EAWmosaic™
help file

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Introduction

What is EAWmosaic?
EAWmosaic™ is an all-encompassing iOS app for prediction, control and monitoring of the EAW RADIUS loudspeaker family. Via a wireless access point, users can access all functionality via Dante-networked RADIUS loudspeakers to route audio, optimize the system, and monitor every device in real time. Network functionality is only available when online with a RADIUS system, but system design and prediction can be done offline, anywhere, any time.

About this Help File
This document is intended to provide assistance with common customer use cases. A number of quick-start scenarios have been defined to get users up and running quickly with their RADIUS systems. There may be scenarios that are not covered in this document, however. The Applications Engineering team is available to assist with any additional questions, and contact information for this group is provided further down on this page.

System Requirements
EAWmosaic requires an iPad running iOS 8.0 or later.

NOTE: *It is strongly recommended* that users disable automatic app updates. Otherwise, a new version of EAWmosaic (which may include a mandatory firmware update) could be downloaded without the user's direction. The user may then be required to perform a firmware update before proceeding to use their system.

To disable automatic updates, Go to Settings > iTunes & App Store and turn off "Updates" under the list of Automatic Downloads.

**How do I get more help using RADIUS or EAWmosaic?**
This guide covers many of the most common applications for RADIUS and EAWmosaic. However, our Applications Engineering team is standing by to provide additional support at any time should you need it.

> EAW Applications Engineering
> Tel 508-234-6158, Menu Option #2
> Tel 800-992-5013 x 2 (USA only)
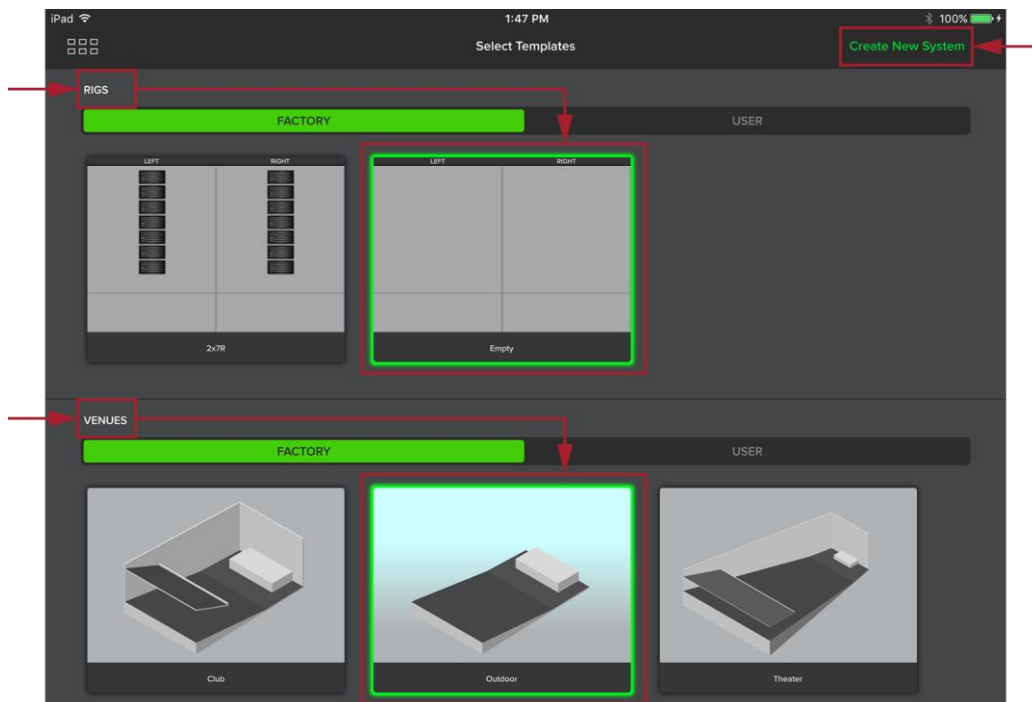> E-mail asg@eaw.com

Scenario 1 – Designing the system offline with known equipment

This scenario explains how to design a system offline knowing exactly what equipment will be utilized. This type of setup is useful in multiple situations. For example, the FOH engineer may dial in a system, or multiple systems, before arriving on location. The first step is to acquire the dimensions of the venue(s). This includes the room and stage dimensions, and if applicable, the rake and balcony dimensions. This particular system includes six RSX208L arrayable speakers, an RSX18 subwoofer and an RSX89 full-range loudspeaker *per side*.

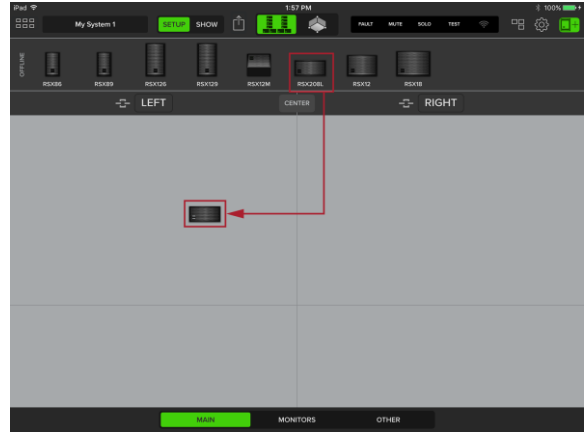After opening the EAWmosaic app, tap either the plus symbol [+] or **Create New System**.
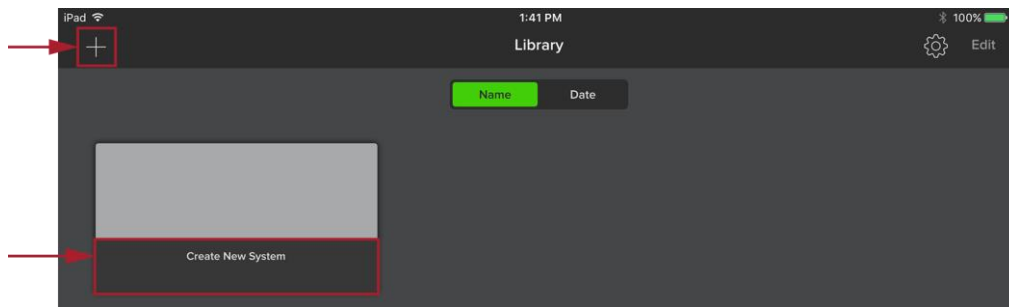
Select *RIGS* and *VENUES* choices. Since this is a new system, tap 'Empty' for *RIGS* and 'Outdoor' for *VENUES*. The border of these selections will illuminate green as a confirmation. Tap **Create New System** to get started.
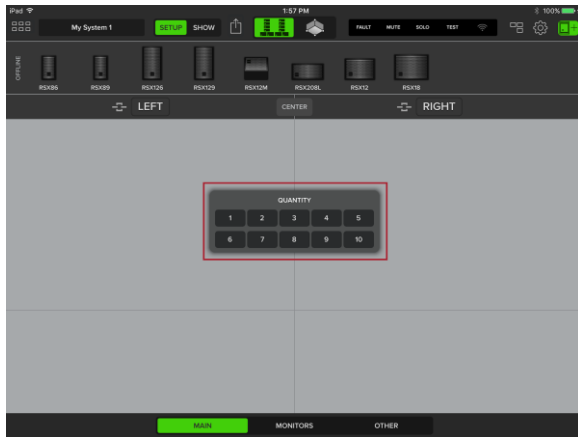

Tap the speaker shelf icon in the upper-right corner to reveal all RADIUS Series speakers. Then, tap each speaker that will be included with the system and drag to a desired location.
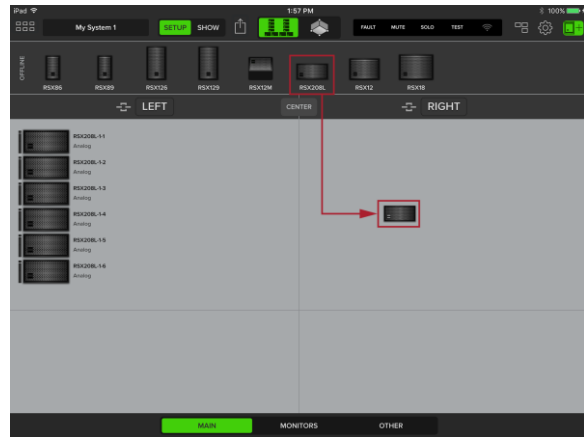
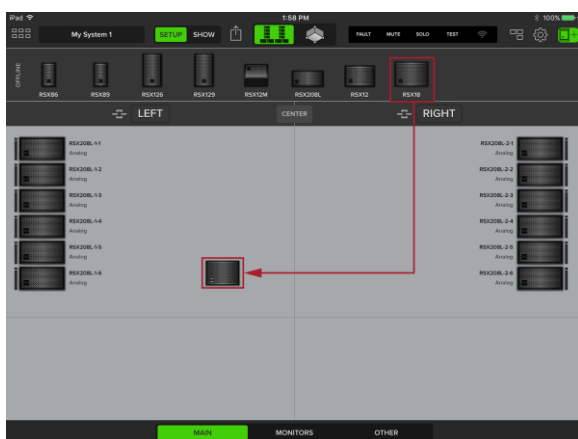All RADIUS Series speakers are displayed horizontally at the top of the screen.

Tap and drag an RSX208L arrayable speaker to house left. Release when placed.
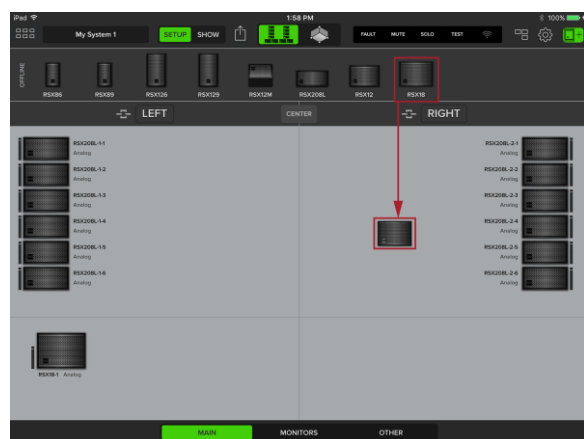

A prompt will inquire on the quantity of each speaker. This example incorporates six RSX208L's per side.
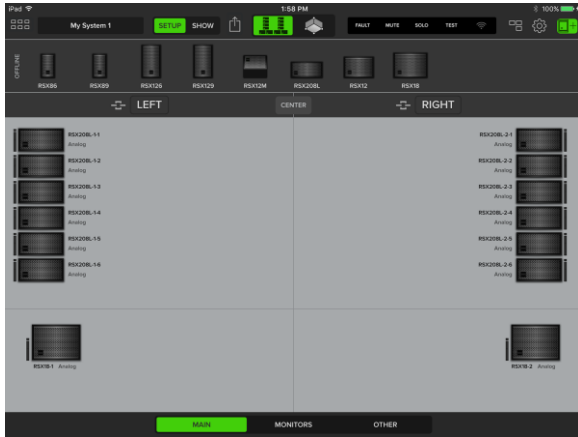

Six RSX208L's appear on house left. Now, repeat the same procedure for house right.
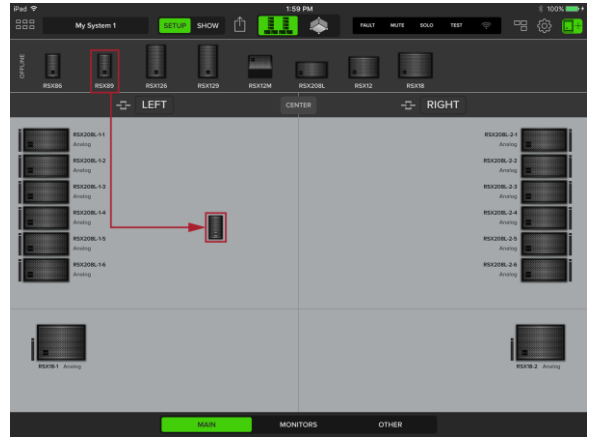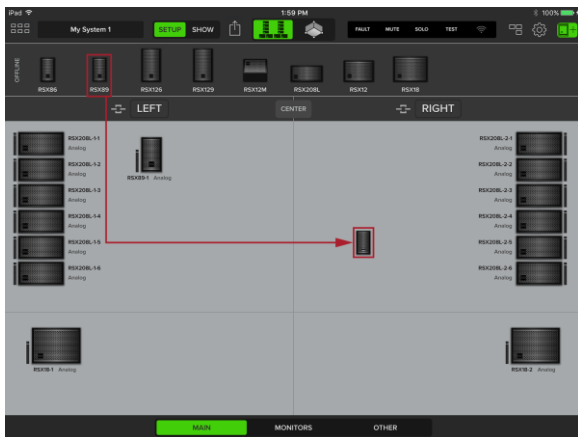

Tap and drag an RSX18 subwoofer to house left.

Tap and drag an RSX18 subwoofer to house right.

4

The main PA is nearly complete. The final step is to add the RSX89 full-range loudspeakers.

Tap and drag an RSX89 full-range loudspeaker to house left.
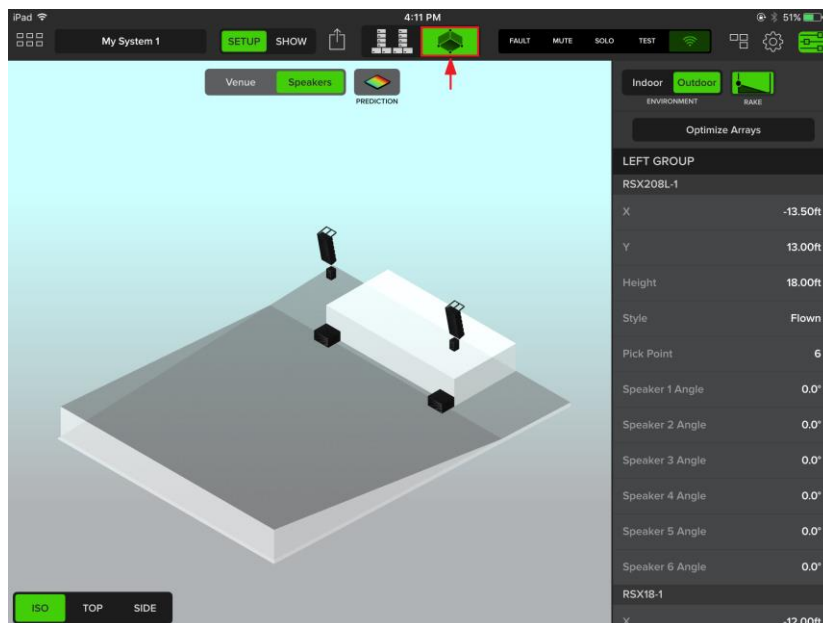

Repeat the process. Tap and drag an RSX89 full-range loudspeaker to house right.
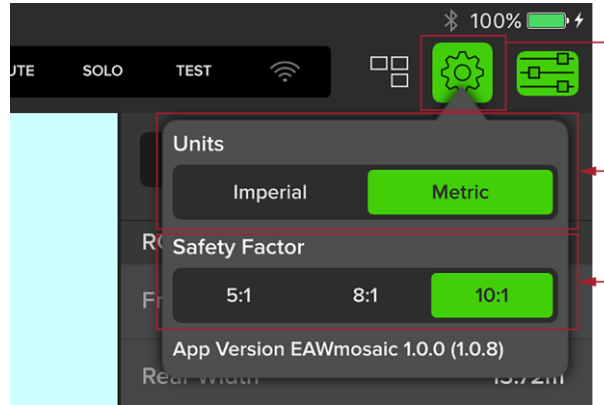

The speaker setup portion is complete.

Now that the system is in place, optimize the arrays and predict the results. Do so by tapping the **Venue View** icon.
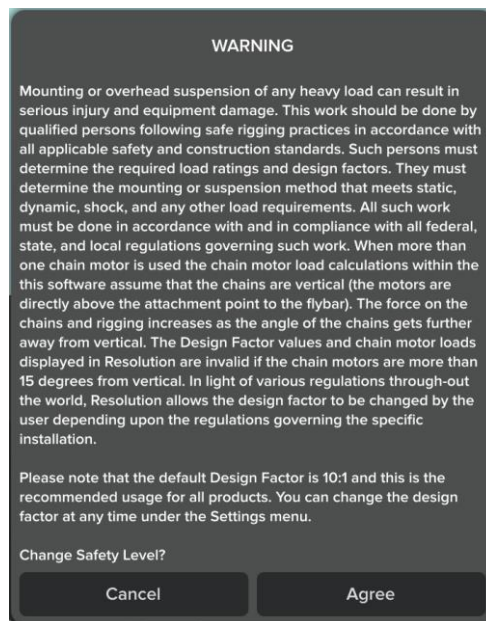
These next steps involve setting up the venue. The previous posted screenshots display the default **Rigs view**.

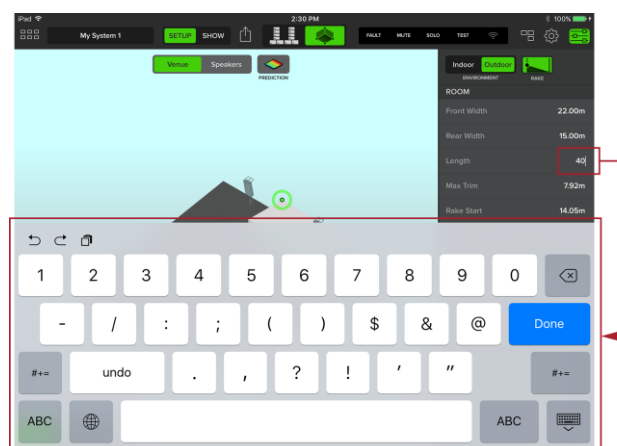First, tap **Tools** (the gear icon) near the upper-right corner of the device.

Decide on the units of choice: Imperial [feet] or Metric [meters]. Additionally, a different safety factor other than the suggested (and default) 10:1, may be selected.
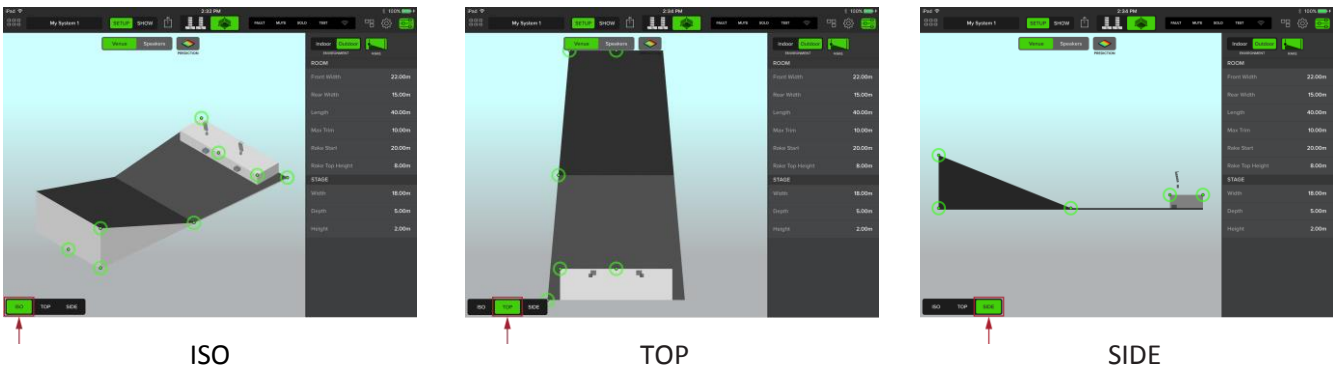

A safety warning may appear. This safety warning is important, so please read, understand and follow before tapping *Agree*.
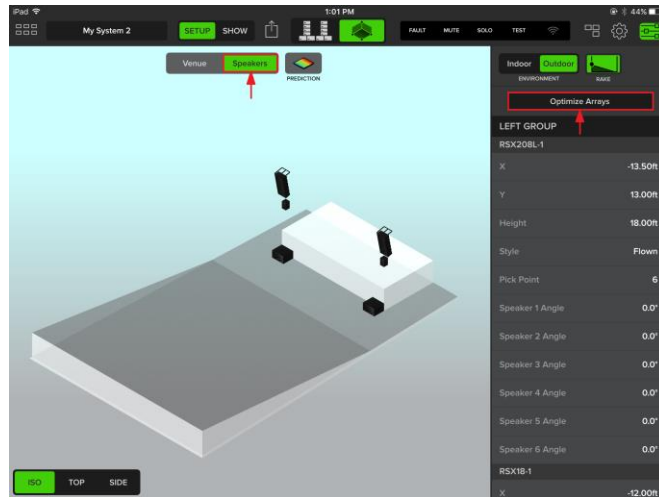

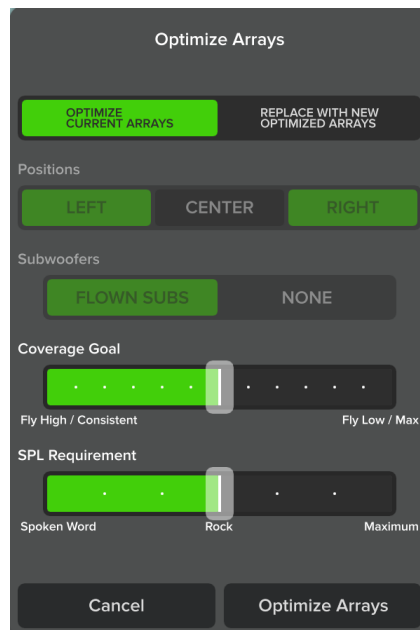Tap on each room and stage dimension that should be updated, and once finished, tap *Done*.

Select between three views : **Iso** [default], **Top** and **Side,** and if there are any changes in the venue, make them now.
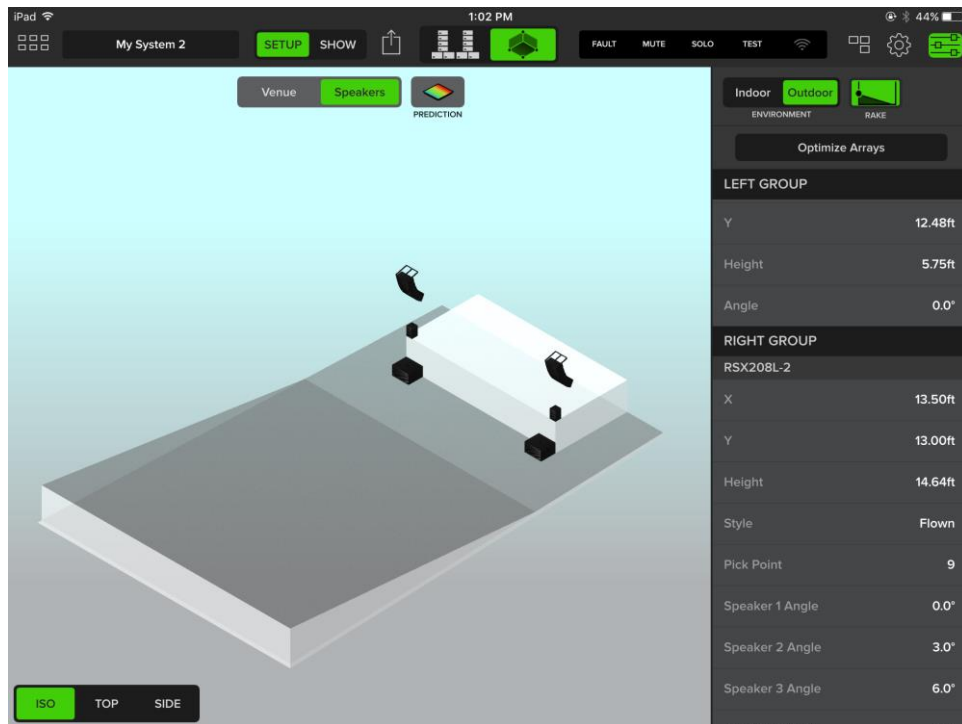

ISO

TOP

SIDE

Now that the venue is set, the next step is to optimize the arrays. Switch to the **Speakers view** and click the **Optimize Arrays** button:
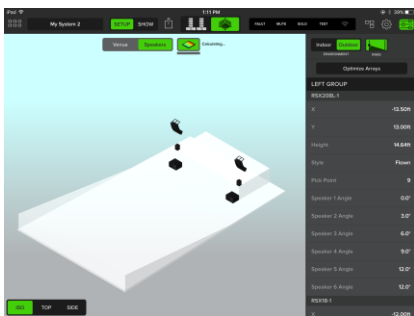

Choose to either optimize the current array, or replace with new recommended arrays. The coverage goal (fly high/low) and SPL requirement may also be configured. Click **Optimize Arrays** to finish.
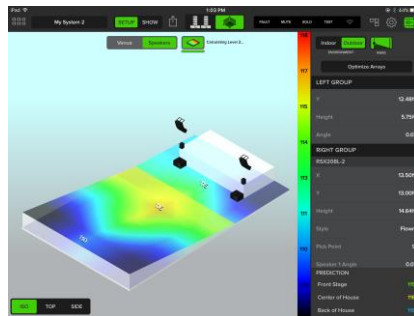
The new optimized arrays now appear as illustrated below. Changes or edits may be made by scolling vertically on the sidebar. Additionally, the speakers or arrays may be moved manually to a new position.
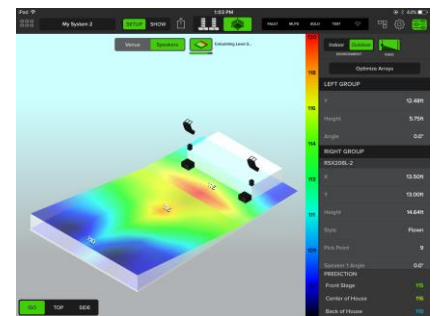

Next, Tap the **Prediction** icon, located near the top-middle of the device and to the right of the **Venue** and **Speakers** buttons. Prediction will go through five levels of calculation before the final results are displayed. Notice the change in dB levels as Prediction goes through each of the five stages of calculations.
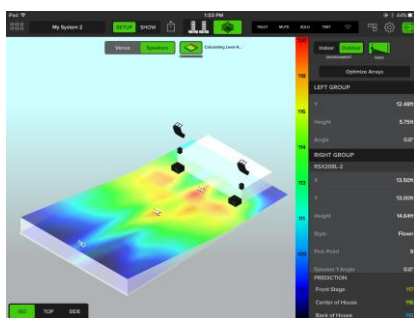

Calculating…
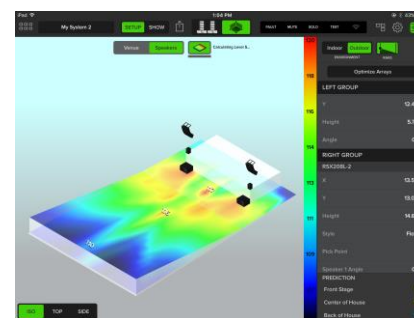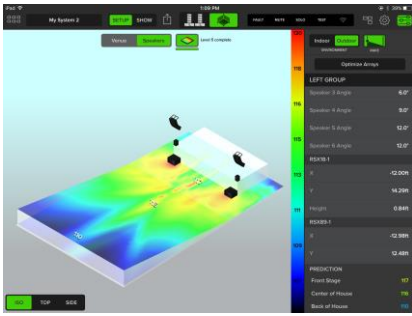

Calculating Level 2…

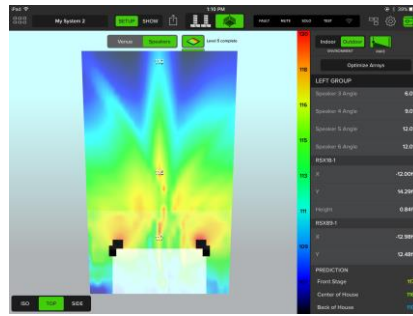Calculating Level 3…

Calculating Level 4…

Calculating Level 5…

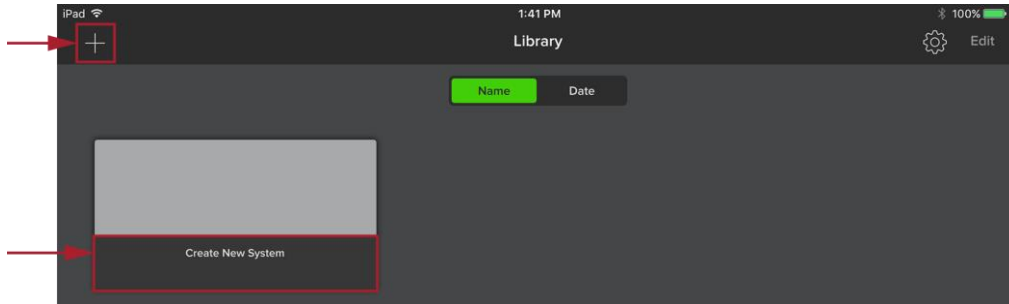Level 5 complete – *Iso*   Level 5 complete – *Top*   Level 5 complete – *Side*
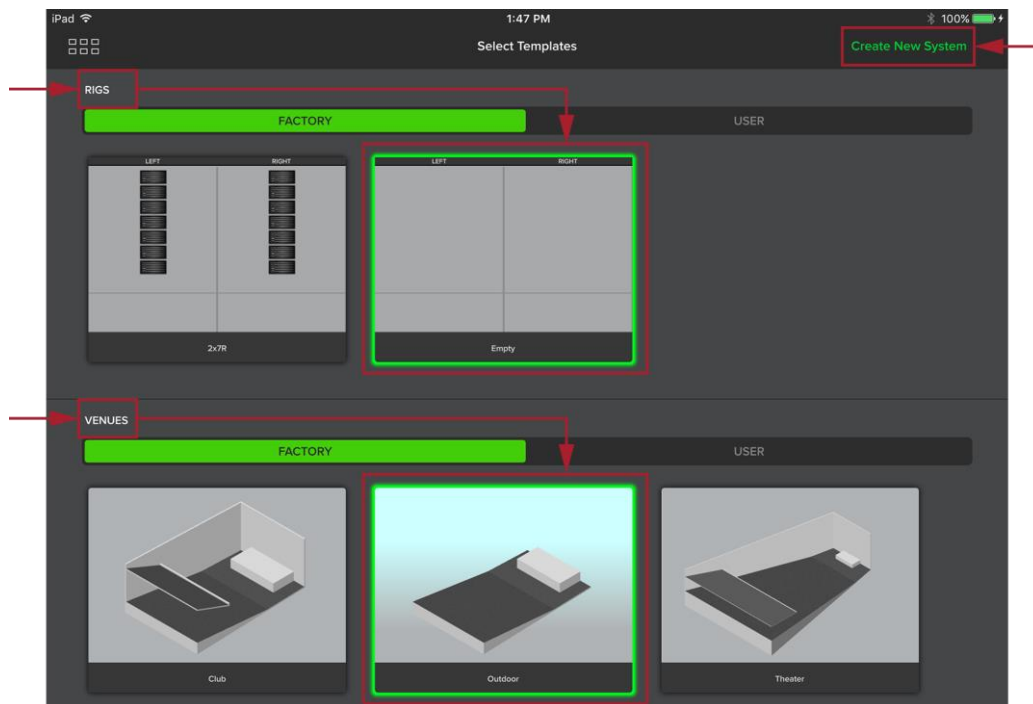
Scenario 2 – Designing the system offline without known equipment

This scenario describes how to set up a system offline when it's unknown how many RSX208L's to use, as well as what height they should be hung, pick points, speaker angles, etc. With EAWmosaic, arrays may be suggested. The FOH engineer may dial in a system, or multiple systems before arriving on location. All that's needed are the dimensions of the venue(s), including the room and stage dimensions, plus the rake and balcony dimensions, if applicable.

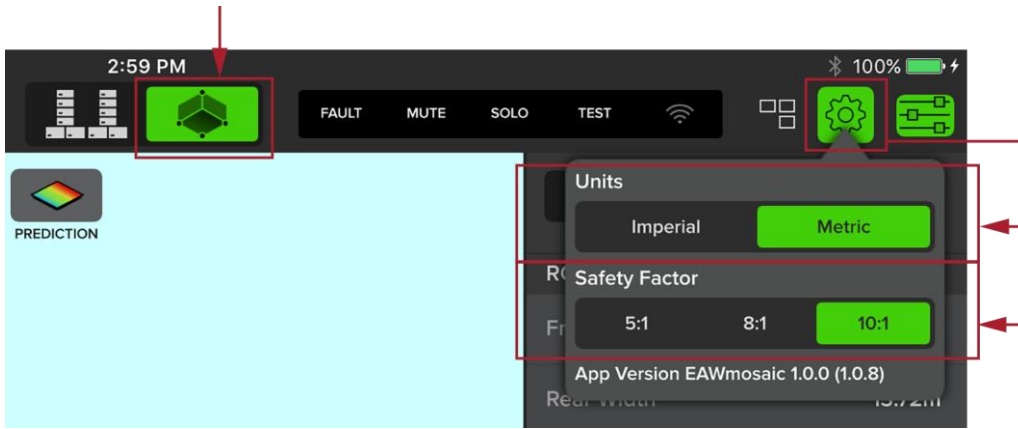After opening the EAWmosaic app, tap either the plus symbol [+] or **Create New System**.

Select *RIGS* and *VENUES* choices. Since this is a new system, tap 'Empty' for *RIGS* and 'Outdoor' for *VENUES*. The border of these selections will illuminate green as a confirmation. Tap **Create New System** to get started.
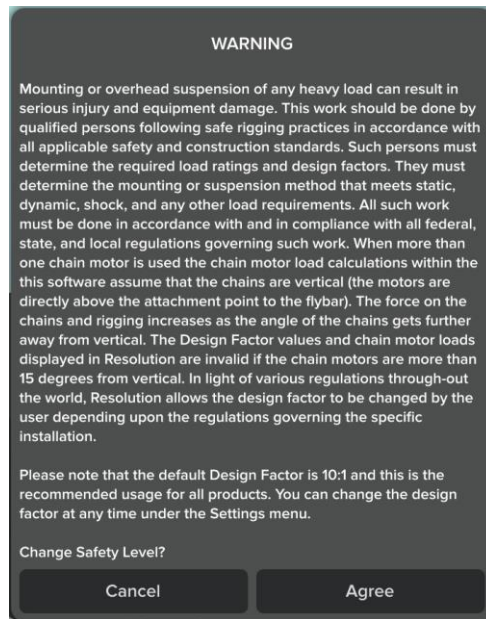

Tap the **Venue View** icon to set up a venue. Once open, tap **Tools** (the gear icon) near the upper-right corner of the device.
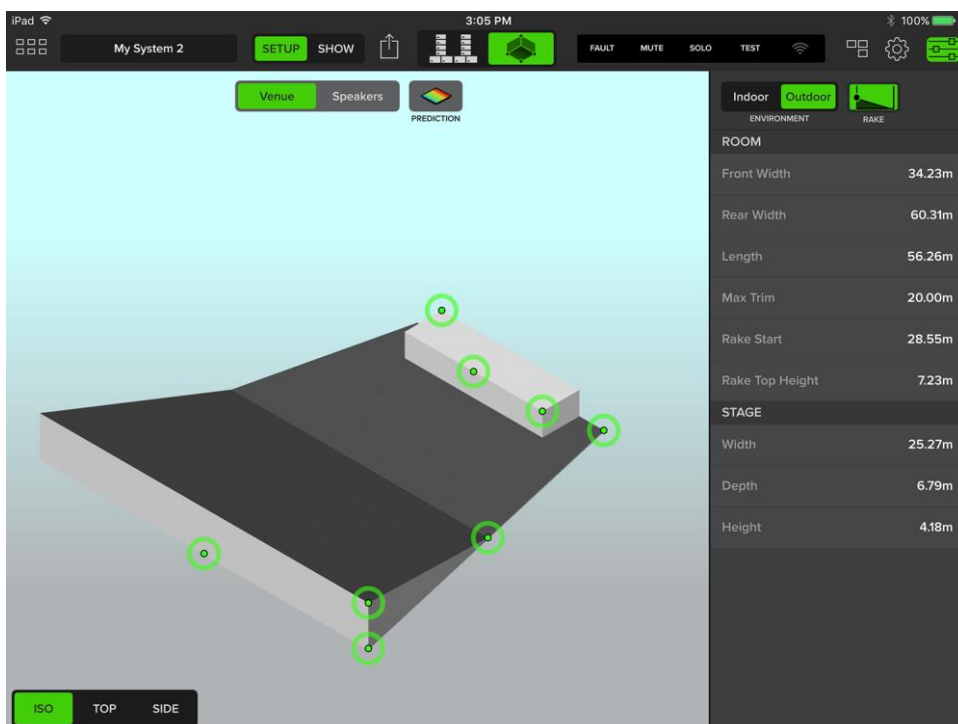
Decide on the units of choice: Imperial [feet] or Metric [meters]. Additionally, a different safety factor other than the suggested (and default) 10:1, may be selected.
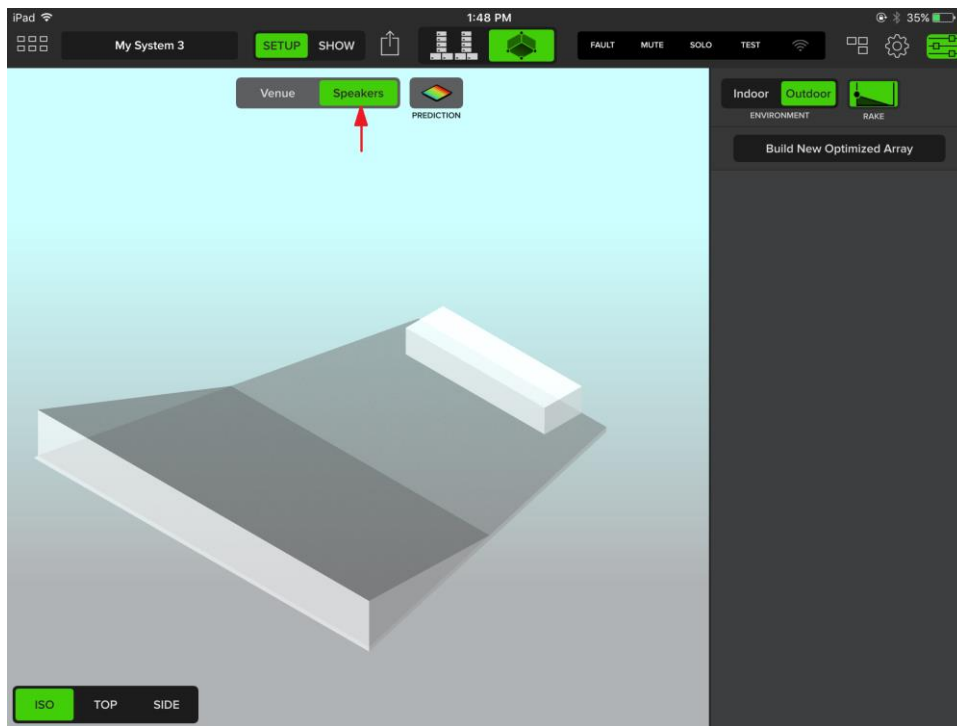
A safety warning may appear. This safety warning is important, so please read, understand and follow before tapping *Agree*.

Tap on each room and stage dimension that should be updated, and once finished, tap *Done*.
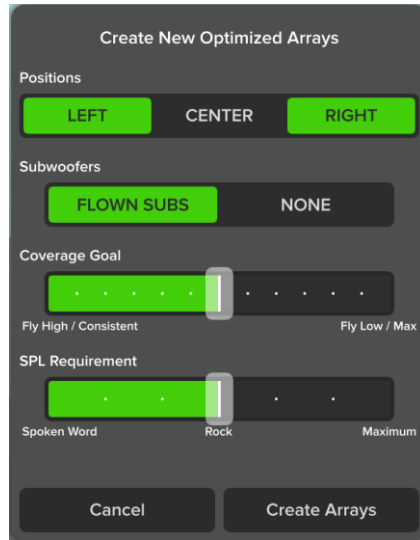
Now that the venue is set, the next step is to optimize the arrays. Switch to **Speakers view** by tapping the button as displayed below:


Click the **Build New Optimized Array** button to begin.
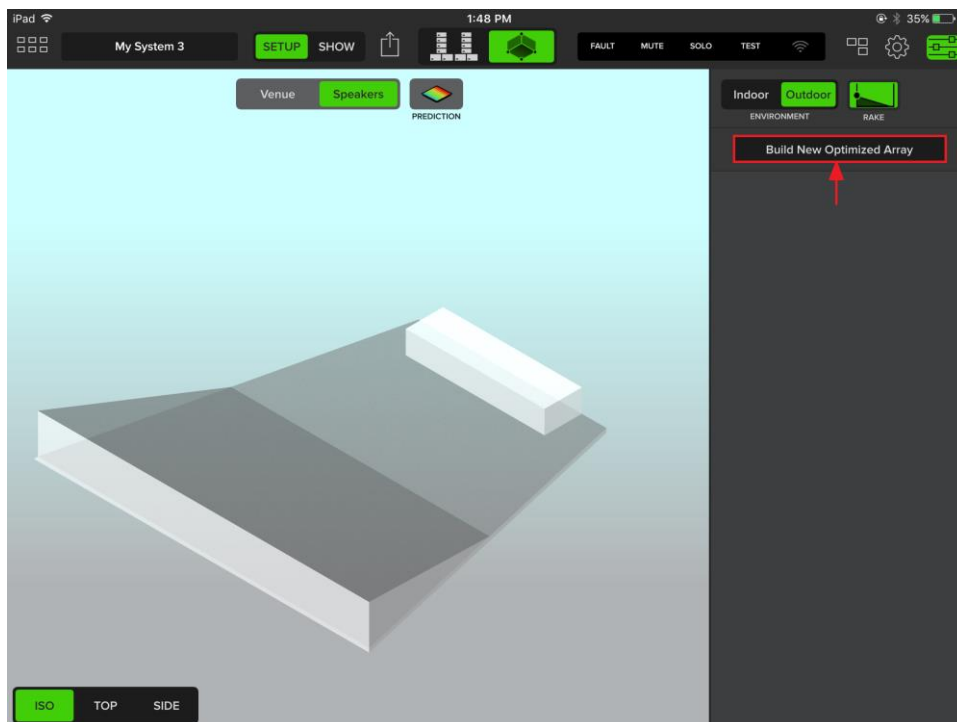
Choose the speakers position, subwoofer preferences, coverage goal (fly high/low) and SPL requirement as seen below. Click **Create Arrays** to finish.

The new optimized arrays now appear as illustrated below. Changes or edits may be made by scolling vertically on the sidebar. Additionally, the speakers or arrays may be moved manually to a new position.
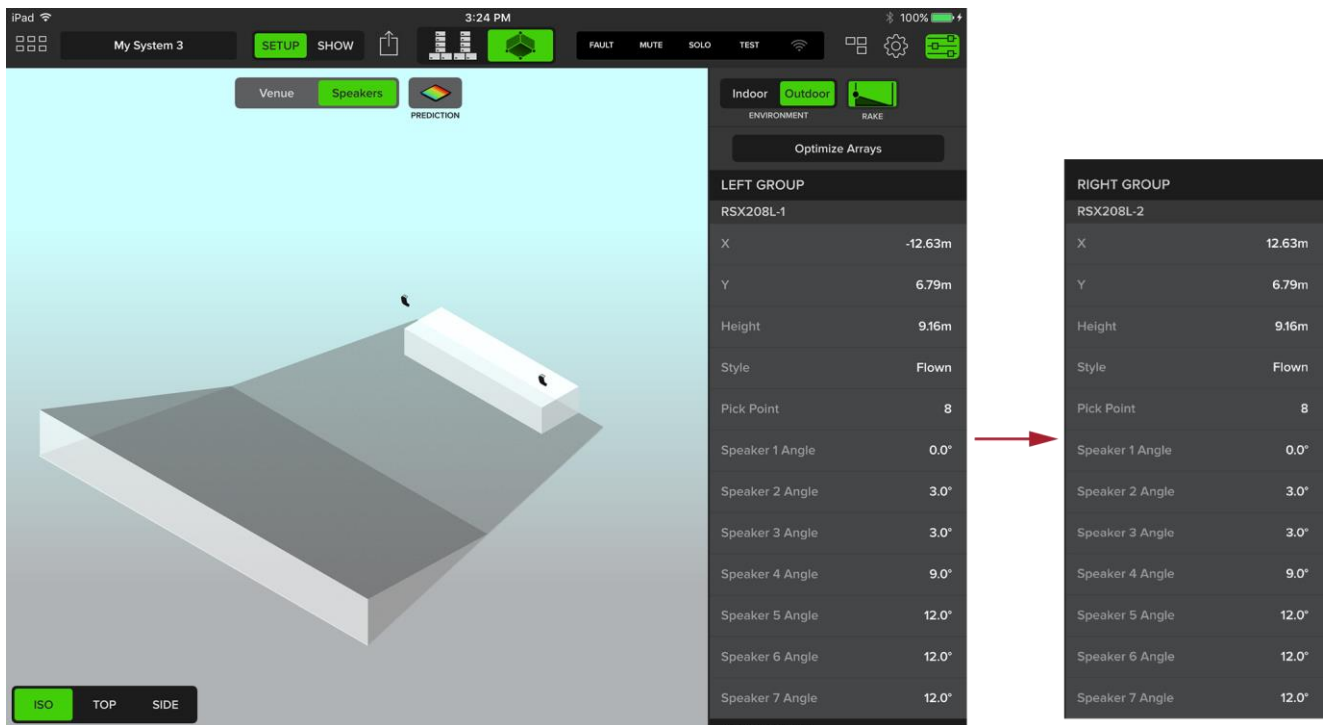

Next, tap the **Prediction** icon, located near the top-middle of the device and to the right of the **Venue** and **Speakers** buttons. Prediction will go through five levels of calculation before the final results are displayed. Notice the change in dB levels as Prediction goes through each of the five stages of calculations.

There are a couple of notes to point out. First, is that only the arrays are being predicted at this point; the fills and subwoofers will be added shortly and the predictions will change. Second, is that the prediction is being viewed with the **Speakers** button selected. The first hookup diagram was displaying the results with the **Venue** button selected.
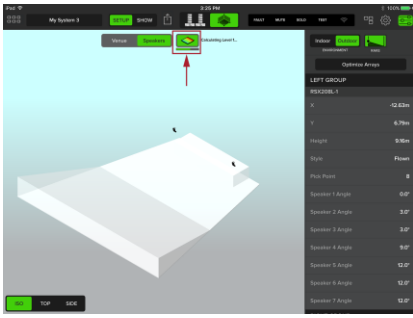
Calculating…
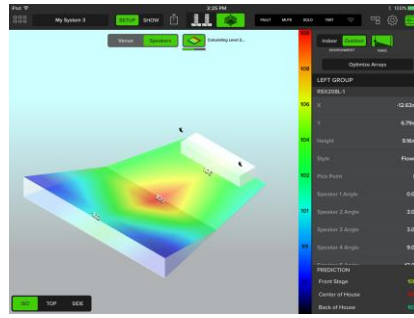
Calculating Level 2…
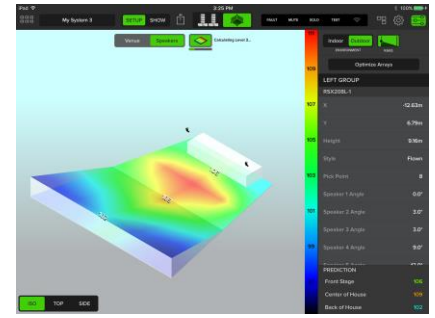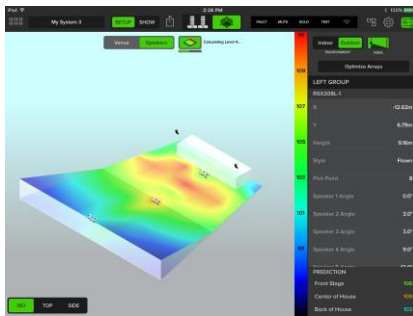
Calculating Level 3…
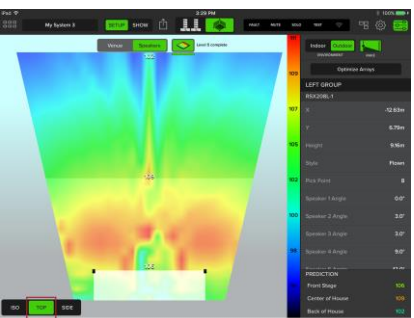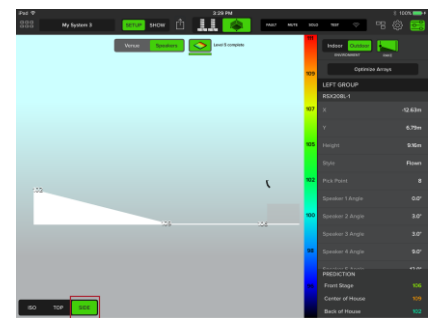

Calculating Level 4…
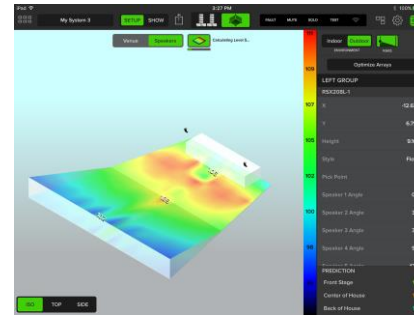
Calculating Level 5…
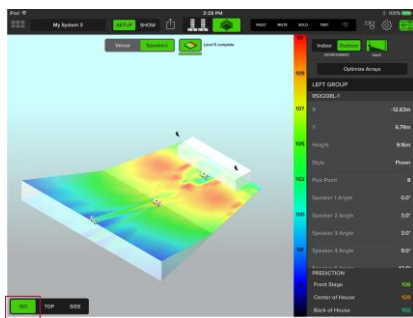
Level 5 complete – *Iso*

Level 5 complete – *Top*

Level 5 complete – *Side*

Any additional speakers can now be brought into the system. For this example, add in an RSX18 subwoofer and RSX89 full-range loudspeaker *per side*.

In order to do this, leave **Venue view** and enter **Rigs view**.

Do so by tapping the **Rigs view** button.
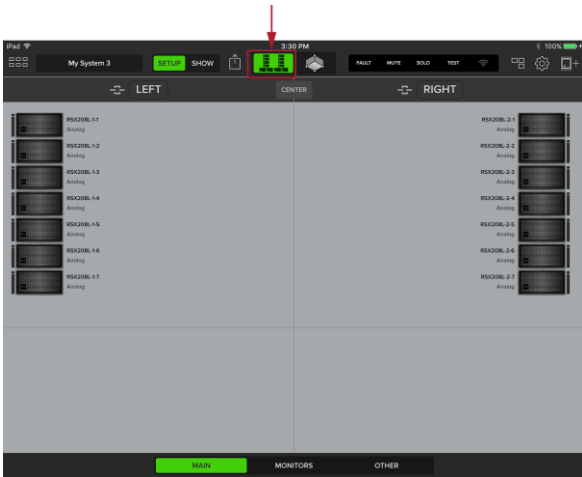
The arrays were not only optimized, but were added to the rig as well.

Tap the icon in the upper-right corner to reveal all RADIUS Series speakers. They will be displayed horizontally at the top of the screen.
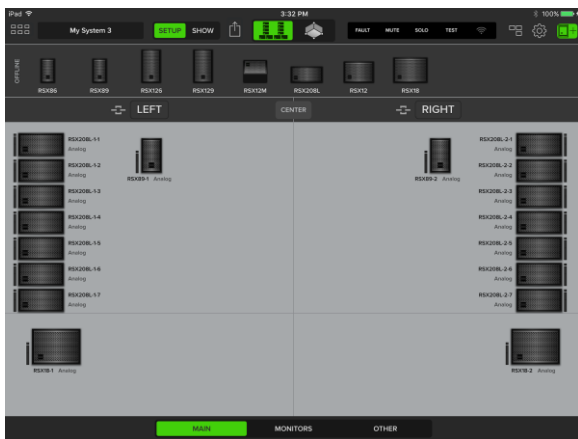
Tap each speaker to be included with the system and drag to a desired location. Once released, a prompt will inquire on the quantity of each speaker. As mentioned (and seen) above, this includes an RSX18 subwoofer and RSX89 full-range loudspeaker *per side*.

With the speaker setup portion complete, return to the **Venue View** to see the updated Prediction results.
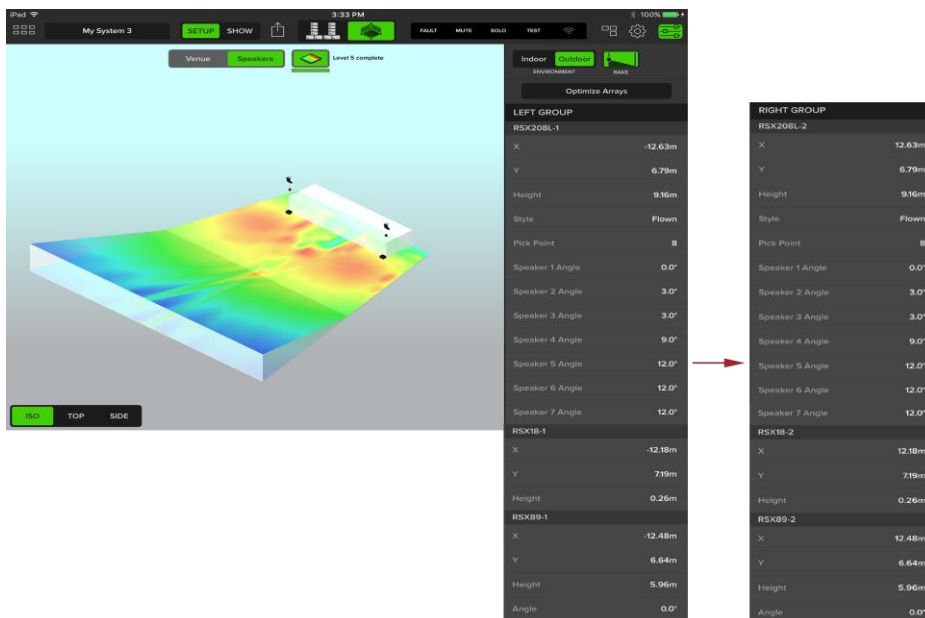
When the **Create Arrays** and **Prediction** buttons were tapped earlier, it displayed what number of RSX208L's should be used, along with the suggested X- and Y-axis, height, style, pick point and speaker angles. Additional information is now needed for the RSX18 subwoofers and RSX89 full-range loudspeakers supplementing the system.

See above. Notice that the left and right groups are identical except for the X-axis. [The RSX18, RSX89 and Right Group may all be accessed by scrolling vertically on the sidebar.]
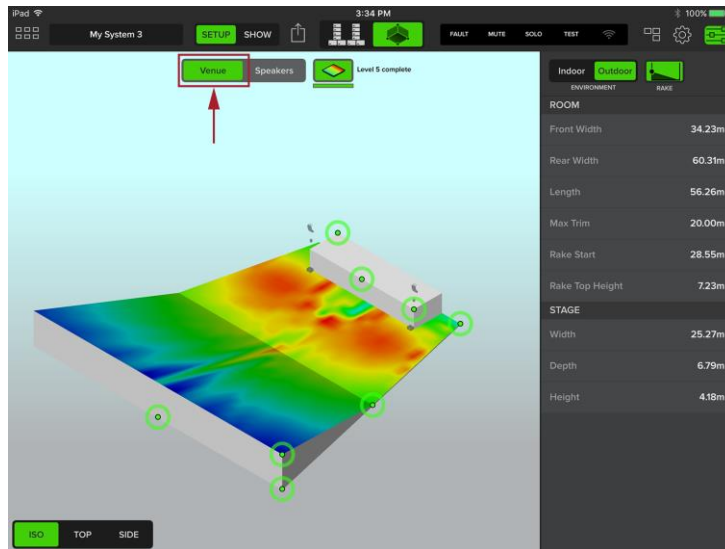
The screenshot displayed above is with the **Speakers** button selected in **Venue View**. Simply tap the **Venue** button to display all current dimensions.

As seen in some of the previous screenshots, the sidebar is open. Tap the **Horizontal Faders** icon to hide the dimensions, predictions and dB levels, leaving only the (expanded) **Venue View**.
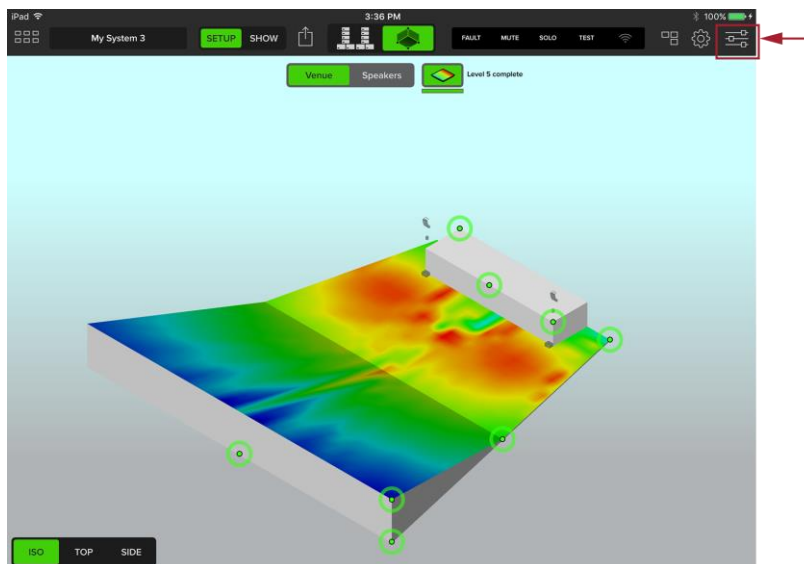
Scenario 3 – Bringing in a system that is discovered online

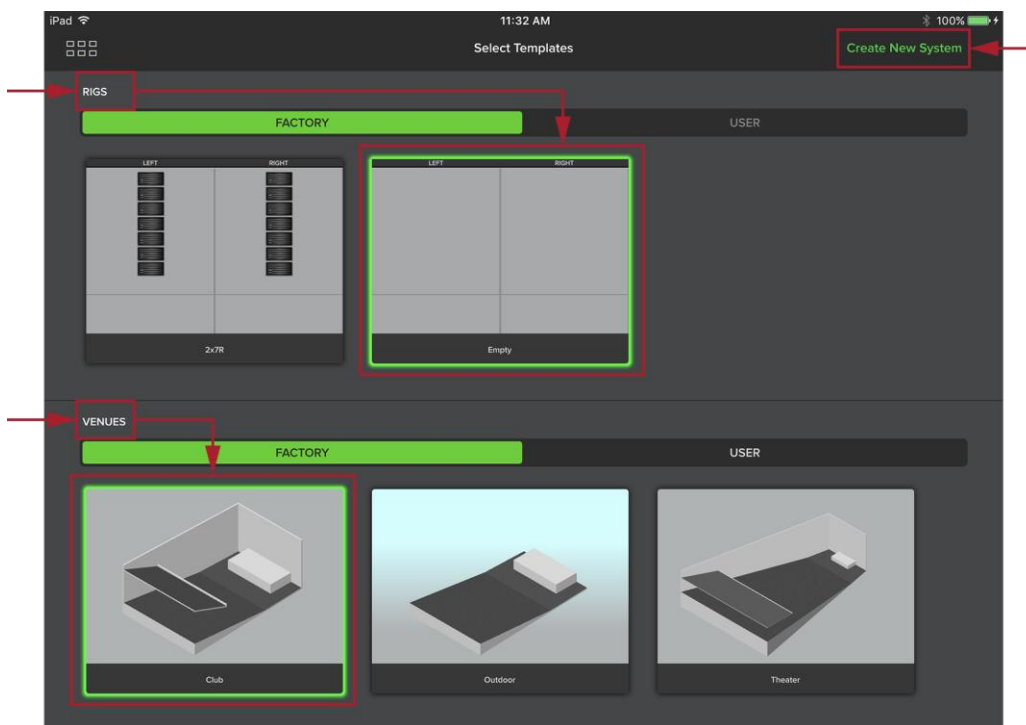This scenario explains bringing in a system that's discovered online. To begin (1) start with a blank model, (2) discover devices on the speaker shelf, (3) identify and bring them into their respective groups, then (4) perform the optimization. This type of setup may be utilized in venues that either have a RADIUS system as a permanent install, or as part of the touring rig.

After opening the EAWmosaic app, tap either the plus symbol [+] or **Create New System**.
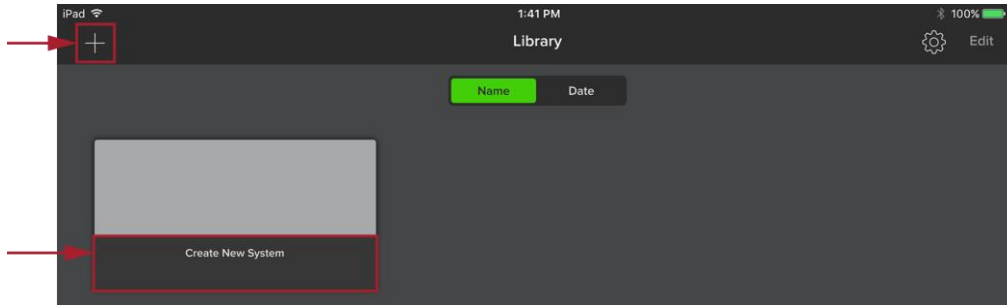
Select *RIGS* and *VENUES* choices. Since this is a new system, tap 'Empty' for *RIGS* and 'CLUB' for *VENUES*. The border of these selections will illuminate green as a confirmation. Tap **Create New System** to get started.

Tap the **Venue View** icon to set up a venue. Once open, tap **Tools** (the gear icon) near the upper-right corner of the device. Decide on the units of choice: Imperial [feet] or Metric [meters]. Additionally, a different safety factor other than the suggested (and default) 10:1, may be selected.

A safety warning may appear. This safety warning is important, so please read, understand and follow before tapping *Agree*.
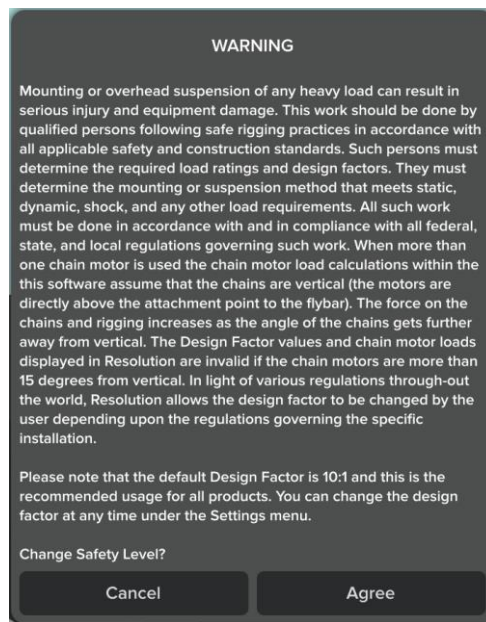
Tap on each room and stage dimension that should be updated, and once finished, tap *Done*.

Also of note are the two callouts below: The first one [arrow pointing down] shows the connection status between the RADIUS system and the EAWmosaic app. It is green indicating that the system is online and working as it should. This icon was not illuminated in the previous two scenarios as the systems were designed offline. The second callout [arrow pointing left] is displaying the illuminated **Balcony** icon. If applicable, settings to the balcony may be adjusted on the sidebar.
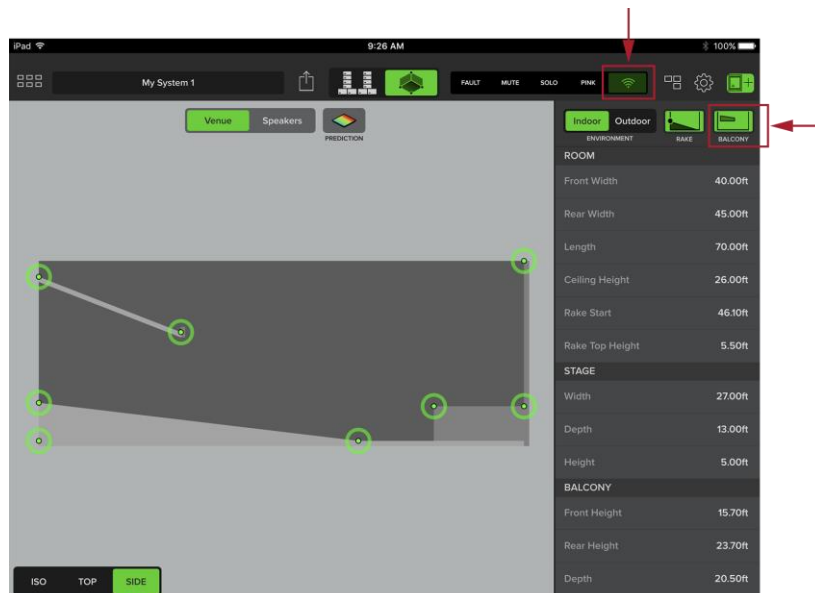
The venue is now set, but the speakers are not. Tap on **Rigs View** to configure the system.
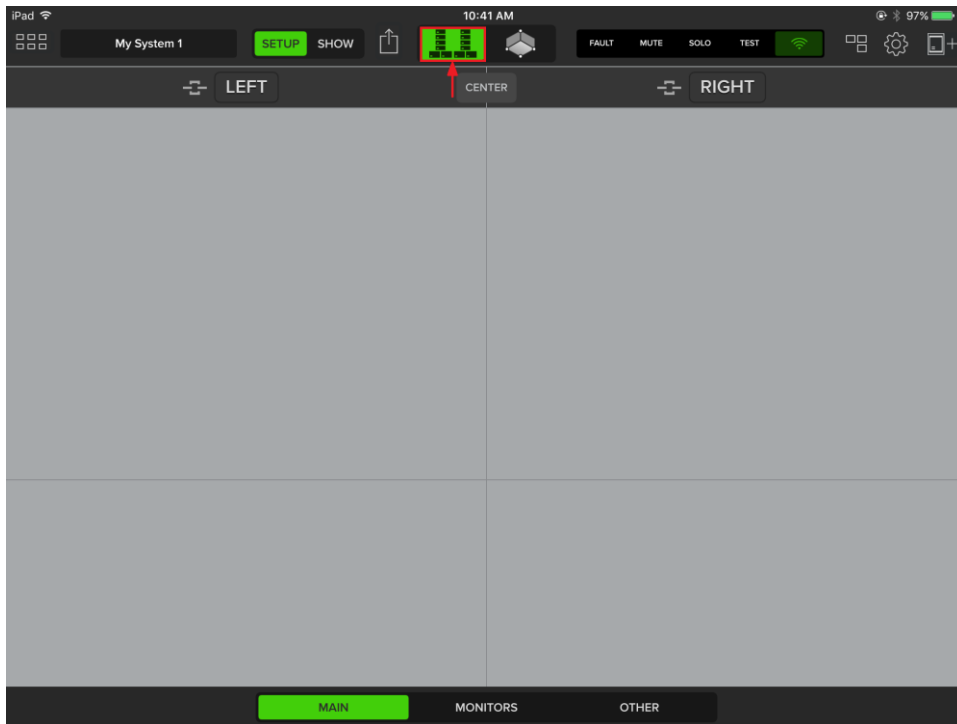
Because the system is online, EAWmosaic will discover and display RADIUS speakers that are detected in the system. Additionally, RADIUS speakers that have not been discovered will also be displayed, but in the offline section. *See below*.
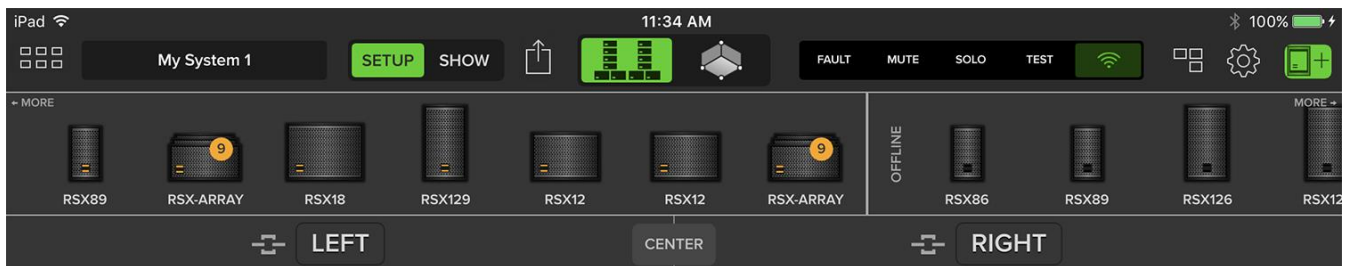
The detected RADIUS speakers are displayed horizontally on the left hand side of the screen while the offline RADIUS speakers are on the right, separated by a vertical line.

Swipe right to view more detected speakers and swipe left to view more offline speakers.

Notice that front panel status indicator is yellow on detected RADIUS speakers and off / black in the offline RADIUS speakers.

Tap and drag each *detected* speaker or array to include it with the system.


Starting with the RSX208L array, drag it to house left.

Notice the top RSX208L is illuminated red. Red is typically used as a warning and this is no exception. As seen above, the arrays have a yellow circle with the number "9" inside. Eight is the maximum number of RSX208L's per hang.

Now that the *nineth* box has been eliminated, a safe and usable *eight* array system is displayed below.
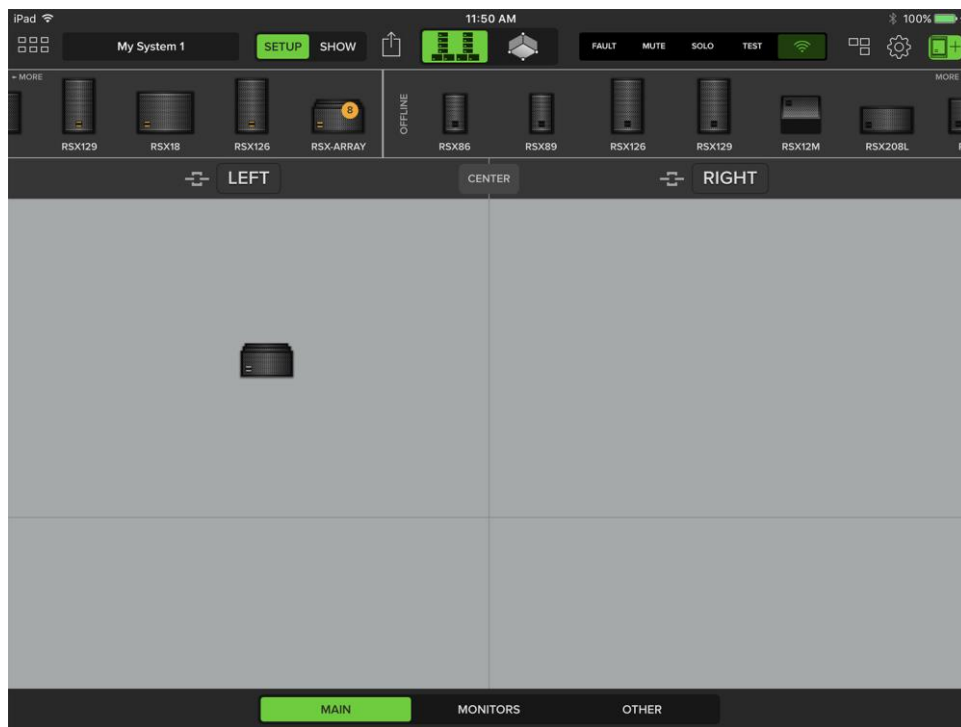

Tap, hold and drag the remaining *detected* RADIUS speakers that will be *used in the system*. Please note that "detected" and "used in the system" is emphasized by italicizing them. There is no reason to drag offline speakers into the system. There could be RADIUS speakers that have been detected, but will not be used. These may remain along the top row with the other (unused) RADIUS speakers.

With the system in place, optimize the arrays and start the prediction. Before moving forward, notice the yellow RSX208L array on house right. Whereas a red RADIUS speaker indicates that the system is over limit, yellow indicates that the system is near limit *(for demonstrative purposes later, this will remain in the system).*

Moving back to the **Venue view** to see what the system looks like, not only will the yellow RSX208L array appear in the **Rigs view**, it will appear in the **Venue view** as well.
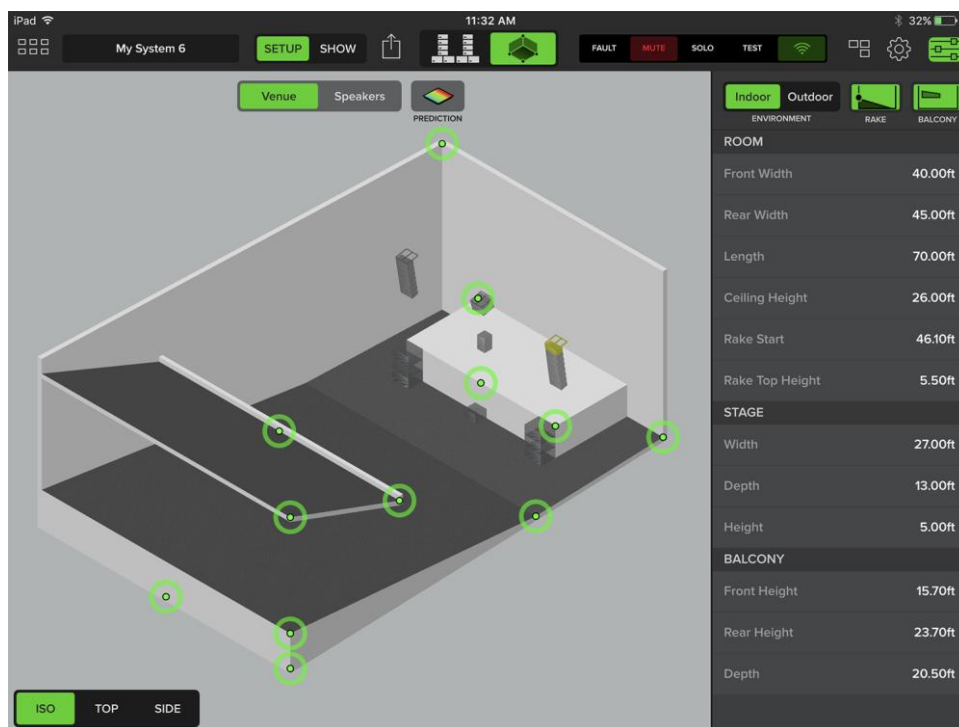
The next step is to optimize the arrays. Switch to **Speakers view** and tap **Optimize Arrays** as displayed below:
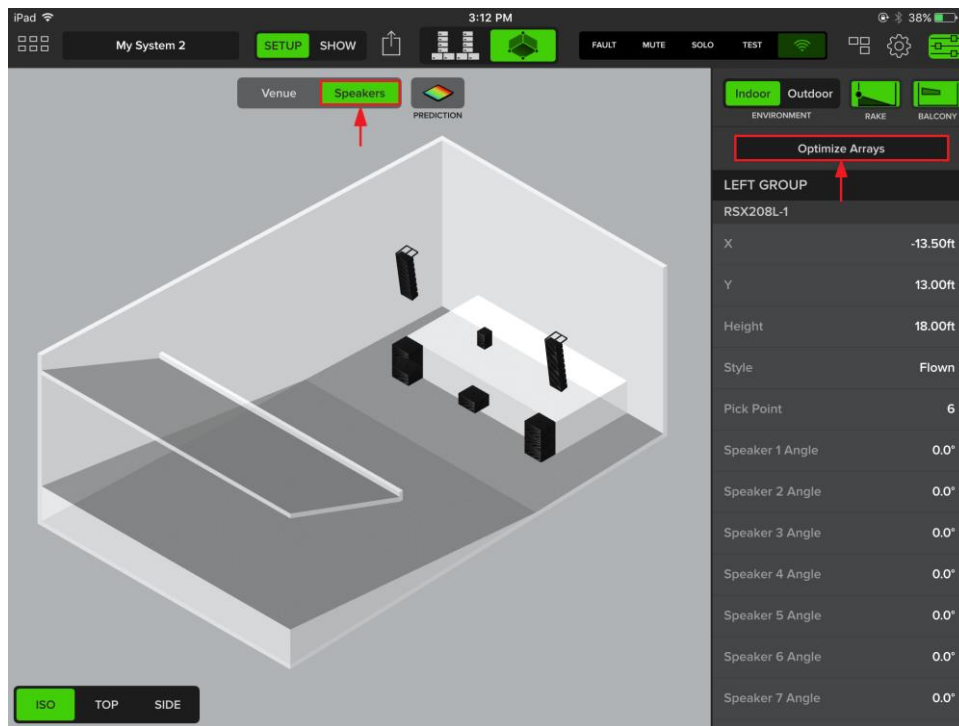

Choose to either optimize the current arrays, or replace with new recommended arrays. Here, the coverage goal (fly high/low) and SPL requirement may also be configured. Click **Optimize Arrays** to finish.
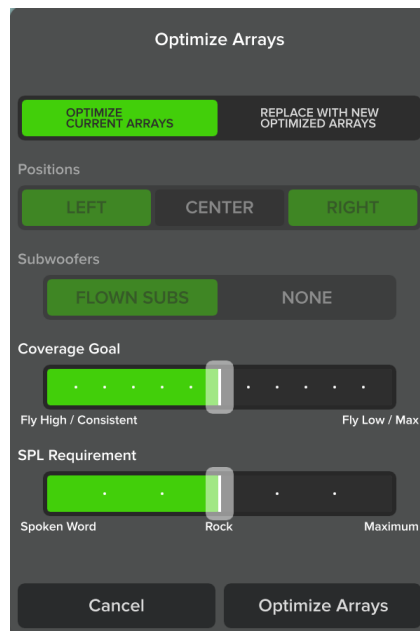
Once completed, tap the **Prediction** icon (located near the top-middle of the device and to the right of the **Venue** and **Speakers** buttons).

Prediction will go through five levels of calculation before the final results are displayed. Notice the results discrepancy on house right. The dB level is higher on house right due to the yellow speaker in the RSX208L array. This will need to be addressed before using the system.
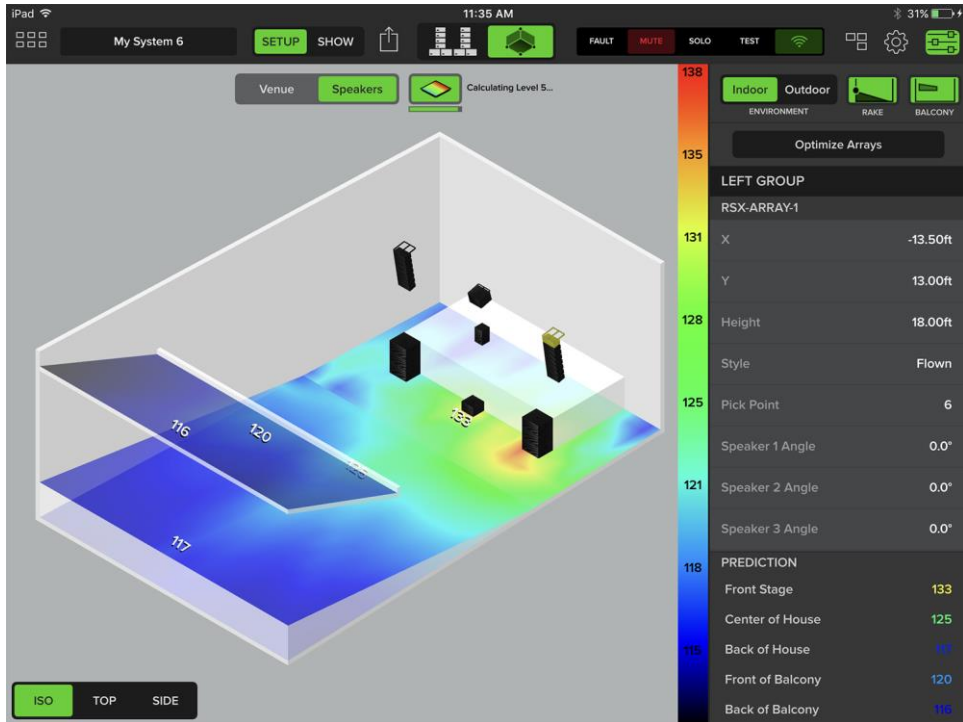
Scenario 4 – Designing the system offline and discovering it online

Discussed here is how to design a system offline, and then discover it online. This would likely be used for a touring rig where the RADIUS system is known and available for the entire tour, but the system will change due to differences between venues. The first step is to acquire the dimensions of the venue(s). This includes the room and stage dimensions, and if applicable, the rake and balcony dimensions.

After opening the EAWmosaic app, tap either the plus symbol [+] or **Create New System**.
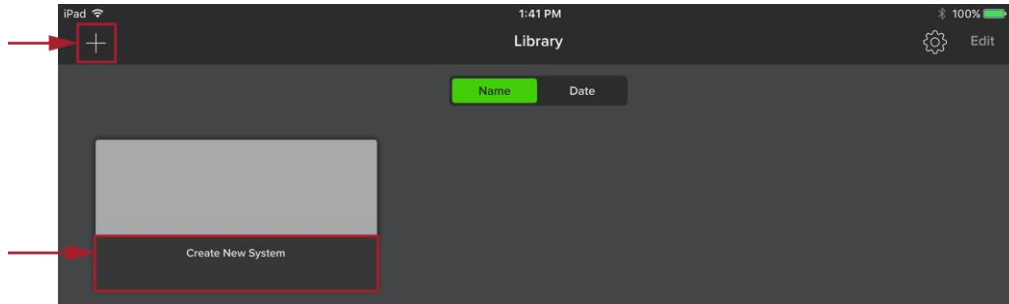
Select *RIGS* and *VENUES* choices. Since this is a new system, tap 'Empty' for *RIGS* and 'Outdoor' for *VENUES*. The border of these selections will illuminate green as a confirmation. Tap **Create New System** to get started.
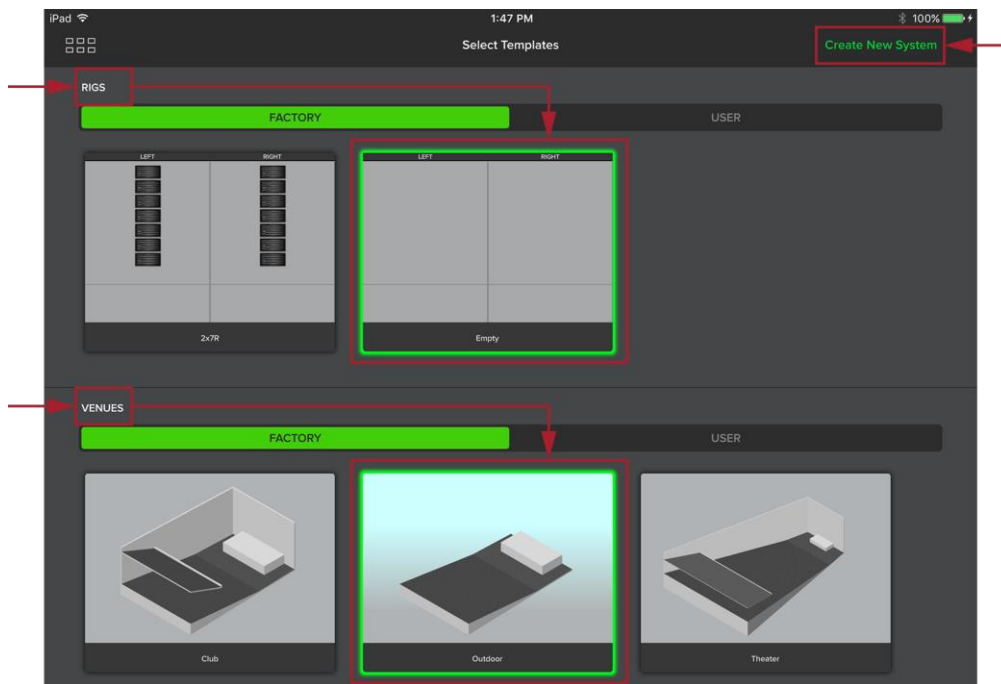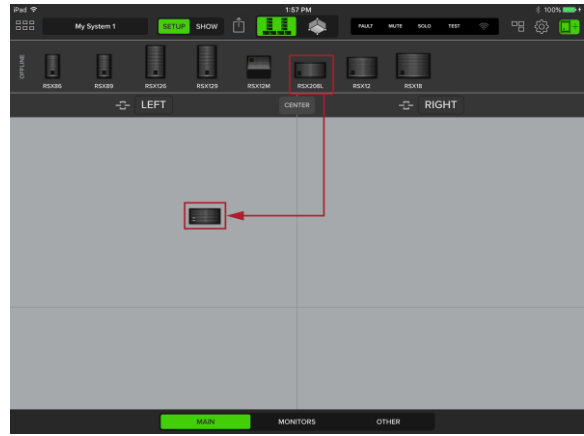

Staying on **Rigs View**, start creating the system offline.

Tap the speaker shelf icon in the upper-right corner to reveal all RADIUS Series speakers. Then, tap each speaker that will be included with the system and drag to a desired location.
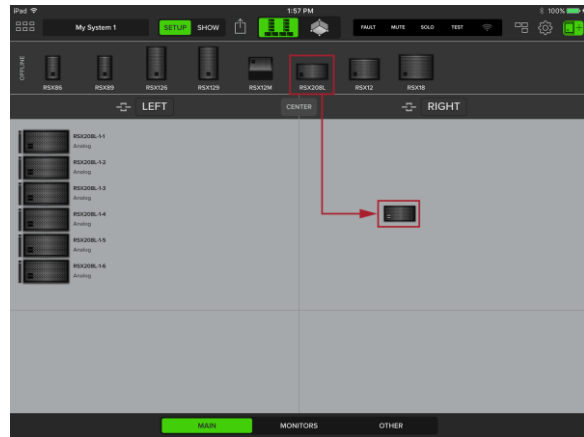
All RADIUS Series speakers are displayed horizontally at the top of the screen.
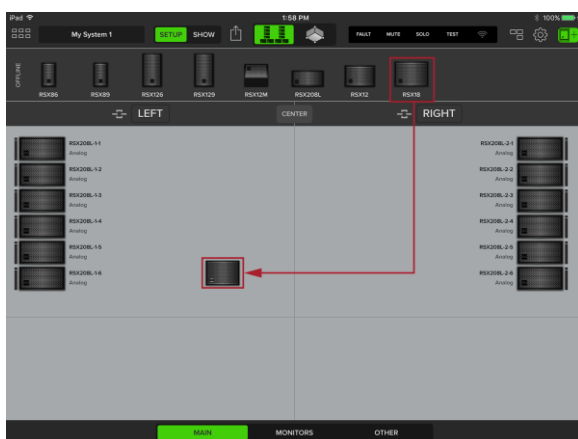

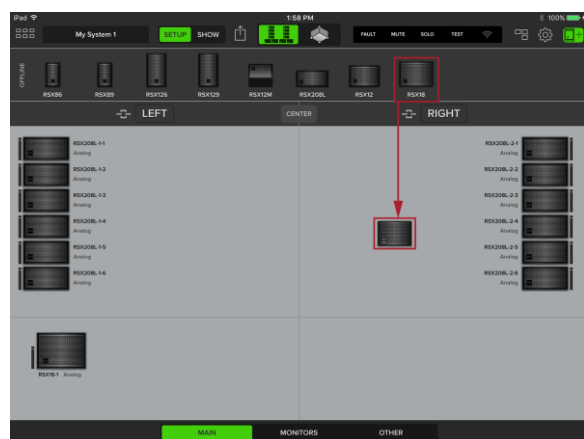Tap and drag an RSX208L arrayable speaker to house left. Release when placed.
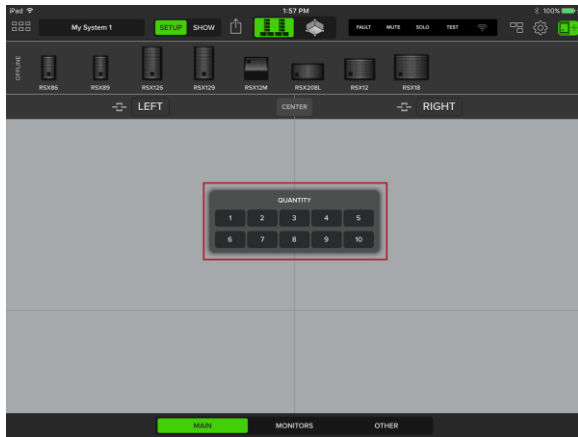
A prompt will inquire on the quantity of each speaker. This example incorporates six RSX208L's per side.
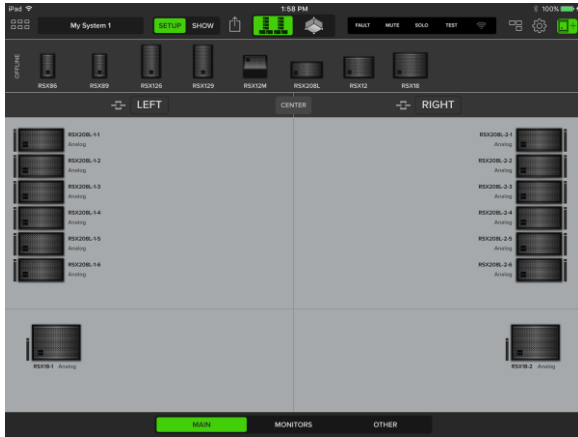

Six RSX208L's appear on house left. Now, repeat the same procedure for house right.
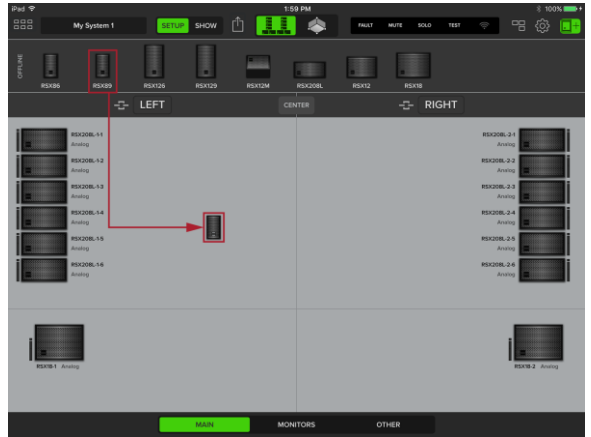

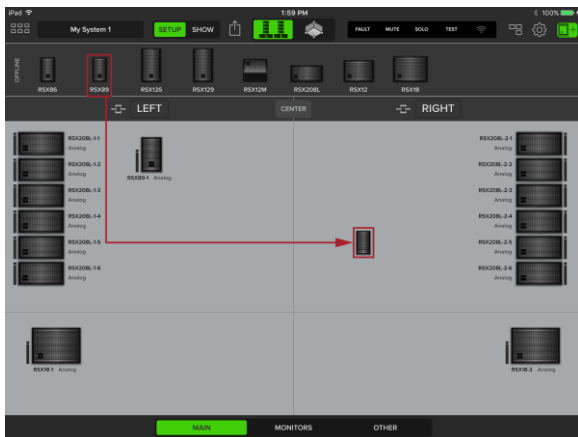Tap and drag an RSX18 subwoofer to house left.

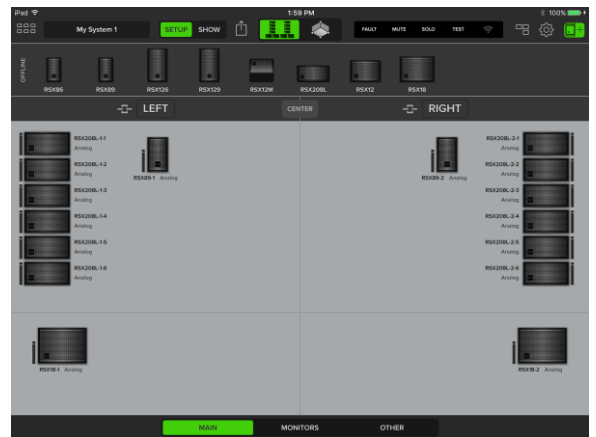Tap and drag an RSX18 subwoofer to house right.

The main PA is nearly complete. The final step is to add the RSX89 full-range loudspeakers.

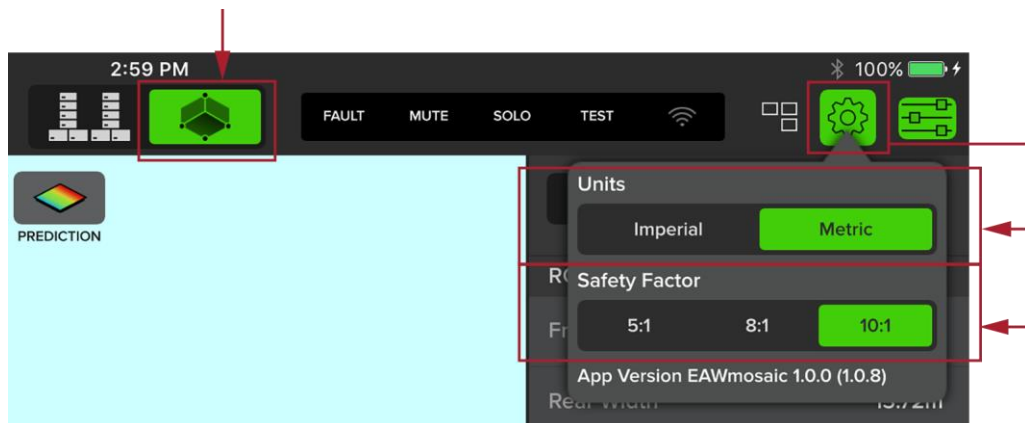Tap and drag an RSX89 full-range loudspeaker to house left.

Repeat the process. Tap and drag an RSX89 full-range loudspeaker to house right.

The speaker setup portion is complete.
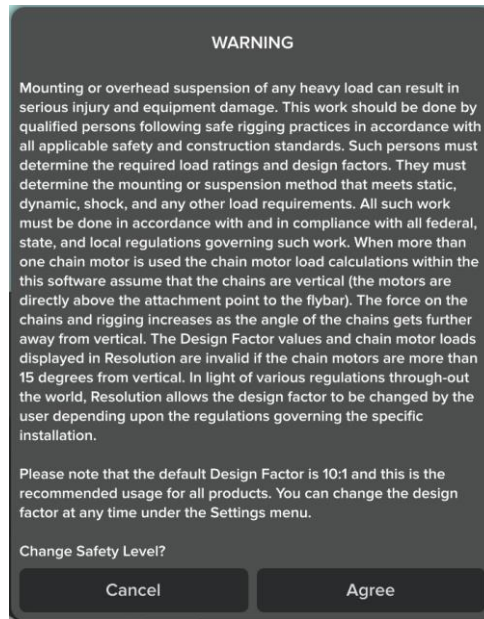
Now that the system is in place, optimize the arrays and predict the results.
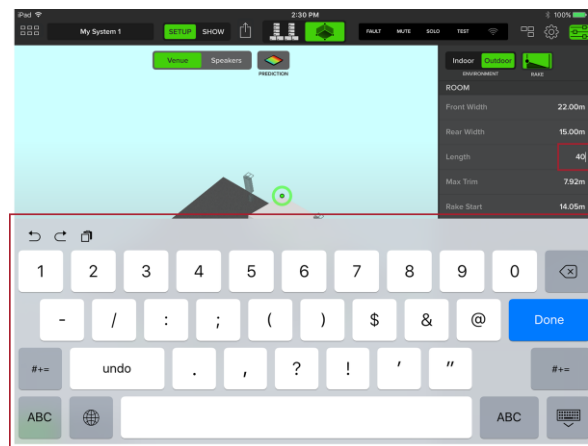
Tap the **Venue View** icon to set up a venue. Once open, tap **Tools** (the gear icon) near the upper-right corner of the device. Decide on the units of choice: Imperial [feet] or Metric [meters]. Additionally, a different safety factor other than the suggested (and default) 10:1, may be selected.

A safety warning may appear. This safety warning is important, so please read, understand and follow before tapping *Agree*.

Tap on each room and stage dimension that should be updated, and once finished, tap *Done*.

Select between three views : **Iso** [default], **Top** and **Side**, and if there are any changes in the venue, make them now.

| ISO | TOP | SIDE |

Now that the venue is set, the next step is to optimize the arrays. Switch to the **Speakers view** and click the **Optimize Arrays** button to begin:

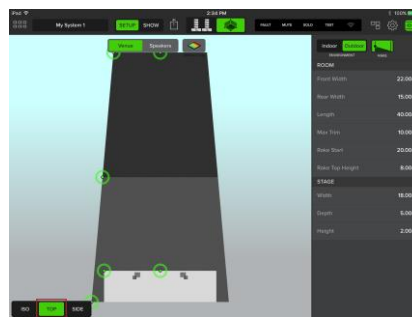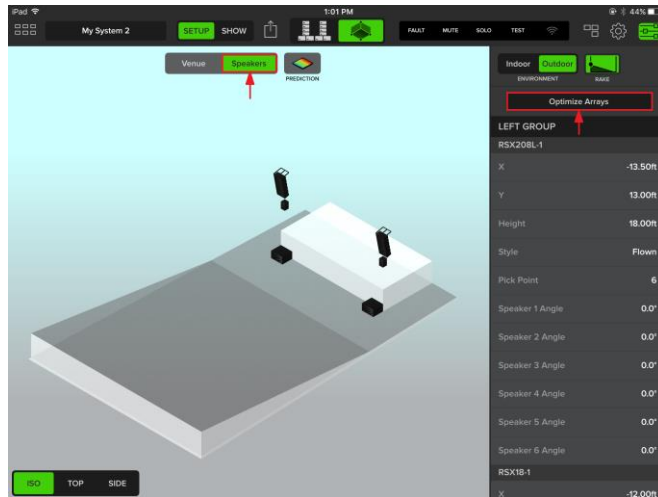Choose optimize current arrays. The coverage goal (fly high/low) and SPL requirement may also be configured. Click **Optimize Arrays** to finish.

The new optimized arrays now appear as illustrated below. Changes or edits may be made by scolling vertically on the sidebar. Additionally, the speakers or arrays may be moved manually to a new position.

Next, Tap the **Prediction** icon, located near the top-middle of the device and to the right of the **Venue** and **Speakers** buttons. Prediction will go through five levels of calculation before the final results are displayed. Notice the change in dB levels as Prediction goes through each of the five stages of calculations.

Calculating...

Calculating Level 2...

Calculating Level 3...

Calculating Level 4...

Calculating Level 5...

Level 5 complete – *Iso*

Level 5 complete – *Top*

Level 5 complete – *Side*

The following steps take place once arriving at the venue, *after* the Wi-Fi has been set up, and EAWmosaic is connected to the system. As seen below, the detected and offline RADIUS speaker collection is available. Also of notice is that the system i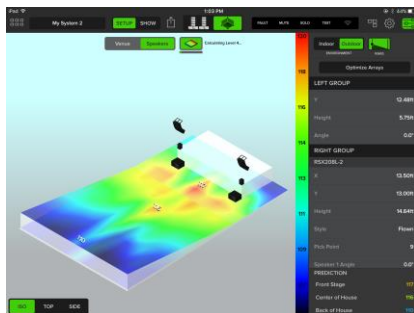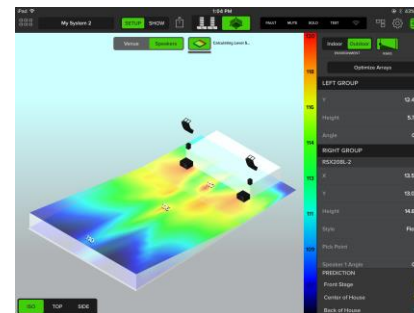s in place, but the front panel status indicator is still off / black even though the connection status is on / green. This is because the detected RADIUS speakers need to be dragged into place in order to activate the system.

To bring the system online, the detected Radius speakers will need to be placed over the top of the displayed offine system. It's important to note that in order for this to take place, the offline speakers or arrays must match whats been detected.

Once complete, the front panel status indicator will be green and the connection may change from "Analog" to "Dante" (If the Radius online system has been set up in Dante Controller).

OPEN SOURCE CODE

EAWMosaic using the following open source code:

Trolltech

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Contacting EAW

We have attempted to make this Help File as thorough as possible. However, feel free to contact us with any further questions or comments for topics not covered.

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