provider / webshop where you have obtained your registration key.