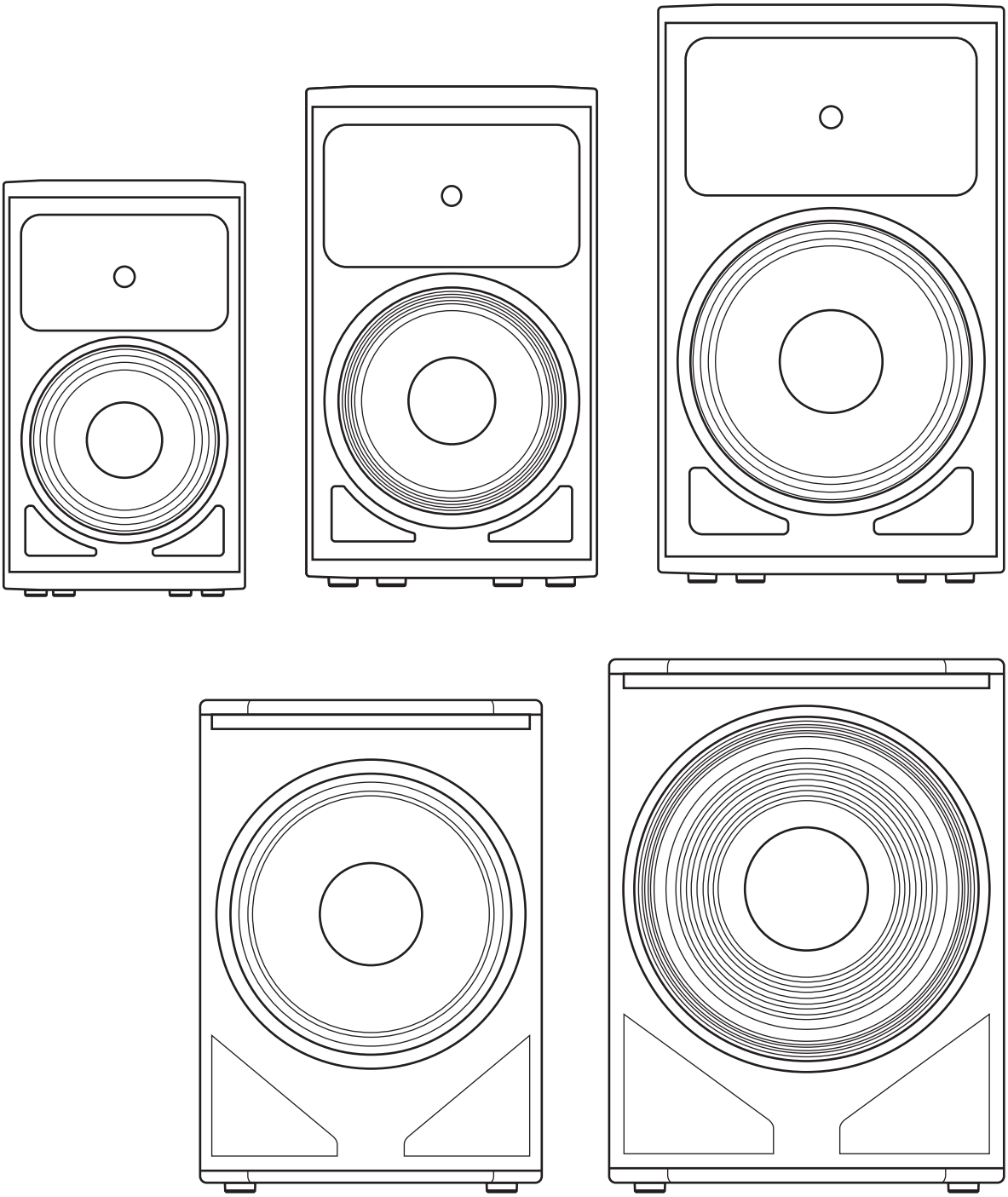
AIR-Series

Advanced Impulse-Response Loudspeakers

Owner's Manual



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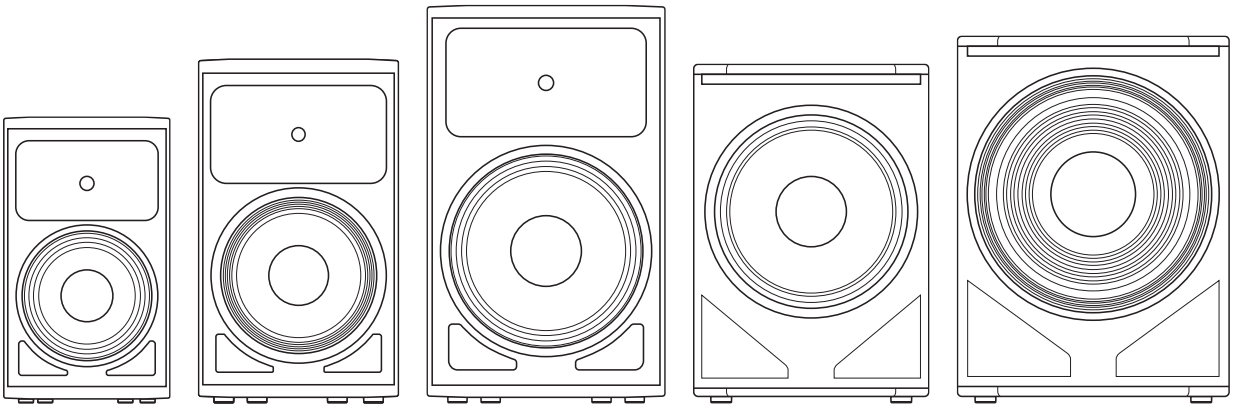
1 Overview

1.1 Introduction



Thank you for purchasing a PreSonus® AIR-series Active Loudspeaker. PreSonus Audio Electronics has designed AIR-series loudspeakers utilizing high-grade components to ensure optimum performance throughout the life of your PA system. AIR-series loudspeakers are active PA speaker systems that feature easy-to-use digital tuning functions. Compact and lightweight, they provide a clean, transparent sound and flexible tuning controls, making them an ideal solution for both mobile and install applications.

We encourage you to contact us with questions or comments regarding this product. PreSonus Audio Electronics is committed to constant product improvement, and we value your suggestions highly. We believe the best way to achieve our goal of constant product improvement is by listening to the real experts: our valued customers. We appreciate the support you have shown us through the purchase of this product.

See Section 5.1 *for troubleshooting information.*

1.2 About This Manual

This manual covers hardware features and functions for full-range AIR-series loudspeakers (AIR10, AIR12, and AIR15) and for the companion AIR15s and AIR18s subwoofer. We suggest that you use the manual to familiarize yourself with the features, applications, and connection procedures for your AIR-series loudspeakers before trying to set up and operate them.

Except for low-frequency driver configuration and a few technical specifications (such as weight, frequency response, and maximum SPL), the features of the full-range models are the same. In many respects, the features of the AIR15s and AIR18s are also the same. Whenever possible these features will be described for the entire line. Unless preceded by "full-range", the term "loudspeaker" will refer to both full-range models and subwoofers.

Throughout this manual you will find **Power User Tips** highlighting distinctive aspects of your AIR-series loudspeaker and explaining various audio terms. An assortment of tutorials covering the basics of room acoustics and speaker placement can be found in the AIR-series Application Guide available for download from **www.presonus.com**.

Thank you, once again, for buying our product. We are confident that you will enjoy your AIR-series loudspeakers!

1.3 Summary of AIR-Series Loudspeaker Features

1.3.1 Full-Range Models: AIR10, AIR12, and AIR15

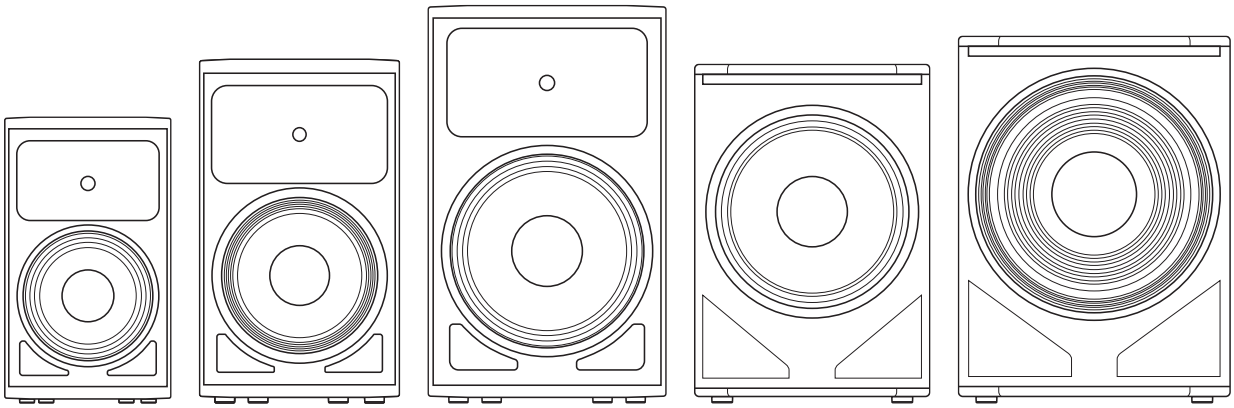
- Easy-to-use DSP tunings
- Multi-angle enclosure for mains or monitor-wedge applications
- 1,200 watts of power
- Onboard mixer with two combo XLR and ¼" inputs and one summed balanced output
- Defeatable front-panel LED
- Rugged plastic enclosures
- 35 mm pole sockets with 7.5˚ downward tilt
- M10 rigging points for suspended installation

1.3.2 Subwoofers: AIR15s and AIR18s

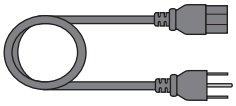
- 15" / 18" woofer with 3" voice coil
- Polarity invert
- Fully variable lowpass filter lets you dial in upper frequency limit
- Easy cardioid array presets
- 1,200 watts of Class D power
- Stereo combo XLR and ¼" inputs with direct outputs
- Defeatable front-panel LED
- Rugged, texture-painted birch enclosures

1.4 What is in the Box

In addition to this manual, your AIR package contains the following:



- (1) AIR10, AIR12, AIR15, AIR15s, or AIR18s loudspeaker



- (1) IEC power cable

Information on correct installation, creating subwoofer arrays, and more can be found in the AIR-series Loudspeaker Application Guide. This guide is available for download from your My PreSonus user account.

2 Getting Started

Before you begin, here are a few general rules of thumb:

- Always make sure your loudspeakers are powered off when making connections.
- Do not allow your inputs to clip. Watch for the LIMIT alert on your loudspeaker's display. This indicates that the inputs are clipping, causing digital distortion, which sounds terrible.

Your PA and studio equipment should be powered on in the following order:

1. Sound sources (keyboards, direct boxes, microphones, etc.) connected to your mixer
2. Mixer
3. AIR-series loudspeakers

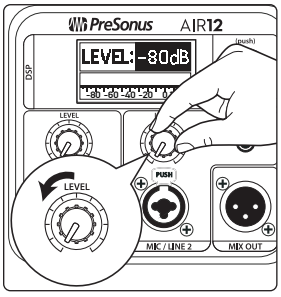
When it's time to power down, your system should be turned off in the reverse order.

Now that you know what not to do, let's get some audio going! The following level-setting tutorials cover best practices that can be applied to nearly every application. The first tutorial covers level setting for the full-range models only; the second tutorial describes proper level setting for a system that includes one AIR-series subwoofer and two full-range AIR-series loudspeakers.

NOTE: *Please review the AIR-series Application Guide at PreSonus.com for complete safety information regarding flown installations.*

2.1 Level-Setting Procedure: AIR10, AIR12, and AIR15

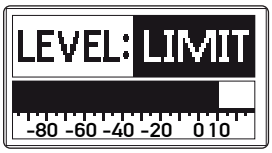
1. With the power switch in the Off position, connect the IEC plug to the IEC socket connection on the back of the loudspeaker and plug it into a grounded AC outlet or surge protector.



2. Turn the level knobs fully counterclockwise, to the lowest position.
3. Connect your microphone or line-level source (such as a PreSonus StudioLive® digital mixer) to either or both inputs. Both Mic and Line level devices can be connected via XLR or 1/4"TRS.

Power User Tip: *If you are running a stereo system, connect the Left output of your mixer to the left loudspeaker's line input, and the Right output to the right loudspeaker's line input.*

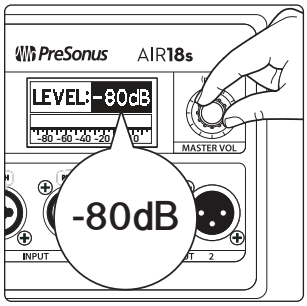
4. Power on your line-level source.
5. Power on your AIR-series loudspeaker.



6. While speaking into a microphone or with audio playing through your line-level source, turn the input level knob(s) until the display shows "Limit," then turn it down to just below that level. If you are using a microphone, be sure that you are not standing too close to the loudspeaker, as doing so could result in feedback. If you are not using both inputs, it is recommended that you leave the level knob for the unused input in the fully counter-clockwise position so as not to introduce noise into the signal path.
7. Turn the master output level control until you have achieved a comfortable listening volume.
8. If you are using the input mixer of one loudspeaker to connect a microphone and a line-level source, or if you are running a mono system, connect the Mix Out from the loudspeaker to which your sources are connected to the line input of the second loudspeaker and repeat steps 1-8.

Power User Tip: *Make sure to set the line input level on both loudspeakers to unity. This will keep the output level of both speakers the same and simplify gain staging.*

2.2 Level-Setting Procedure: AIR15s and AIR18s



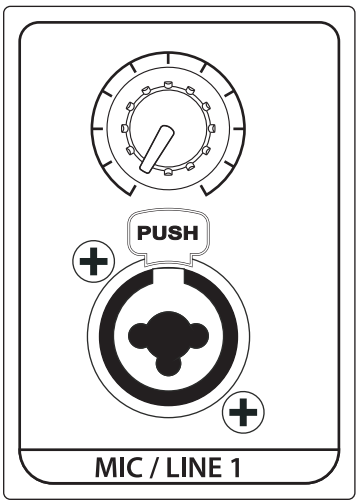
1. With the power switch in the Off position, connect the IEC plug to the IEC socket connection on the back of each loudspeaker and plug it into a grounded AC outlet or surge protector.
2. Turn the level knobs on your full-range loudspeakers fully counterclockwise to the lowest position.
3. Turn the Output level knob on your AIR-series subwoofer counterclockwise to the lowest position.
4. Connect your line-level source (e.g., a StudioLive mixer) to the Line inputs. This is a combo jack that accepts a balanced ¼" TRS or XLR plug. If you are connecting a stereo source, the left side should be connected to Input 1 and the right side should be connected to Input 2.
5. Connect Outputs 1 and 2 of your AIR-series subwoofer to the line inputs of the left and right full-range loudspeakers respectively.
6. Power on your line-level source.
7. Power on your AIR-series subwoofer.
8. Power on your full-range loudspeakers.
9. Turn the line level knob on your full-range loudspeakers to the 12 o'clock position.
10. Turn the Master Volume knob on your AIR-series subwoofer to the 12 o'clock position.
11. With audio playing from your line-level source, turn the line level knob on your full-range loudspeakers until you have achieved a comfortable listening volume.

Power User Tip: *If more high-frequency output level is required, turn the Line level knob clockwise on your full-range loudspeakers. In most cases, the level should be set the same on both loudspeakers. Adjust the Output level control on your AIR-series subwoofer to balance the low-frequency content level to taste.*

3 Hookup

3.1 Rear-Panel Connections and Controls

3.1.1 Full-Range Models: AIR10, AIR12, and AIR15

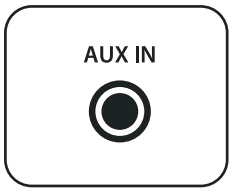


Mic / Line input and level control. Your AIR-series full-range loudspeaker is equipped with two Class A microphone preamplifiers for use with most dynamic microphone types. The combo connection on this input also supports a line-level signal.

Use the knob above each Mic/Line connection to adjust the gain level of the corresponding Mic / Line input.

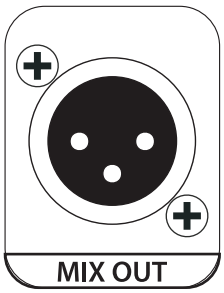
Power User Tip: *It is very important to properly adjust this control in order to minimize noise and avoid overload distortion. Follow the level-setting instructions in Section 2.1 before operating a channel.*

Note: *As with any amplifier or active loudspeaker, plugging in a microphone or a line-level input device, will create a momentary spike in the audio output of your AIR-series full-range loudspeaker. Because of this, it is highly recommended that you turn down the channel trim or power down your loudspeaker before changing connections. This simple step will add years to life of your audio equipment.*

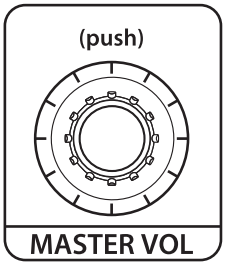


Auxiliary Input. Your AIR-series loudspeakers are equipped with a stereo 1/8" connection to connect smartphones, tablets, and other consumer audio devices.

Power User Tip: *All three input connections sum and can be used simultaneously.*

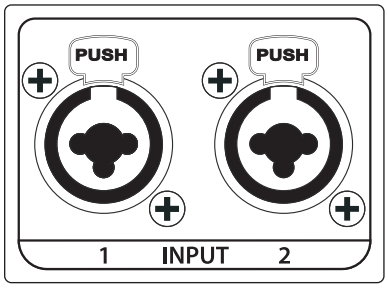


Mix Out. A balanced Mix output is provided on a male XLR connector. The Mix Out connection is used to send signals connected to the inputs of your loudspeaker to other AIR-series loudspeakers. The Mix output signal is the same as the signal sent to the loudspeaker's internal amplifier.



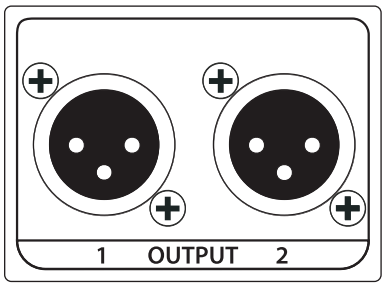
Master Vol. Use the level control next to the LCD screen to adjust the overall level of your AIR-series loudspeaker. It does not effect the Mix Output. Push this control to access all of the tuning functions in your AIR-series loudspeaker.

3.1.2 Subwoofers: AIR15s and AIR18s

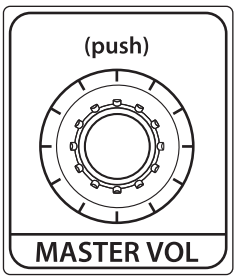


Line inputs. The AIR-series subwoofers feature two line-level inputs. These balanced XLR / ¼" TRS combo connections are provided to connect your subwoofer to a StudioLive-series mixer or other mixing console.

Power User Tip: *Two inputs are provided in order to accept a stereo signal from the output of the mixing console. Both channels should be connected, as the low-frequency content from both channels of a stereo signal is summed before the lowpass filter. However, either input may be used if the mixing console output signal is mono only or if you are sending low-frequency channels (bass, kick, keyboards, etc.) to a separate aux or subgroup output for the subwoofer only.*



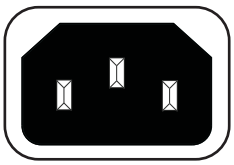
Outputs. Two line-level outputs (1 and 2) are provided to pass the stereo signal from the subwoofer to full-range loudspeakers. The outputs are parallel to Inputs 1 and 2, respectively.



Master Vol. This knob determines the master output level (volume) of the subwoofer power amplifier. It has no effect on the signal level from Outputs 1 and 2. Push this control to access all the DSP functions in your AIR-series loudspeaker.

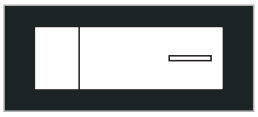
Power User Tip: *A subwoofer can significantly change the frequency response of a full-range system. A 3-way system with a subwoofer will be 6 to 18 dB hotter below 80 to 100 Hz. Set the appropriate level for your subwoofer before adjusting your system EQ.*

3.2 Power



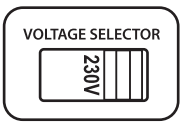
AC line connection. AIR-series loudspeakers have a universal power supply that accepts AC power input between 100 and 250 VAC at 50/60 Hz. Each loudspeaker is supplied with an IEC cord appropriate for the country of sale.

WARNING: Do not remove the center grounding prong or use a ground-lift adapter, as this could result in electric shock.

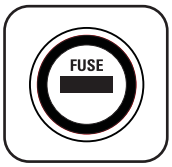


Power Switch. This is the On/Off switch.

Power User Tip: *If connecting multiple loudspeakers to the same electrical circuit, make sure that adequate line current is available. The maximum current draw for each AIR-series loudspeaker is listed in the Specifications in* ***Section 4.1****.*



Voltage Selection. AIR-series loudspeakers are configured for the country of sale. Only use this switch if you are using your loudspeaker in a country with a different standard voltage than the country where you purchased your loudspeaker.

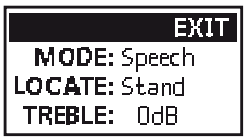


Fuse. This is the fuse housing for your AIR-series loudspeaker. The fuse type for your loudspeaker is listed on the rear-panel.

3.3 Onboard Tuning Features

AIR-series loudspeakers make it easy to customize the loudspeaker's performance for your application. To access the controls, simply press the Master level encoder and turn it to scroll through the menu options. Press the encoder again to select a parameter and adjust it. Press again to continue scrolling.

3.3.1 Full-Range Models: AIR10, AIR12, and AIR15



Mode. This selects a preset optimized for different applications:

- **DJ (Default).** Use this preset for music playback.
- **FOH.** Use this preset for normal front-of-house use.
- **Enhance.** Use this preset to achieve a warmer sound.
- **Monitor.** Use this preset for normal stage floor monitor use.
- **Speech.** Use this preset for applications where speech intelligibility is critical.

Locate. Adjusts the loudspeaker's performance for different positions.

- **Stand (Default).** Select this option when mounting your loudspeaker on a pole or tripod.
- **Suspend.** Use this preset for flown installations.
- **Bracket.** Use this preset for wall-mount applications.

Treble. Adjusts the level of the high-frequency content reproduction. You can adjust the high-frequency response from -10 dB to +10 dB (Default: 0 dB).

Bass. Adjusts the level of the low-frequency content reproduction. You can adjust the low-frequency response from -10 dB to +10 dB (Default: 0 dB).

LED. Turns the grille LED on (Default) or off or sets it to illuminate only when the protection limiter is engaged.

Brightness. Adjusts the brightness of the display.

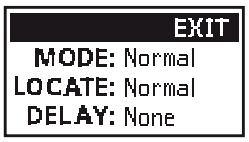
Contrast. Adjusts the contrast of the display.

System Reset. Resets the system settings to factory default.

System Info. Opens the System Information screen.

Exit. Select to return to the Level screen. You will be given the option to save any changes you've made to the DSP settings before exiting.

3.3.2 Subwoofers: AIR15s and AIR18s



Mode. This selects a preset optimized for different applications:

- **Normal (Default).** Use this preset for normal front-of-house use.
- **Mo' Bass.** Use this preset to boost the low-end response in your AIR sub.

Locate. Adjusts the loudspeaker's performance for arrayed and non-arrayed applications.

- **Normal (Default).** Select this option when using your AIR-series subwoofer in an non-arrayed configuration.
- **Cardioid.** Use this preset to create a ground-stacked cardioid subwoofer array with two of the same model subwoofer.
- **End-Fire.** Use this preset to create an end-fire subwoofer array with two of the same model subwoofer.

Delay. Adds delay time to the subwoofer. By default, no alignment delay is applied.

Polarity. Enables reversing the polarity of the summed input signal.

Sub. Determines the upper end of the frequency range reproduced by the AIR-series subwoofer. Set the Low Pass Filter control to the lowest frequency that your full-range loudspeakers can reliably reproduce. Optimized settings are provided for each AIR-series full-range loudspeaker. The default setting is 100 Hz.

Power User Tip: *Complete information about subwoofer arrays, speaker alignment, and setting the crossover can be found in the AIR-series Application Guide at PreSonus.com.*

Unit. Sets the unit for the delay setting (meter or foot).

LED. Turns the grille LED on (Default) or off or to illuminate only when the protection limiter is engaged.

Brightness. Adjusts the brightness of the display.

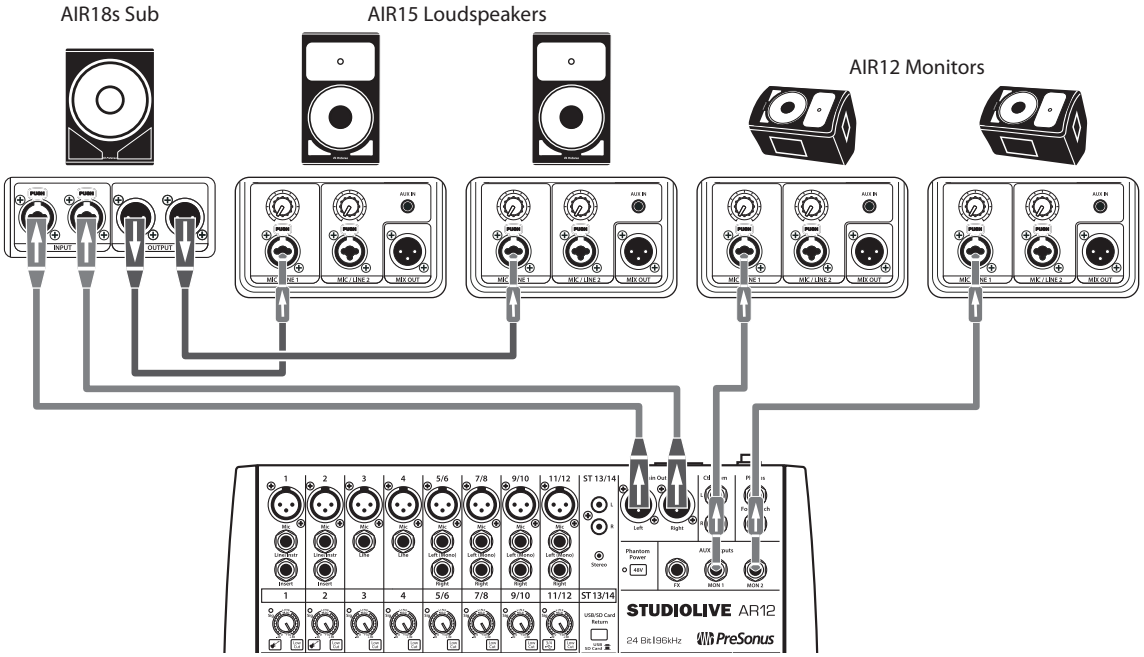
Contrast. Adjusts the contrast of the display.

System Reset. Resets the system settings to factory default.

System Info. Opens the System Information screen.

Exit. Select to return to the Level screen. You will be given the option to save any changes you've made to the DSP settings before exiting.

3.4 Hookup Diagram



4 Technical Information

4.1 Specifications

4.1.1 Full-Range Models: AIR10, AIR12, and AIR15

MODEL	AIR10	AIR12	AIR15
Type	Active 2-way	Active 2-way	Active 2-way
LF Driver	10″ (2″ voice coil)	12″ (2.5″ voice coil)	15″ (2.5″ voice coil)
HF Driver	1″ compression	1.35″ compression	1.35″ compression
Amplifier Type	Class D (LF), Class AB (HF)	Class D (LF), Class AB (HF)	Class D (LF), Class AB (HF)
Total System Power	1,200W dynamic	1,200W dynamic	1,200W dynamic
LF Power	900W (Peak) / 500W (Continuous)	900W (Peak) / 500W (Continuous)	900W (Peak) / 500W (Continuous)
HF Power	300W (Peak) / 150W (Continuous)	300W (Peak) / 150W (Continuous)	300W (Peak) / 150W (Continuous)
Frequency Range (-3 dB)	66 Hz to 20 kHz	51 Hz to 20 kHz	47 Hz to 20 kHz
Frequency Range (-10 dB)	55 Hz to 20 kHz	48 Hz to 20 kHz	40 Hz to 20 kHz
Maximum Output SPL	121 dB	123 dB	124 dB
Nominal Dispersion (HxV)	90˚x 60˚	90˚x 60˚	90˚x 60˚
Inputs	2 x XLR/TRS mic/line combo 1 x 1/8″ TRS stereo	2 x XLR/TRS mic/line combo 1 x 1/8″ TRS stereo	2 x XLR/TRS mic/line combo 1 x 1/8″ TRS stereo
Outputs	1 x XLR Mix Out	1 x XLR Mix Out	1 x XLR Mix Out
DSP Features	LCD screen with EQ and multiple presets	LCD screen with EQ and multiple presets	LCD screen with EQ and multiple presets
Cabinet	H-PP molded	H-PP molded	H-PP molded
Grille	1.2 mm steel	1.2 mm steel	1.2 mm steel
Handles	1 top	1 top, 1 side	1 top, 2 side
Flypoints	2 top, 1 back	2 top, 1 back	2 top, 1 back
Pole Mounting	Dual position (0˚, 7.5˚)	Dual position (0˚, 7.5˚)	Dual position (0˚, 7.5˚)
Power Input	115V / 230V ~50/60 switchable	115V / 230V ~50/60 switchable	115V / 230V ~50/60 switchable
Maximum Current	2.3A (230V-50Hz), 4.6A (120V)	3.5A (230V-50Hz), 7A (120V)	3.5A (230V-50Hz), 7A (120V)
Dimensions (H x W x D)	20.3" x 11.8" x 11.5" (516 mm x 300 mm x 291 mm)	24.4" x 14.2" x 13.8" (619 mm x 360 mm x 351 mm)	27.9" x 16.9" x 15.8" (708 mm x 430 mm x 402 mm)

MODEL	AIR10	AIR12	AIR15
Weight	28.7 lbs (13 kg)	37.5 lbs (17 kg)	46.3 lbs (21 kg)

4.1.2 Subwoofers: AIR15s and AIR18s

MODEL	AIR15s	AIR18s
Type	Active vented design	Active vented design
LF Driver	15″ (3″ voice coil)	18″ (3″ voice coil)
Amplifier Type	Class D	Class D
Total System Power	1,200W dynamic (600W continuous)	1,200W dynamic (600W continuous)
Frequency Range	35 Hz to 160 Hz	30 Hz to 150 Hz
Maximum Output SPL	126 dB	129 dB
Inputs	2 x XLR/TRS line combo	2 x XLR/TRS line combo
Outputs	2 x XLR Link Out	1 x XLR Link Out
DSP Features	LCD screen with EQ and multiple presets	LCD screen with EQ and multiple presets
Cabinet	15 mm plywood	15 mm plywood
Grille	1.5 mm steel	1.5 mm steel
Handles	2 side	2 side
Mounting	Ground stack provisions	Ground stack provisions
Power Input	115V / 230V ~50/60 switchable	115V / 230V ~50/60 switchable
Maximum Current	3.5A (230V-50Hz), 7A (120V)	5.3A (230V-50Hz), 10.6A (120V)
Dimensions (H x W x D)	24″ x 16.7″ x 23.9″ (612 mm x 425 mm x 606 mm)	26″ x 19.3″ x 25.8″ (662 mm x 490 mm x 656 mm)
Weight	70.5 lbs (32 kg)	83.8 lbs (38 kg)

5 Support and Troubleshooting

5.1 Support

Please check the PreSonus Web site (**www.presonus.com**) regularly for software information and updates, firmware updates, and support documentation, including frequently asked questions.

Online technical support is available at http://support.presonus.com

PreSonus telephone technical support is available to customers in the USA on Monday through Friday from 9 a.m. to 5 p.m. Central Time by calling 1-225-216-7887. Customers outside of the USA should contact their national or regional distributor for telephone technical support. A list of international distributors is provided at www.presonus.com/buy/international_distributors.

5.2 Troubleshooting

Loudspeaker won't turn on.

If the loudspeaker is plugged in, and the switch is on, but no LEDs illuminate, check the following:

- Make sure the power cord is fully and securely inserted in the IEC receptacle and in the wall outlet.
- Confirm that the AC outlet is "live," using a tester or other device (such as a lamp) that is known to be working.

Loudspeaker is on but there's no sound.

Check to make sure the signal is "live" from an external source. Check that output faders are up on the mixing console and check the output level using headphones.

If another speaker in a stereo configuration is working, swap input cables. If the problem moves, replace the faulty cable.

If the loudspeaker has been producing sound at high levels and then stops, it may have gone into thermal muting. Allow the unit to cool, and make sure the heat sink has sufficient ventilation.

Sound breaks up intermittently.

Check the input sources, using headphones, if possible, to determine if the problem is with the source.

Check console outputs and all input and loop-thru connectors to make sure they are securely plugged in. If the problem persists, try replacing cables with spares.

Loudspeaker has hum or buzz.

Nearly all hum and buzz problems are related to cable grounding. With the loudspeaker at low volume, remove input and output cables, one at a time, until the noise disappears. Try replacing the suspect cable.

If you are using two-conductor cables with unbalanced ¼" connectors, try replacing with balanced cables using TRS or XLR connectors.

Try plugging loudspeakers and the external mixer into outlets that share a common ground. If necessary, use an extension cord to plug the external mixer into the same outlet as the loudspeaker—but do not run the AC cord bundled with the audio signal cables.

Added bonus: PreSonus' previously Top Secret recipe for…

Redfish Couvillion

Ingredients:

- ¼ C Vegetable oil
- ¼ C flour
- 1 onion diced
- 1 clove garlic minced
- 1 green pepper diced
- 3 celery stalks diced
- 1 14oz can diced tomatoes
- 1 bottle light beer
- 2 bay leaves
- 1 tsp thyme
- 2 lbs Redfish fillets

Cooking Instructions:

1. In a heavy saucepan or large skillet, heat oil on medium high and slowly add flour a tablespoon at a time to create a roux. Continue cooking the roux until it begins to brown, creating a dark blond roux.
2. Add garlic, onions, green pepper, and celery to roux.
3. Sauté vegetables for 3-5 minutes until they start to soften.
4. Add tomatoes, bay leaves, thyme, and redfish. Cook for several minutes.
5. Slowly add beer and bring to a low boil.
6. Reduce heat and simmer uncovered for 30-45 minutes until redfish and vegetables are completely cooked, stirring occasionally. Break up redfish into bite size chunks and stir in. Add pepper or hot sauce to taste. Do not cover.
7. Serve over rice

Serves 6-8

While not one of Southeast Louisiana's more famous dishes, Redfish Couvillion is a favorite way to serve our favorite Gulf fish. Also known as Reds or Red Drum, Redfish is not only fun to catch, it's also delicious!

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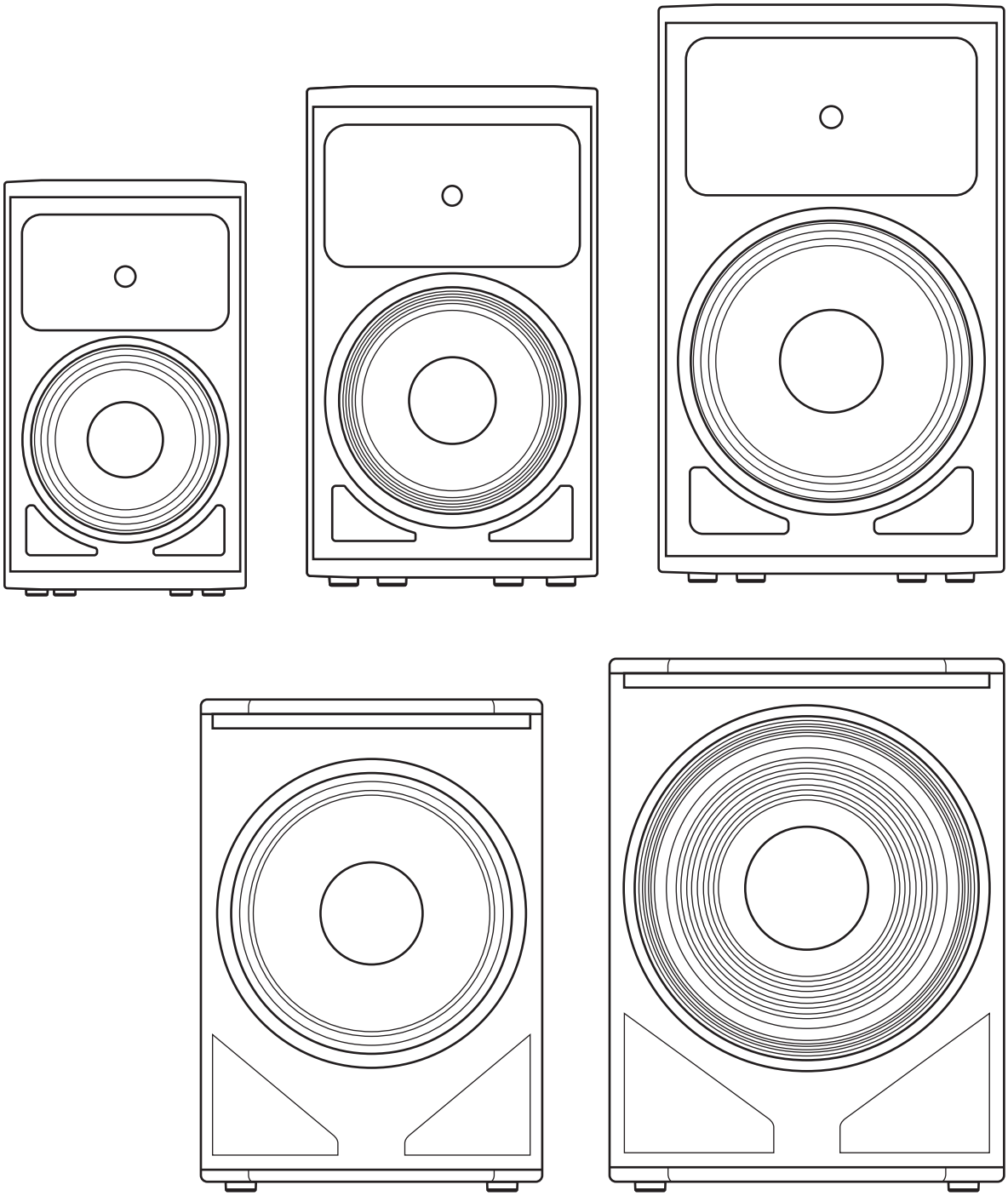
AIR-Series

Advanced Impulse-Response Loudspeakers

Owner's Manual



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