

JBL

ARC SERIES

OWNER'S
MANUAL

ARC30

ARC50

ARC70

ARC90

ARC
S E R I E S

INTRODUCTION

Congratulations on choosing JBL loudspeakers. Their highly accurate, uncolored and balanced sound character will greatly increase your enjoyment of recorded music. JBL speakers are built with careful attention to detail, using only the highest quality materials. They will provide many years of excellent performance.

The ARC Series rivals the performance of loudspeakers available at considerably higher price points; and achieves remarkable imaging, sound stage, and musicality.

Acoustic Reflection Cancellation (ARC):

Provides smooth, well-defined high frequency response. Because the ARC tweeter faceplate has no concentric or parallel lines, it produces high frequency signals without diffraction.

Pure Titanium, Smooth Dome Tweeter with Diamond Surround:

Provides low resonance frequency, low distortion, flat and smooth high frequency response, and no break-up in the audio range. The result is a well-defined high frequency output.

High Polymer Laminate Midrange Drivers and Woofers:

Combine to provide tight bass and well-defined, smooth midrange, without harshness, stridency, or listener fatigue.

High Quality

Crossover Network:

The computer-optimized dividing network employs up to third-order (18 dB per octave) crossover sections. JBL's use of high quality capacitors and low-loss/low-distortion inductors assures freedom from phase or amplitude distortions.

Neoprene-covered

Baffle-board:

Specially designed, acoustically damping, and absorbent Neoprene foam surface surrounds the speaker's drivers and absorbs diffraction waves.

Acoustically Optimized Cabinet and Grille Design:

Provide smooth uncolored sound and eliminate diffraction and unwanted resonances.

PLACEMENT

For the best stereo reproduction, the two loudspeaker systems should be an equal distance from your listening position and separated so that the angle between them, at the listening position, is between 40 and 60 degrees (see Fig. 1). For example, if your listening position is 8 to 12 feet (2.5 to 4 m) from each speaker, the two systems should be about 8 feet (2.5 m) apart. Placing the loudspeakers in corners or against a wall will result in the strongest (not necessarily the most accurate) bass. Since all ARC models have ports on their front baffles, the speakers may be pushed up against a wall or bookshelf surface.

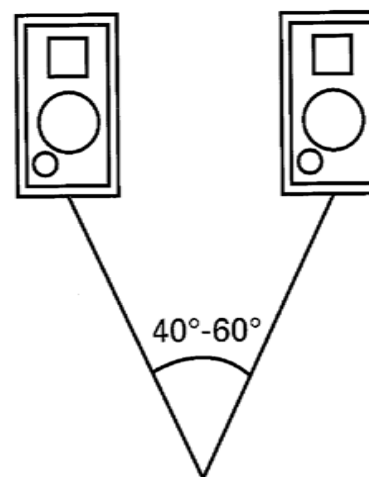


Fig. 1

Compact systems will also benefit from placement on stands or shelves. For the best stereo imaging, we recommend that the systems be placed so that the high frequency transducers are as close as possible to the ear level of a seated listener. Every room is different and there are different tastes. So don't hesitate to experiment on your own.

POWER HANDLING

Thanks to their high efficiency, the ARC Series loudspeakers will produce reasonable volume levels in a room of moderate size with very little amplifier power. However, using a small amplifier to obtain the desired volume listening levels may lead to overdriving the amplifier. This will generate high distortion levels and may cause damage to your loudspeaker. For the best performance, an amplifier should be selected with an output rating that is greater than the maximum power that will be used. This margin of reserve power will ensure that the amplifier will not attempt to deliver more power than its design allows. However, the power amplifier's power rating per channel must not exceed the maximum recommended amplifier power for that specific loudspeaker model. Please see the specifications section for details. Following these guidelines will provide virtually distortion-free sound reproduction and long loudspeaker life.

CONNECTIONS

To connect the loudspeaker systems to the receiver or amplifier, use two-conductor insulated wire. Your JBL dealer can recommend suitable cables, or you can buy wire at most hardware or electronic stores. High quality connectors and cable offer consistent performance that does not deteriorate over time. We recommend #16 AWG wire as a minimum size. If your speaker is more than 30 feet (10 m) from your receiver or amplifier, use larger diameter lower gauge wire. Connections are made at the terminals located on the back of the loudspeaker system. The terminals accept bare wire or dual banana plugs, either of which will provide easy, secure connections.

Preparing The Hookup Wire

Carefully plan your wire lengths before cutting any speaker wire. Be sure to allow plenty of extra wire to help hide paths in corners, along baseboards, etc.

1. First determine the distance between the most distant speaker and the receiver or amplifier.
2. Now make the hookup wires for both speakers this length, even if one ARC Series loudspeaker is much closer to your amplifier than the other. This will help maintain proper signal balance.
3. Strip off 3/8" of insulation from both ends of each conductor.
4. Twist each set of thin wires into a tightly-bunched spiral.

5. At this point you need to identify a visual difference between the two conductors of each molded pair of speaker wire. Differentiating marks can be a different color wire (copper or "silver"); a strand of yarn in one conductor; thin, raised ribs on one part of the outer insulation; or a printed "+" marking on one of the insulators. It does not make any difference which of the two strands of wire go to (+) and (-) on the speakers and amplifier, as long as all speakers used in your system are connected identically. Push down on the button below the terminal and insert the wire, or the banana plug, through the hole.

For each channel, the red terminal on all loudspeakers should be connected to the red or (+) speaker connection terminal on the receiver or amplifier, and the black to the black or (-) (see Fig. 2).

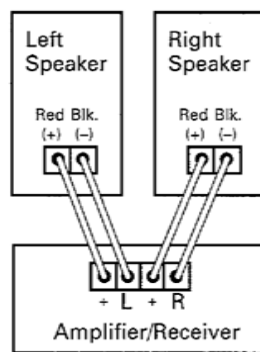


Fig. 2

Connecting the loudspeakers in this manner ensures that they will be in phase; that is, work together rather than in opposition. Connecting the loudspeakers out of phase will not damage them, but will result in less bass and poor imaging.

Hooking Up Multiple Sets of Speakers

If your receiver has two complete sets of speaker terminals ("A" and "B"), it's possible to hook up an additional pair of speakers for *simultaneous* sound in another room. However, some speakers may not be usable as a second pair if you want to play two sets at once. Before hooking up another set of speakers besides your ARC Series, check the following:

1. Your amplifier or receiver **minimum load** impedance. Impedance is always expressed in ohms and can be found in the owner's manual that came with your unit. For example, the following are typical entries in amplifier/receiver owner's manuals:
 - A) 100 watts RMS into 8 ohms, both channels driven, 20-20kHz with less than 0.02% THD.
 - B) 160 watts RMS into 4 ohms, both channels driven, 20-20kHz with less than 0.02% THD.
2. The **nominal impedance** of the second set of speakers. A pair of ARC speakers when combined with another pair of 8 ohm speakers will present an impedance to the amplifier/receiver

that is approximately 4 ohms. This speaker combination can be used with the amplifier/receiver cited in B above. If the amplifier/receiver has a specification similar to that shown in A above, or if your second set of speakers has an impedance other than 8 ohms, you must consult the amplifier/receiver manufacturer for clarification.

TROUBLESHOOTING

The vast majority of new speaker "malfunctions" end up being traced to connections or switch settings. To avoid packing up correctly functioning speakers and sending them off, only to find that they're not really at fault, check the following tips first, before requesting service.

No sound at all or very faint sound from either speaker

1. Amp/receiver tape monitor button pushed in while using CD, FM or phono inputs.
2. Wrong speaker switch, "A" or "B" speaker output.
3. Sound source (CD, cassette deck, turntable) not turned on, not activated, not hooked up or not selected on amp/receiver front panel.

No sound from one speaker

1. Balance control turned all the way left or right.
2. Speaker wire has become disconnected.
3. One of the connections between sound source and amp/receiver

is faulty or has become disconnected.

Both speakers play at low volumes but shut off as volume is increased OR sound turns on and off intermittently

A few strands of speaker wire may be shorting out. Recheck the connections. Recheck the minimum speaker impedance required by the amp.

Bass is very weak AND/OR sound seems to come from each speaker separately, without creating a stable stereo image between the speakers.

1. The polarity (+ & -) of one speaker has been reversed relative to the other. Double check connections.
2. Speakers are too far away from back and side walls or too far apart. Experiment again with the speaker placement. If you are still encountering problems, consult your JBL dealer.

GENERAL CARE

The grille is held in place by pins near the edges. To remove the grille, grasp it by both top and bottom edges and pull gently. To replace grille, re-position it carefully and press gently at the corners. Do not push on the center area of the grille.

The loudspeaker cabinet may be cleaned with a slightly damp cloth. To remove dust from the grille cloth, use a vacuum with a brush attachment. Spots may be removed

with a commercial spot remover. Do not use any cleaners or solvents on the speaker drivers themselves.

SERVICE

Should your loudspeaker ever need service, return it to the JBL dealer from whom it was purchased. If for some reason this is impractical, in the United States, call 800-336-4JBL for your nearest warranty station. Military personnel who purchased from authorized military outlets should return them to a similar outlet.

If purchased outside the United States, contact your local distributor to make arrangements for repair service. **Do not return products to the JBL factory.**

Specifications	ARC30	ARC50	ARC70	ARC90
High Frequency Dome Transducer	1" Pure Titanium	1" Pure Titanium	1" Pure Titanium	1" Pure Titanium
Midrange Transducer (High Polymer Laminate Cone)	n/a	n/a	5"	5"
Low Frequency Transducer (High Polymer Laminate Cone)	6-1/2"	8"	8"	10"
Crossover Frequency	3.7 kHz	2.3 kHz	760/3.7 kHz	800/3.2 kHz
Frequency Response (- 6 dB)	50 Hz to 23 kHz	36 Hz to 23 kHz	36 Hz to 23 kHz	35 Hz to 23 kHz
Sensitivity (1 Watt/1 meter)	90dB	91dB	91dB	92dB
Nominal Impedance	8 ohms	8 ohms	8 ohms	8 ohms
Recommended Amplifier Power*	10 to 125 Watts	10 to 140 Watts	10 to 150 Watts	10 to 200 Watts
External Dimensions				
Height	17-3/8"	23-1/8"	26"	28-1/2"
Width	9-5/8"	12-1/8"	12-1/8"	13-1/2"
Depth	8-1/4"	11-7/16"	11-7/16"	11-7/16"
External Dimensions				
Height	441 mm	587 mm	660 mm	724 mm
Width	245 mm	308 mm	308 mm	343 mm
Depth	210 mm	291 mm	291 mm	291 mm
Weight (each)	16 lbs 7.3 kg	27 lbs 12.2 kg	31 lbs 14.1 kg	36 lbs 16.3 kg
Shipping Weight	37 lbs 16.8 kg	58 lbs 26.3 kg	35 lbs 15.9 kg	40 lbs 18.1 kg

*The maximum recommended amplifier power rating will ensure proper system headroom to allow for occasional program peaks. We do not recommend sustained operation at these maximum power levels.

JBL continually strives to improve its products. New materials, production methods and design refinements are introduced into existing models without notice as a routine expression of our design philosophy. For this reason, JBL ARC Series Loudspeakers may differ in some respect from their published specifications and descriptions, but will always equal or exceed the original specifications unless otherwise stated.