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GETTING STARTED WITH DHNRDS FA DECODER

Getting started guide for the FeralA mode decoder. Please note that there is an accompanying "using" memo also with more details. Sorry about the poor docs – I have been fully occupied on the decoder itself. There are older, out of data more complete docs, but you do not want to use those – the older docs would make you very confused :-).

Installing (quickly) on Windows:

There is NO installer. When just starting, enter command mode. **Find a directory to work in, then unzip the program. The program should be immediately runnable.** You can choose da-win.exe for older machines, or da-avx.exe for newer machines.

Eventually, if you have success 'playing around', then find a new directory where you want to put binaries. Unpack the decoder there. Place that directory in your command path, then you should be able to use the decoder as below. **If you decide to use da-win instead of da-avx, simply replace the da-avx commands below as da-win.**

Installing on Linux:

I assume that you are Unix/Linux savvy. Just put the Linux binary where you want to keep it. **The best one is da-avx**, but there is also a da-sse3 for older machines, and da-avx512 if you want to use the AVX512 instruction set, but run more slowly (really – that is true!!!) The AVX2 code is highly optimized and very fast for what it does (however slow the decoder is.)

Full examples are further down, but the basic *form* of a simple command is thus:

da-avx --info=1 "<Calibration command>" "<decoding command>" "<optional stuff>" --input=infile.wav --overwrite --output=outfile.wav

'infile.wav' and 'outfile.wav' should be the appropriate filenames that you are wishing to decode, and the resulting decoded files.

a real example command might be:

da-avx -info=1 -tone=-50 -fcs="6,auto,fGg" --input=in.wav -overwrite -output=out.wav

The "<Calibration command>" sets the decoder curve dB level to match the original encoding.

The "<Decoding command>" sets the amount of decoding and the kind of decoding EQ. I call the kind of decoding either the 'FA initiator' or 'decoding mode'.

Here are very typical "<decoding commands>": (lots more info in "using-V1.7.0F.txt" file.)

```
--fcs="6,auto,fGg^^"  
--fcs="8,auto,fgb"  
--fcs="6,auto,fg^^^"
```

(and others - but the base commands are "fgG" (or "fGg") and "fg".)

The number of 'layers' of decoding (the first number) can be 4,6,8. If possible, 8 produces higher quality, but can be tricky. Best to try '6'.

The '^' are a kind of very controlled treble boost.

The 'a', 'b', or 'c' immediately following 'fg' or 'fgG' are also a different kind of increasing treble.

Here is a list of typical "<Calibration command>": (in dB)

```
"--tone=-50.0"  
"--tone=-54.5"  
"--tone=-56.0"  
"--tone=-60.0"  
(and others)
```

There is a standard set of numbers, including the above, plus:
-49.0, -51.0, -50.5, -64.5, -66.0, -46 and -70.0

With the wrong calibration number, you'll still get results, but the correct number will give you the very best results. --tone=-50, --tone=-54.5 and --tone=-60.0 are good first choices, and I typically start with --tone=-50 and --tone=-56.

The "<optional stuff>" includes quality controls, information displays, input/output gains (don't mess with input gains unless you know what is going on), but output gains are okay to mess with. A typical 'quality improvement' switch, which also slows down decoding markedly is '--fz'.

TYPICAL DECODING COMMANDS

Some typical decoding examples: full commands, directly cut and paste (minor editing) from a command line that I used for testing:

* There are switches/commands that I didn't explain above – please refer to the 'Usage-V1.7.0F.pdf' document.

DO NOT BE AFRAID TO EXPERIMENT... Remember the typical initiators like 'fGg' or whatever. Both those, and the -tone= values are the critical things that need to change.

Simon & Garfunkel collection (not the high res version):

da-avx --info=3 --tone=-54.5 -fcs="8,auto,fg^^" --wob=0.8409 -infile=in.wav -overwrite -outfile=out.wav

* --wob=0.8409 narrows the stereo image (needed)

* --info=3 increases the runtime logging (interesting gain info)

* (the number of layers – the first arg to 'fcs' is arbitrary, 4, 6 or 8)

Yes, 1970 Album

da-avx --info=3 --tone=-50 -fcs="8,auto,fg^^^" -infile=in.wav -overwrite -outfile=out.wav

(the rest of these will show only the changing information, --tone= and --fcs

Carpenters, 1970 Album

--tone=-50.0 -fcs="8,auto,fgB^^^"

Taylor Swift (album with Shake It Off)

--tone=-50 -fcs="6,auto,fg^^^"

London Symphony 50 Classical Songs

--tone=-56 -fcs="8,auto,fgc" --fw=classical

Dave Brubeck Take Five

--tone=-56 --fcs="6,auto,fgG^^"