

JBL

## CF SERIES LOUDSPEAKERS

### OWNER'S MANUAL

# CF SERIES

## INTRODUCTION

Congratulations on choosing JBL CF 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 CF 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. Cast Frame Woofer.** The aluminum die cast woofer frame offers more rigidity than a stamped steel frame. The stronger frame provides a solid foundation for the magnet assembly and cone & coil resulting in a more linear woofer movement and less distortion. With the aluminum frame there is no loss of flux from the magnet assembly (as is the case with steel frames) allowing the voice coil to receive the full strength of the magnetic field.
- 3. Titanium Laminate Tweeter.** Reproduces high-frequency sound waves with accuracy, bringing out clarity and realism.
- 4. Tuned Port Bass Design.** Extends low-frequency response, reduces distortion and improves power handling capacity.

## 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. The CF80 is ported on the front to allow placement directly up against a bookshelf or wall. Since the other CF Series models are ported on the back panel, do not place these speakers closer than 12 inches (305 mm) to the wall behind it if possible.

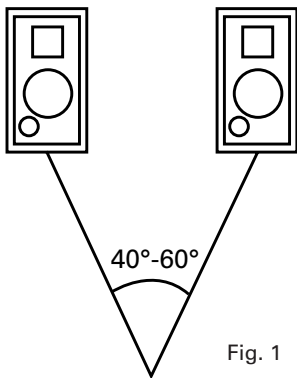


Fig. 1

## 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 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. 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.

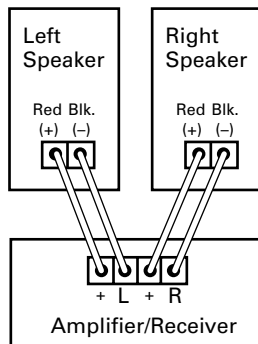


Fig. 2

### 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 CF 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 CF 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.

## POWER HANDLING

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

## TROUBLESHOOTING

Most "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 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.
4. CF120: Blown fuse (see **Fuse Replacement**).

### ***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***

1. A few strands of speaker wire may be shorting out. Recheck the connections.
2. More than 1 pair of speakers are connected to the amp and the total impedance is too low. Recheck the minimum impedance requirements 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.

**FUSE REPLACEMENT**

The CF120 & CF150 have fuses which will protect the speaker from being overpowered under normal conditions. Unscrew the cap labeled "fuse" and replace with a 250V, 5 x 20mm, slow-blow TDS-type fuse: 2.5 Amp for CF120; 3.0 Amp for CF150.

**Replacement with any other type fuse will void your JBL warranty.**

**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, 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 or contact:**

**Mohawk Marketing Corp.  
149 Business Park Drive  
P.O. Box 62229  
Virginia Beach, VA 23462  
Phone: 804-499-8901  
FAX: 804-497-6690**

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**

	<b>CF80</b>	<b>CF100</b>	<b>CF120</b>	<b>CF150</b>
Application	2-Way Bookshelf	3-Way Floorstanding	3-Way Floorstanding	3-Way Floorstanding
High Frequency Dome Transducer	14 mm Ti Laminate	14 mm Ti Laminate	14 mm Ti Laminate	25 mm Mylar Laminate
Mid Frequency (Polymer Laminate)	n/a	4-1/2"	4-1/2"	6-1/2"
Low Frequency (Polymer Laminate)	8"	10"	12"	15"
Crossover Frequencies	4.5kHz	1400Hz/7kHz	800Hz/7kHz	850Hz/4.5kHz
Frequency Response (-6dB)	43Hz to 20kHz	39Hz to 20kHz	36Hz to 20kHz	32Hz to 20kHz
Sensitivity (1 watt/1 meter)	92dB	94dB	96dB	98dB
Nominal Impedance	8 Ohms	8 Ohms	8 Ohms	8 Ohms
Recommended Amplifier Power*	10 to 100 watts	10 to 175 watts	10 to 250 watts	10 to 325 watts
External Dimensions (H x W x D)	19-5/8 x 11 x 11-3/8"	27 x 12-13/16 x 11-11/16"	31-1/2 x 16-1/2 x 15"	35 x 17-7/8 x 18-15/16"
	498 x 279 x 289mm	686 x 325 x 297mm	800 x 420 x 381mm	889 x 454 x 481mm
Weight (each)	23 lbs (10.4 kg)	32 lbs (14.5 kg)	50 lbs (22.7 kg)	62 lbs (28.1 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 loudspeakers may differ in some respect from their published specifications and descriptions, but will always equal or exceed the original specifications unless otherwise stated.

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**H** A Harman International Company  
Part No. 15-30-4142-00

Declaration of Conformity



We, JBL Europe A/S  
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DENMARK

declare in own responsibility, that the products described in this owner's manual are in compliance with technical standards:  
EN 50 081-1/1992  
EN 50 082-1/3.1995

Steen Michaelsen  
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