DEQX®

Gen4 Multiway Calibration Guide

LS200

High Definition Digital Integrated Amplifier

Pre-4

Pre-8

High Definition Preamp Processor

Version 0.2
June 23, 2026

IMPORTANT INFORMATION

DISCLAIMER AND LIMITATION OF LIABILITY

DEQX Pty. Ltd. ('DEQX') assumes no responsibility for loss or damage resulting from the use of any of its products.

Specifications are subject to change without notice.

Contact DEQX Support at http://deqx.com/support.php for installation and operational support. We highly recommend using the DEQXpert™ on-line installation and/or training service.

The exclamation point within a triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the product.

The lightning with arrowhead symbol within a triangle is intended to alert the user to the presence of un-insulated "dangerous voltage" within the products' enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to person.

CONTENTS

1. OVERVIEW

Welcome to the DEQX Multiway Calibration Guide.

This guide describes how to calibrate a pair of active speakers with the DEQX Pre-8 Gen4 processor. Chapters 4 to 6 are written in tutorial style, so a first-time user can work through the steps in order. The examples use a two-way speaker for simplicity, but the procedure also applies to three-way and four-way speakers.

The same steps in this guide are used for full range or multiway speakers with a subwoofer. The LS200 and Pre-4 processors can be used in this case. Adjust the driver selection and crossover settings accordingly. (Examples are given in the manual.)

The method described in this manual applies to most conventional ("box") speakers. If you are calibrating a speaker that is unusually large or that contains large panels or tall ribbons, contact DEQX Support for additional guidance.

This manual is part of the DEQX documentation suite:

- DEQX Gen4 User Manual
- DEQX Gen4 Speaker Calibration Guide
- DEQX Gen4 Multiway Calibration Guide

DEQX Gen4 supports the Google Chrome web browser only. If you do not have Google Chrome installed on your computer, you can download it from:

https://www.google.com/chrome/

2. Driver and Speaker Measurement

There are different types of acoustic measurement, each of which has a specific purpose in speaker design, calibration and room correction. In this manual, you will use three types of measurement:

- *Pseudo-anechoic measurement* is used to measure the response of individual drivers in the speaker enclosure, without any reflections from the room or other objects.
- *Driver alignment measurement* is used to measure the time of flight from each driver to the microphone, and thus determine the relative delay between drivers.
- *In-room measurement* is used to measure the response of a complete speaker (all drivers) from the listener's position. It includes the effects of both the speaker and the room.

Note that there are two choices when calibrating a speaker:

a. Use measurements from one speaker to generate the correction filters for both speakers, or

b. Use driver measurements from each speaker to generate its correction filters.

Typically, option (a) will give very good results, and this is the default path through the manual. However, once you have perfected your measurement technique, you may wish to try option (b) for the ultimate correction accuracy.

To obtain accurate driver and speaker measurements, the measurement microphone **must** be pointed directly at the driver or speaker. While the microphone is essentially omnidirectional at lower frequencies, it becomes more directional at higher frequencies and is calibrated for a flat response at high frequencies *only* when pointed directly at the driver or speaker. If the microphone is pointed vertically at the ceiling or floor, or anywhere but *directly at the driver or speaker*, your measurement (and thus calibration) will not be accurate at high frequencies.

2.1 PSEUDO-ANECHOIC MEASUREMENT

Figure 1 illustrates a typical indoor speaker measurement setup. A microphone stand with a boom arm is recommended for placement flexibility.

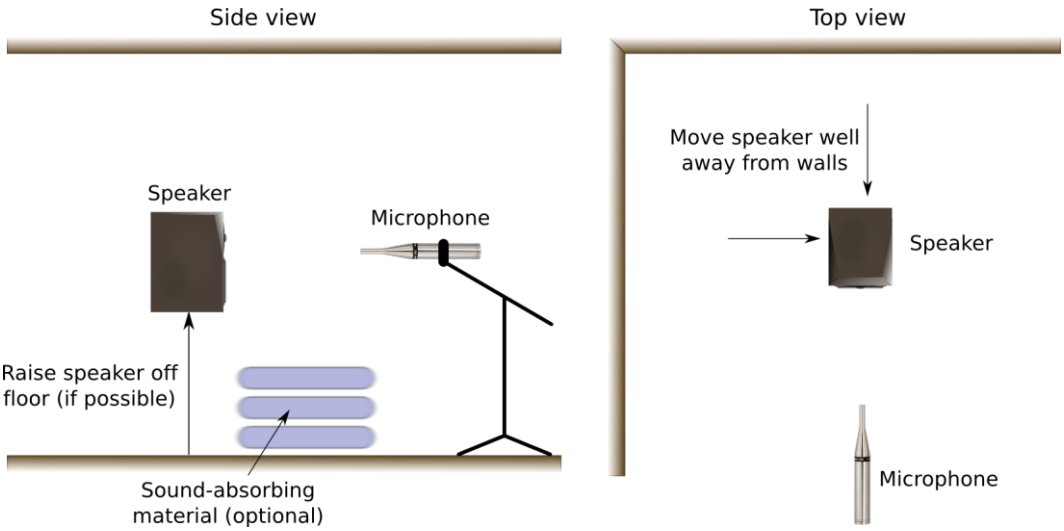


Figure 1. Pseudo-anochoic speaker measurement

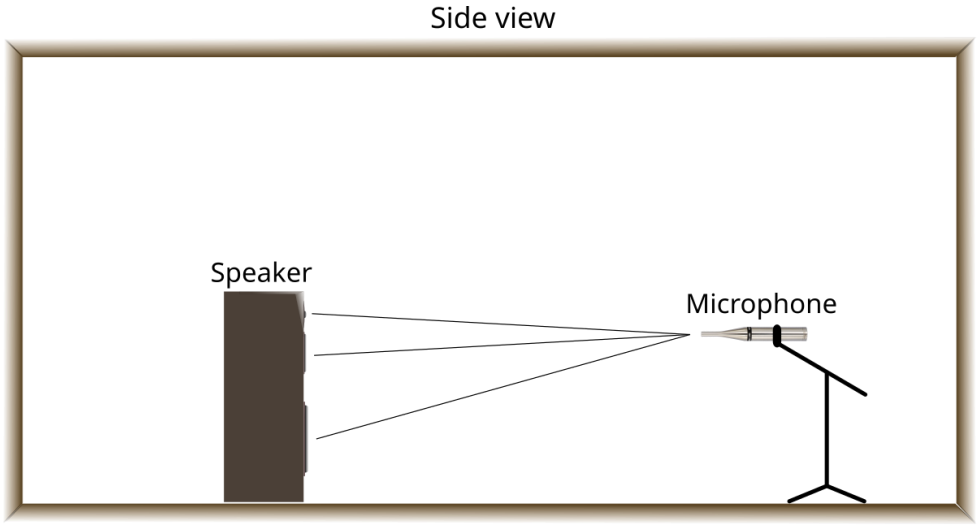
- Move the speaker well away from the walls or other large objects such as furniture. (They should be at least as far from the walls as the tweeter is from the floor, otherwise those reflections will reduce the reflection-free time window.)
- If possible, raise the speaker so the tweeter is about halfway between the floor and ceiling. This ensures that reflections from the floor and ceiling are as delayed as possible.
- If it is not possible to obtain a sufficiently long reflection-free time window, place thick absorbing material (e.g. cushions and pillows) on the floor between the speaker and microphone to reduce the level of the floor reflection.
- Position the microphone 600 mm (two feet) away from the speaker. Speakers with a wider baffle may need the microphone positioned further away. (Moving the microphone further away will reduce the length of the reflection-free time window.)
- Position the microphone inline with each driver, for each measurement. Alternatively, for a small speaker, position the microphone at a height midway between the centers of the midrange (or midwoofer) and tweeter drivers.

  Note: keep the horizontal distance to the baffle the same for each driver.
- In some cases, positioning the microphone slightly off-axis horizontally can result in reduced baffle diffraction effects.

2.2 DRIVER ALIGNMENT MEASUREMENT

The purpose of a driver alignment measurement is to ensure that every driver in a multiway speaker has the correct relative time delays, so that their summed responses integrate properly.

The figure below illustrates. This illustration is a larger 3-way speaker, so the simplest way to obtain the exact relative time delays is to position the microphone at the same distance from the speaker as the anticipated listening distance, and positioned vertically on the same axis as the anticipated listening height.



Note that this doesn't necessarily mean that the microphone needs to be at the listening position in-room – depending on the measurement setup, the speaker could be located away from walls and off the floor.

With a smaller, two-way speaker, a closer distance can be used.

2.3 IN-ROOM SPEAKER MEASUREMENT

Figure 2 illustrates the setup for in-room measurement of a speaker. The speakers are located in their normal position, and the microphone is positioned in the center of the listening area.

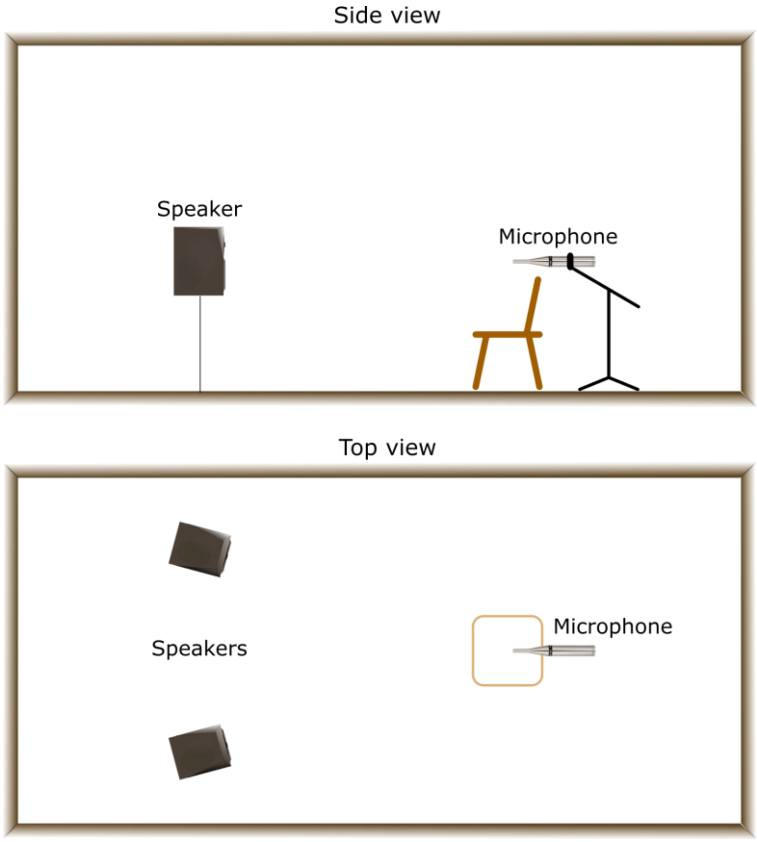


Figure 2. In-room speaker measurement

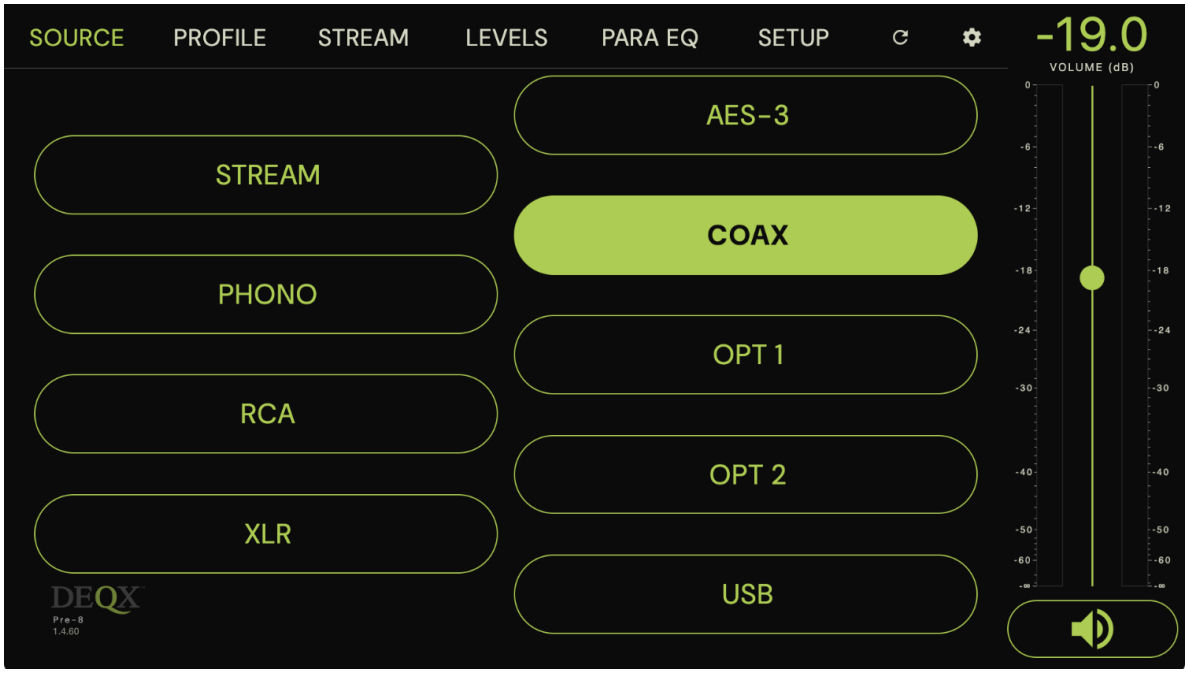
- Point the microphone at the mid-point between the speakers.
- Position the microphone in the exact center of the listening area. Usually, this will mean the microphone will be an equal distance from both speakers.
- Utmost accuracy is not needed when performing in-room measurements, as you will using the measurements to perform parametric room EQ. There is some subjective assessment involved when performing this type of EQ.

3. CONNECTING TO DEQX CONTROL

To access DEQX Control, ensure that your DEQX is powered on and connected to your network. Open Google Chrome and enter the address of your DEQX: deqxy3.local.

Browsers other than Google Chrome are not supported. You can download Google Chrome from https://www.google.com/chrome/.

The initial page displayed is the **SOURCE** page. Each page in the UI is accessed via the menu row along the top. This manual focuses on the **SETUP** page.



To proceed, click on **SETUP** in the menu. A new page will open with a security check, then you will be redirected to the **SETUP** page. If you have not already, you will need to create a DEQX Cloud account and log in before proceeding.

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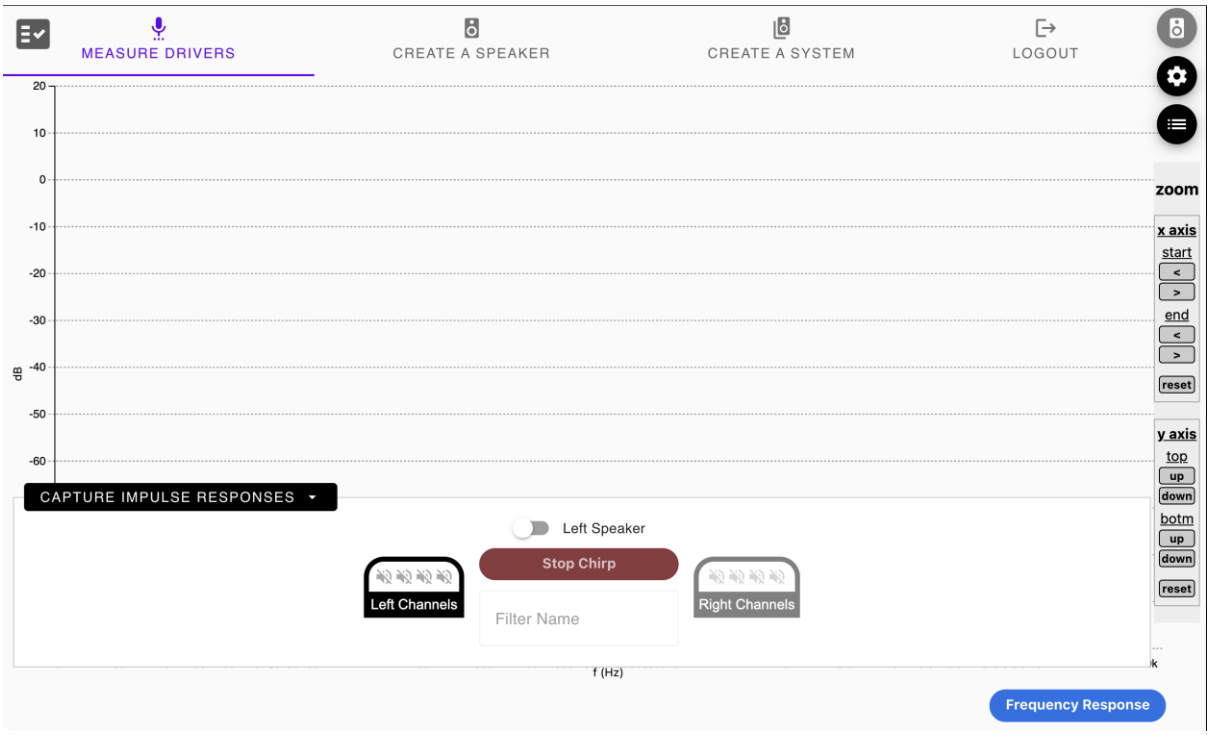
4. MEASURE THE DRIVERS

After logging in, the initial tab presented is the **Measure Drivers** tab. This is where you will measure individual drivers.

This is how the tab looks when first opening it:



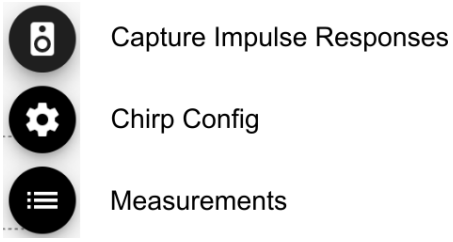
4.1 POSITION THE SPEAKER AND MICROPHONE

There are two measurement methods for driver measurement. The pseudo-anechoic measurement method is assumed in most of the chapter. For this method, position the speaker and microphone as described on page 7.

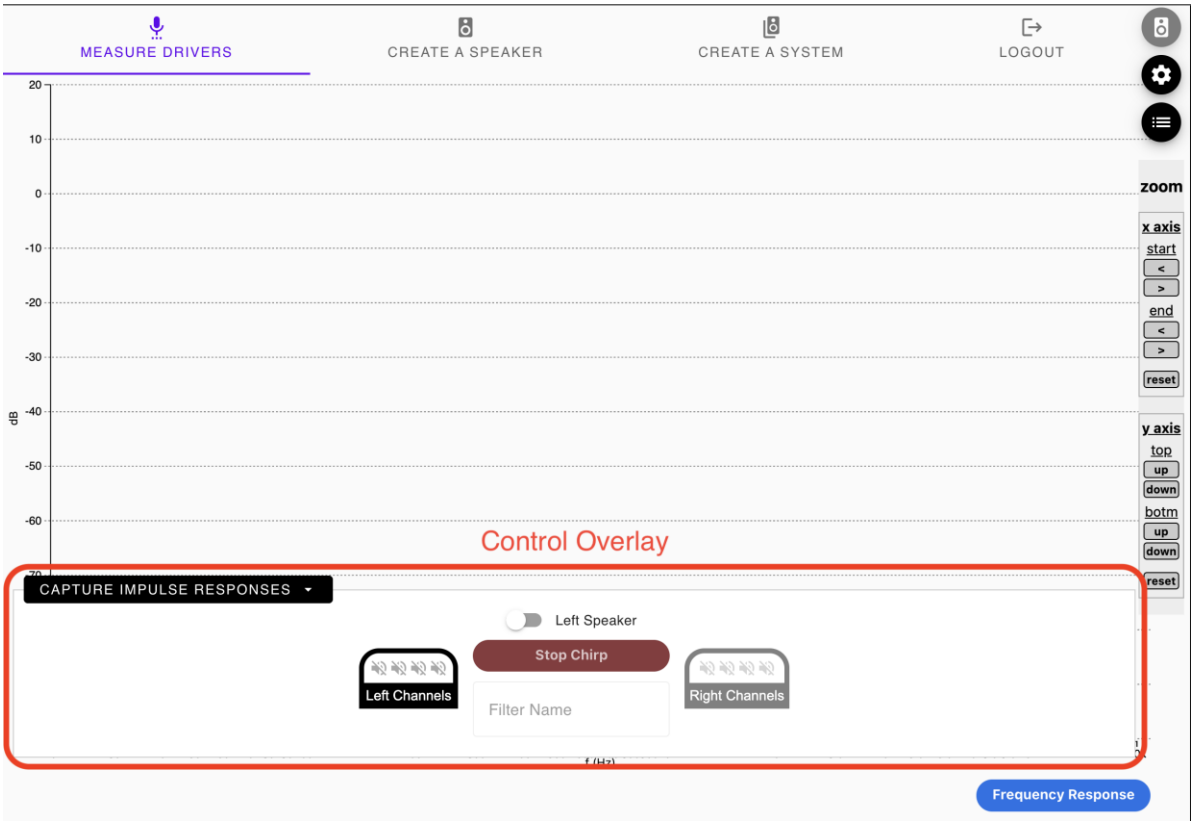
An alternative method is to use in-room measurements, as described on page 9. We suggest you consider trying both methods and experimenting with the settings. More information on this approach is provided on page 23.

4.2 THE CONTROL OVERLAY BUTTONS

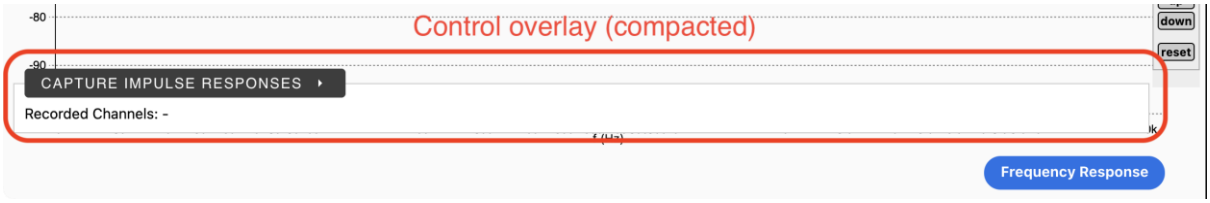
First, familiarize yourself with the three control overlays. The buttons that turn these on and off are at the top right of the window.



A button is greyed out when active. When a button is active, its control overlay appears in the bottom section of the window. Here is an example showing the **Capture Impulse Responses** overlay:



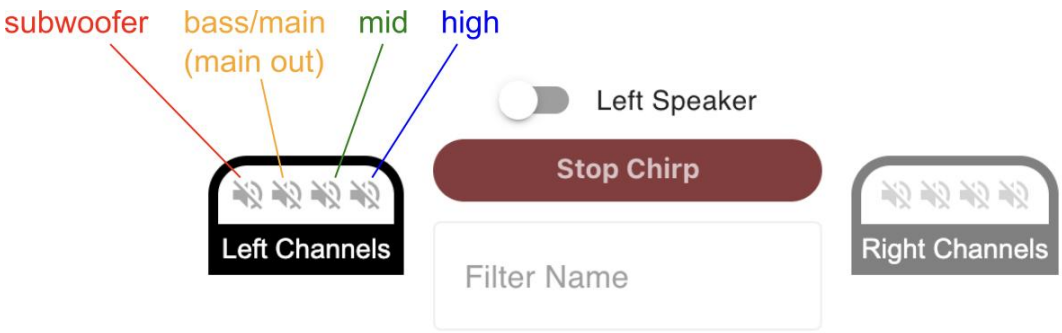
The overlay can be compacted without closing it by clicking on its name. Typically, a very short summary of the contained information is shown. Here is an example of the bottom section of the window with the overlay compacted:



To unfold it to show the contents, click on the name again. From now on, we will show only the overlay when necessary and not the whole window.

4.3 CAPTURE IMPULSE RESPONSES

To begin, open the **Capture Impulse Responses** overlay. It will look like this:

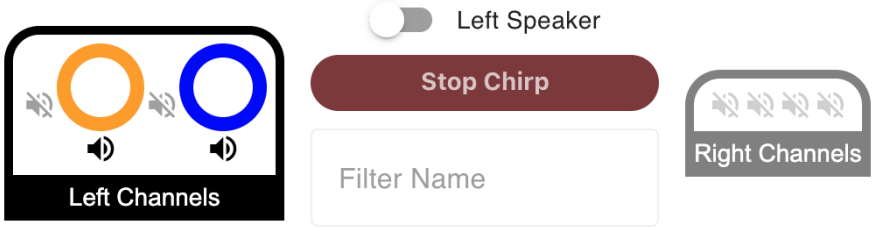


We've added labels to the left channels to show which speaker icon maps to which output connector on the rear panel.

4.3.1 Enable the woofer and tweeter channels

To enable an output channel, click on the corresponding icon.

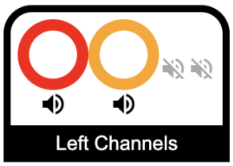
To measure the drivers for a two-way speaker, click on the **bass/main** and **high** icons so the overlay looks like this:



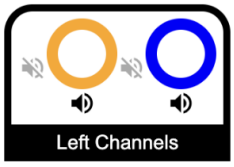
4.3.2 (Other channel combinations)

The diagram below shows, for quick reference, the channel selections for different driver and subwoofer combinations.

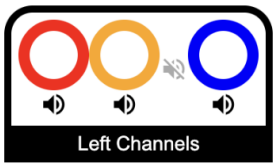
Full-range speaker



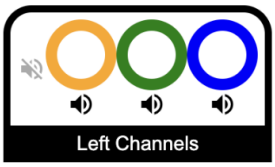
Full-range speaker and subwoofer



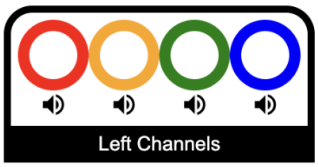
Two-way active speaker



Two-way active speaker plus subs



Three-way active speaker

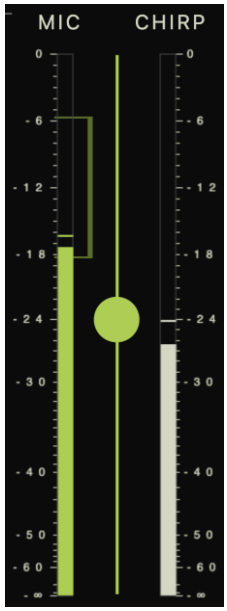


Four-way active speaker, or three-way active speaker plus subwoofer

4.3.3 Measure the tweeter

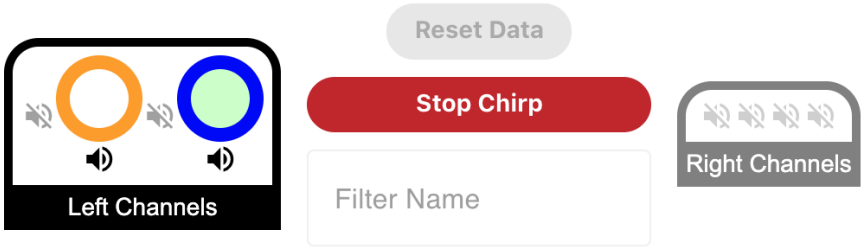
Click in the blue circle to run the tweeter measurement. A quiet sweep, or "chirp," sound will be heard from the left tweeter. The measurement pane changes as shown below.

If you hear sound from the left woofer or from either driver of the right channel, **stop**, power down all equipment, and double-check your cabling and connections.



Gradually increase the main volume control slider until the test signal is at a moderately loud level. The microphone signal level in the meters on the right should usually be in the green zone. If the tweeter sounds "distressed" or strained in any way, reduce the volume. Then stop and restart the chirp so that the whole measurement runs at a consistent level.

Note that the tweeter measurement signal has a brickwall highpass filter at 400 Hz.



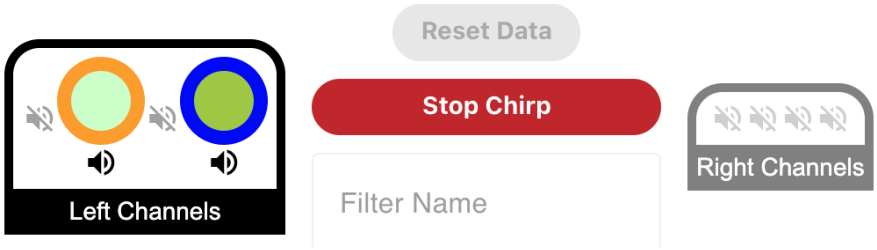
4.3.4 Measure the woofer

Once the tweeter measurement has completed, you can optionally move the microphone vertically for optimum measurement of the woofer.

Click in the orange circle to run the woofer measurement. The chirp will be heard from the left woofer. The measurement pane changes as shown below.

If you hear sound from the left tweeter or from either driver of the right channel, **stop**, power down all equipment, and double-check your cabling and connections.

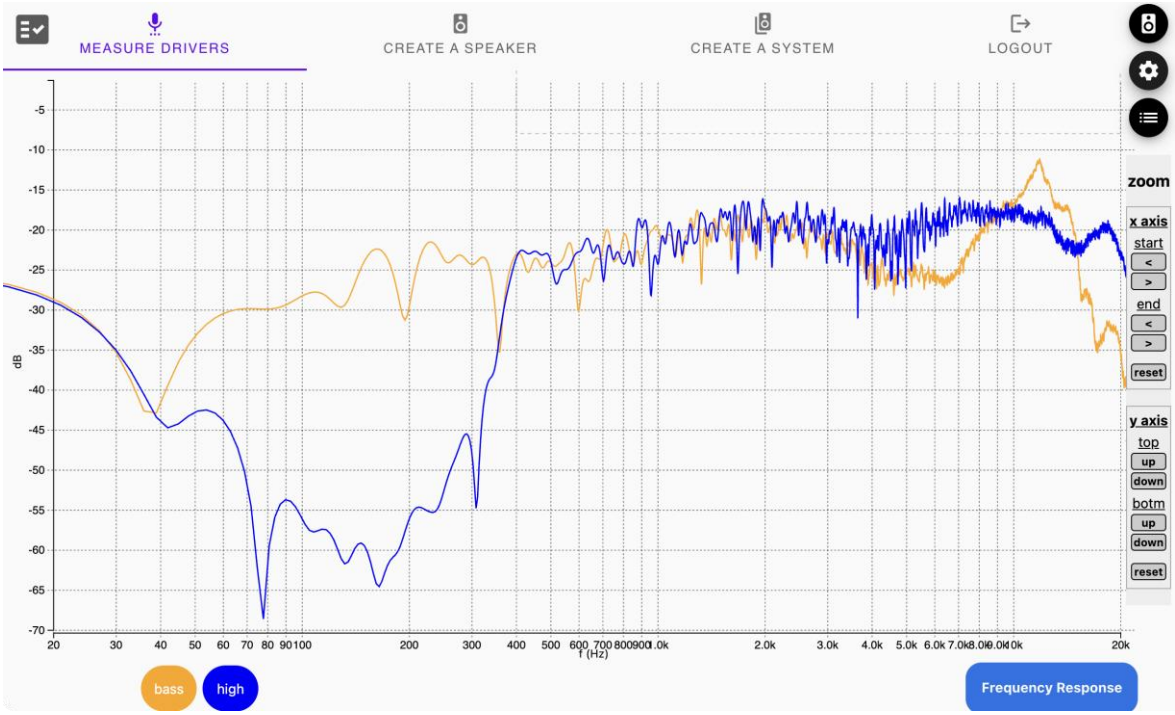
The volume should already be acceptable. If you need to adjust the level, do so, then click **Stop Chirp** and run the measurement again. *Then redo your tweeter measurement at the same level*.



4.3.5 View the amplitude responses

When the chirp completes, close the **Capture Impulse Responses** overlay (click on the button at the top right of the graph).

You will see the frequency response (technically: the amplitude response) of the two drivers:



Note that the tweeter measurement has a brickwall high pass filter at 400 Hz.

The measurement includes a lot of narrow dips and peaks due to room reflections. You can imagine the smoothed response, which represents the response of your driver in your enclosure. Note that this will most likely look different to the manufacturer's published response, because driver manufacturers usually measure in a (very) large flat baffle, whereas you are measuring with the driver mounted in an enclosure with a relatively small baffle.

4.3.6 Adjust the graph range

Now is a good time to learn how to adjust the graph range. All graphs have the same set of controls, shown at right.

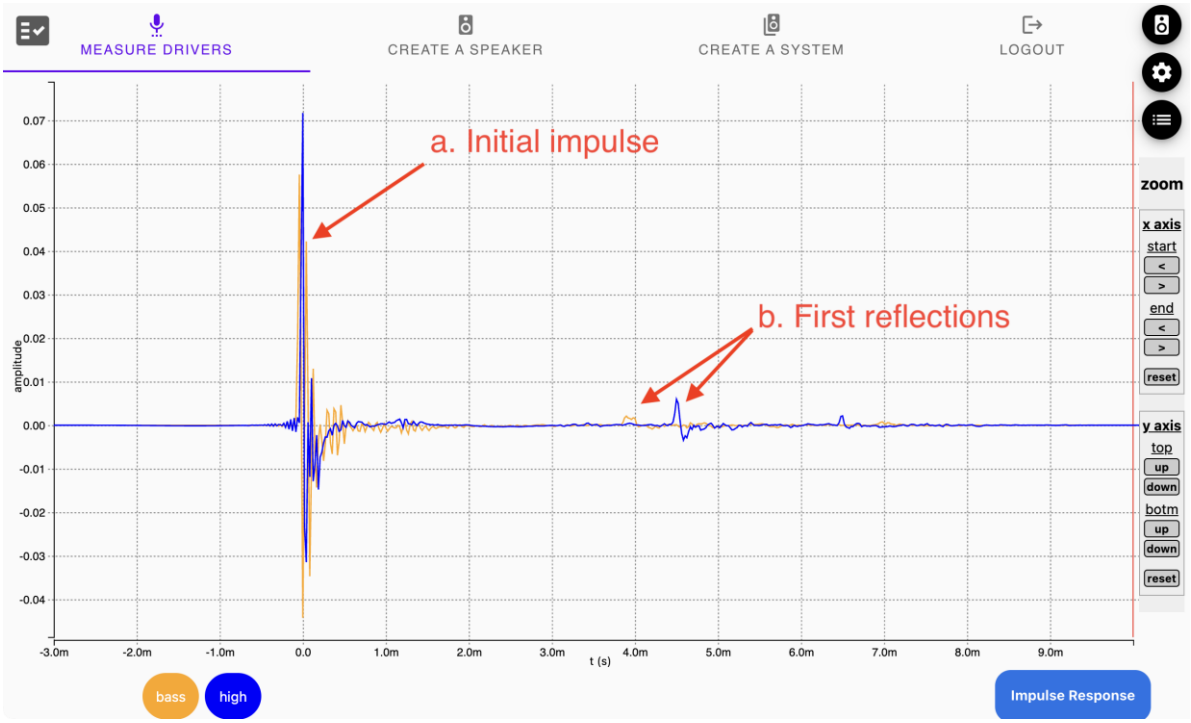
The **x axis** controls adjust the horizontal axis. With the frequency response graph shown above, **<** and **>** under **start** will reduce and increase the lowest frequency of the graph. Under **end**, they will reduce and increase the highest frequency of the graph.

The **y axis** controls will similarly adjust the highest value shown on the graph (**top**) and the lowest value shown on the graph (**bottom**).

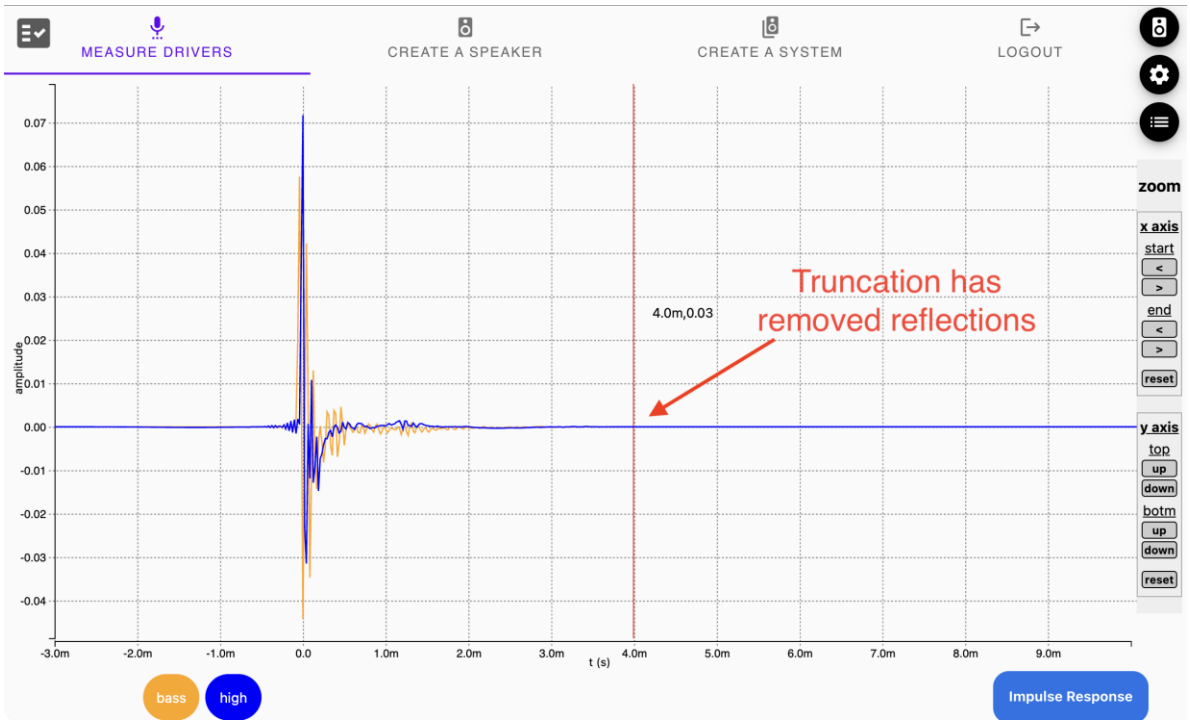
The **reset** button sets the axes back to the defaults.

4.3.7 View the impulse response and set truncation window

To remove reflections, it helps to view the measured signals in the time domain. This is called the *impulse response*. Click on the blue button at the lower right twice, so that it displays "Impulse Response." Use the x-axis graph controls to zoom in and show the impulse response more clearly. For each driver, you should be able to see clearly see a. the initial impulse and b. the first reflection:

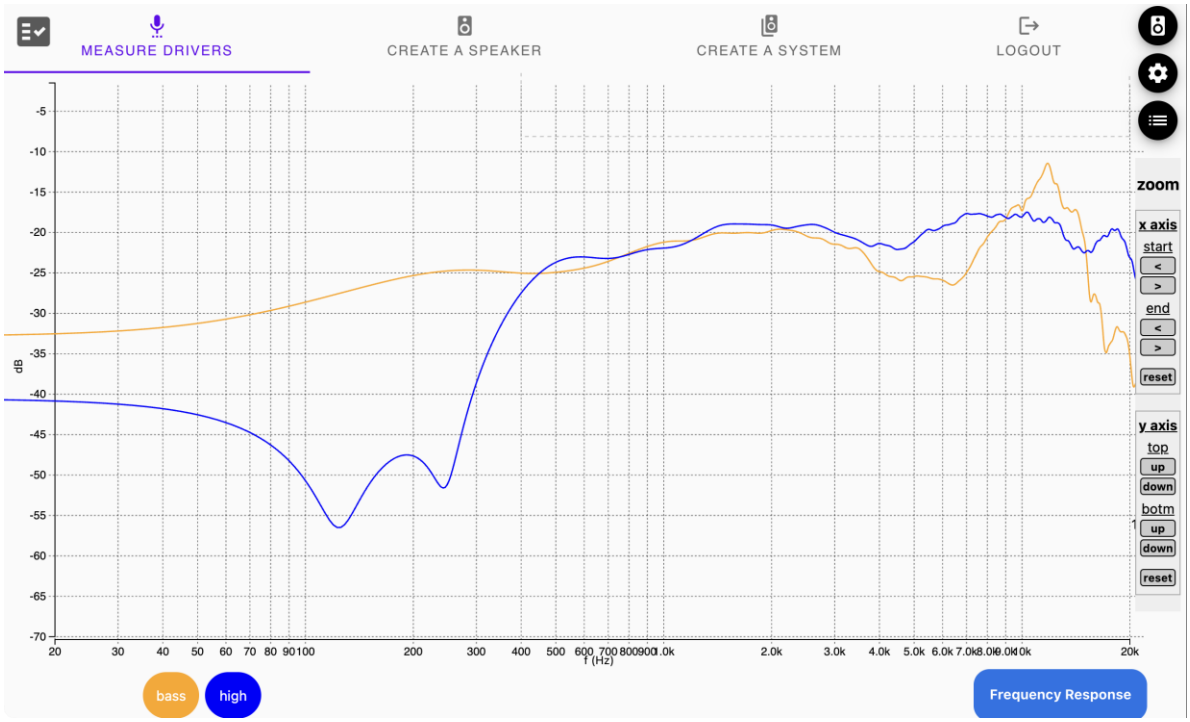


Ideally, a correction filter should exclude all reflections from its calculation. This is referred to as *truncation*, *gating* or *windowing*. To truncate the measurements, click on the graph where the first reflection occurs. The graph will change to show the impulse response with the reflections excluded:



4.3.8 Check the amplitude response again

Click on the blue button at the lower right to display the amplitude responses again. They will look different to before:



The key differences to note are:

1. The graphs are smoother. This is because the reflections – which cause "ripples" in the measurement due to interference of the reflected waves with the direct wave – have been removed.
2. The bass response of the woofer rolls off at a higher frequency. This is not real – it is an unavoidable result of using a short time window to calculate the frequency response. As the truncation time gets shorter, the minimum frequency that can be resolved in the frequency response graph gets higher.

Prior to uploading the measurements to the cloud for processing, you will want to adjust your settings in the **Chirp Config** overlay.

> Technical note: the interaction between the truncation time and the frequency resolution is one of the key factors in speaker response correction. A longer truncation window is desirable because then the frequency resolution is better. However, if reflections are included, the correction algorithm will not have accurate data of just the speaker.
>
> In practice, a compromise is necessary. If possible, increase the time to the first reflection by raising the speaker. Damping the first reflection with absorbing materials can reduce the effect of reflections, and in some cases can make a longer truncation time usable. Some experimentation may be necessary to get the best result.

4.4 Set Chirp Config parameters

Before you upload your measurements to the cloud for processing, check and adjust the processing parameters.

Click on the **Chirp Config** button (top right) to open its overlay:

The parameters are:

Truncation

The amount of time that is used to calculate the frequency response to use for correction. If you have followed this guide, this is already set to as suitable value. Note that the value is in seconds; multiply by 1000 to get milliseconds. To fine-tune this setting while viewing the amplitude response graph, click on the slider dot then use the left and right arrow keys.

Boost

The maximum amount of boost that will be used for the correction filters. The default is quite conservative at 3 dB, and changing this to a higher value is not necessarily a bad idea. You will see the effect of the Boost and Cut limits on the **Create a System** tab.

Cut

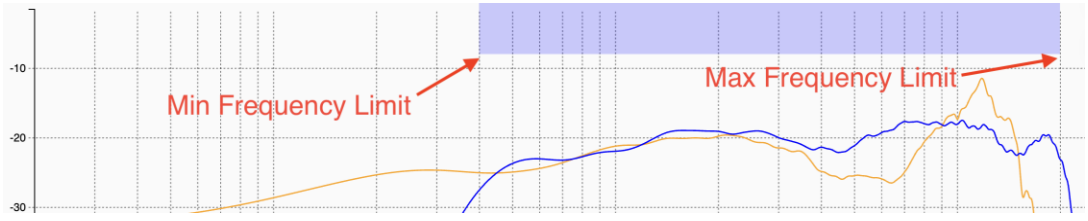
The maximum amount of cut that will be used for the correction filter.

Min Frequency Limit

The lowest correction frequency. This should always be higher than 1 / truncation. For example, if the truncation time is 0.003, the minimum frequency limit should be 330 Hz or higher. As you change the value, a bar above the graph will appear to indicate the range.

Max Frequency Limit

Set the highest correction frequency. This setting is a matter of personal preference, and is worth experimenting with. For full range correction, set it to 20 or 24 kHz. Some listeners prefer to set this lower, as low as 5 kHz.



Smoothing

Set the amount of smoothing applied to the measurement before correction. For a clean pseudo-anechoic measurement, this setting can be reduced. For an in-room measurement with reflections, leave it at the highest setting.

4.5 UPLOAD THE MEASUREMENT

At this point, you have:

1. Measured the left woofer and tweeter
2. Set the truncation window
3. Set the correction frequency limits

It is time to upload your measurements to the cloud. Open the **Capture Impulse Response** overlay and enter a suitable name:

Click **Upload**. The measurements will be uploaded and processed with the parameters set in **Chirp Config**. The combination of the measurements and their correction filters will be saved together in the DEQX Cloud. (This manual will refer to them as a "measurement" or a "correction filter" depending on context.)

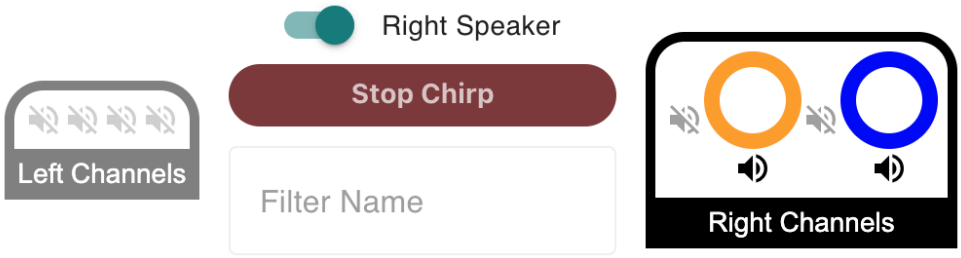
After processing is complete, you will be directed to the **Create a Speaker** tab, on the assumption that you want to proceed with specifying a crossover to integrate the two drivers. You do, however, have several options:

1. Proceed to set the crossover on the **Create a Speaker** tab. Proceed to page 24.
2. Return to the **Measure Drivers** tab and measure the drivers in the right speaker. Continue on page 21.
3. Return to the **Measure Drivers** tab and create another pair of correction filters with a different set of **Chirp Config** parameters. Continue on page 22.

4.6 MEASURE THE RIGHT SPEAKER DRIVERS (OPTIONAL)

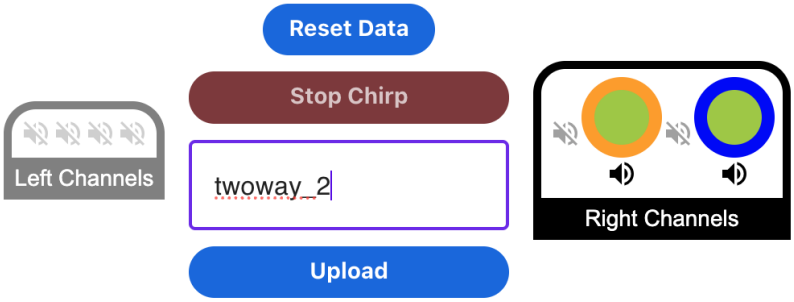
Position the right speaker and microphone for pseudo-anechoic measurement. It is important that the measurement conditions are the same as they were when you measured the drivers in the left speaker.

Open the **Measure Drivers** tab and its **Capture Impulse Responses** overlay. Click on the Slider to select the right speaker, then click the corresponding icons to enable the right **Main/Bass** and **Tweeter** channels:



Click on the blue circle to start measuring the right tweeter, then follow it with the right woofer. The procedure is the same as for the drivers in the left speaker.

When your measurement is complete, set the **Chirp Config** parameters. They should be the same for the right side as used for the left side. Then upload with a meaningful name:

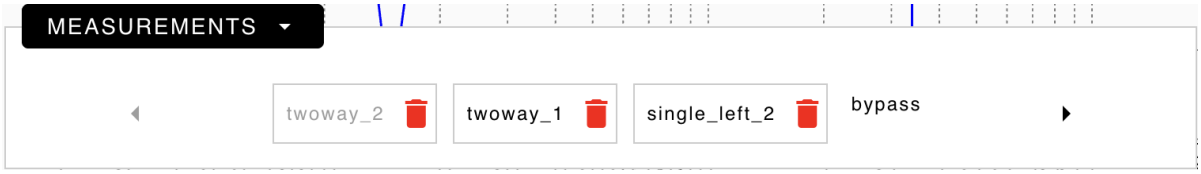


After uploading, you will be taken to the **Create Speaker** tab.

4.7 REVISING CORRECTION FILTERS

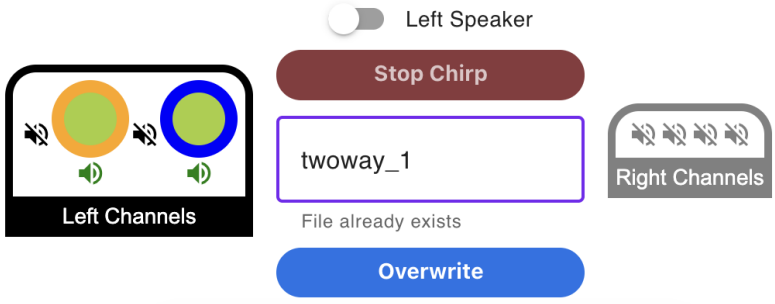
You can revise any of your correction filters with different **Chirp Config** parameter.

To do so, return to the **Measure Drivers** tab and open the **Measurements** overlay. It displays all uploaded measurement/correction filter pairs as a horizontal list:



- To go back in the list, click on the arrow at the right.
- To move forward in the list, click on the arrow at the left.
- To load a measurement, click on its name.
- To delete a measurement, click on the trash can icon next to its name.

Once you have reloaded a measurement, open the **Chirp Config** overlay and change the parameters. Then open the **Capture Impulse Responses** overlay, enter a name, and click **Upload**. If you attempt to upload it with the same name, you will be asked to confirm that you want to overwrite it:



Click on **Overwrite** to confirm that you want to overwrite the file stored in the cloud.

4.8 IN-ROOM DRIVER/SPEAKER MEASUREMENT

An alternative measurement approach to driver/speaker measurement is to measure in-room, with the speaker and microphone in the normal listening position. While this method is "technically incorrect," the DEQX Gen4 nonetheless has a remarkable ability to generate good corrections in this case. The reason for using this method is that a much longer truncation window can be used, thus allowing corrections to a lower frequency.

This method requires more experimentation than the pseudo-anechoic method. Set up the speakers for normal listening, and position the microphone at the listening position. Then proceed through the steps outlined earlier in this chapter.

On the **Chirp Config** overlay, as a starting point, set the truncation window to 30 ms. Smoothing must always be left at the maximum value.

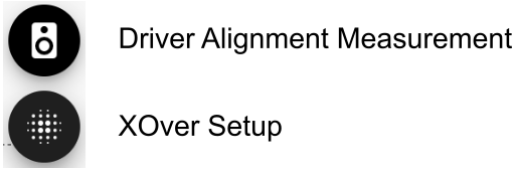
5. CREATE A SPEAKER

After uploading a measurement, you will be taken to the **Create a Speaker** tab:

The Xover Setup overlay is opened. It has three foldable panes, named **Measurement, Xovers,** and **Xover Setup**.

5.1 THE CONTROL OVERLAY BUTTONS

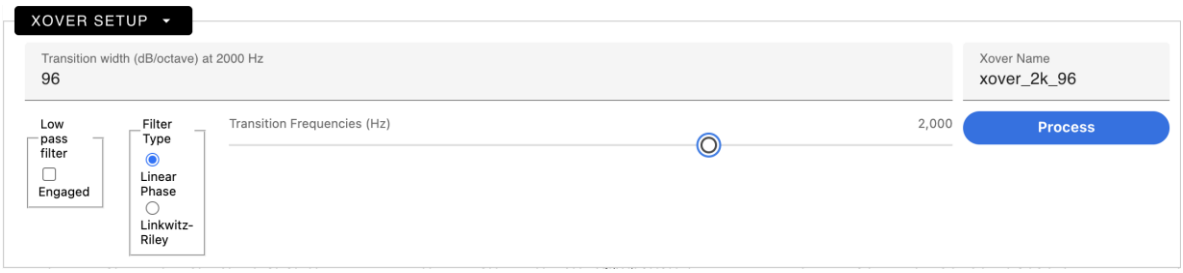
The **Create a Speaker** tab has two overlays. The buttons that turn these on and off are at the top right of the window.



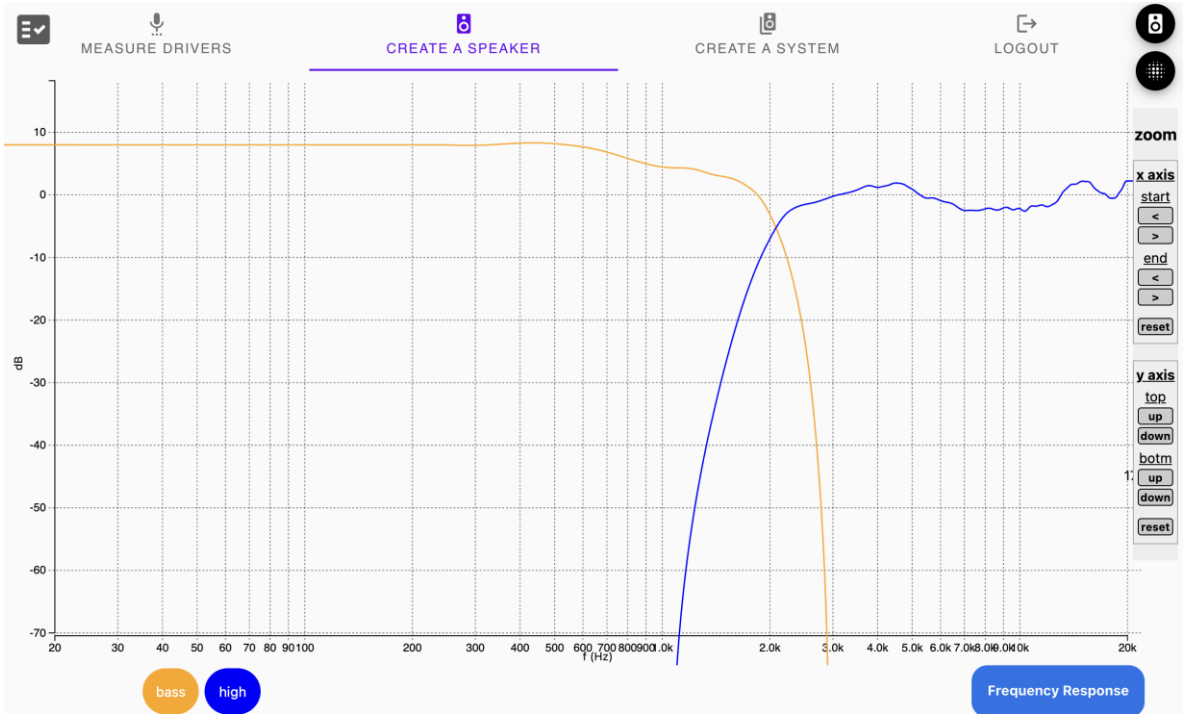
A button is greyed out when active. When a button is active, its control overlay appears in the bottom section of the window.

5.2 CREATE THE CROSSOVER

Unfold the **Xover Setup** pane. Set the parameters desired for the crossover. In this example, we have selected a linear-phase 96 dB/octave slope and a 2 kHz crossover frequency:



Enter a name for the crossover, then click **Process**. The graph will update. Close the overlay to view the filters for both drivers:



(Note: the filters are not yet adjusted for amplitude, so don't worry if the levels don't look right or the intersection between the curves is not at the crossover frequency.)

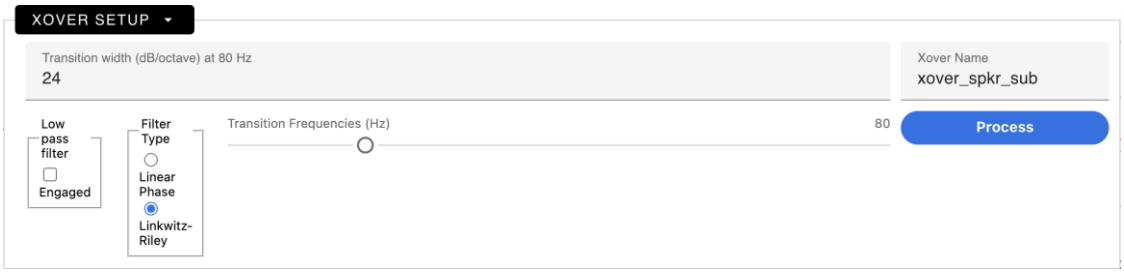
You are not done yet. The drivers must be aligned with another measurement.

5.3 (OTHER CROSSOVER EXAMPLES)

The number of crossover points is determined by the number of "ways". The Xover Setup will automatically choose the right number based on the loaded measurement.

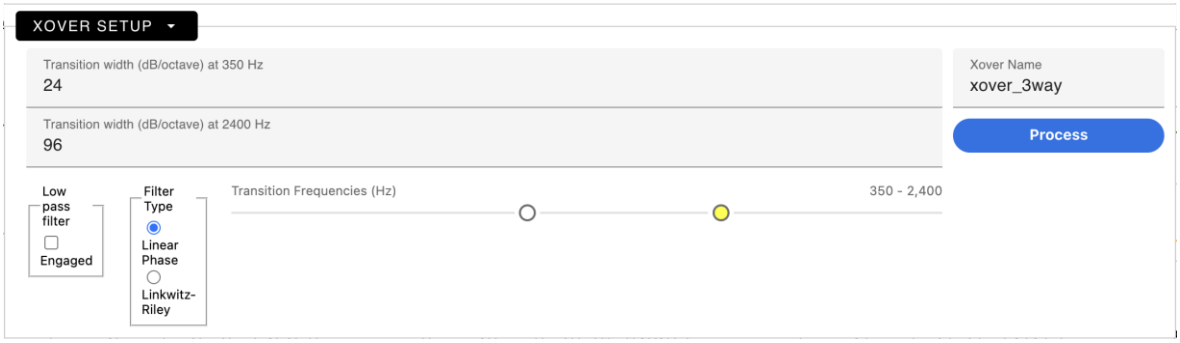
5.3.1 Full-range + subwoofer

When crossing a subwoofer to a full range speaker, a typical crossover frequency and slope are 80 Hz and 24 dB Linkwitz-Riley. This is the **Xover Setup** for this case:



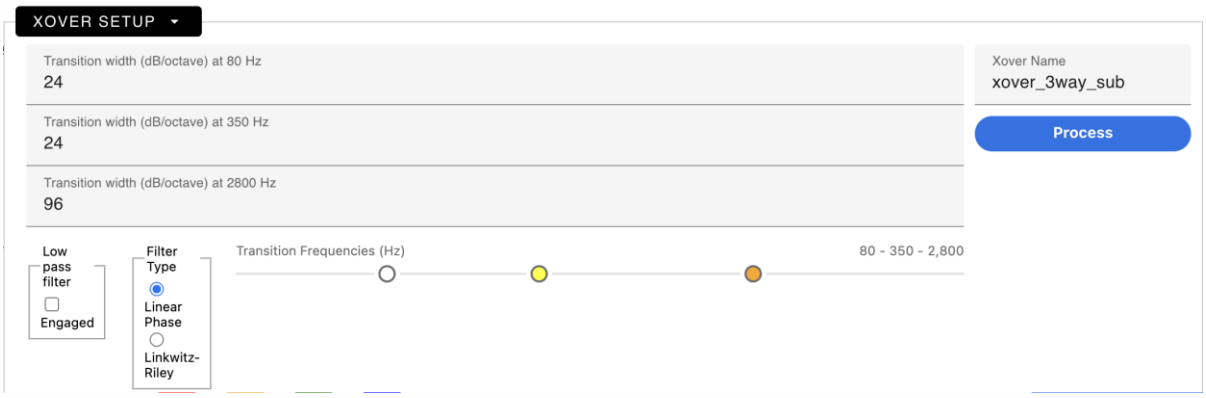
5.3.2 Three-way speakers

A three-way speaker has two crossover points. Here is a typical example:



5.3.3 Four-way speaker, or three-way plus subs

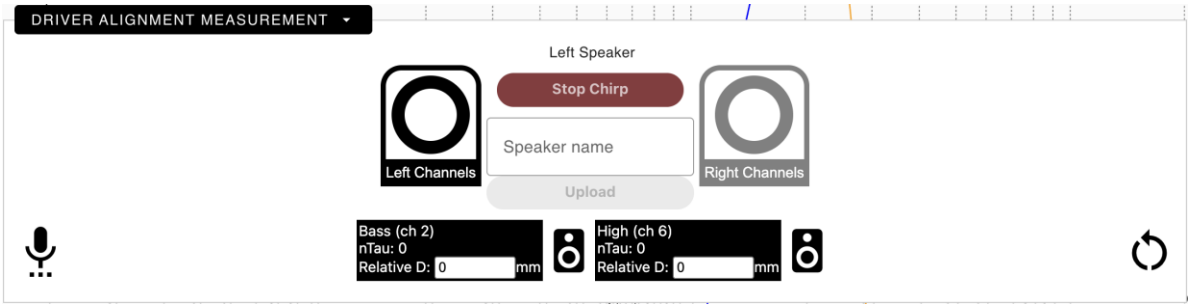
A four-way speaker has three crossover points, as does a three-way speaker plus subwoofers. In the case of a 4-way speaker, since the low/sub woofers are in the same location as the rest of the speaker, the lowest crossover point is typically higher than when using a separate subwoofer. Here is an example of a 3-way plus subs:



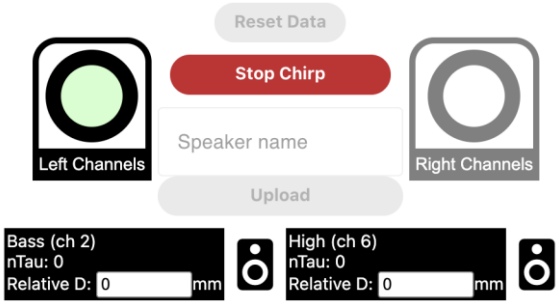
5.4 MEASURE DRIVER ALIGNMENT

Position the speaker and microphone for driver alignment measurement, as described on page 8.

Open the **Driver Alignment Measurement** tab:



Click on the circle above the Left Channels label. The chirp will start:



If necessary, adjust the main volume so that the microphone level reaches into the green region on the meter. (But if the speaker sounds strained, reduce it again.) If you do need to adjust the volume, stop the chirp and then restart it.

When the chirp completes, the left channel icon will be green and the measured delay shown underneath:

Enter a name for the crossover and click **Upload**. After the upload and processing completes, you will be taken to the **Create a System** tab. You do, however, have several options:

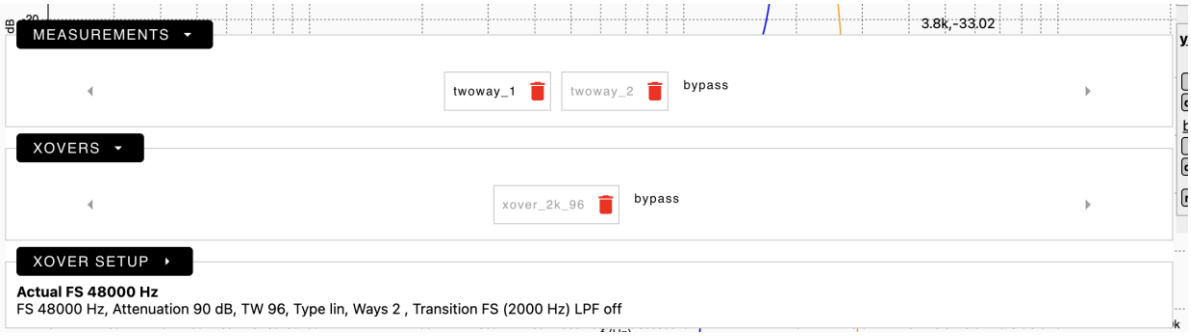
1. Proceed to select filters and perform in-room measurement on the **Create a System** tab. Proceed to page 30.
2. Return to the **Create a Speaker** tab and create a separate set of filters for the right speaker. Continue on page 28.
3. Return to the **Measure Drivers** tab and create more correction filters with a different set of crossover parameters. Continue on page 29.

5.5 CREATE THE RIGHT SPEAKER (OPTIONAL)

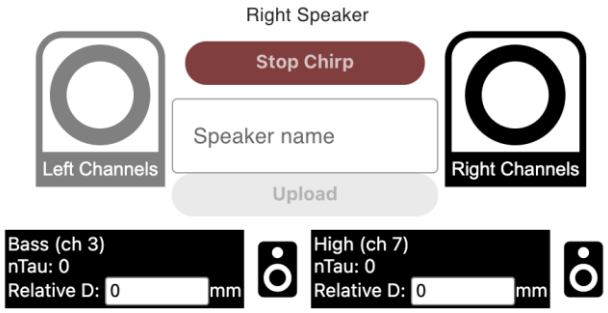
Position the right speaker and microphone for driver alignment measurement.

Open the **Create a Speaker** tab (if not already) and check that the measurement of the right speaker drivers is selected. Then select the same crossover that you used for the left speaker. (If you cannot select the crossover because there is only one, click **Bypass**, *then* select the crossover.)

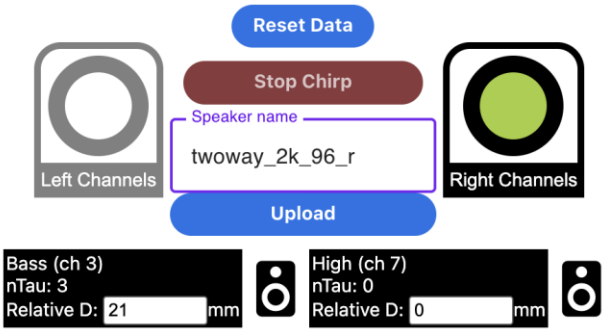
This example shows the measurement "twoway_2" selected, together with the crossover "xover_2k_96":



Click on the circle above the "Right Channels" label to start the driver alignment sweep:

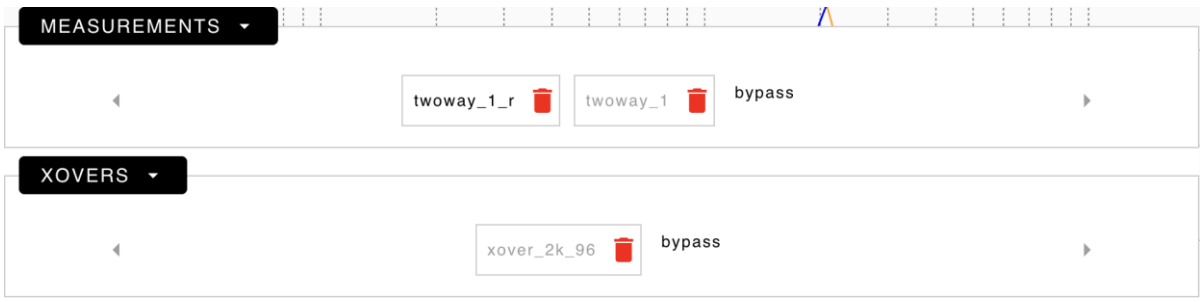


When the sweep completes, enter a distinct name for the right channel filter, then click Upload:



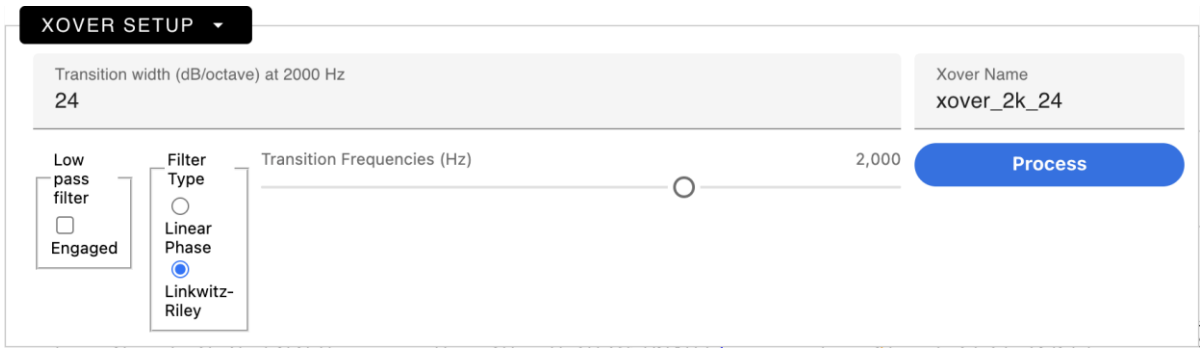
5.6 ADDING OR REVISING CROSSOVER FILTERS

To add or revise a crossover, open the **Create a Speaker** tab. Select the driver measurements that you want to use, then the crossover that you want to revise:

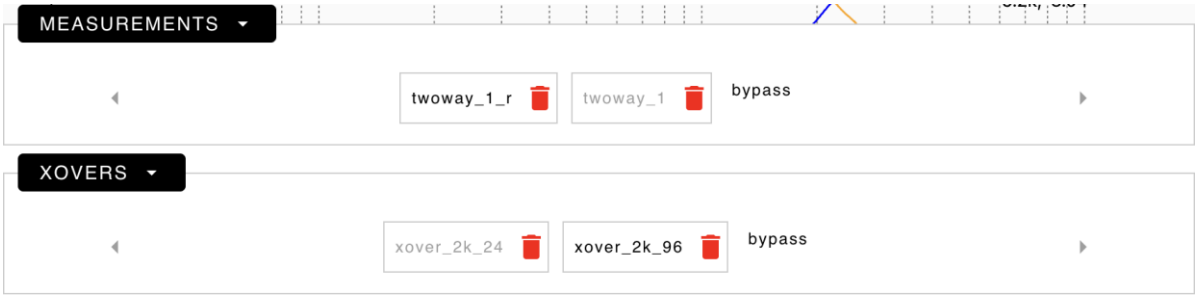


Although the above screenshot shows only one or two items of each type, in general there may be more. If there are, use the left and right arrows to navigate through each list.

Unfold the **Xover Setup** pane and set the new crossover parameters. If you want to create the crossover with a new name, enter a new name in the field **Xover Name**. For example:



Click **Process** to create the new crossover. The new crossover will appear in the list:

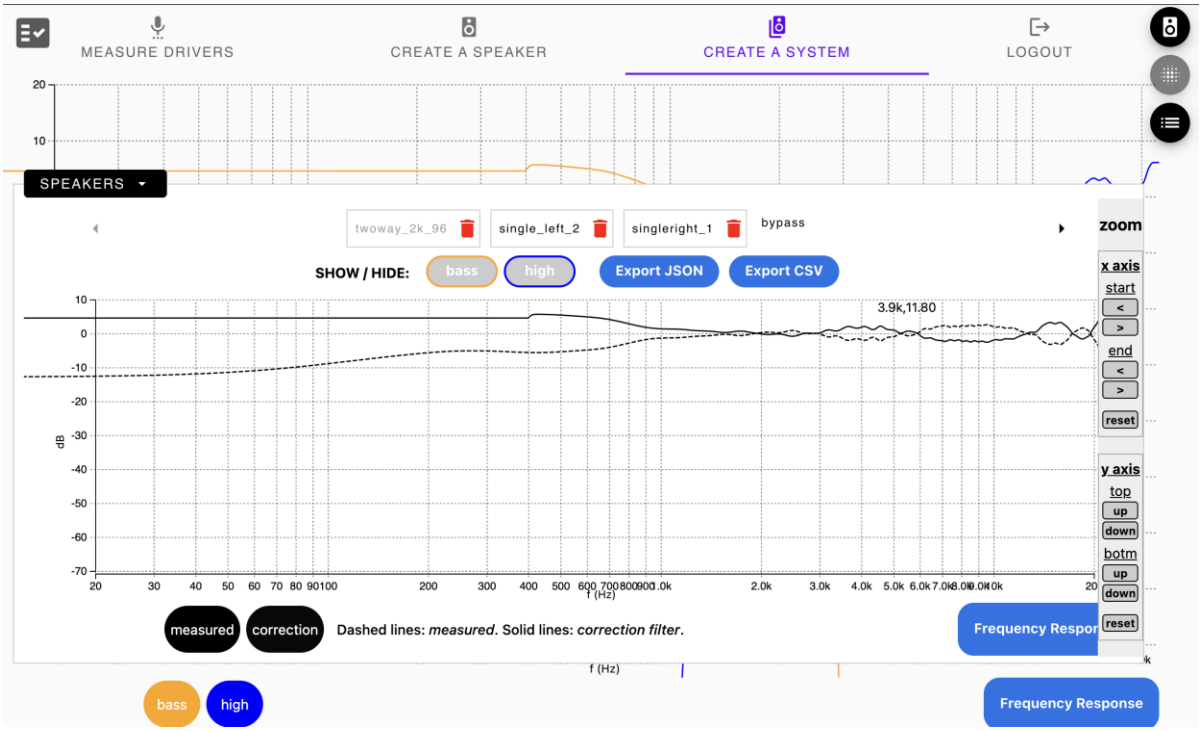


Note: If you want to revise the existing crossover, then don't change the **Xover Name** field before clicking **Process**.

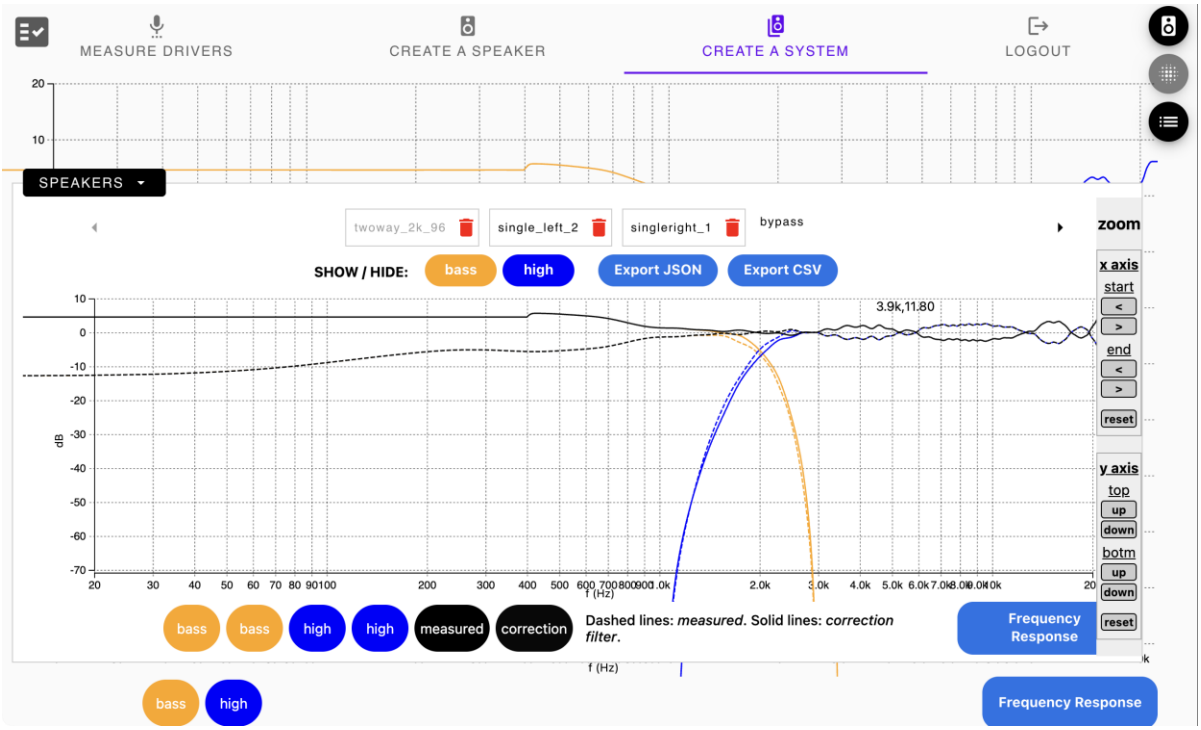
Once you have created the new crossover, you will want to create new correction filter sets. Open the **Driver Alignment Measurement** tab and perform the driver alignment measurement as described on earlier pages.

6. CREATE A SYSTEM

After uploading a correction filter, you will be taken to the **Create a System** tab. It will open its **Speakers** overlay and display the correction filter that was just created:

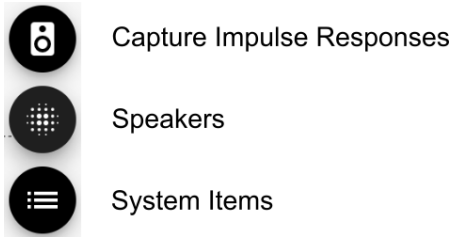


By default, the response shown is the combined effect of both filters. To show the individual filters for each driver, click on the **Bass** and **High** buttons.



6.1 THE CONTROL OVERLAY BUTTONS

The **Create a System** tab has three overlays. The buttons that turn these on and off are at the top right of the window.



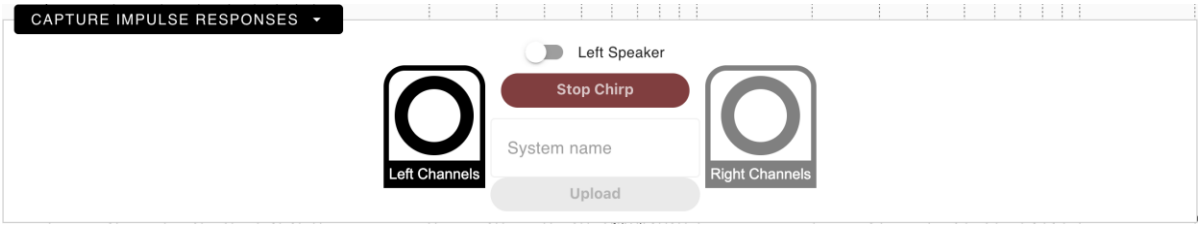
A button is greyed out when active. When a button is active, its control overlay appears in the bottom section of the window.

6.2 MEASURE THE LEFT SPEAKER'S IN-ROOM RESPONSE

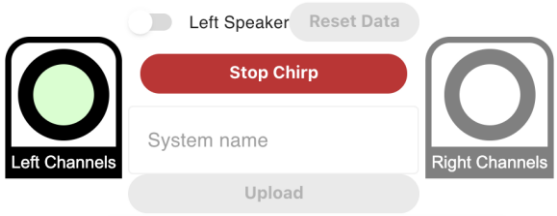
Move the speaker to its normal location and position the microphone at the center of the listening area.

Open the **Speakers** overlay and select the correction filter that you want to use for the left speaker.

Open the **Capture Impulse Responses** overlay.

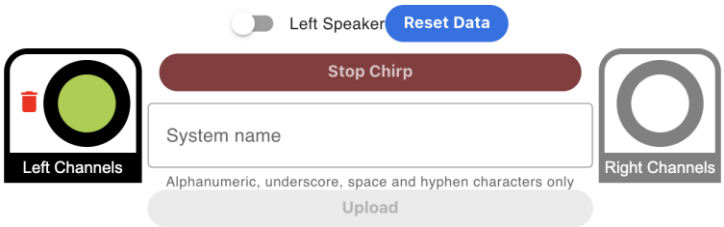


Click on the circle above the Left Channels label. The chirp will start:



If necessary, adjust the main volume so that the microphone level reaches into the green region on the meter. (But if the speaker sounds strained, reduce it again.) If you adjust the volume, stop the chirp and restart it.

When the chirp completes, the left channel icon will be green:

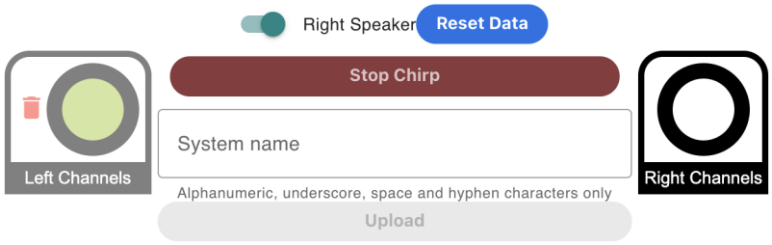


6.3 SELECT THE RIGHT SPEAKER'S FILTER (OPTIONAL)

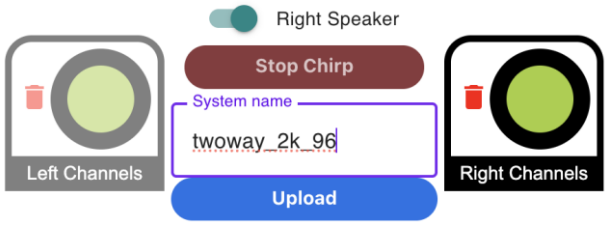
Open the **Speakers** overlay and select the correction filter that you want to use on the right speaker:

6.4 MEASURE THE RIGHT SPEAKER'S IN-ROOM RESPONSE

Open the **Capture Impulse Response** overlay and click the switch to select the right speaker:

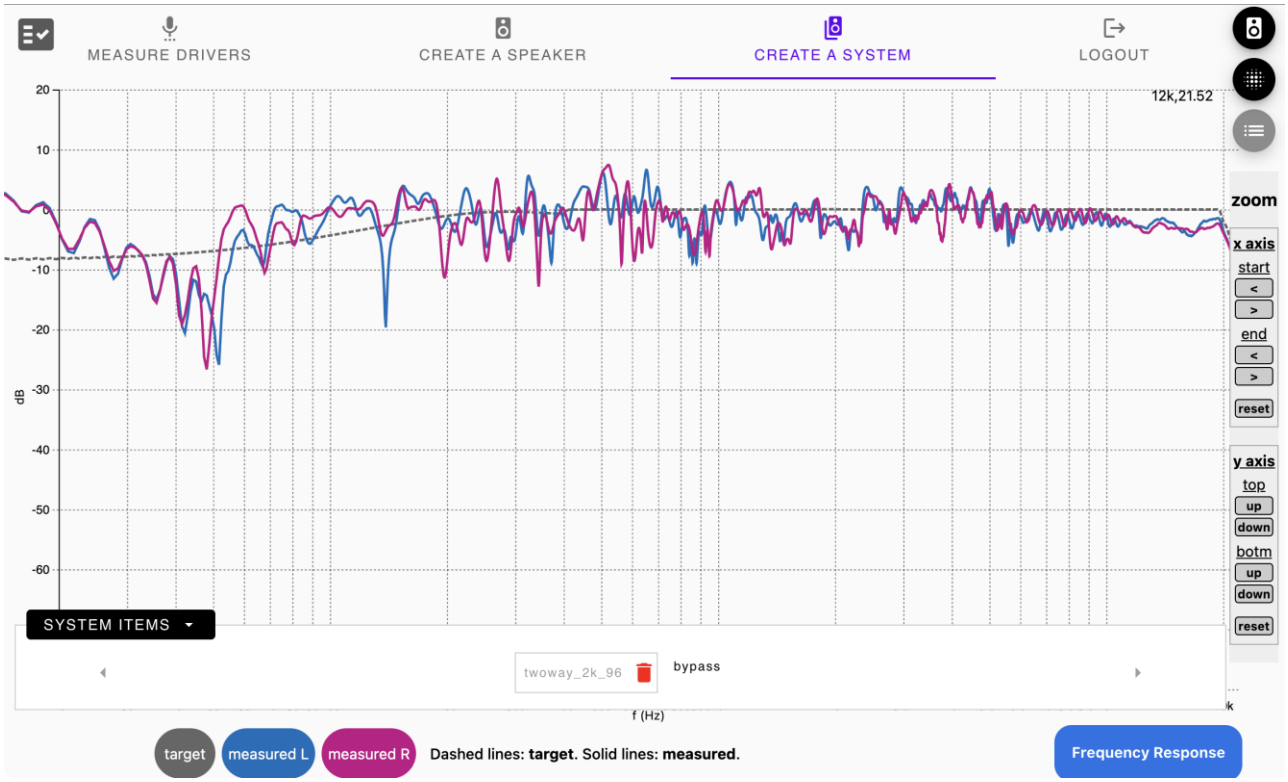


Click on the circle above the label "Right Channels." The chirp will start. When it completes, enter the name of the system and click **Upload**:



Note: the name that you enter here will appear on the **PROFILE** tab of DEQX Control.

When the upload completes, the in-room measurements of left and right speakers will display:



6.5 THE SPEAKERS OVERLAY

The **Speakers** overlay lists all of the correction filters created on the **Measure Drivers** tab in a horizontal list. Use the left and right arrows to scroll through them. Click on a filter name to load it prior to running an in-room measurement.

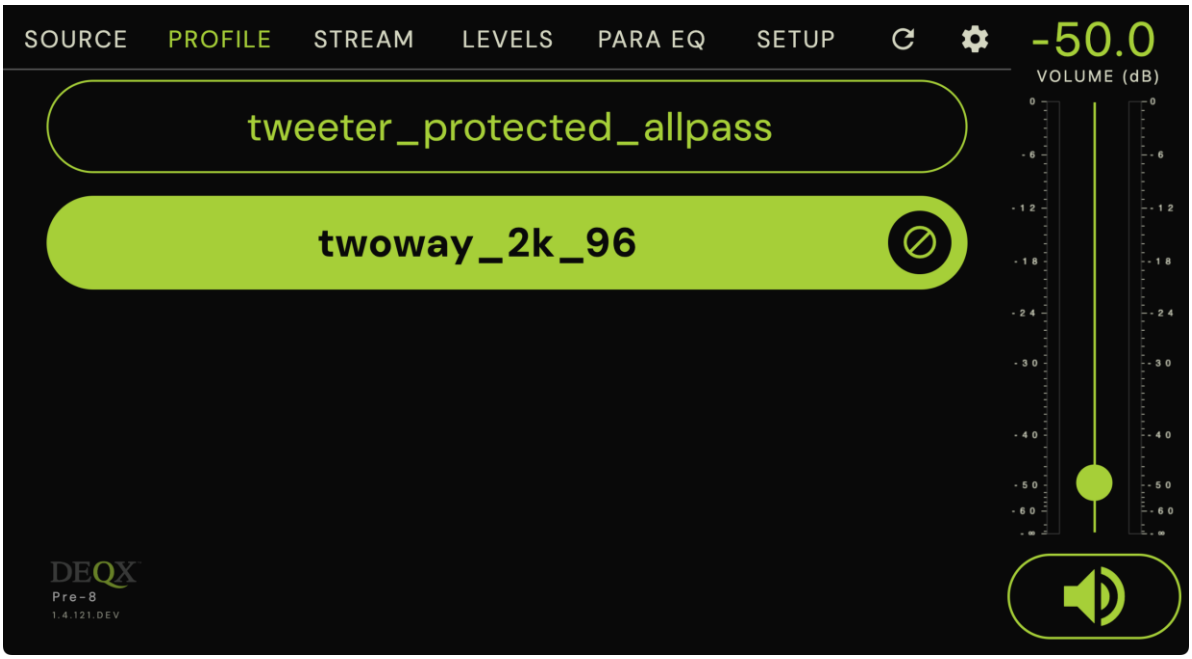
The name of the currently-selected filter is shown in grey, and its response is shown in the graph below the list:

6.6 THE SYSTEM ITEMS OVERLAY

The **System Items** overlay lists the uploaded system profiles in a horizontal list. Use the left and right arrows to scroll through them. Click on any system name to view its in-room measurements. The name of the currently-selected system is shown in grey.

7. NEXT STEPS

To exit the setup process, click on the **EXIT** button at the top left of the main window. Then click on the PROFILE button. Select the newly-created calibration by clicking on it:



The next step is to adjust the parametric EQ for room correction. Refer to the **Para EQ** section of the DEQX Gen4 User Manual.