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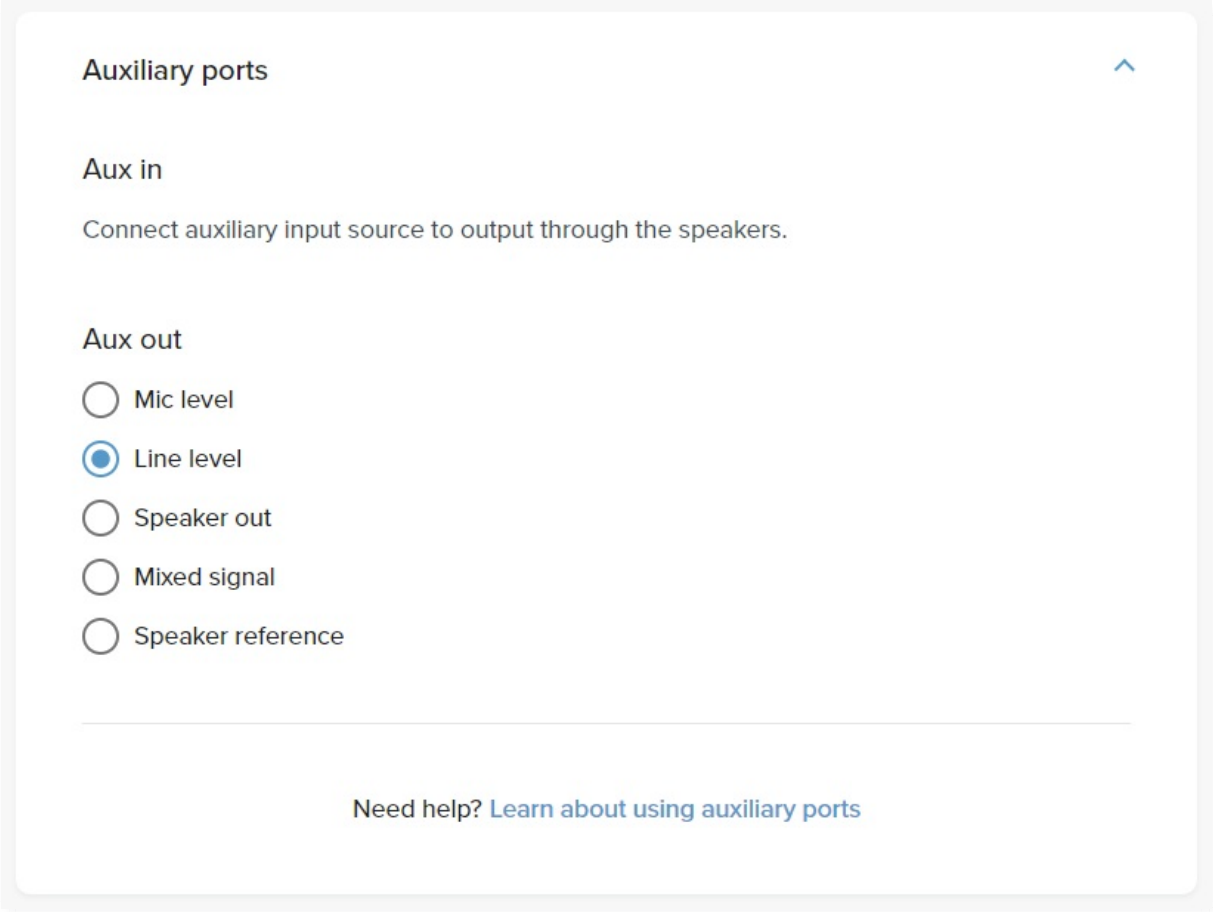
Using the auxiliary ports on an HDL410 system

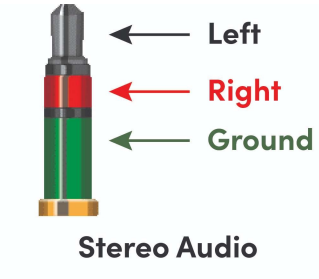
The Nureva® HDL410 audio system features auxiliary ports on the connect module. They are used to send and receive audio streams from third-party devices. The auxiliary port options are found in the Nureva App (settings) and Nureva Console (device settings).

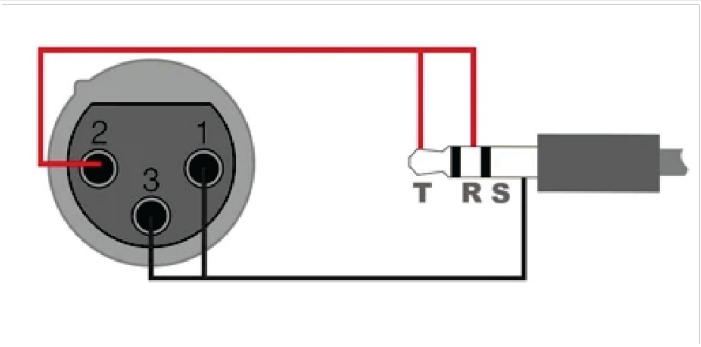


Audio jack cabling

The auxiliary ports provide single-ended, unbalanced signals with a recommended maximum cabling length of 6 feet. This maximum cable length is suggested to ensure minimum noise is coupled to the signal. Installing the third-party equipment next to the connect module will help avoid long cable runs and proximity to noisy cables. This will assist with keeping noise coupling from happening.

3.5 mm pin-out configuration





All connections are unbalanced 3.5 mm ports with a three-conductor tip ring sleeve.

Auxiliary ports

Different auxiliary output modes can be selected in Nureva Console for interoperability with different components. The table below outlines the voltage root-mean-square (VRMS) and gain for each port and the corresponding settings. The default signal is an echo-canceled microphone pickup with a maximum output level of 0.92 VRMS and a gain of +2.2 dBu.

Auxiliary ports	VRMS	Gain
Aux out (mic level)	Max 0.23 VRMS (0.65 Vp-p)*	-10.5 dBu
Aux out (line level)	Max 0.92 VRMS (2.60 Vp-p)*	+1.5 dBu
Aux in	Max 1.00 VRMS (2.83 Vp-p)	+2.2 dBu
	**Assumes a 10k Ohm load*	

The Nureva aux-in and aux-out connections are single-ended, unbalanced signals with default maximum output signals as shown in the table above. Any equipment requiring voltages below these levels may result in clipping, distortion and — in extreme cases — damage to connected systems.

Equipment requiring voltages above these levels will not be adequately driven by the Nureva audio system's output signal and may result in quiet or no audio on the channel. Before connecting to the Nureva connect module, make sure the third-party device voltage levels are adequate or adjusted properly by additional interfacing hardware.

Auxiliary out (mic level)

The mic-level auxiliary output contains the in-room microphone pickup that is echo canceled. In-room microphone pickup is also referred to as near-end or local audio.

To configure this output, go to the device settings in Nureva Console, open the **Auxiliary ports** menu and select **Mic level** from the aux-out options. Then, if using Nureva Console cloud, click **Apply**.

Auxiliary out (line level)

The line-level auxiliary output contains the in-room microphone pickup that is echo canceled. In-room microphone pickup is also referred to as near-end or local audio.

To configure this output, go to the device settings in Nureva Console, open the **Auxiliary ports** menu and select **Line level** from the aux-out options. Then, if using Nureva Console cloud, click **Apply**.

Speaker out (line level)

The line-level speaker output contains far-end audio for playback on external speakers. The output is a mono signal and the system's speakers are disabled. Near-end audio to the computer and far-end audio from the computer are sent by USB. For best results, the volume should be controlled from the computer and amplifier settings should be fixed.

To configure this setting, go to the device settings in Nureva Console, open the **Auxiliary ports** menu and select **Speaker out** from the aux-out options. Then, if using Nureva Console cloud, click **Apply**.

Mixed signal (line level)

The line-level mixed-signal output contains both near-end and far-end audio mixed into one signal. With a mixed signal, hearing aid transmitters can send both the in-room and far-end audio to hearing aid devices. This setting can also be used with other third-party devices that require a mixed near-end and far-end audio signal.

To configure this setting, go to the device settings in Nureva Console, open the **Auxiliary ports** menu and select **Mixed signal** from the aux-out options. Then, if using Nureva Console cloud, click **Apply**.

Speaker reference

Speaker reference is a setting for the aux-out port for use with acoustic tracking cameras where a reference signal from the in-room speakers is required. Enabling speaker reference mode allows an acoustic tracking camera to use the in-room reference signal to cancel out the audio from the speakers so the camera does not track to the speakers.

To configure this setting, go to the device settings in Nureva Console, open the **Auxiliary ports** menu and select **Speaker reference** from the aux-out options. Then, if using Nureva Console cloud, click **Apply**.

Auxiliary in (line level)

The signals from the auxiliary-in port contain audio for playback to the room. They will get mixed with any signals from a USB audio source.