

Models
222 PBM
262 PBM
352 PBM THX

Atlantic

TECHNOLOGY

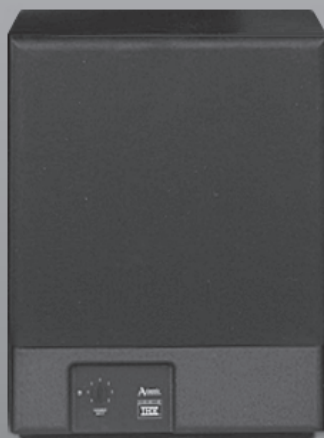
Model 222 PBM



Model 262 PBM



Model 352 PBM THX



Instruction Manual

*High Performance
Subwoofer Systems*

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CAUTION: To reduce the risk of electric shock, do not remove the cover (or back). No user serviceable parts inside. Refer to qualified personnel.

WARNING: To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.



The lightning flash with arrowhead, 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 electrical shock to persons.



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

Models
222 PBM
262 PBM
352 PBM THX®

Atlantic Technology High Performance Subwoofer Systems

Congratulations on choosing an Atlantic Technology Powered Subwoofer. This manual covers the **Atlantic Technology Models 222, 262 and 352 THX® Powered Subwoofer Systems**. Our subwoofers feature a proprietary amplifier and special high excursion woofers designed to deliver very high output levels on a continuous basis. The sealed acoustic suspension cabinet configuration provides extended, deep bass in a compact, room-friendly design. This new generation of subwoofers utilizes a new advanced circuit design to control distortion and woofer over-excursion. The overload circuitry incorporates optical devices that isolate this circuit from the rest of the amplifier for optimum sound quality.

Atlantic Technology Powered Subwoofers integrate easily with virtually all other brands of loudspeakers on the market. All inputs and outputs, both line level and high (speaker) level, are designed for optimum signal integrity. The premium quality gold plated connectors and all controls are clearly labeled and versatile in operation. The amplifiers have more than ample power and headroom to supply a high fidelity foundation to any audio or home theater system.

Lucasfilm Home THX

George Lucas and Lucasfilm, (creators of the Star Wars saga), originated and perfected Home THX, a strict set of standards and guidelines for home theaters, so that they may emulate the original dubbing stage. When properly followed, these guidelines address and correct the problems of overly bright or harsh soundtracks, unintelligible dialog, limited bass response, and poor localization of sounds.



It is important to realize that THX is not a recording process or film sound format. All motion pictures will be reproduced as they were heard in the film studio dubbing stage through the Home THX System, no matter what delivery system is used. The 352 PBM THX will easily handle the full dynamic range and low frequency bandwidth of any existing or newly emerging surround sound technology (such as Dolby AC-3). The 352 PBM THX addresses the interface requirements and dynamic capabilities of the real world. It's combination of advanced amplification and high-excursion woofer delivers prodigious amounts of low frequency energy at high sound pressure levels with very little distortion.

Features

Your Atlantic Technology Powered Subwoofer was engineered using the latest technology and finest components available.

- **High excursion drivers in a sealed acoustic suspension cabinet**
- **Continuous power output conservatively rated at 125, 150 and 200 watts**
(Model 222, 262, and 352, respectively) Coupled with our highly efficient drivers, this is plenty of power for even the most dynamic music and effects you are likely to encounter.
- **Discrete very high current output devices rated at 30 amps each**
The 352 PBM THX doubles up output devices for even higher current capability.
- **Working frequency range from 20Hz to low pass filter setting up to 125Hz**
- **Continuously adjustable low-pass filter from 60Hz to 125Hz**
The slope of the low-pass filter is -24 dB/octave. This allows for flexible integration with most any brand or type of speaker on the market.
- **Two line input and two passive line level outputs with gold RCA connectors**
The model 352PBM THX uses one line input as the THX input to comply with THX requirements.
- **All speaker inputs and outputs are gold 5-way binding posts**
This is the ideal way to make connections without compromising signal integrity. All models employ a 12dB/octave subsonic filter for frequencies below 20Hz. Frequencies below 20Hz are inaudible and consume vast amounts of amplifier power. Filtering them out with a gradual slope maintains amplifier headroom while maintaining fidelity.
- **Phase inverter toggle switch (0/180°)**
Allows matching with many systems whose output may be inverse phased.
- **Woofer output level control**
Matches a wide range of input levels.
- **Optical anti-clipping circuitry**
This is the lowest distortion type of circuit available. It has ideal linearity, works in real time and uses imperceptible time constant triggers (delays) so that its effect during operation, if needed, is virtually instantaneous and inaudible.
- **75°C thermal protection**
Temperature at external surface of heatsink never goes above 70°C. The output devices are rated to operate safely at much higher temperatures.
- **Auto power on/off function**
The 7-10 minute turn-off delay features a front panel mounted dual-color LED power indicator for power on and standby indication.

- **IEC AC power socket**
Unit comes with a detachable power cord. You can easily replace this cord with one of another length or plug style.
- **120V or 240V AC operation**
Externally switchable with an external fuse socket.
- **Heavy-duty rocker-type power switch.**
- **Design and construction meets all UL/CSA and European safety requirements**

Figure 1:
Amplifier panel
and controls
for Models 222
and 262 (Model
222 shown)



Figure 2:
Amplifier panel
and controls for
Model 352 THX



Connection

Atlantic Technology Powered Subwoofers are simple to hook up, offering several connection methods for maximum flexibility. Study the system diagrams starting on page 8. Once you have found the example which most closely matches your system, hook up your subwoofer(s) as shown in that diagram.

Low-Level Connection

For best performance, we suggest using the low-level (RCA style jacks) subwoofer line out or preamp outputs if your receiver/amplifier has them. Simply connect your subwoofer with high quality shielded cables as shown in the diagrams.

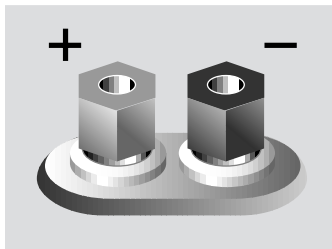
High-Level Connection

Alternately, you may use the high-level (speaker) inputs. Make sure to match the type and gauge speaker wire used to connect your main speakers.

We recommend that you connect your subwoofer using high quality wire of 16 gauge or larger for lengths up to 25 feet. There are many manufacturers who specialize in speaker wire and interconnects suitable for your new system. We recommend that you consult your local audio/video specialist for more specific information.

Warning: *To prevent risk of electrical shock or damage to your equipment, always unplug all component AC cords before proceeding with speaker and component connections.*

You can connect your subwoofer by using spade lugs or “banana” connectors, or by removing 1/2" of insulation from each wire end, twisting the strands of wire together, placing the wire through one of the post holes and screwing down the nut tightly. Be certain that no stray wire strands are touching across the two terminals as this might damage your amplifier when you turn it on.

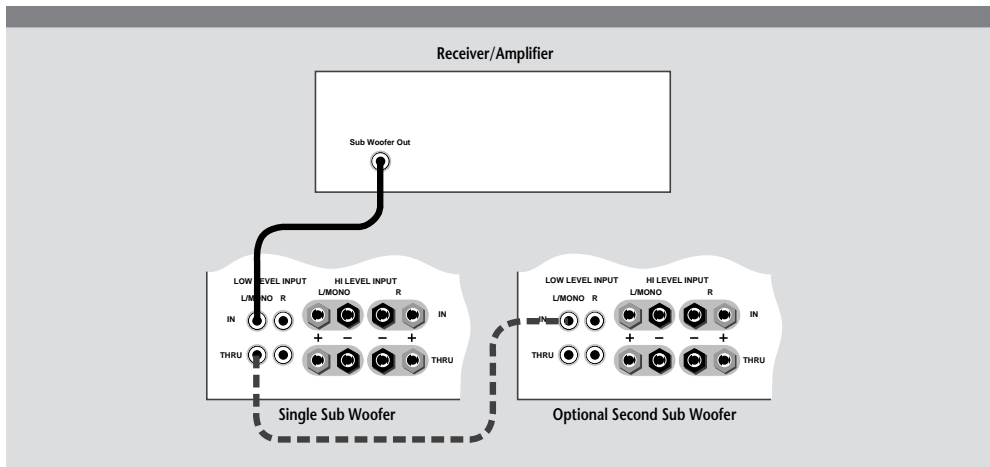


It is important to observe polarity while making speaker connections: red (+) terminals on the amplifier to red (+) on the speaker, black (-) on the amplifier to black (-) on the speaker. Look carefully at the wires you are using and note that one of the wires in each pair is marked by either a different color, printing, ridges, or a thread intertwined with the wire strands. By convention, the marked wire is connected to the red (+) terminal.

Figure 3:
Speaker Wiring
Terminals

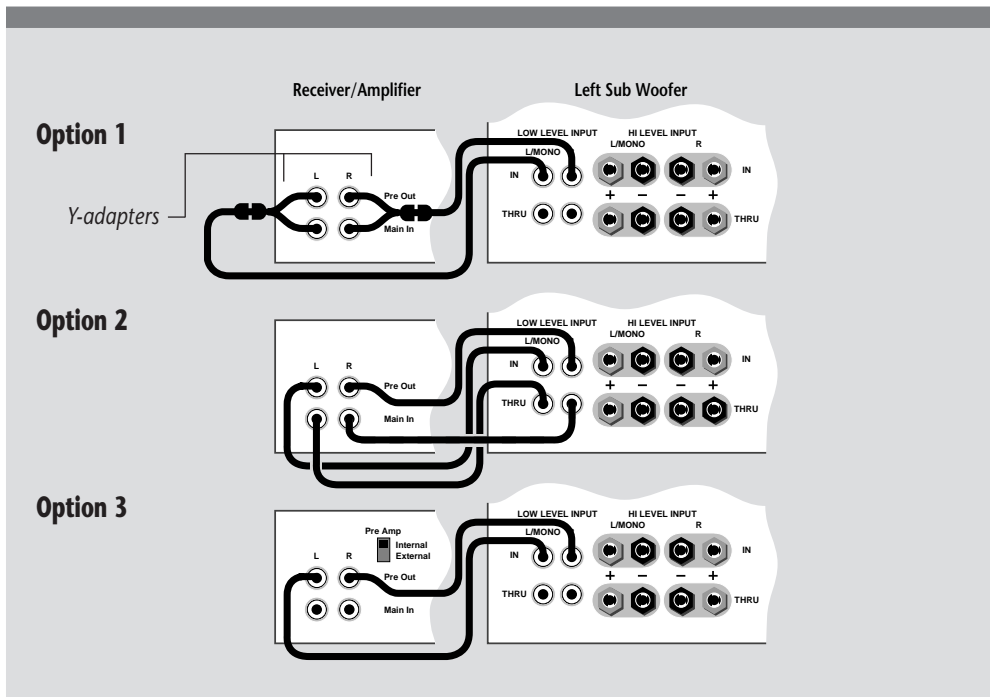
Example 1:
Subwoofer Line
Out/Low Level In

This is the most commonly used system connection for systems with Dolby Pro Logic receivers.



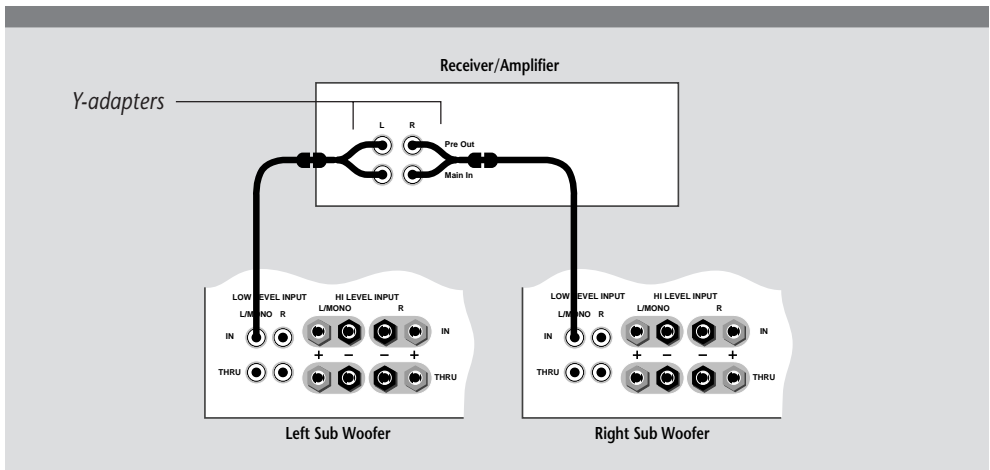
Example 2:
Preamp Line
Out/Low Level In
for 1 Subwoofer

This arrangement is for owners of stereo receivers/ amplifiers with Preamp outputs. If your receiver/ amplifier uses jumper links between the Pre-out and Main In, then you must remove them and use option 1 or 2. If your receiver/ amplifier uses a switch instead of connectors, then use option 3.



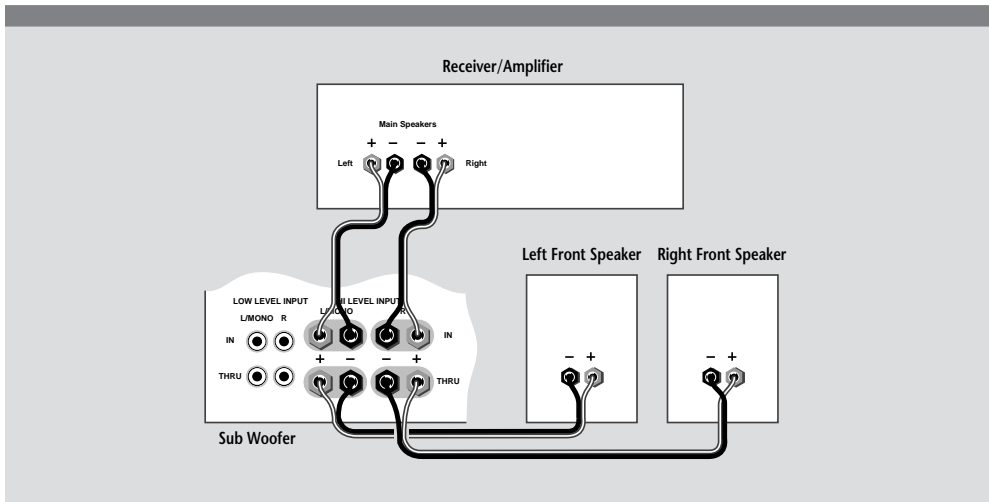
**Example 3:
Preamp Line
Out/Low Level In
for 2 Subwoofers**

Note that the L/MONO input is used on both left and right subwoofers. Instead of Y-adapters, you may also use the THRU outputs to connect back to the Main Inputs as shown in Option 2 of Example 2.



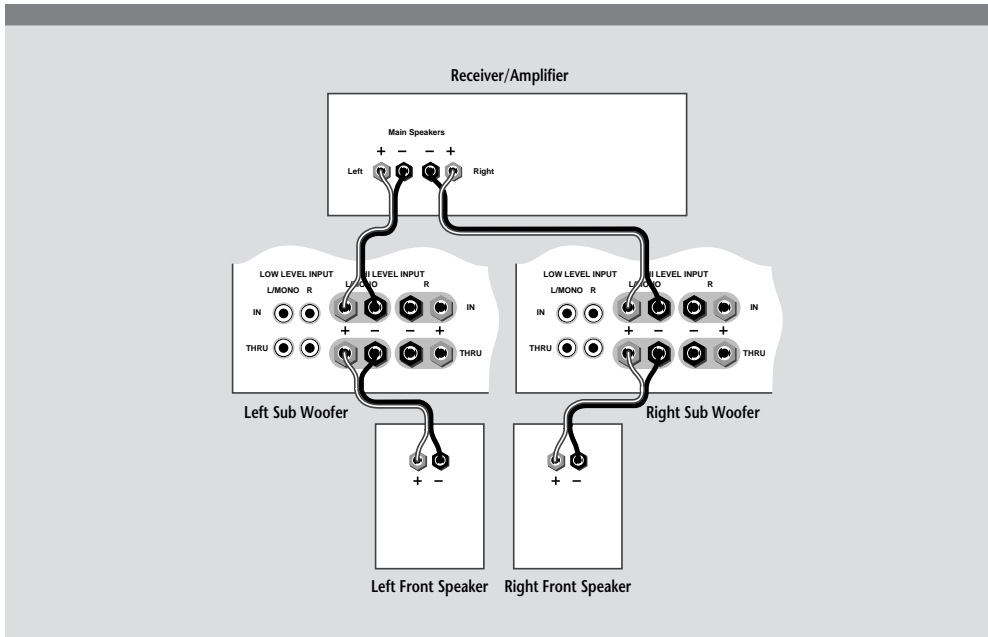
**Example 4:
Speaker Out/
High Level In for
1 Subwoofer**

This is the most common method for connecting a subwoofer to a system without a dedicated subwoofer line out or Preamp outputs.



**Example 5:
Speaker Out/
High Level In for
2 Subwoofers**

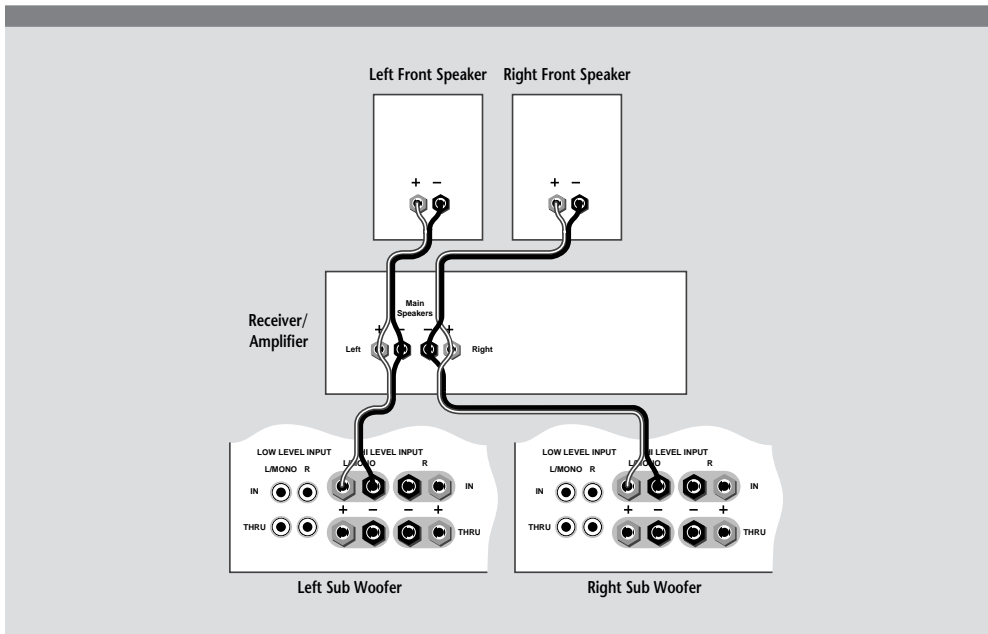
Note that the L/MONO High Level input is used on both left and right subwoofers.



**Example 6:
Speaker Out/
High Level In for
2 Subwoofers**

This is an alternate wiring method to Example 5. By connecting the subwoofers and main speakers in this fashion, you may be able to use less speaker wire.

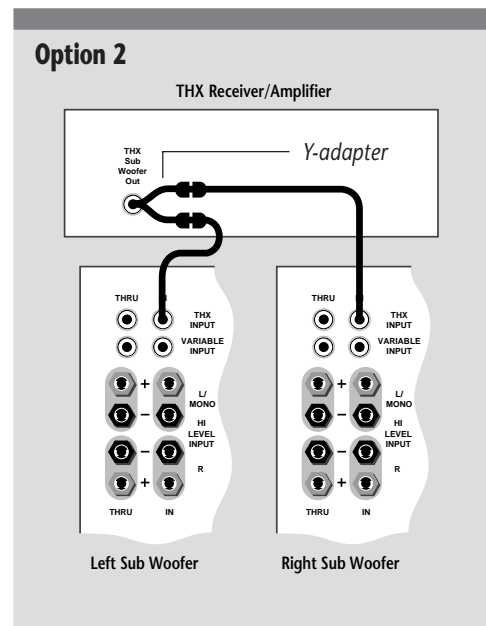
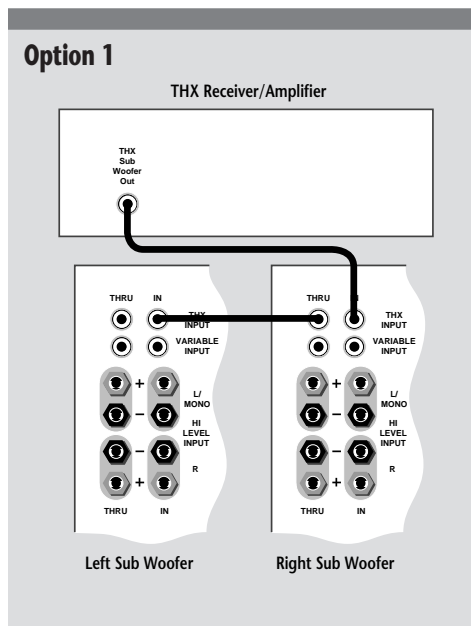
Again please note that the L/MONO High Level input is used on both left and right subwoofers.



THX Example: THX Subwoofer Out/THX Input (Model 352 only)

Option 1 is the most commonly used method of connecting two subwoofers to a THX system for meeting THX specifications. You may also use a Y-adaptor as shown in Option 2.

Note that front panel **volume** and rear panel **low pass** controls do not function in this configuration.



Note: The **Variable Input** on the 352 PBM serves the same purpose as the L/MONO input on the 222 and 262.

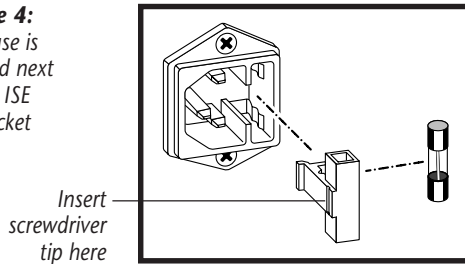
Power Connection

Connect the power cord to an AC outlet only after making all other connections to the subwoofer. This will avoid any chance of accidentally activating the subwoofer while wiring. The AC cord should be plugged into its own wall outlet or into a quality power strip. Avoid using a switched outlet on the rear panel of another component. The subwoofer can draw more current than these outlets can provide and performance will suffer. Once the subwoofer is hooked up and the power switch is turned on, leave it on. The automatic on/off circuitry will only activate the subwoofer in the presence of an audio signal from your audio/video system. After 7-10 minutes with no signal detected from the rest of the system, the amplifier will shut itself off and go into standby mode. When an audio signal is present, the power LED will glow green. Power consumption in the standby mode is negligible.

Voltage Selection

The Atlantic Technology series of subwoofers allows operation with either 120 or 240 volts AC 50-60 Hz. Please make sure that the voltage selector switch shows the correct voltage for your area before plugging the unit in. The voltage can be easily changed by moving the switch to the correct voltage and installing the proper fuse and power cord. To change the fuse, remove the power cord, insert a screwdriver tip into the notch in the side of the fuseholder, and pry it out. Replace with the correct value fuse and push back into place. The voltage settings and fuse values are marked adjacent to the voltage selector.

Figure 4:
The fuse is located next to the ISE AC socket



The voltage can be easily changed by moving the switch to the correct voltage and installing the proper fuse and power cord. To change the fuse, remove the power cord, insert a screwdriver tip into the notch in the side of the fuseholder, and pry it out. Replace with the correct value fuse and push back into place. The voltage settings and fuse values are marked adjacent to the voltage selector.

Placement

Moving the subwoofer towards the corner increases bass level, but may emphasize one frequency predominantly (Figure 5). Moving it away from the wall will reduce the bass output, but will yield flatter response. You can adjust the level control accordingly to compensate for room placement.

Home THX Subwoofer Applications: The 352 PBM THX

Two 352 PBM THX subwoofers are required for proper THX operation. A single, larger subwoofer could have been used effectively, but Atlantic Technology opted for dual subs from both a performance standpoint, (smoother bass, less room interactions) and aesthetic standpoint, with smaller cabinets being easier to place in the room.

Important Note: *The variable input level control and the low pass crossover control have no effect when the THX input is used. The correct input level and crossover frequency have been incorporated into all THX certified processors and receivers. The Atlantic Technology 352 PBM THX Powered Subwoofer meets or exceeds all THX performance specifications.*

When two subwoofers are used, whether for Home THX operation, regular Dolby Pro Logic, or Dolby AC-3, they should be placed asymmetrically; that is, in slightly different positions on each side of the television (Figure 6). This will help to attenuate room resonances that are common to symmetrically positioned subwoofers.

Figure 5:
Typical arrangement
for a single
subwoofer in a
home theater.

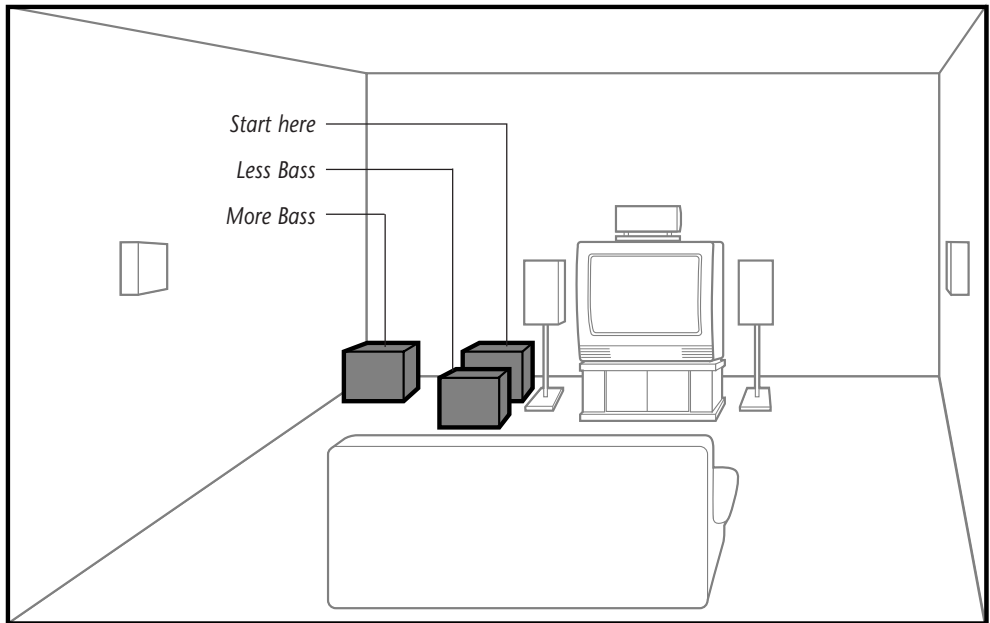
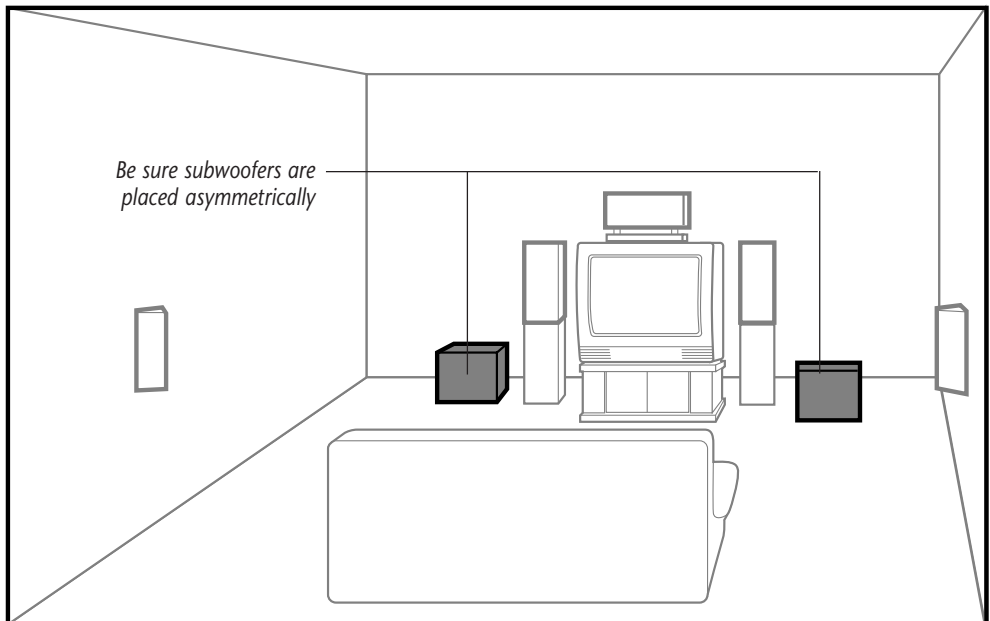


Figure 6:
Asymmetrical
arrangement
for 2 subwoofers in a
home theater, for
example, one
farther from the
wall than the other,
one closer to a
corner, etc.



Operation

First, with your receiver/amplifier's power off, set the subwoofer's volume by turning the variable input level control on the front of the unit to the 8:00 o'clock position, and the low pass control on the back panel set to 80. Next, turn on your system and play some music. Adjust the input level and low pass filter until the bass seems smoothly integrated between the subwoofer(s) and the main speakers without being overpowering.

The Phase Invert Mode

A subwoofer operating out of phase with the rest of the system will not provide optimum low frequency performance. Also, the correct subwoofer phase can enhance room acoustics. Since there is so much variation in the industry regarding phase, and no standards have been established, a switch that will reverse the phase of the subwoofer is provided on the subwoofer amplifier's rear panel. Listen to a monoraul musical source with strong bass content. (For example, you can use the mono switch on an FM tuner or preamp, or use a Y-connector on the outputs of one of your source components to get a mono signal.) Experiment with the position of the phase switch to get the most extended bass. It should be obvious which is the correct setting.

A Word About Center Channel Modes

Many surround processors and surround receivers feature a "wide" and "normal" mode for the center channel speaker. Atlantic Technology recommends that the center channel be operated in the "normal" mode when using a powered subwoofer. The "wide" mode will extend the bass response of the center channel speaker and this, combined with the bass output of the subwoofer, will result in an unnatural heaviness or boominess to the bass output of the system. The center channel speaker will also sound more dynamic and the intelligibility of the system will generally be improved when operated in the "normal" mode.

Subwoofer Troubleshooting Guide

Once your subwoofer has been set up, you should have many years of maintenance free enjoyment from your system. However, if you should encounter a problem, refer to the following guide to help you find the solution. If a problem persists, you should contact your local authorized Atlantic Technology dealer.

Problem	Possible Cause	Possible Solution
No bass output	AC power cord unplugged or plugged into a non-working outlet.	Plug into a working outlet.
	Input cables not securely connected or defective.	Check all connections, then try another input cable.
Audible buzz or hum	Input cable not securely connected or defective.	Check all connections, then try another input cable.
	Single HI LEVEL input connected to the RIGHT channel.	Connect to the LEFT input channel.
	Ground loop through power connection.	Use a 3-to-2 prong AC adapter plug to isolate the chassis' ground of the subwoofer.
	Ground loop through antenna or cable TV system input.	Test by disconnecting antenna and/or cable system input leads. If hum goes away, install isolation balun(s) at that point.
More than one source audible	More than one source is playing.	All the subwoofer's inputs are active at all times. Turn off unwanted source.
Weak bass	Subwoofer too far from the wall.	Move the subwoofer closer to a wall or corner.
	VARIABLE INPUT LEVEL set too low.	Turn control up somewhat.
Weak bass: vague stereo image	Input source connected to HI LEVEL inputs is wired out of phase.	Check speaker wire connections and reconnect in proper phase.

For Future Reference

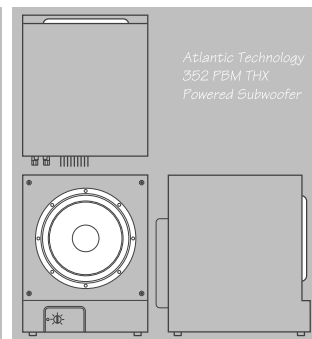
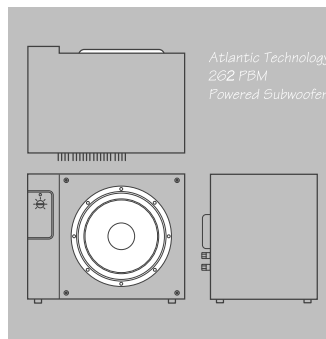
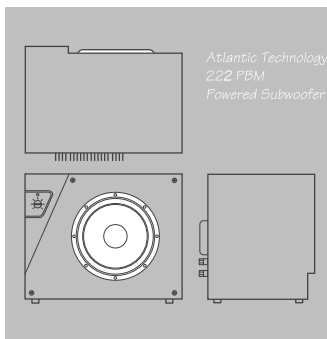
Record your speaker(s) serial number(s) and date of purchase here:

Model Number _____ Serial Number _____ Date of Purchase _____

Model Number _____ Serial Number _____ Date of Purchase _____

The serial number is found on the back of the speaker near the connecting terminals.

Specifications



	222 PBM	262 PBM	352 PBM THX
Model	222 PBM	262 PBM	352 PBM THX
Bass Driver	10"	12"	12"
Output Power (rms)	125W	150W	200W
Distortion (amplifier)	0.05% max	0.05% max	0.05% max
Frequency Response (± 3 dB)	35Hz — low pass filter setting up to 125Hz	35Hz — low pass filter setting up to 125Hz	35Hz — low pass filter setting up to 125Hz
Input Impedance			
High Level (speaker)	10k Ω	10k Ω	10k Ω
Low Level (line)	1k Ω	1k Ω	1k Ω
Peak SPL	102dB	105dB	108dB
Dimensions (W X H X D)	19.75 x 14.75 x 13.75in 502 x 375 x 350mm	19.75 x 14.75 x 13.75in 502 x 375 x 350mm	15.75 x 19.75 x 19in 400 x 502 x 483mm
Weight	44lbs/97kg	53lbs/117kg	65lbs/144kg
Power Requirements	120V AC 50/60Hz 240V AC 50/60Hz	120V AC 50/60Hz 240V AC 50/60Hz	120V AC 50/60Hz 240V AC 50/60Hz

Specifications are those in effect at the time of printing. Atlantic Technology reserves the right to change specifications or designs at any time without notice. THX and Lucasfilm are registered trademarks of Lucasfilm Ltd. Dolby Stereo and Dolby Pro Logic are trademarks of Dolby Laboratories Licensing Corporation.

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