Making impulse responses, Tone Matcher module.

Before you start making your own impulse responses (IRs) consider sample rate of your IRs.

In general case, better to choose 96 kHz for impulse production. For personal use with REACT:IR you can use 44.1 kHz, but REACT:IR have quality resampling to 44.1 kHz, so it is practical to make 96 kHz IRs if your interface is supporting such sample rate.

Still it`s convenient to use digital output of REACT:IR, because you will not have additional AD/DA conversion and D.I. OUT signal (right channel of S/PDIF) along with processed signal (left S/PDIF channel) with single cable. But remember, that sample rate will be 44.1 kHz only.

Second thing to consider is method to send test signal to your amp.

There are two possibilities: send signal to return of amp or send signal to input of you amp.

Test signal into return

- If amp does not have effects loop, then this method is inapplicable
- You should use sine sweep signal (which can be generated in Tone Matcher module)
- You should not overdrive return circuitry and power amp too much, better if level is close to send level
- In case of amplifier without master volume or return level, trim down level of test signal from DAW to a proper loudness

Test signal into main amp input

- Works with any amp
- You can send sine sweep test signal, send some DIs (can be a part of reamping process) even noise, but later should have large length, so it`s not practical
- You don`t have to care about levels, amp working in natural way
- Basically this is reamping process, but noise is negligible for process, so it works even with noisy interface
- Influence of preamp on frequency response is minimized, but better to use with high gain.

Better to try both method and decide for yourself. Also, try some DIs instead of sine sweep signal.

Preliminary steps.

Making test signal.

1. Go to Tone Matcher module by pressing this button in the REACT:IR remote Interface

2. Choose Frequency (Sample Rate) according to desired IR sample rate. Rest of parameters can be leaved intact.
3. Create test signal by using Save Test Signal button.
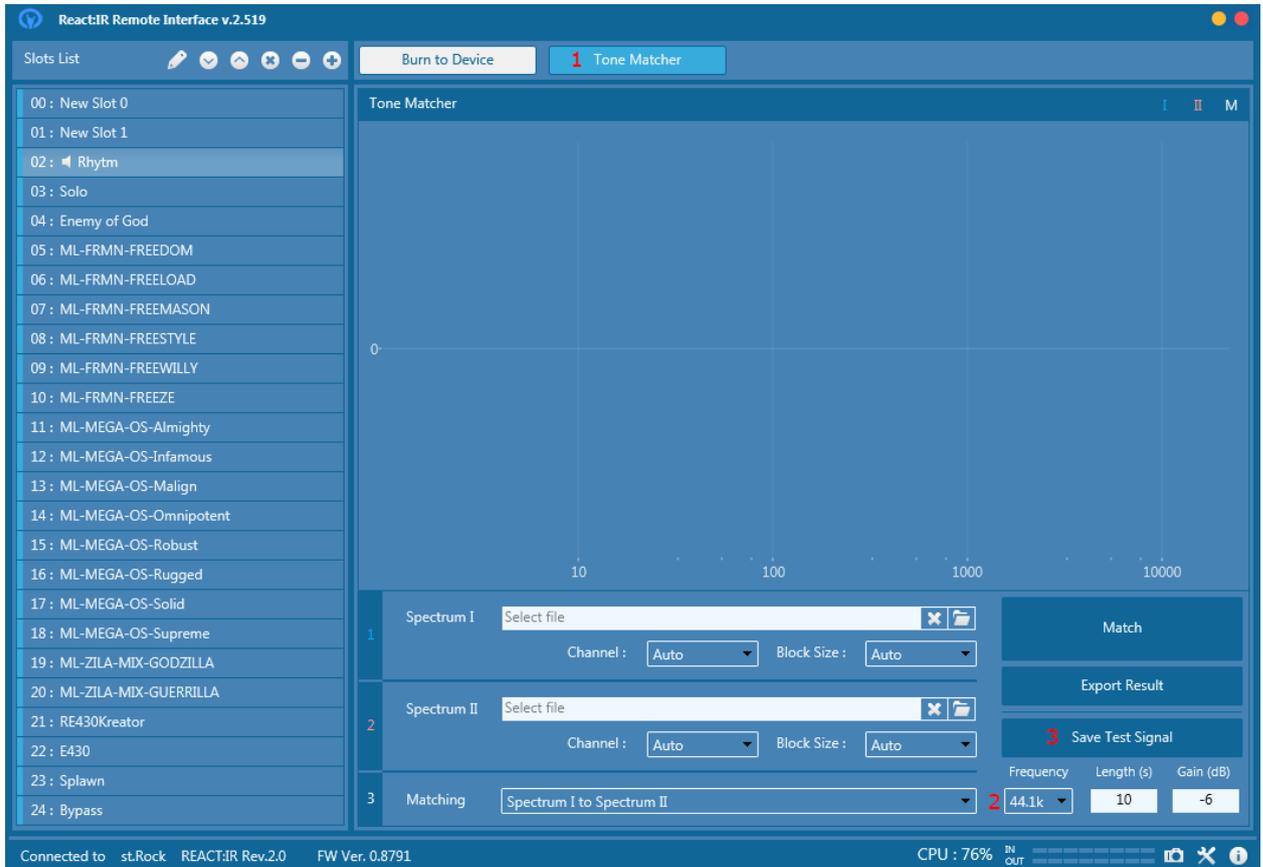
TM_pic01.png

Setup your DAW

1. Insert test signal on dedicated track in your DAW, set track output to one of your interface outputs.
2. Create track(s) for microphone(s) or their combinations.
3. Create track for REACT:IR D.I. BAL OUT output.
4. Optionally create track for REACT:IR BAL. OUT output.
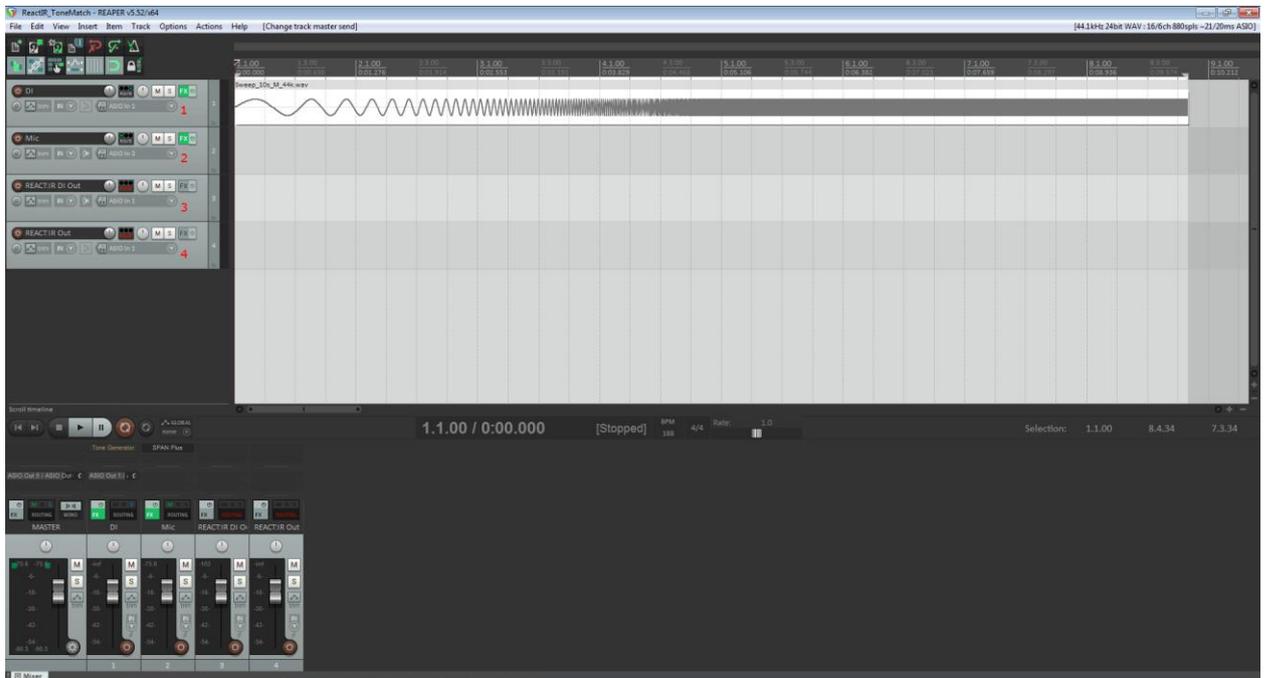
TM_pic02.png

Basic procedure

1. Connect line output of track with test signal into return of your amp.
2. Set proper level (remember to don`t overdrive return too much).
3. Play test signal and record microphone signal(s) in DAW.
4. In Tone Matcher Module load generated test signal into Spectrum I by opening file.
   You will see spectrum of loaded file.
5. Load recorded microphone signal (for each desired microphone) into Spectrum II.
   Tip 1. You can load files into any field and choose matching mode later.
6. Press Match button.
   You will see additional matching spectrum.
7. Press Export Result button to save resulting impulse response.
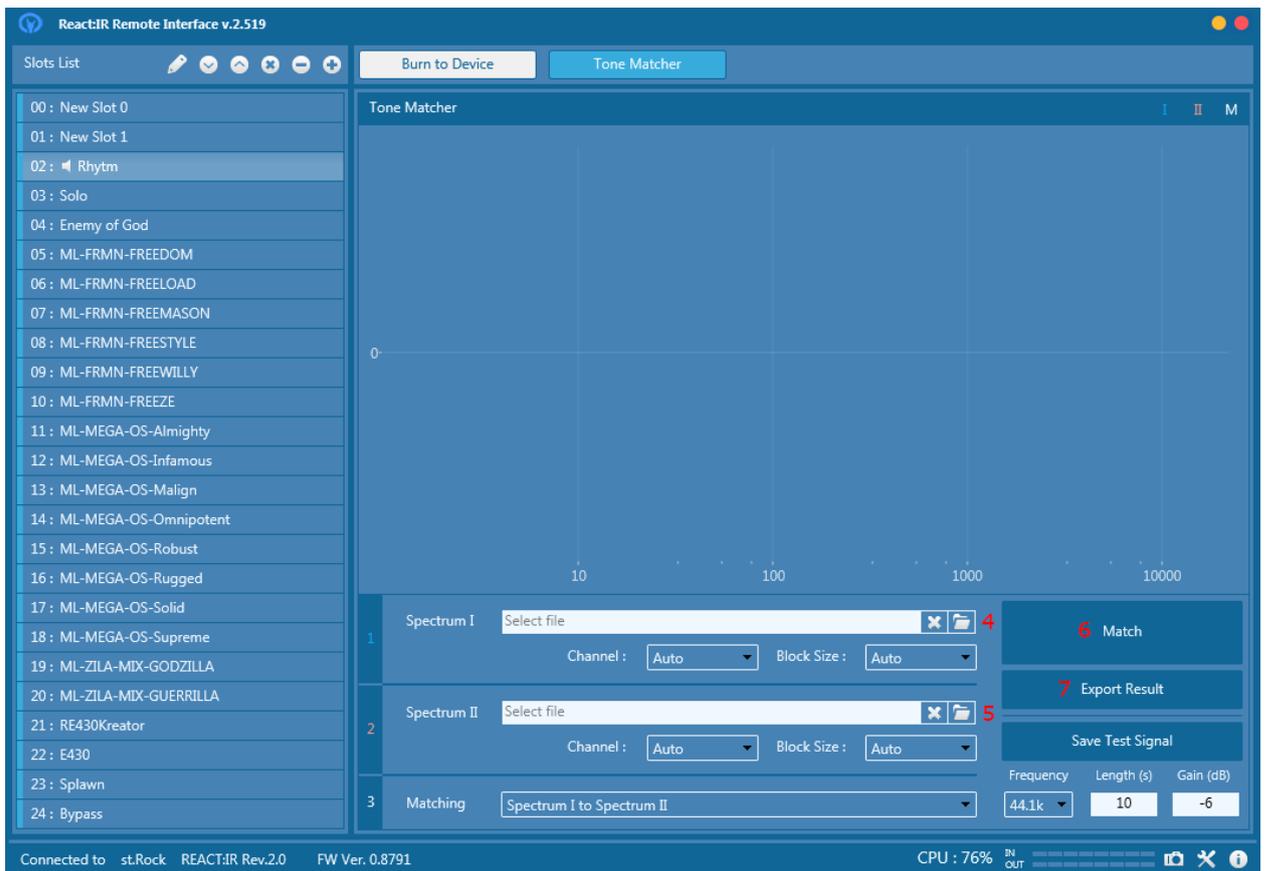
TM_pic03.png

Matching REACT:IR output to miked signal

1. Connect line output of track with test signal into return or in input of your amp.
2. Plug your amplifier into FROM AMP input of REACT:IR.
3. Connect your cabinet to THROUGH input of REACT:IR.
4. Connect D.I. BAL OUT to your interface input (or use S/PDIF).
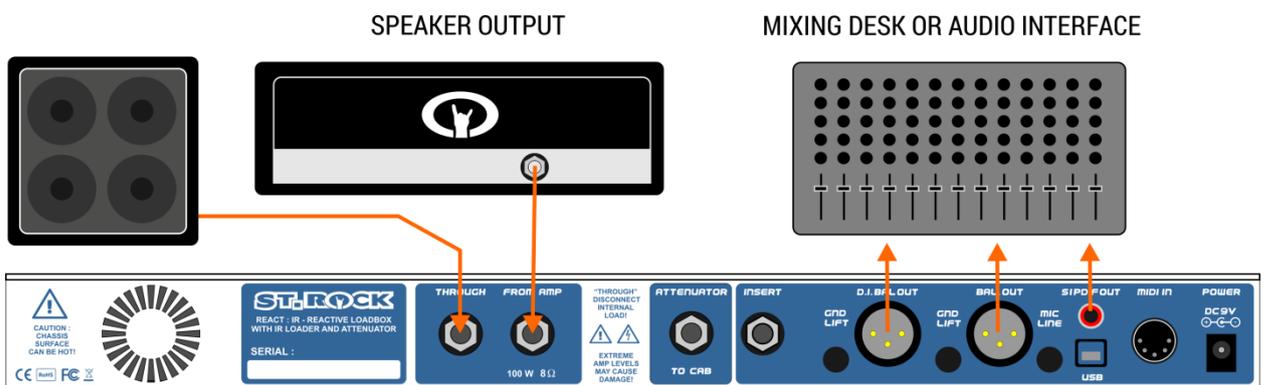
TM_pic04.png

5. Set proper level (remember to don`t overdrive return too much).
6. Play test signal and record microphone signal(s) along with D.I. OUT signal in DAW.

7. If you want better match, unplug your cabinet from REACT:IR switching device to internal load.
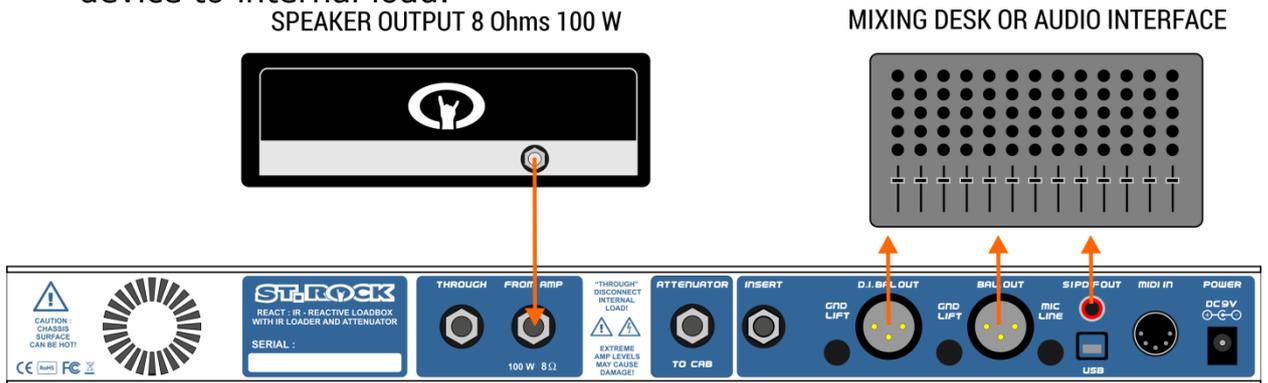
TM_pic05.png

8. Play test signal and record D.I. OUT in DAW, creating additional variant (we will be referring to it as variant 2).
9. In Tone Matcher Module load recorded D.I. OUT signal into Spectrum I. If you load first variant (with load from cabinet), then you will have "flat" IR or your cabinet, without power amp influence. If you load second variant (with REACT:IR internal load), then you will have best match to miked signal.
10. Load recorded microphone signal (for each desired microphone) into Spectrum II.
11. Press Match button.
12. Press Export Result button to save resulting impulse response.
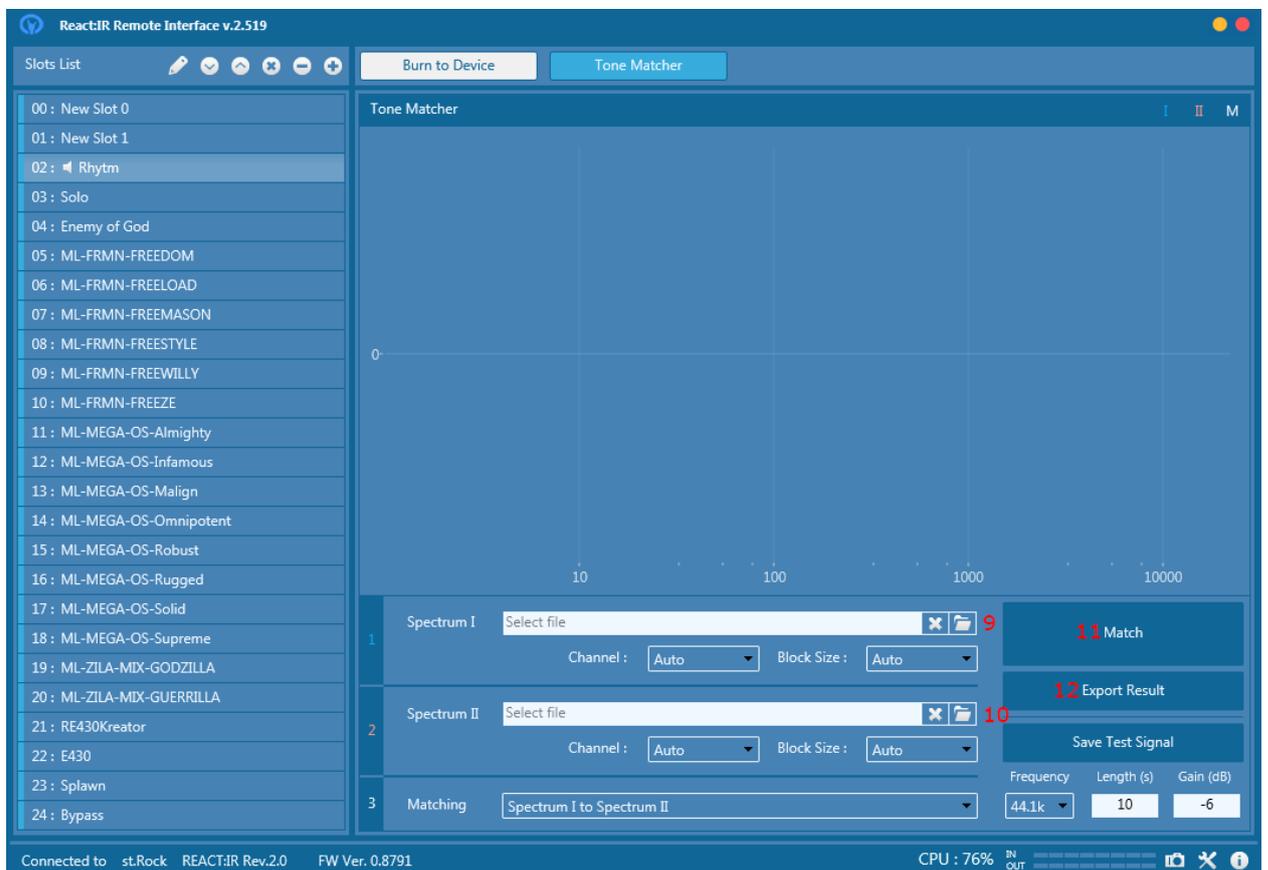
TM_pic06.png

Making real cabinet impedance curve (IC)

1. Connect line output of track with test signal into return or in input of your amp.
2. Plug your amplifier into FROM AMP input of REACT:IR.
3. Connect your cabinet to THROUGH input of REACT:IR.
4. Connect D.I. BAL OUT to your interface input (or use S/PDIF).
5. It is advised to set presence and depth (if amplifier has it) to minimum.
6. Set proper level (remember to don`t overdrive return too much).
7. Play test signal and record D.I. OUT signal in DAW.
8. In Tone Matcher Module load test signal into Spectrum I by opening file.
9. In Tone Matcher Module load recorded REACT:IR signal into Spectrum II.
10. Set Block Size to 8192-16384 for both spectrums for smoother result.
    In case of different sample rates, block sizes should be different, i.e. if block size set to 8192 for 44.1k/48k file, then for 88.2k/96k block size should be set to 16384 (etc.).
11. Press Match button.
12. Press Export Result button to save resulting impulse response.