



**GHE SERIES
LOUDSPEAKERS**

**OWNER'S
MANUAL**

**GHE1000V
GHE1200V**

GHE
S E R I E S

INTRODUCTION

Congratulations on choosing JBL GHE Series Loudspeakers. Their high efficiency and bass response 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.

Your GHE Series Loudspeakers are very easy to set up. We recommend that you take a few minutes to read this owner's manual before you begin, and follow the instructions carefully.

ENGINEERING FEATURES

- 1. High Efficiency.** Modest amplifiers or receivers will be able to produce acoustic levels normally associated with amplifiers of substantially higher power ratings.
- 2. Video Shielding.** The GHE Series incorporates magnetic shielding to allow use on or next to video monitors and TVs. The magnetic shielding prevents the powerful GHE speaker magnets from creating any interference or distortion of the video picture.
- 3. Bi-wiring Capability.** The GHE Series speaker terminals are designed so that separate sets of speaker cable can be attached to the woofer and midrange/treble portions of the crossover network.
- 4. Polypropylene Cone Midrange.** Provides clean, lifelike, accurate reproduction of the human voice and other sounds revealed by midrange frequencies.
- 5. Tuned Port Bass Design.** Extends low-frequency response, reduces distortion and improves power handling capacity.

PLACEMENT

The GHE Series cabinet height and driver placement allow for speaker placement directly on the floor. The video shielding allows for the option of placement very close to a video monitor/TV. When used as Left and Right Channel speakers in a Dolby Pro Logic AV system, the shielding allows the speakers to be placed up against the sides of the monitor/TV for a compact AV system profile (see Fig. 1). If you desire better stereo imaging when

using your speakers for both video and audio, the speakers should be moved further apart from each other, approximately 2 to 3 feet (.75 to 1m) from the sides of the monitor/TV.

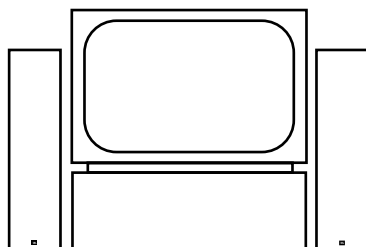


Fig. 1

For the best audio 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. 2). 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 the GHE Series are ported on the front panel so you can place the rear of the speaker up against a wall if desired.

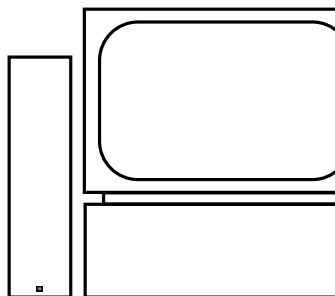


Fig. 2

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. We recommend #16 AWG wire as a minimum size. ***If planning to use the bi-wiring feature, please read that section of the manual for type of speaker interconnect wire to use.*** If your speakers are more than 30 feet (10 m) from your receiver or amplifier, use larger diameter 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 wire length needed between the most distant speaker and the receiver or amplifier.
2. Now make the hookup wires for both speakers this length, even if one 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 both speakers are connected identically. If using wire ends, unscrew the colored nut on the terminal cup, insert the wire end into the hole in the metal post, then retighten the nut until the wire is

tightly secured. If using banana plugs, simply insert the plug directly into the holes on the top of the metal posts.

For each channel, the red terminal on the loudspeaker should be connected to the red or (+) loudspeaker connection terminal on the receiver or amplifier, and the black to the black or (-) speaker connection terminal (see Fig. 3). 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.

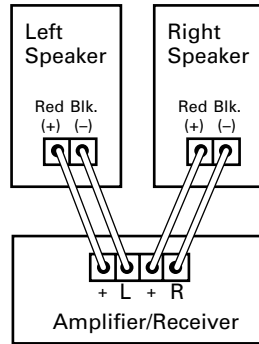


Fig. 3

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 GHE Series, check the following:

1. Your receiver or amplifier **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 receiver/amplifier 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 GHE Series speakers when combined with another pair of 8 ohm speakers will present an impedance to the receiver/amplifier that is approximately 4 ohms. This speaker combination can be used with the receiver/amplifier cited in B above. If the receiver/amplifier 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 receiver/amplifier manufacturer for clarification.

BI-WIRING

Caution: Before attempting a Bi-Wire hook-up, take a few minutes to read through this section and follow the instructions carefully.

The GHE Series speaker terminals are designed so that separate sets of speaker cable can be attached to the woofer (LF) and midrange/ treble (HF) portions of the crossover network. This configuration is called *bi-wiring*.

Bi-wiring can provide several sonic advantages and considerably more flexibility in power amplifier selection.

Reduction of Intermodulation

The majority of current flowing between an amplifier and speaker is devoted to the reproduction of bass. In fact, 60% or more of an amp's power is destined for the woofers. When current flows through a wire, it produces a magnetic field (EMF) which expands and collapses at a rate equal to that of the music's complex frequency components. If a single speaker wire must conduct the full musical frequency spectrum, this preponderance of low frequency information can interact with or *modulate* high frequencies. The resulting *intermodulation* can create audible changes to treble even before it reaches your loudspeakers.

By using separate conductors for high and low frequencies (Fig. 4 & Fig. 6), unwanted treble modulation is avoided. Bass flows through one, treble through another.

Amplifier Flexibility

Bi-wiring also allows you the option of using separate stereo power amplifiers for your left and right speakers. Using two stereo amplifiers (Fig. 5) can not only add sonic improvements but upgrade convenience as well. From a sound standpoint, dual amplifiers reduce intermodulation between left and right channels, since a complete set of input and power supply circuits are devoted to each speaker. Dual amps also provide an easy power upgrade path: you can start out with one stereo amplifier then add a second one later to quadruple power reserves.

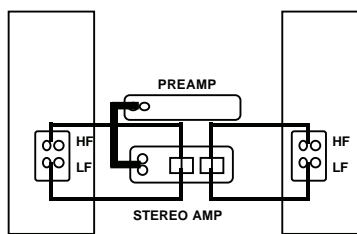


Fig. 4 – One Amp Bi-Wire.

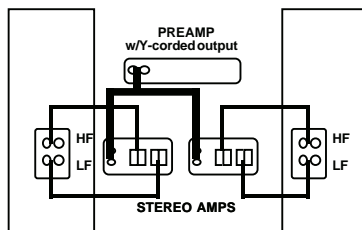


Fig. 5 – Two Amp Bi-Wire.

BI-WIRING CONNECTIONS

Fig. 6 & Fig. 7 show in closer detail the hooking up of your speakers to the amplifier(s). Two bi-amplification options are shown in detail: one stereo-amp (from Fig. 4) and two stereo-amp (from Fig. 5).

IMPORTANT:

1. The external "strapping bars" which normally connect the GHE's HF and LF terminals **MUST BE REMOVED BEFORE BI-WIRING CONNECTIONS ARE MADE** (See Fig 8).
2. **NEVER CONNECT TWO AMPLIFIER CHANNELS TO THE SAME LOUD-SPEAKER WITHOUT FIRST REMOVING THE STRAPPING BARS.** Operating two amplifier channels with the GHE strapping bars in place can seriously damage the amplifiers!
3. If your preamplifier has just one set of stereo outputs, you will need to use "Y" cords in the two, three, and four-amp bi-wire hook-ups. "Y" cords are available from many sources including your JBL dealer.
4. If you have hooked up your GHEs in any of the bi-wire configurations indicated, it is **not** advisable to use additional speakers, either separately or simultaneously.
5. As with conventional one-amplifier, non-bi-wire connections shown in the "CONNECTIONS" section of this manual, make sure that all speaker cables are the same length and that you maintain the "red-to-red" and "black-to-black" connections between the amps and the speakers.

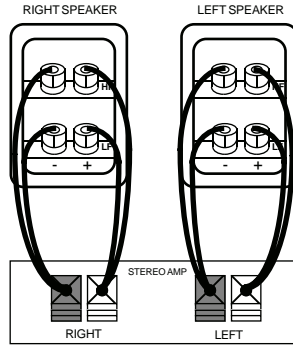


Fig. 6 – One Stereo-Amp Bi-Wire (Detail of Fig. 4 Hook-up)

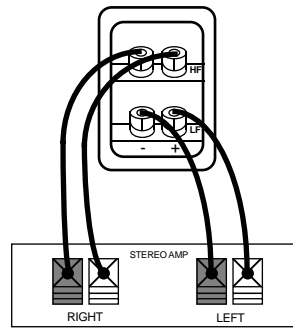


Fig. 7 – Two Stereo-Amp Bi-Wire Hook-up is identical for both speakers (Detail of Fig. 5 Hook-up)

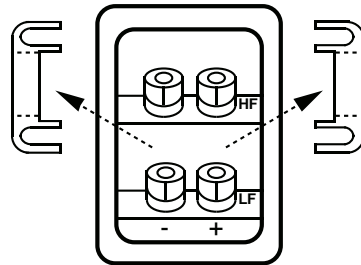


Fig. 8 – Removal of Strapping Bar

POWER HANDLING

Thanks to their high efficiency, JBL GHE 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 distortion free-sound reproduction and long loudspeaker life.

TROUBLESHOOTING

The vast majority of new speaker "mal-functions" 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 both speakers

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 impedance of 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, reposition 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**GHE1000V****GHE1200V**

Application	3-Way Tower	3-Way Tower
High Frequency Dome Transducer	1" Ti Laminate	1" Ti Laminate
Mid Frequency (Polymer Laminate)	5"	5"
Low Frequency (Polymer Laminate)	10"	12"
Crossover Frequencies	930Hz/5.6kHz	930Hz/5.6kHz
Frequency Response (-6dB)	36Hz to 23kHz	32Hz to 23kHz
Sensitivity(1 Watt/1 meter)	90dB	90dB
Nominal Impedance	8 Ohms	8 Ohms
Recommended Amplifier Power*	10 to 175 Watts	10 to 250 Watts
External Dimensions (HxWxD)	39 x 12 x 11"	44 x 14 x 11-3/4"
	991 x 305 x 279mm	1118 x 356 x 298mm
Weight (each)	44 lbs (20 kg)	58 lbs (26.3 kg)
Shipping Weight	49 lbs (22.2 kg)	63 lbs (28.6 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 loudspeakers may differ in some respect from their published specifications and descriptions, but will always equal or exceed the original specifications unless otherwise stated.



80 Crossways Park West, Woodbury, NY 11797

8500 Balboa Blvd., Northridge, CA 91329

1-800-336-4JBL

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Declaration of Conformity



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DK-3460 Birkerød
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declare in own responsibility,
that the product described
in this owner's manual is in
compliance with the applicable
technical standards.



Steen Michaelsen
JBL Europe A/S
Birkerød, DENMARK, 11/95