

# ***How To Export Impulse Response from REW for processing in VituixCAD***

Reid Towsley –December 21, 2022

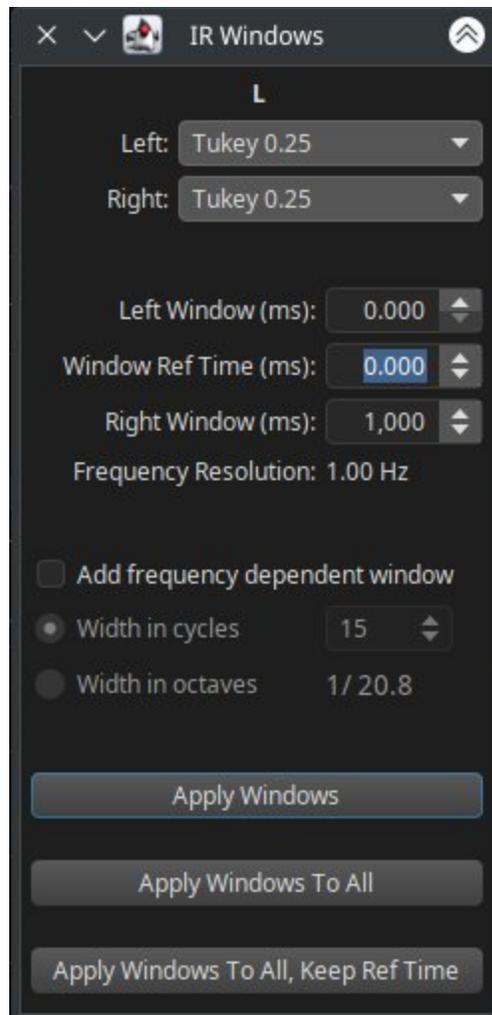
## **Revision History:**

<b>Date</b>	<b>Description</b>
Dec 21, 2022	Initial Release

REW is powerful measurement software, freely available and multi-platform, however it is not without it's quirks. One notable difference between REW and other measurement software is that phase in REW is always referenced to  $t=0$  in the impulse response. Phase results in REW is not relative to the window reference time like other software. In order to remove time of flight excess phase in REW,  $t=0$  must be altered to be near the start of the impulse.

VituixCAD includes a great IR to FR processing tool, and can use impulse response data exported from REW. However retaining measurement timing information is not straight forward. By default, the IR export will include 1 second prior to the peak of the impulse, so timing information is lost. To retain timing information, IR windowing must be used, which is somewhat counter-intuitive to the way REW treats the IR windowing in it's own user interface.

To export impulse response from REW with timing information included, set the IR window to 0ms ( $t=0$ ), left window to 0ms, and set the right window to 1000ms to capture the entire measurement data. This will ensure that the first sample in the exported data is  $t=0$ .



Export the impulse response as text, uncheck “normalise samples to peak value” to maintain the measured amplitude information, and check “Apply IR Window before Export” to export only the windowed information.

Impulse Data Export

Measurement: SL

Note:

t=0 captured

Normalise samples to peak value

Apply IR Window before Export

Export Min Phase Version of IR

Preview:

```
* Impulse Response data saved by REW V5.20.14
* IR is not normalised
* IR window has been applied
* IR is not the min phase version
* Source: In 1-2 (MOTU M Series), LINE_IN (Master)
* Dated: 3-Dec-2022 2:12:06 PM
* Measurement: SL
* Excitation: 256k Log Swept Sine, 1 sweep at -1.000000
* Response measured over: 20.1 to 20,000.2 Hz
0.0011990237981081009 // Peak value before normalisation
23 // Peak index
96001 // Response length
1.0416666666666666E-5 // Sample interval (seconds)
0.0 // Start time (seconds)
* Data start
1 0.0000000000000000
```

OK Cancel