Microflex® Advance™ MXA910 Linear Array Microphone

Use this guide to help successfully deploy the Shure MXA910 linear array microphone.
The steps provided in this guide have been configured using the Shure Designer System Configuration Software.

Step 1: Setting Array Height & EQ Colour

One aspect that is critical to the deployment—and that must be set—is the height of the array in the room. This is the measurement from the floor to the array. **Don't guess.** Use a tape measure or laser to get an accurate measurement.

To set the height, click on the mic in the configuration window, then enter the correct height under **Properties -> Device,** in the right pane (see fig. 1).

Select the appropriate EQ Contour for your deployment. Click **Help** in the top menu to get an understanding of each selection available. In many conference applications, the Low Shelf setting is ideal, while High Pass and Multi-band may be more appropriate for recording applications.
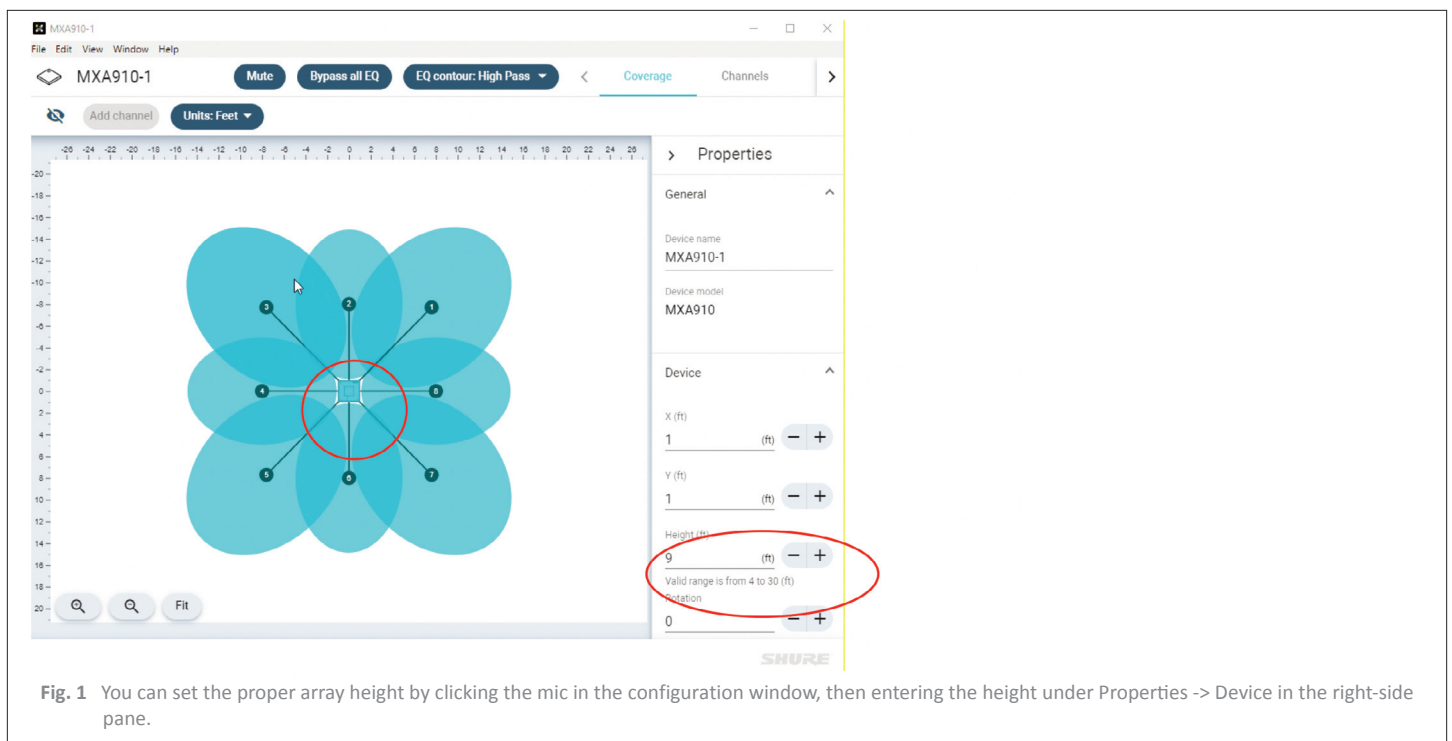

Fig. 1 You can set the proper array height by clicking the mic in the configuration window, then entering the height under Properties -> Device in the right-side pane.

Step 2: Coverage

When using Shure Designer, you can import and scale a floor image of the room for a visual representation. The array is shown on a grid comprised of 2 ft × 2 ft tiles.

Use the grid to confirm you have placed the microphone lobe in the correct location. To do so, either drag the lobe to the desired position or if the microphone is live (required) you can use the Auto Position feature. Be sure to confirm location if using Auto Position.

Choosing the correct lobe width: The further away from the array the lobe position is, the smaller the lobe width should be. If the lobe is only a couple of feet from the array, then a wide or medium width works well. For a position 16 ft. from the array, you will likely need to use a narrow lobe width for best results (see fig. 2).

Setting the talker height: If the lobe is directed at a seated position, the typical talker height would be 4 ft., while standing position height would be 5.5 ft on average. Don't worry too much about someone standing up from a seated position. The Auto Focus feature of the MXA910 will adjust the array 1.5 ft from center in any direction making sure the talker is heard clearly (see fig. 2).

In cases where you don't require all lobes, or to clear the screen while positioning lobes, you can remove a channel by clicking Remove channel. (see fig. 2).
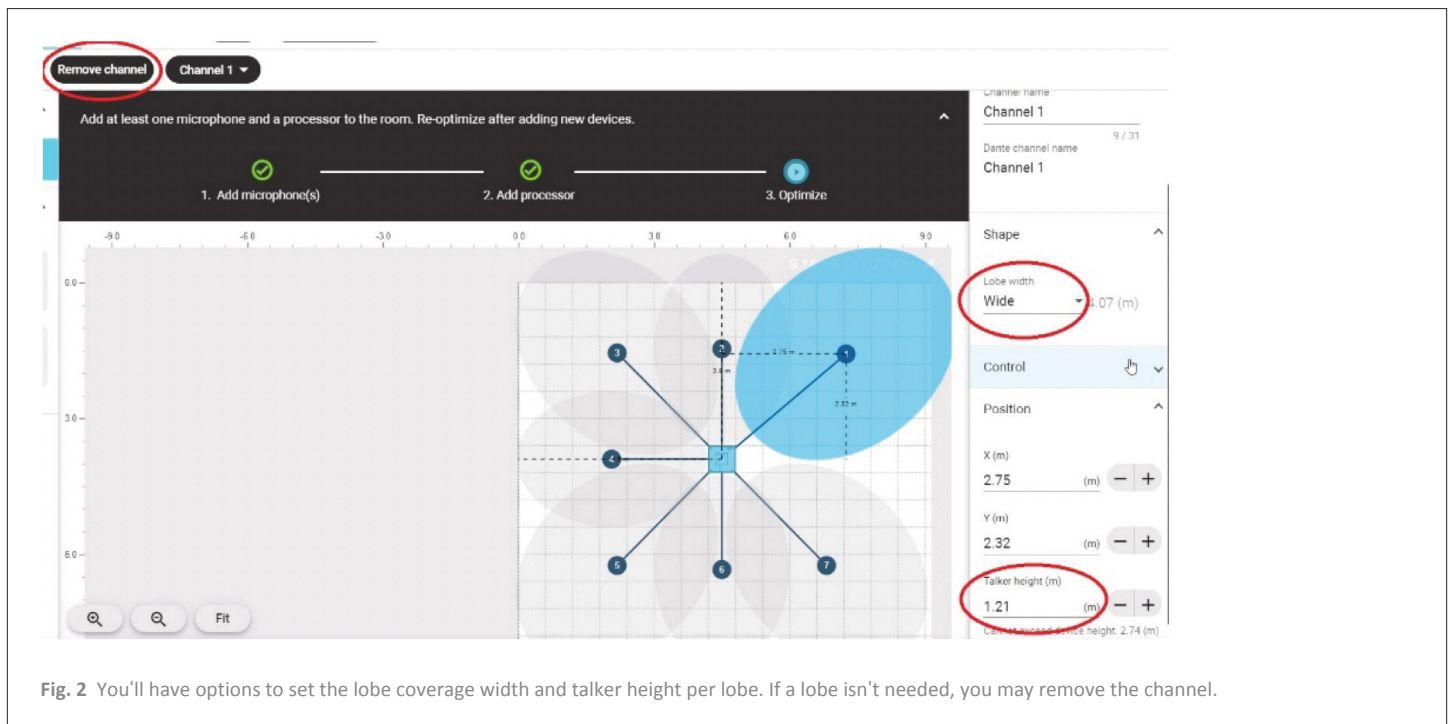

Fig. 2 You'll have options to set the lobe coverage width and talker height per lobe. If a lobe isn't needed, you may remove the channel.

Add a lobe to the array by clicking on the array and selecting Add channel (see fig. 3).
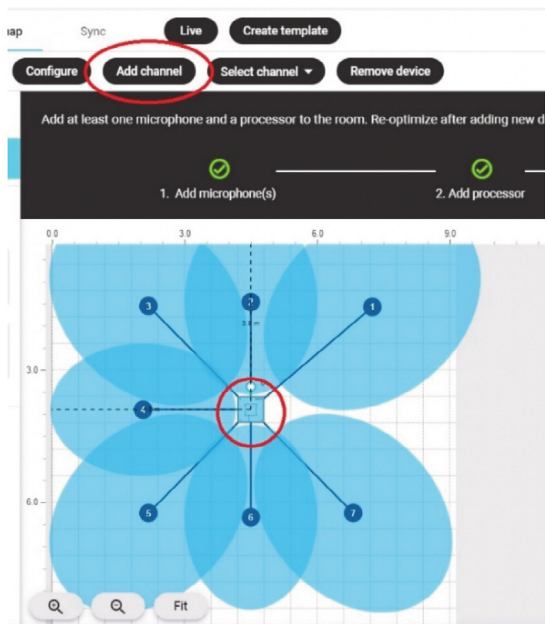

Fig. 3 To add a lobe to the array, select the array and then click Add channel.

Step 3: Audio Adjustments

Achieving quality audio with the MXA910 requires that the gain structure be set correctly. On the channels window of the MXA910, you can increase or decrease the gain as needed per channel.

Not all channels will have the same gain adjustment; you will need more gain as you get further from the array. When setting the gain, it is important to note that the channel meters are in dBFS, decibel full scale. This indicates that 0 is the clipping point, and unity is around -20dBFS (see fig. 4).
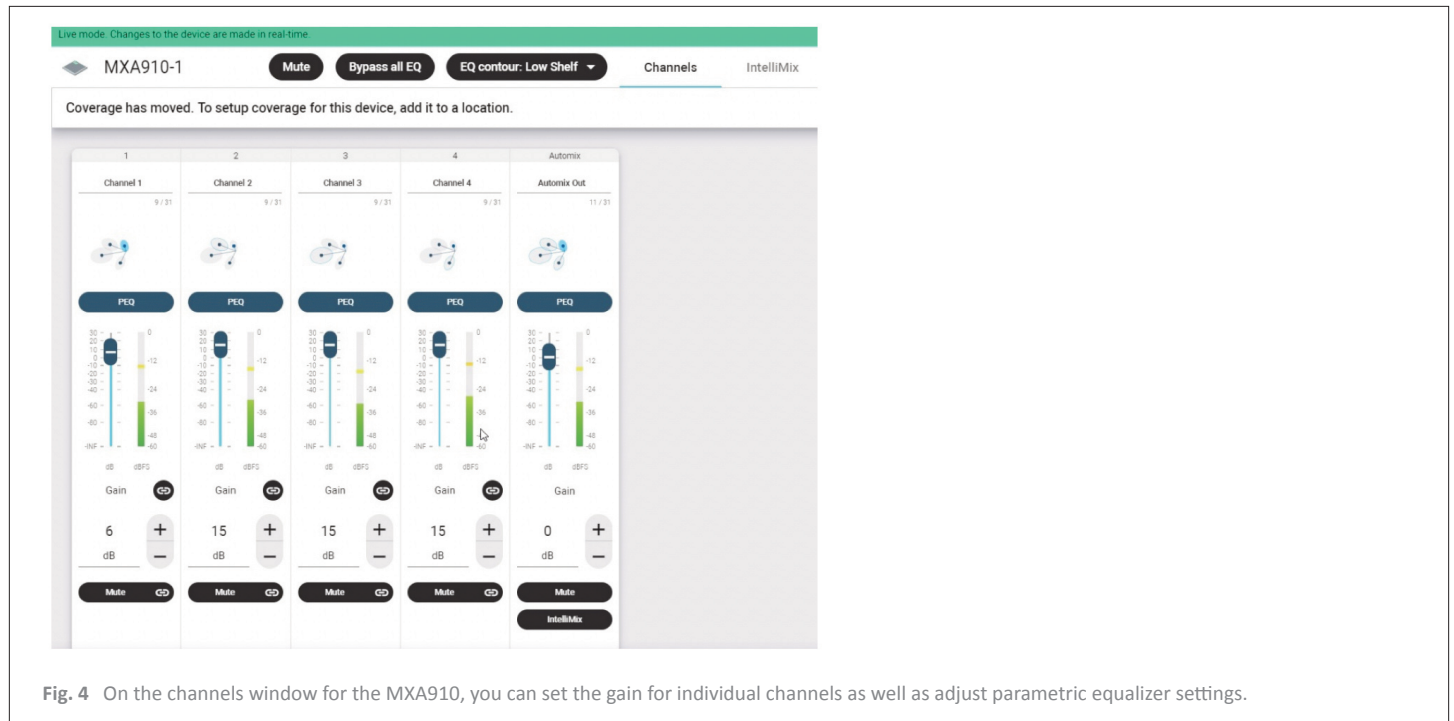

Fig. 4   On the channels window for the MXA910, you can set the gain for individual channels as well as adjust parametric equalizer settings.

Once you have set your gain, you will need to adjust PEQ (parametric equalizer). Choose a channel and click on the **PEQ** button (fig. 4). Adjust the EQ as required for the channel.

There are four filters available, all turned off by default. You'll need to turn on each filter you want active.

Tailor your filters by choosing the type of filter, and adjusting the settings as needed (see fig. 5).

Fig. 5 To tailor your filters within the PEQ, choose the type of filter and adjust the settings as needed. Once you have it as you like you can copy it to other channels.

Tip: Once you have an EQ that you like, you can copy and paste it to other channels. Simply click the copy button at the top of the PEQ window, then open the next channels PEQ and click the Paste clipboard (see fig. 5).

Step 4: IntelliMix

You can configure a mix output in the IntelliMix window. To assign the channels you want to include in the mix, click **Send to Mix.** For each channel, apply **Automatic Gain Control (AGC), Priority,** or **Always On** as needed.

On the Automix Out channel strip, you can enable or disable the Acoustic Echo Cancellation (AEC) and adjust the Non-Linear Processing (NLP).

Use the lowest setting possible for the NLP, as this will remove low-level late audio reflections as found in acoustically challenged rooms.

Use the lowest level noise reduction (NR) possible as it removes persistent noise such as HVAC.

If desired adjust PEQ, compression, and delay. Also, don't forget to route a reference to the microphone if using the onboard AEC.

In the Properties panel on the right, select the Automix mode. Gating is recommended for conferencing applications with a maximum open channel count of two or three. The gating sensitivity can be adjusted to keep the microphone channels from opening from sounds like paper shuffling or pencil tapping. A lower sensitivity requires more audio to open the gate whereas higher sensitivity will require less audio and opens the gate earlier (see fig. 7).
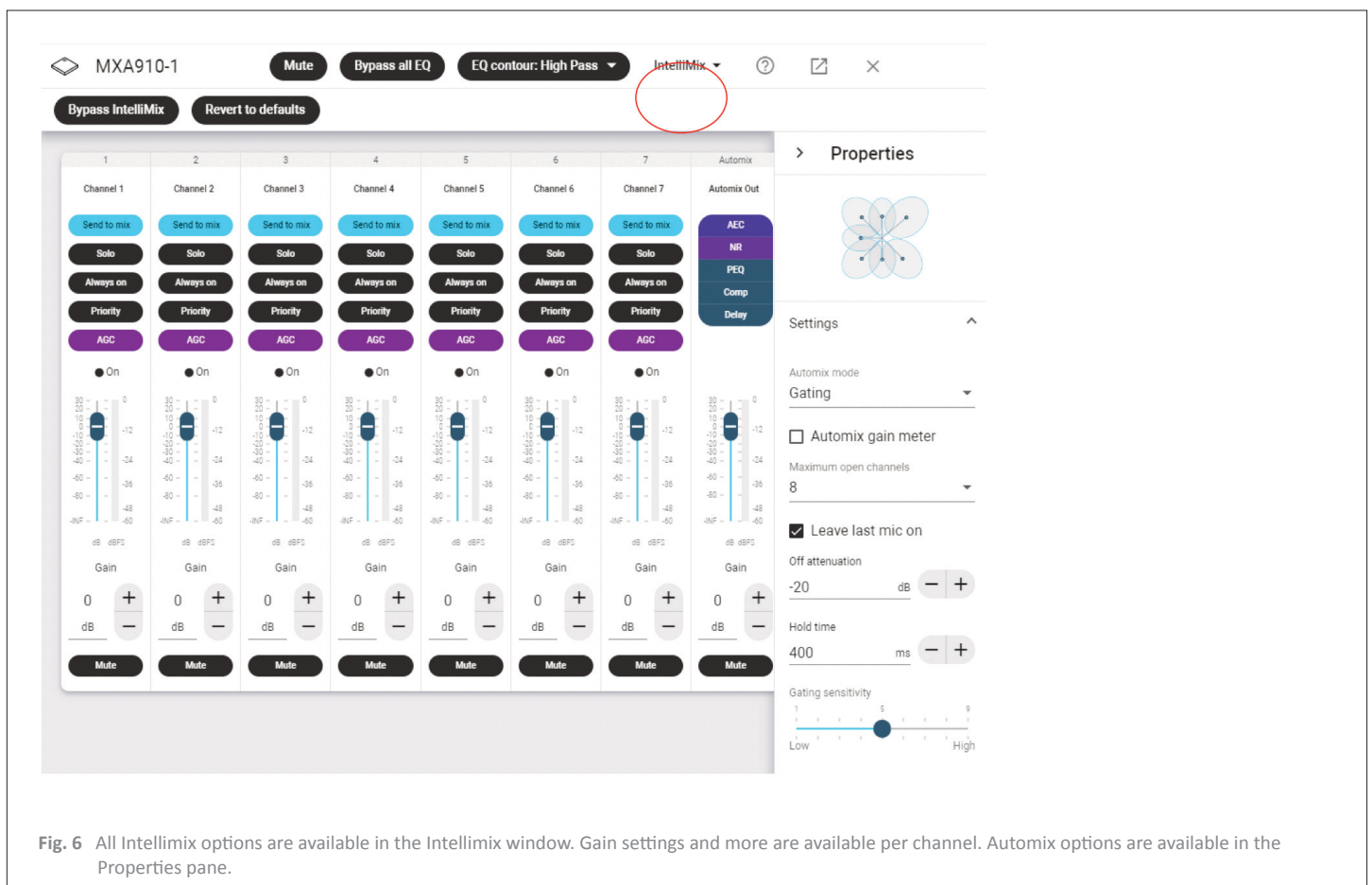

Fig. 6 All Intellimix options are available in the Intellimix window. Gain settings and more are available per channel. Automix options are available in the Properties pane.

If you have any questions about the information in this document, contact support@sfm.ca or visit our Technical Support Portal. For additional online training certification courses, be sure to visit the Shure Audio Institute and get started today!

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