



air-bus[®]
Wireless Entertainment



AB-800

**110W 8" Down-Firing Subwoofer
Wireless Receiver Built-In**

OWNER'S MANUAL

FREE-STANDING WIRELESS SUBWOOFER

AB-800

OWNER'S MANUAL

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YOUR AB-800 POWERED SUBWOOFER

Thank you for purchasing the AB-800 powered subwoofer. Your subwoofer has been developed to provide home theaters and music systems with powerful accurate bass in a compact package.

This manual covers general setup, operating procedures, and technical specifications for your AB-800. Reading through the material contained in this manual will help to ensure that you have a better understanding of how to setup and operate your subwoofer for optimum performance. We hope that you enjoy the enhanced dimension that a fine subwoofer adds to the sonic experience.

BOX CONTENTS



Subwoofer



(4) Rubber Feet



Power Cord



Manual

PRECAUTIONS

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Do not use this apparatus near water.
- Clean only with a dry cloth.
- This product is for indoor use only.
- Do not block any ventilation openings.
- Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as fireplaces, stoves, heat registers, radiant heaters, or other apparatus that produce heat.
- Do not expose this apparatus to rain or moisture. Objects filled with liquids, such as vases, should not be placed on the apparatus.
- Do not defeat the safety purpose of the polarized or grounding - type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Do not open the enclosure or tamper with the electrical chassis.
- Only use attachments or accessories specified by the manufacturer.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way such as Power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- To completely disconnect this equipment from the mains, disconnect the power supply cord from the receptacle.
- The mains plug or an appliance coupler is used as the disconnect device, so the disconnect device shall remain readily operable.
- This apparatus has been designed with Class-1 construction and must be connected to a mains socket outlet with a protective earthing connection (the third grounding prong).

WARNING



The lightning flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

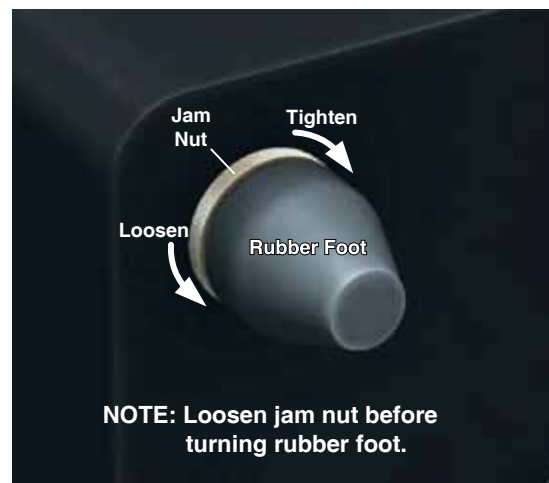
FEATURES

- 8" precision-tuned long-excursion woofer for accurate bass
- Bass reflex enclosure ensures high acoustic efficiency and extended bass response
- Extra-large flared port provides turbulence-free extended output with as much as 4X the acoustic output of other 8" powered subwoofers
- Lossless Wireless connection with the optional AB-Tx transmitter or wired connection using an RCA cable
- Integral rear-mounted 110W class A/B amplifier utilizing patented BASH technology for high electrical efficiency
- Universal voltage 100-240V
- Multiple rear-panel controls to contour the subwoofer's output to blend with virtually all loudspeakers and room environments
- Integral low pass crossover network is continuously-variable from 50Hz to 150Hz with bypass position
- Signal-sensing circuit automatically powers up the subwoofer when a signal is detected
- Double-insulated isolated-ground electrical supply prevents electrical ground loops and reduces the noise floor of the entire audio system
- Shipped with 4 adjustable rubber feet with tool-less knurled jam nuts

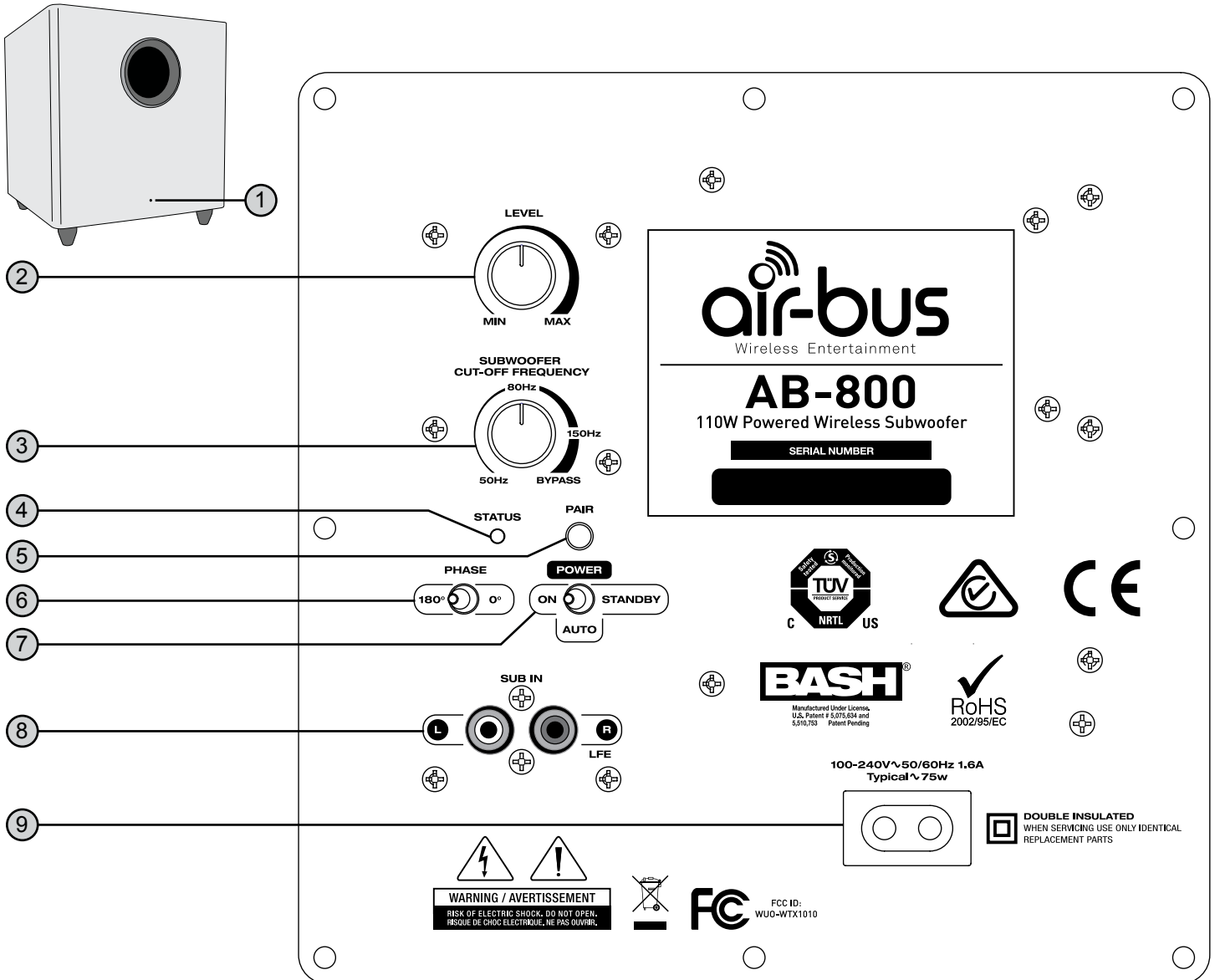
ADJUSTING THE FEET

Turn the knurled jam nuts counter clockwise to free the feet. Turn the rubber feet to the desired height. Finger-tighten the knurled jam nuts against the bottom of the enclosure to secure the feet. Use care not to over-tighten the knurled jam nuts as they will be difficult to loosen.

DO NOT slide your subwoofer with the feet installed. This may damage the foot supports or the feet.



GETTING TO KNOW YOUR AB-800



- ① **Power Indicator (Front of Subwoofer)** – Off=Standby or no power; Blue=On
- ② **Level Control** – Adjusts output level of subwoofer
- ③ **Subwoofer Cut-off Frequency** – Adjusts low pass filter cut-off frequency, Fully Clockwise=Bypassed (~200Hz)
- ④ **Status LED** – Off=No Power; Steady=Paired, Slow Flash=Not Paired or Missing Link; Fast Flash=Waiting for Pairing
- ⑤ **Pair Button** – Used to pair internal wireless receiver with wireless transmitter
- ⑥ **Phase Switch** – Selects acoustic alignment of output signal with respect to the input; 0°=In Phase, 180°=Reverse Phase
- ⑦ **Power Mode Switch** – Selects how amplifier power is activated; On=Always On, Auto=Signal Sensing, Standby=Off
- ⑧ **Sub In** – Input connection for RCA Line Level signals from processor or preamp, including LFE signals
- ⑨ **Power Input Receptacle** – IEC C8 receptacle accepts supplied IEC C7 power cord

CONNECTION

The AB-800 offers two methods of connection to an audio system, wired and wireless. A wireless connection requires the use of the optional AB-Tx transmitter or other compatible audio device.

A wired connection requires a common shielded RCA type coaxial cable or a shielded two-conductor wire with RCA type connectors. Ensure sufficient length to reach from the system source to the subwoofer's input. No signal connection cable is provided with the AB-800 subwoofer since the type and length of cable is installation specific.

Note: Before making any connections, ensure that the power cord is disconnected or that the power mode is switched to the standby position.

Input Signal: Follow the diagram on page 7 for connecting the subwoofer to your audio system. Use the option that best suits your installation. The information below will aid in determining which option to use.

OPTION 1

- If an LFE (Low Frequency Effect) or Subwoofer output is available then use Option 2.
- If no LFE output is available and a line level Front Channel Output or Preamplifier Output is available, then this (Option 1) is the preferred method of connection.
- Per OPTION 1 in the drawing on the adjacent page, connect the left and right line level front channel outputs of your receiver or preamplifier/processor to the Left/Right Sub inputs of the AB-800 or AB-Tx (wireless setup).

OPTION 2

If the amplifier is to be connected to a modern home theater receiver or processor with an available LFE or Subwoofer output then this option will likely produce the best results. If no LFE or Subwoofer output is available but a line level Front Channel Output or Preamplifier Output is available, then use Option 1.

- Per Option 2 in the drawing on the adjacent page, connect the line level LFE or Subwoofer output of your receiver or preamplifier/processor to the Right/LFE Sub input of the AB-800 or AB-Tx (wireless setup).

Wireless Connection

A wireless connection requires an AB-Tx transmitter or compatible Air-Bus product.

Wireless Pairing Instructions

1. Turn on subwoofer and transmitter.
2. Press & hold down transmitter PAIR button until the transmitter LED flashes quickly.
3. Within 30 seconds, press & hold subwoofer PAIR button until PAIR LED flashes quickly.
4. Within seconds, both LED's will stop flashing, becoming steady. Wireless link is complete.

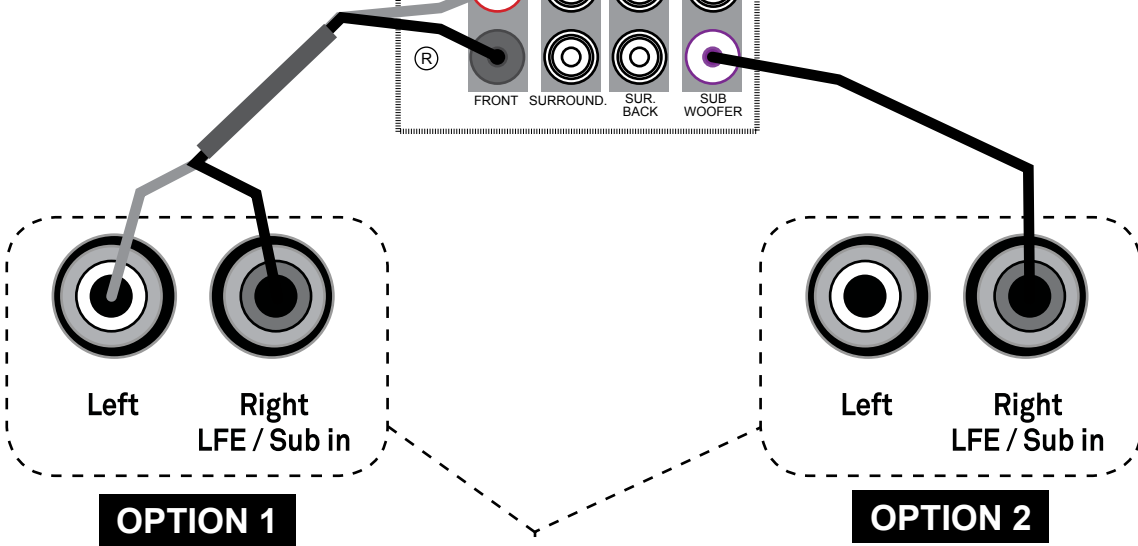
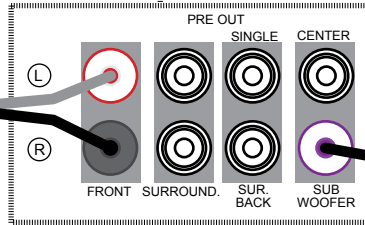
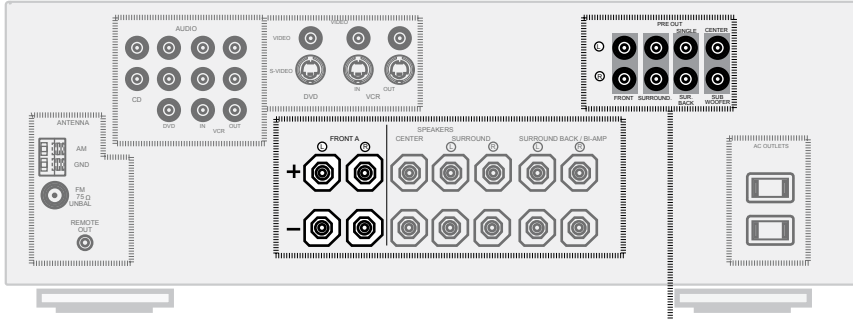
Note: Only one subwoofer can be paired to a transmitter. If two subwoofers are used wirelessly, each subwoofer must have its own wireless transmitter.

Placement of Wireless Transmitter

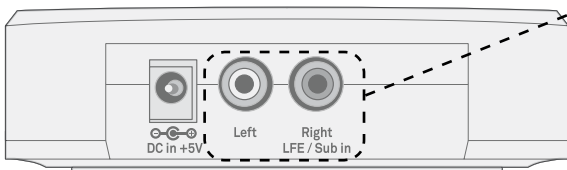
Wireless transmitters operate best when placed away from other wireless devices such as routers and other wireless transmitters, and when they have minimal obstructions to impede the signal path. If two subwoofers are used wirelessly, each subwoofer must have its own wireless transmitter.

AC Power: The unit is shipped with a standard IEC AC cable. Remove this cable from its packaging and insert the cord into the IEC receptacle on the back of the subwoofer. It is best to connect power only after all other connections are made. Connect the power cord to an AC wall receptacle or similar.

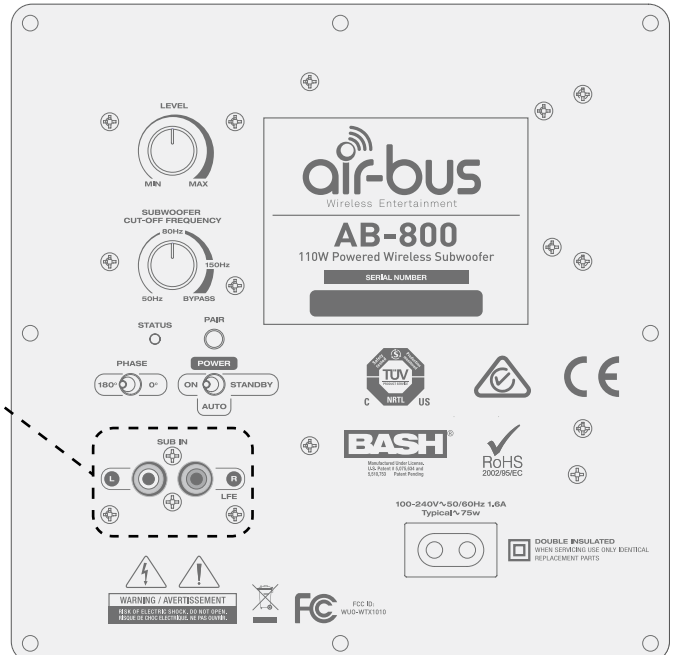
CONNECTION (continued)



OR



AB-Tx - Wireless Setup



AB-800 - Wired Setup

Placement

There are a number of factors, both acoustic and aesthetic, that ultimately determine the best subwoofer placement. The information in this section is intended to provide you with a better understanding of the basic acoustic elements so that you can get the most out of your system. If you wish to try getting more from your system after experimenting with your subwoofer placement and controls, consider enlisting the help of an experienced person or contacting your dealer.

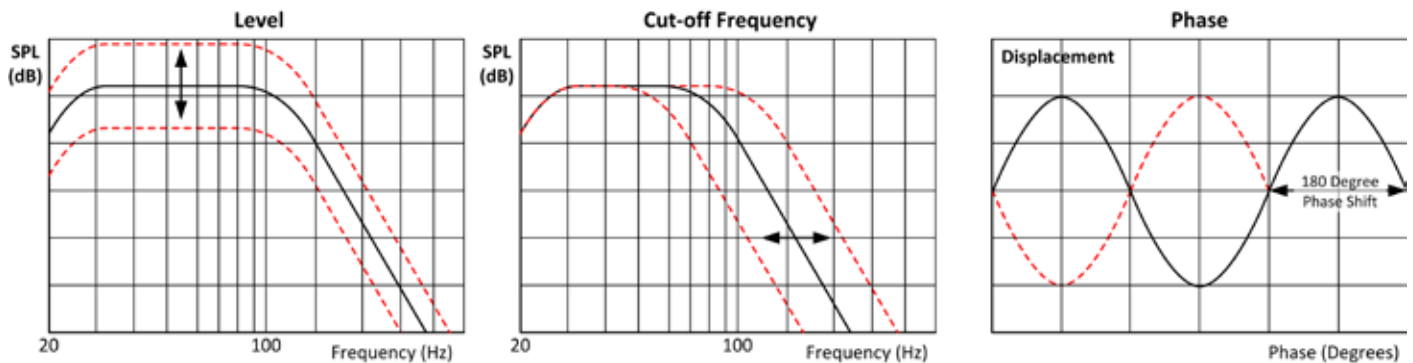
It is probably best to start by noting that there are a tremendous number of variables that affect the bass character within a room. This short section touches on only the most significant ones. Knowing these will aid in the placement and tuning of your AB-800 subwoofer.

- Most rooms have significant resonant modes at low frequencies. The listener will experience these resonant modes as a variation in the intensity of certain frequencies at different locations within the room. Resonant modes are the result of reflected acoustic energy interacting within a room's boundaries. These resonant modes can produce large errors in the frequency response and reduce the overall quality and enjoyment of the audio reproduction. Equalization cannot simultaneously compensate for all locations within a room. Large physical elements within or at a room's boundaries (furniture, windows, etc.) can improve a room's behavior. Subwoofer placement also has an effect on the excitation of the resonant modes and the way they are experienced. Therefore, experimenting with subwoofer placement can be of great benefit.
- Seating location also has a significant effect on how these modes are experienced. Just take a stroll around the room when the system is active and listen to the variation in bass character, especially at the boundaries (against a wall and in a corner). You should notice significantly more bass at the boundaries.
- Placing a subwoofer on the floor near a wall will increase its radiating power by as much as 2X. Placing a subwoofer on the floor near the intersection of two walls (a corner) will increase its radiating power by as much as 4X. Corner loading, as it is sometimes called, is an excellent way to get greater acoustic output from a subwoofer and to reduce the power demands of the woofer.
- In the same way that the subwoofer's output is augmented by a corner, the listening position is also affected. Sitting at a room's boundary, such as near the back wall, will increase the bass level similar to the gain associated with the subwoofer placement. The bass character at boundaries is more linear compared to other regions within a room.
- Placing a subwoofer close to the listening position (less than 5ft (1.5m)) can increase the intensity of the transients and reduce the acoustic power demands from the subwoofer in some installations. In others, it can increase the power demands if the woofer is placed at a primary node (a location where a particular frequency is suppressed). Placing a subwoofer(s) close to the listening position can also create more tactile sensation.
- Symmetrically or asymmetrically locating two or more woofers in the room can be done to reduce room mode effects and to balance the localization of the sound.
- Bass frequencies below about 80Hz are considered to be omnidirectional and tend to have no localization, making it difficult to determine their place of origin. For this reason, placement of most subwoofers is not limited to the front of the room. However, in practice this is not always the case. There are cues such as tactile and audible vibration and higher frequency signal content that can suggest the direction of the source. For this reason it is often beneficial to locate the subwoofer(s) at the front of the room. It may also be necessary to reduce the crossover frequency below 80Hz if one finds that the bass sounds too detached from the other sound sources.
- Placing a subwoofer(s) at the back of the room is a consideration especially if placement of a subwoofer at the front of the room is not suitable or produces poor results. Placement directly behind or beside the listening position can produce very good results as well as corner loading in the back of the room. Other options include placing the subwoofer(s) on the side(s) of the room especially when multiple woofers are used. If possible experiment with different positions. Don't exclude the possibilities of locating your subwoofer in walls, ceilings, floors, or underneath, beside, and behind furniture.
- Note: It is not necessary to direct the front of a subwoofer at the listening position.
- Finally, contacting an expert in the field of acoustics can be worthwhile if one finds that the low frequency reproduction in their room is unsatisfactory or if one wants assistance in optimizing their installation.

AB-800 Controls

The AB-800 subwoofer has three controls for tailoring its output to the room and to the primary speakers (also known as satellites). These controls are Level, Cut-off Frequency, and Phase. The control with the most audible effect is the Level control, followed by the Cut-off Frequency, and then the Phase control, which has the least audible effect.

The following legend shows graphically how each control affects the audio signal.



Note: **SPL** is "Sound Pressure Level" (Volume)

Fine Tuning the Controls

We recommend the following method as a starting point for fine tuning the AB-800 subwoofer.

Level, Cut-off Frequency & Phase

- As part of a home theater system:
Set the Cut-off Frequency control fully clockwise to the Bypass position when the subwoofer is connected to the LFE or subwoofer output of a home theater system. Set the Level control at approximately mid-position. This will be a good starting point for the system. It may be necessary to readjust the level control if required by the home theater receiver.

Set the phase switch to 0 degrees when the subwoofer is used in a home theater system that utilizes automatic room correction. Otherwise set it as described within the 'Phase' section on the following page.

- As part of a two channel audio system:
Begin with the subwoofer's Level control all the way down and the Frequency adjustment set to 150Hz. With the Frequency control in this position the woofer will output higher frequencies that will likely be duplicated by the satellite speakers. "Satellite speakers" is a term used to describe the primary listening speakers that cover the frequency range above that of the subwoofer.

Use familiar music with strong bass content and increase the Level control until the bass passages sound robust or slightly exaggerated. Then reduce the Frequency control to blend the subwoofer with your main system speakers. We have found that most speakers with 6" to 8" woofers blend well with the crossover set somewhere between 50Hz and 80Hz.

Readjust the Level and the Frequency controls (up or down) as necessary until the bass sounds full, extended, and natural. Use multiple musical pieces to test the system while fine tuning the controls. If it sounds like your subwoofer is always producing the same bass note with different recordings it is possible that the bass level is adjusted too high. Alternatively, room modes may be causing errors in the response, suggesting that the subwoofer might benefit from a different position.

Fine Tuning the Controls (continued)

Phase

- When adjusting the phase, use familiar music with strong bass content. The effect of the phase adjustment is most noticeable at the crossover frequency.

Begin with the phase at 0 degrees. Switch the phase between 0 and 180 degrees and listen to the balance and strength of the mid-bass frequencies. Select the phase position where the bass sounds the most natural. If the bass becomes overly strong in one position it may be necessary to reduce the subwoofer's cut-off frequency and/or input level a little. The effect of the phase adjustment can be subtle and it may be necessary to take some time to become acquainted with the sound of the system before changing the setting.

Power Mode Switch

- The AB-800 contains a circuit that automatically powers up the amplifier when a signal is detected. The same circuit also places the AB-800 into standby mode when no signal has been detected for a period of approximately 20 minutes. This signal sensing circuit can be bypassed by switching the Auto switch to the ON position if it is preferable to control the AB-800's power with a remotely operated power source.

Placing the switch in the Standby mode turns the subwoofer off.

SPECIFICATIONS

- **Frequency Response:** 28Hz – 200Hz (System Response)
- **Crossover Frequency:** 50Hz – 150Hz (Low-pass filter with bypass position)
- **Phase Adjustment:** 0 – 180 degrees (2-position switch)
- **Amplifier Output Power:** 110 watts RMS, with thermal and clipping limiters
- **Audio Inputs:** Summing stereo line level (RCA x2)
LFE (RCA shared with Right input connector)
- **Input Impedance:** Line Level – 20k ohms, Unbalanced
- **Input Power:** 100V – 240V 50-60Hz AC
- **Input Power Connection:** IEC C8 receptacle
- **Power Modes:** Auto signal sensing, always on, Standby
- **Auto Off Delay:** ~10 minutes
- **Dimensions:**
(without feet) 13"W x 13"H x 13"D, (330W x 330H x 330D)mm
- **Weight:** 22 lbs (10 kg)
- **Shipping Dimensions:** 17"W x 17.3"H x 17"D, (430W x 440H x 430D)mm
- **Shipping Weight:** 26 lbs (11.8 kg)



Rev. A
*Note: Specifications are subject to change without notice.
For the most up to date manual information please check our website.*

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