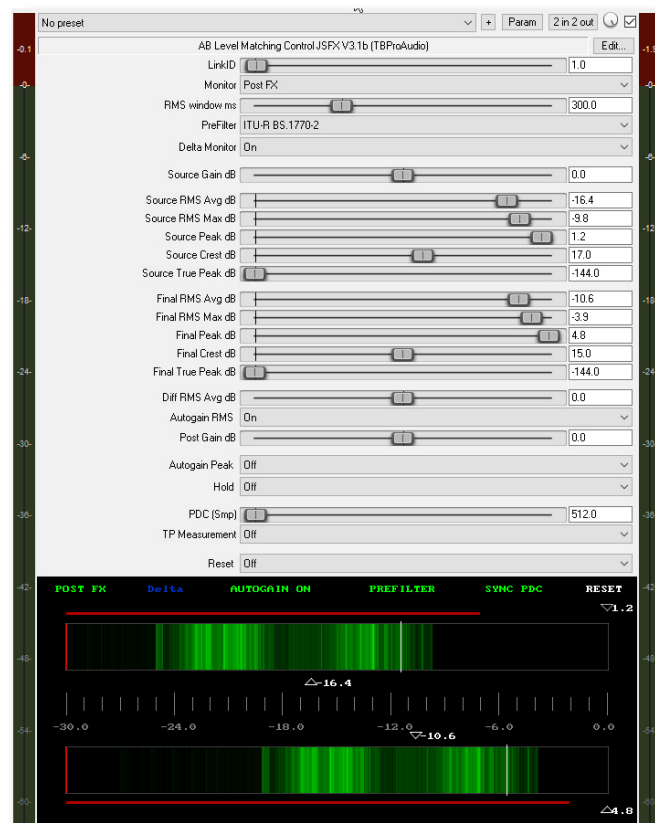# AB Level Matching JSFX V3.1

Manual

TBProAudio 2018

1   Introduction

During audio mastering process you have very often the problem of comparing the effect of a plugin chain at the same loudness level. The plugin chain changes the loudness and also adds delay. So simply bypassing all involved plugins does provide "true" comparison

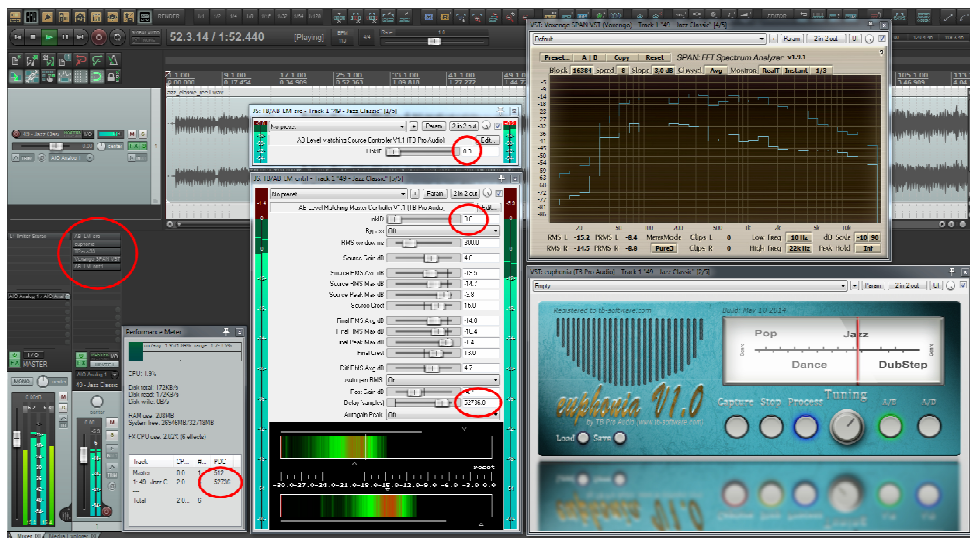Our Reaper JScript "AB Level Matching JSFX" could help you out:

It matches automatically the audio level at the beginning of your plugin chain with the level at the end. Therefore 2 scripts are provided: a source and a controller script.

In addition the script could automatically calculate the delay caused by the plugin chain and compensate it so that the switch between original and processed signal is done without any interruption/distortion of the audio stream.

The scripts are provided as they are so no guarantee for correctness and error free functionality.

With V3 AB Level Matching JSFX introduces the delta monitoring mode. So you can not only listen to the Pre or Post FX signal, but also to the delta of both. This is very useful if you want to hear how limiters or compressors are working.

2 How it works

The source script (AB_LM_src) is usually inserted as the first (plugin) in your plugin chain, the controller script (AB_LM_cntrl) after the plugins you want to monitor.
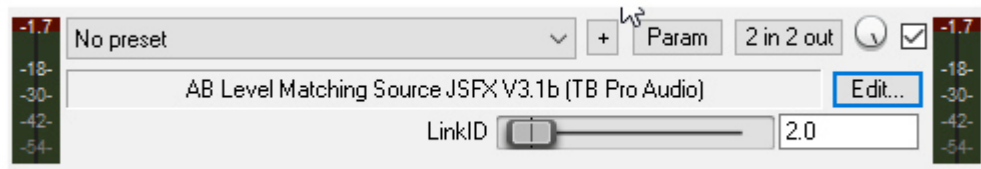
This script combination matches automatically the loudness of source and target audio.
It also provides manual delay compensation. Additionally it shows some audio-statistics and a GUI for the loudness distribution.

The control script comes in 2 flavors: a lite version (AB_LMLT_cntrl) and a Pro version (AB_LM_cntrl). Please do not use both at the same track!

3   Minimum System Requirements

- Cockos Reaper 4.6+ or
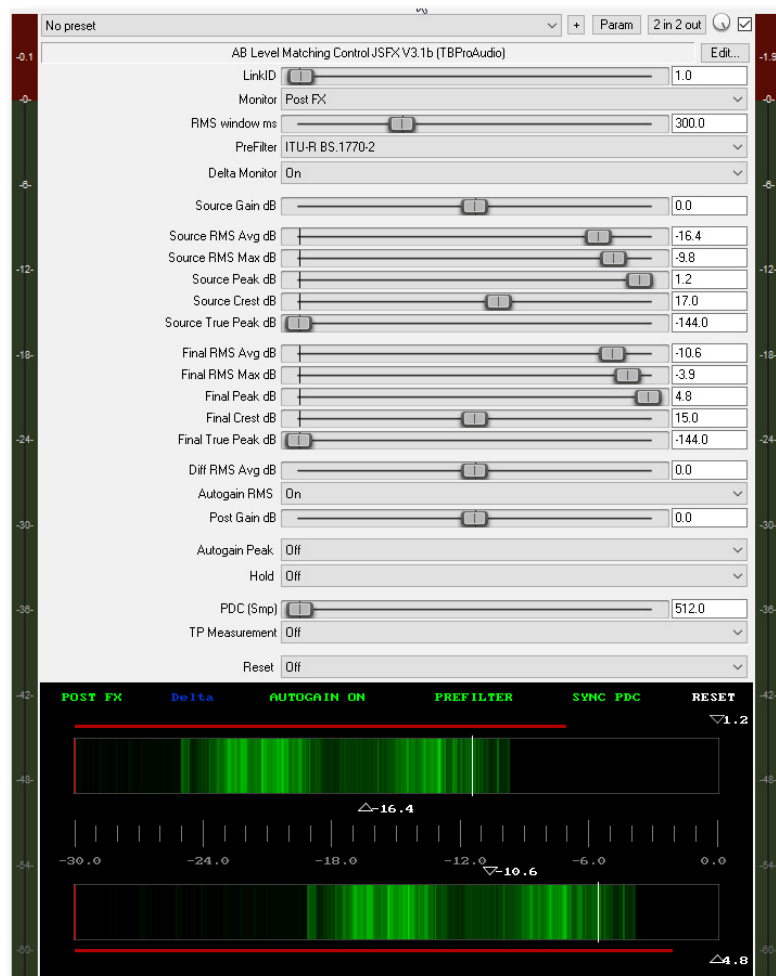- ReaPlugs VST FX Suite 2.2

4   AB Level Matching Source JSFX

Just set it as first plugin in your plugin chain.

4.1   LinkID

Sets the channel for the communication to the controller plugin. Can range from 0 to 31. Please make sure that it matches with the id of the corresponding controller plugin.

5   AB Level Matching Controller JSFX

Pro Version

Lite Version (with less sliders)

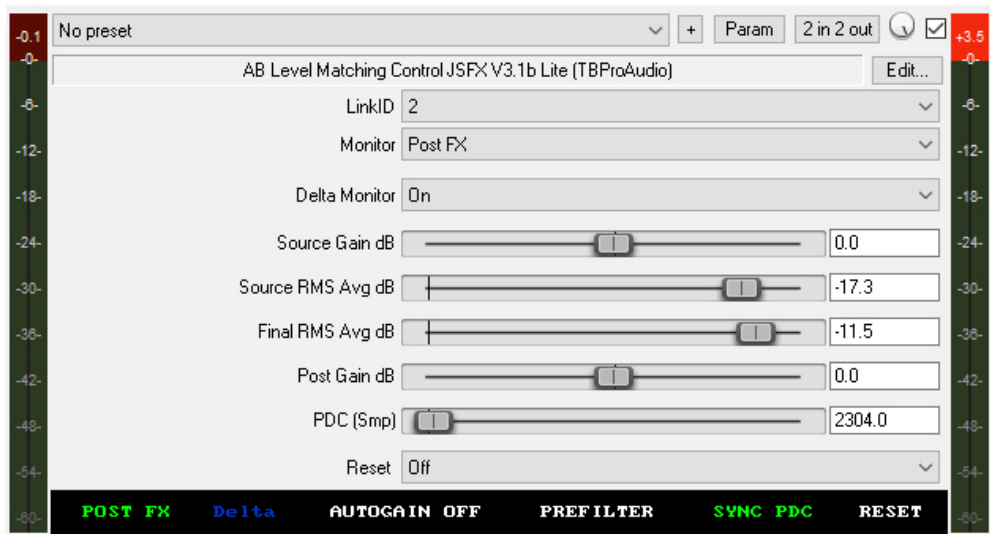Just insert as "last" plugin in your plugin chain in order to control the plugins before.

5.1 LinkID

Sets the channel for the communication to the controller plugin. Can range from 0 to 31. Please make sure that it matches with the id of the corresponding source plugin.

5.2 Monitor

This is the magic "switch":
"Pre FX": audio from source plugin is directly routed to controller plugin, bypassing all processing between.
"Post FX": audio is processed by the plugins between source and controller plugin and level is matched

5.3 RMS window

Sets the window of loudness measurement (RMS momentary) in ms.

5.4 PreFilter

Enable ITU-R BS.1770-2/4 Prefilter (K-Filter)

5.5 Delta Monitoring

Post FX signal is subtracted from Pre FX signal.

5.6 Source Gain

controls the gain of the source signal right after the source plugin. You can feed your "monitored" plugins with more or less gain.

5.7 Autogain RMS

"Off": no level matching, output gain is controlled by "Post Gain" slider
"On": automatic level matching

"Bypass": bypass "Autogain" feature without fiddling with "Post Gain" slider, used to listing to processed signal at true audio level

5.8 Post Gain

Set the post gain value manually (only in Autogain RMS mode off)

5.9 Autogain Peak

Another level matching mechanism, which is controlled by value "Final Peak Max". It limits the output level to 0.0dB.

5.10 Hold

Pauses plugin measurement.

5.11 PDC (Pre Delay Compensation)

Sets delay of source signal so that timing of the signal from source plugin matches with the signal of controller plugin.
The delay of the plugin chain can be automatically calculated by clicking on the "SYNC PDC" button or can be manually set (e.g. Reaper - "Performance Meter" view (PDC)).

5.12 Source RMS/Peak/Crest

Shows average/max RMS, peak max and crest value at the beginning of your plugin chain

5.13 Final RMS/Peak/Crest

Shows average/max RMS, peak max and crest value at the end of your plugin chain

5.14 Diff RMS Avg

Shows the loudness difference between final RMS average and source RMS average created by all plugins between the AB Level Matching plugins. This difference could be automatically compensated by enabling "Autogain RMS".

5.15 GFX: A/B

Another "bypass" button, for "blind" test with one mouse click

5.16 GFX: Hold

Pauses plugin measurement

5.17 GFX: AutoGain Off/On/ByPass

Cycles through auto gain modes (left mouse click up, right mouse click down)

5.18 GFX: Prefilter

Enable ITU-R BS.1770-2 Prefilter

5.19 GFX: SYNC PDC

Click in order to calculate the delay of the chain. During calculation button goes to red. As soon calculation is finished button switches to green.

5.20 GFX: Reset

Resets all measurements

6 Conclusion

So finally if you have any questions or suggestions just let us know. And have phun with our tools.

Your team from TBProAudio (http://www.tb-software.com/TBProAudio/index.html)