



The **Alpha** Series

Owner's Manual

B1
C1
T1
LR1
CLR1



psb
SPEAKERS

Thank you for your purchase. The speakers in our Alpha series are designed to deliver high performance in many uses, and we hope they add much enjoyment to your listening life.

I. SIMPLE STEPS FOR A QUICK START:

- A. Be sure power to your amplifier/receiver and other electronics is off before making connections.
- B. Install bumpers, adjustable levelers or spikes in the feet.
- C. Position your main speakers, as symmetrically as possible, at a comfortable listening distance—slightly closer to each other than they are to you. (For surround speakers, see later instructions.)
- D. Using standard 18 gauge (1.0mm dia) lamp wire or better, connect the Red (positive) terminal on each channel of your amp/receiver to a Red terminal post on that channel's speaker, and the Black (negative) terminal to a Black terminal post on the speaker.
- E. Setting the volume low beforehand, turn on your associated equipment, find a comfortable listening volume—and enjoy your favourite audio and/or video selections.
- F. After you have settled in with your speakers, read through this booklet. Be sure to read “Protecting Your Investment.”

II. MORE ON SPEAKER POSITIONING

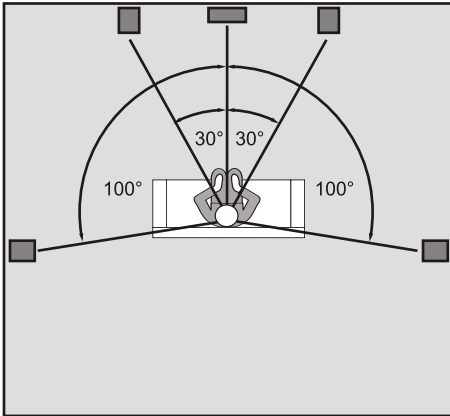
A. Main Speakers:

The three factors to adjust according to your own tastes-keeping in mind that you are the judge and the one(s) to be satisfied-are:

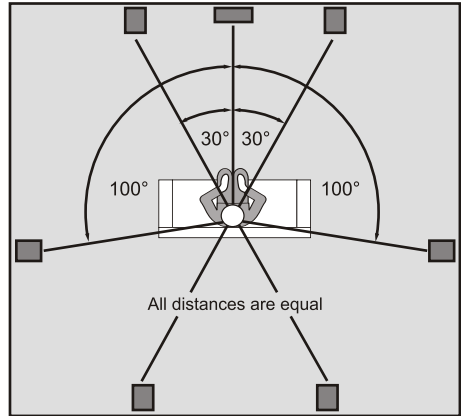
1. **The closer you place speakers to the boundary surfaces of your room, the greater the proportion of bass in their overall sound.** This is due to the enclosing, “focusing” effects of nearby surfaces on longer-wavelength (lower) frequencies. Positioning the speakers near the intersection of two surfaces (wall and wall, wall and floor, or wall and ceiling) will produce more apparent bass than placement near a single surface. The greatest proportion of bass is delivered by placement near three intersecting surfaces—in a room corner near the floor or ceiling, where the convergence of the two walls and the floor/ceiling produces an amplifying effect that is a bit like that of a megaphone. And the least bass comes from placing a speaker away from all boundaries. Your own tastes should decide what proportion of bass response seems right in your room.
2. **Distances of speakers from the walls can make great differences in the number, strength, and particular frequencies of secondary reflections**—changing frequency-balance, sonic spaciousness, and definition. Most listeners prefer their speakers at least a few inches from

all walls, but the choice is yours to determine by listening.

- Small changes in positioning may make a big difference in sound quality.** Because of the varying relationships of the dimensions of a room and their relation both to where you place the speakers and where you sit, the wavelengths of sound and their interaction both with you and with the room can vary a great deal. There can be sharp increases or decreases in the relative loudness of different frequency bands, greatly amplifying or almost nullifying whole ranges. Since Alphas are small and easy to position, it's easy to experiment with small, incremental changes until you are satisfied.



Ideal speaker placement: 5.1



Ideal speaker placement: 7.1

B. Surround Speakers

Begin with the knowledge of the above factors about main speakers. Then modify things as needed for your convenience and the surround effect that works best for you. If you want maximum localization and definition, you probably will want to aim the speakers toward your seating area, both horizontally and vertically. If you prefer the surround effect to be more diffused rather than pinpointed, aiming the speakers somewhat away from your ears probably will be more satisfying. You may want even to place them to reflect their sound off the sides or rear of your room rather than have them radiate toward you. Side-wall positioning, slightly behind you as specified in our Quick Start tips, is preferable to most listeners, but rear-wall placement can work well-especially for bouncing the sound off the side walls.

C. About Wall-Mounting for Surround and Other Uses

The Alpha's rear baffle incorporates a keyhole slot for direct wall-mounting. There are also $\frac{1}{4}$ x 20 brass inserts and screw bosses which can easily secure speakers to OmniMount, Vogel's VLB 50/VLB500 and other brackets.

III. ADDITIONAL DETAILS ON CONNECTING YOUR SPEAKERS

- Important: Always turn off your electronic equipment before connecting speakers. If you don't, severe damage to equipment and/or your ears may result.**

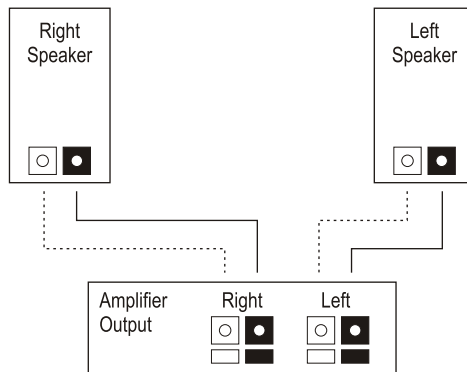
B. Selecting Speaker Wire

We recommend the following gauge of standard two-conductor wire for the wiring distances specified; **if you prefer you can use thicker (lower-gauge) wire.**

Under 25 ft (<7.5m)	18-gauge or 1.0 mm dia (lamp cord)
25 - 50 ft (7.5-15 m)	16-gauge or 1.3 mm dia (heater cord)
50 - 100 ft (15-30 m)	14-gauge or 1.6 mm dia
Over 100 ft (>30 m)	12-gauge or 2.0 mm dia

C. Connecting In Phase

Connect speakers identically to your amplifier or receiver on each channel—**Red** amp/receiver terminal to **Red** speaker terminal, **Black to Black**. This will ensure that the diaphragms of the speakers on both channels move forward and backward together (“in-phase”), rather than in opposition (“out-of-phase”). In-phase connection provides maximum clarity and bass, while out-of-phase connection results in frequency cancellations and produces thinner and less distinct sound—with less bass, vague vocal quality, and no solid centre image. To help insure the proper connection, the two separate conducting wires in a standard two-conductor speaker cable are coded in one way or another to be distinguishable from each other. (The jacket of one wire may be ribbed or marked with “+” signs, or one wire under the insulation may be a different colour from the other.) Use this wire-coding, together with the amp/receiver and speaker colour-coding, to be sure you are connecting the same wire of a given pair to a like-coded terminal at both ends of your connection.



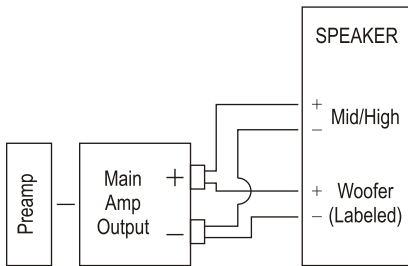
Wiring in Phase Between Speakers and Amplifier

D. Be sure all wiring terminals, are tightened firmly secure, but be careful not to over-tighten and damage the connectors.

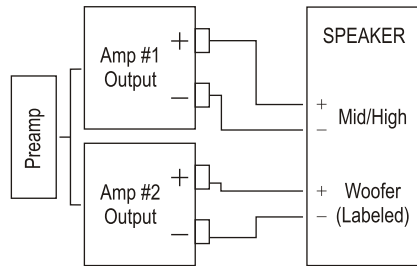
E. Bi-wiring and Bi-amping (Alpha T1 only)

The metal jumper strap that connects the two sets of terminals on some of our speakers is removable. This allows you to connect either separate cables to

the separated woofer and tweeter terminals (“bi-wiring”) or separate amplifiers (“bi-amping”). With Bi-Amp hookup you must use either identical amplifiers or amplifiers adjusted to have the same voltage gain. Consult your PSB dealer for further information. (Illustrations are for one speaker hookup only). With single cable inputs, the jumper straps must be in place and both sets of terminals tightened firmly.



Bi-Wire Hookup



Bi-Amp Hookup

Bi-wire and Bi-amp Wiring between Speakers and Amplifier

IV. PROTECTING YOUR SPEAKERS

- A. For full, year-after-year enjoyment from your speakers, you should respect their limits. They will produce room-filling volume in average-sized rooms—and handle peak momentary levels at those volumes without audible strain. **But avoid louder-than-life playback of music or movies, especially in large rooms.** Even the most “bulletproof” speakers can be damaged by excessive volume levels, especially for long periods.
- B. **When listening to music or movies at very loud volume, you shouldn't turn up bass or treble all the way or close thereto.** This sends tremendously increased, disproportionate power into the speakers, and may well damage them. Some loudness compensation (“Loudness”) controls, which boost both bass and treble, can also be troublesome at high volume. They are intended only for low-volume listening.
- C. **Finally, you should be aware that when amplifiers and receivers are pushed to their limits to produce excessive volume levels, they are driven into “clipping” and can do severe damage—especially to tweeters.** Often, the damage is done by underpowered amplifiers, which may reach their limits very soon. When such units begin to “clip” the audio waveform, they may generate high-frequency “spikes” of tremendous power. More tweeters have probably been destroyed by this phenomenon than any other. **If using your speakers at loud levels, listen carefully for any sign of harsh, garbled midrange and diminishing intelligibility—and turn the volume down right away if you detect it.**

NEVER TURN UP THE VOLUME ALL THE WAY TO SEE HOW LOUD YOUR SYSTEM WILL PLAY!

D. Recommended Power

We recommend amplifiers and receivers rated from a range of 20-150 watts with our compact systems, 20-200 watts with our tower models. For playing at consistently room-filling volume, a minimum of 50 watts is usually a good idea. As just indicated in the paragraph above, be wary of driving low-powered amplifiers to their limits.

We recommend a maximum of 80-150 watts for sustained program material—as, for instance, with organ pedal tones of long duration, or minutes-long subterranean special effects in movies.

Be aware amplifiers with equal power rating may not play equally loud. Those with higher dynamic power ratings, better satisfy the power requirements. Some have protective circuitry that curtails power available in demanding situations.

E. Cabinet Care

Cabinets have varying materials and finishes, including wood veneers, vinyl, anodized aluminum and high gloss “poly lacquers” and should be treated as you would furniture with similar finishes. Dust lightly with a soft cloth; avoiding abrasives. If necessary, wipe carefully with a cloth slightly dampened with glass cleaner to remove heavy soil.

F. Grilles and Ports

A lint brush does a good job of cleaning grilles. Removable grilles can be taken off and vacuumed if you prefer. If need be, you can use a lint brush to clean ports. Avoid touching speaker diaphragms. Particularly, pushing in the domes will permanently damage tweeters.

V. IN CASE OF PROBLEMS

- A.** Lower power if a speaker begins to sound distorted, or seems to be missing certain frequencies, to check first to see whether playing at somewhat lower volume seems to clear up the problem. As we noted under “Recommended Power,” it can be especially important to turn down the volume right away if you have pushed a low-powered amplifier or receiver past its comfortable limits.
- B.** Isolate the problem to the electronics or the speakers and, if the speakers, to specific speakers. Interchange the speaker wire connections on your amplifier or receiver between channels, so that the left speaker is connected to the right channel, or vice versa. If the problem shifts to the other speaker, the problem is not in the speaker but in the electronics.
- C.** Another component—or, very often, a cable or connection problem between components—may be at fault. If the problem stays in the same speaker, irrespective of the channel to which it's connected—and after changing the connecting wire—chances are the speaker itself probably needs service.

- D.** See your dealer if you require service. PSB dealers are equipped to handle almost all problems. If you have moved since your purchase, the nearest authorized PSB dealer should be able to help you. If the problem is not resolved, please contact us, providing the Model name, Serial Number, date of purchase, dealer name, and a full description of the problem.

We appreciate your purchase, and hope this owner's guide helps you enjoy the exceptional satisfaction that PSB speaker systems have to offer. We wish you many years of enjoyable listening!

Notes on environmental protection



At the end of its useful life, this product must not be disposed of with regular household waste but must be returned to a collection point for the recycling of electrical and electronic equipment. The symbol on the product, user's manual and packaging, point this out.

The materials can be reused in accordance with their markings. Through re-use, recycling of raw materials, or other forms of recycling of old products, you are making an important contribution to the protection of our environment.

Your local administrative office can advise you of the responsible waste disposal point.

VI. SPECIFICATIONS

	Alpha LR1 Compact Monitor	Alpha CLR1 Center/Monitor	Alpha B1 Compact Monitor
FREQUENCY RANGE Response	(Anechoic Chamber)		
On Axis @ 0° ± 3dB	90-21,000Hz	90-21,000Hz	65-21,000Hz
Off Axis @ 30° ± 1.5dB	90-10,000Hz	90-10,000Hz	65-10,000Hz
LF cutoff - 10dB	85Hz	78Hz	55Hz
SENSITIVITY Anechoic Chamber Typical Listening Room	(1W (2.83V) @ 1m, IEC-filtered Pink Noise, C-weighted) 85dB 87dB	86dB 88dB	89dB 91dB
IMPEDANCE Nominal Minimum	6 Ohms 4 Ohms	8 Ohms 6 Ohms	6 Ohms 4 Ohms
INPUT POWER Recommended Program	(RMS, Clipping < 10% Time) 15-80 Watts 60 Watts	15-80 Watts 60 Watts	10-90 Watts 60 Watts
ACOUSTIC DESIGN Tweeter (Nominal) Woofer (Nominal) Crossover Internal Volume Design Type	¾" (19mm) Aluminum Dome with Ferrofluid 3 ½" (90mm) Injection Molded Metalized Polypropylene cone with Rubber surround 3,000Hz, B3 0.07 cu ft (2.0 liters) Acoustic Suspension Sealed	¾" (19mm) Aluminum Dome with Ferrofluid 2 x 3 ½" (90mm) Injection Molded Metalized Polypropylene cone with Rubber surround 3,000Hz, B3 0.10 cu ft (2.8 liters) Acoustic Suspension Sealed	¾" (19mm) Aluminum Dome with Ferrofluid 5 ¼" (130mm) Injection Molded Metalized Polypropylene cone with Rubber surround 3,000Hz, B3 0.29 cu ft (8.0 liters) Bass Reflex 1 ½" (40mm) Rear Port
SIZE (W x H x D)	4 5/8" x 7 1/8" x 6 3/8" 118mm x 182mm x 162mm	10 1/8" x 4 5/8" x 6 3/8" 257mm x 118mm x 162mm	7" x 11 3/4" x 9 3/4" 178mm x 299mm x 247mm
WEIGHT Net Shipping	4.1lb (1.9kg)/each 8.8lb (4.0kg)/pair	5.9lb (2.7kg)/each 6.7lb (3.0kg)/each	10.2lb (4.6kg)/each 22.4lb (10.2kg)/pair
FINISH	Black Ash, White Textured or Dark Cherry	Black Ash, White Textured or Dark Cherry	Black Ash or Dark Cherry
FEATURES	Video Shielded 5-way Gold Plated Binding Posts Aluminum Grille Keyhole Slot ¼-20 Brass Insert Clear Rubber Bumpers	Video Shielded 5-way Gold Plated Binding Posts Aluminum Grille Horizontal/Vertical Keyhole Slots ¼-20 Brass Insert Clear Rubber Bumpers	Video Shielded 5-way Gold Plated Binding Posts Aluminum Grille Keyhole Slot ¼-20 Brass Insert Clear Rubber Bumpers

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VI. SPECIFICATIONS

	Alpha C1 Center/Monitor	Alpha T1 Tower
FREQUENCY RANGE Response	(Anechoic Chamber)	
On Axis @ 0° ± 3dB	62-21,000Hz	55-21,000Hz
Off Axis @ 30° ± 1.5dB	62-10,000Hz	55-10,000Hz
LF cutoff - 10dB	52Hz	34Hz
SENSITIVITY Anechoic Chamber Typical Listening Room	(1W (2.83V) @ 1m, IEC-filtered Pink Noise, C-weighted) 90dB 92dB	89dB 91dB
IMPEDANCE Nominal Minimum	8 Ohms 6 Ohms	8 Ohms 6 Ohms
INPUT POWER Recommended Program	(RMS, Clipping < 10% Time) 10-120 Watts 60 Watts	15-120 Watts 60 Watts
ACOUSTIC DESIGN Tweeter (Nominal) Woofer (Nominal) Crossover Internal Volume Design Type	¾" (19mm) Aluminum Dome with Ferrofluid 2 x 5 ¼" (130mm) Injection Molded Metalized Polypropylene cone with Rubber surround 3,000Hz, B3 0.46 cu ft (12.8 liters) Bass Reflex 2" (50mm) Rear Port	¾" (19mm) Aluminum Dome with Ferrofluid 2 x 5 ¼" (130mm) Injection Molded Metalized Polypropylene cone with Rubber surround 3,000Hz, B3 1.19 cu ft (33.4 liters) Bass Reflex 2 ¾" (70mm) Rear Port
SIZE (W x H x D)	17 7/8" x 7" x 9 3/4" 453mm x 178mm x 247mm	7" x 35 3/4" x 12 1/4" 178mm x 907mm x 310mm
WEIGHT Net Shipping	15.9lb (7.2kg)/each 17.3lb (7.9kg)/each	29lb (13.2kg)/each 72.2lb (32.8kg)/pair
FINISH	Black Ash or Dark Cherry	Black Ash or Dark Cherry
FEATURES	Video Shielded 5-way Gold Plated Binding Posts Aluminum Grille Horizontal/Vertical Keyhole Slots ¼-20 Brass Insert Clear Rubber Bumpers	Video Shielded Dual, 5-way Gold Plated Binding Posts Aluminum Grille Bi-wireable/Bi-ampable Adjustable Spikes and Rubber Levelers

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PSB Speakers
633 Granite Court
Pickering, Ontario L1W 3K1
CANADA
www.psbSpeakers.com
888-772-0000 (North America)
905-831-6555 (International)
Fax: 905-837-6357

OM-AS Rev-C, 09/46

