

# CELESTION

O W N E R S  
M A N U A L

# **CELESTION**

## **1. INTRODUCTION**

*The Celestion 100 and 300 loudspeaker systems embody the latest developments in the company's continuing research into loudspeaker design. Both models have been conceived to deliver superlative sound from domestically acceptable enclosures, provided that they are installed with care. This manual will assist you in optimising their performance in easy steps. Please take a few moments to read this manual before connecting the loudspeakers to your amplifier.*

*Note that the 100 and 300, while employing similar components and sharing many characteristics, have slightly different set-up requirements. These will be indicated when appropriate.*

## **2. UNPACKING AND AFTERCARE**

*Upon opening the cartons and removing the uppermost packing material, please take care to avoid touching the cone of the bass driver or the treble dome behind its protective grille, as this may damage the drive units. Carefully raise the speakers from the carton. We recommend that you retain the packaging should you need to transport your speakers at a later date.*

*Celestion has finished the 100 and 300 in real wood veneers which will benefit from the same treatment in caring for fine furniture. The finish may be cleaned with aerosol polishes, preferably by spraying the polish onto the cloth rather than directly onto the speaker surfaces. Care should be taken to keep overspray away from the drive units.*

*The Celestion 100 and 300 feature removable grilles. Should they need to be brushed to disperse dust or lint, please remove the grilles by grasping the outer edges, applying firm pressure against the cabinet. The grilles are easily refitted with slight pressure at the corners.*

*If, for any reason, one of your loudspeakers develops a fault, please contact either your Celestion dealer or the Celestion Service Department for advice.*

## **3. CONNECTIONS**

*Your Celestion dealer has been chosen because of his or her knowledge of hi-fi. This includes an understanding of the need for suitable wiring. While there are many types on the market, choosing the appropriate type is made easy by listener preference and budget; your dealer can advise you if you have any doubts. The following points, however, apply to all cables and their correct usage.*

*Celestion recommends that you use cables of equal length to both loudspeakers, keeping the cables as short as is practical for your installation. If one cable run is longer than the other, the excess cable for the shorter run should be folded concertina-style and tied loosely into a neat bundle. DO NOT coil the excess cable into loops as this may cause inductance.*

*Opinions vary regarding the preferred ratio of speaker cable to interconnect cable in systems using a separate pre-amplifier and power amplifier. Celestion recommends placing the power amplifiers closer to the speakers, thus requiring long pre-amplifier-*

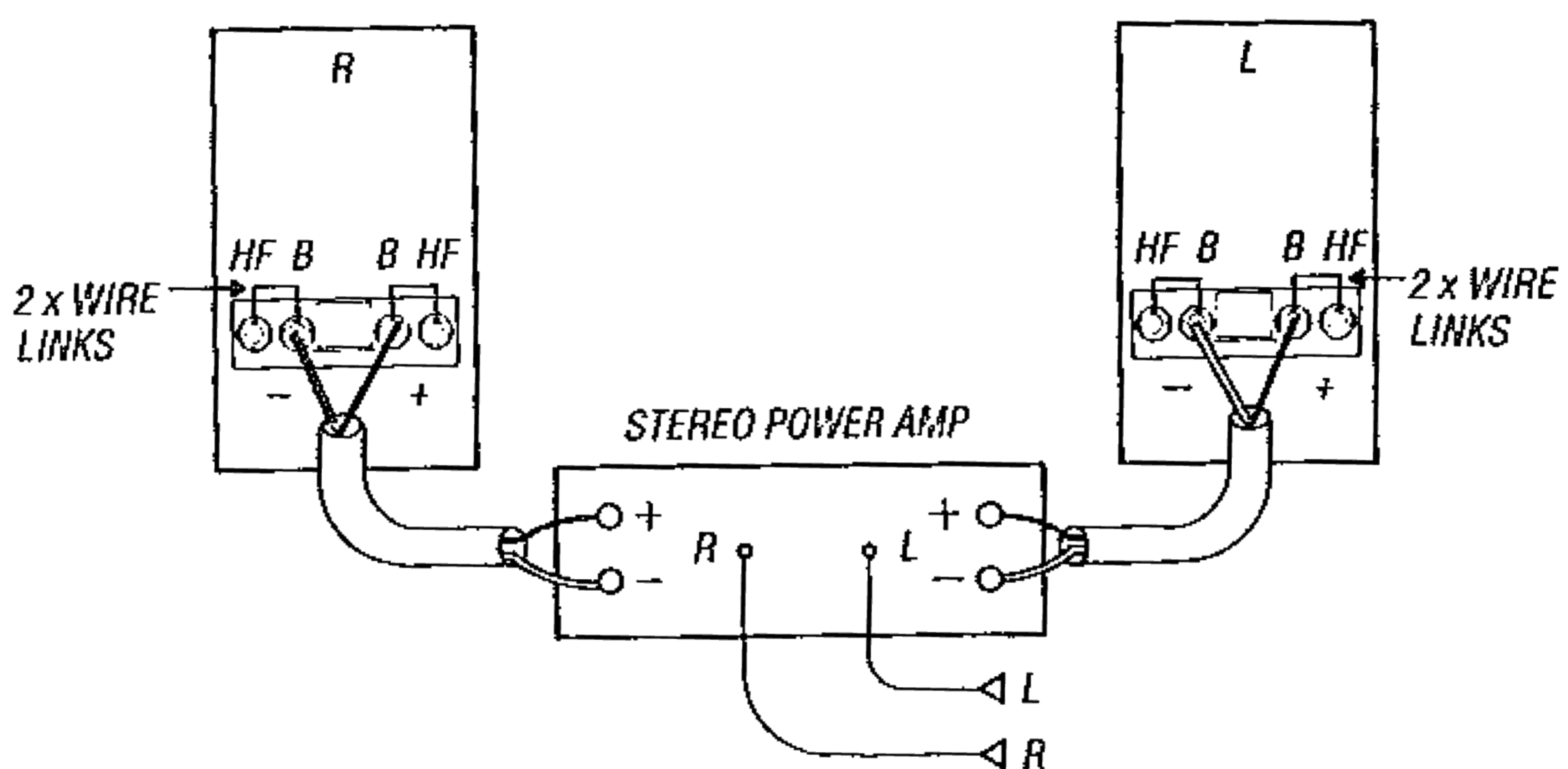
to-power amplifier interconnecting leads and short speaker leads. Again, your dealer can provide advice, including any requirements specifically applicable to your choice of amplifier.

Recent concern shown for the integrity of the physical connections is based on the understanding that the connection is a crucial part of the signal path. To ensure that the sound suffers the least possible degradation, please make certain that all of the connections in your system are clean and tight, using good quality plugs and connectors. The design of modern plugs makes them 'self-cleaning' through occasional removal and re-insertion. This simple action can remove the build-up of oxidation and grime which occurs in even the cleanest of households. Celestion recommends 'reconnections' once or twice a year.

Celestion loudspeaker systems are fitted with robust, gold-plated terminal posts designed to provide superlative electrical contact and maximum resistance to oxidation. Additionally, the terminal posts offer a variety of connection options to allow the user to fit a variety of connector types or use 'bare wire' terminations. The terminal post is pierced behind the screw terminal to accept either gold pins, 4mm 'banana' plugs, 'U'-shaped spade-type connectors or cables trimmed for bare-wire connection. Should you opt for the latter method, please ensure that no stray strands of wire are allowed to make contact between the positive (red or +) and negative (black or -) terminals on either the back of the loudspeaker or the amplifier; short circuits of this nature can cause extensive damage to certain types of amplifiers. If you use 4mm plugs, please ensure that you tighten the screws firmly to guarantee a secure connection.

#### a. Conventional Wiring (dia. 1)

The simplest method for connecting your speakers to your amplifier requires two lengths of two-core loudspeaker cable. You will notice that there are two pairs of terminal posts on the back of each loudspeaker, connected by short wire links to bridge between the HF (High Frequency) and BASS positive (red or +) terminals and the same for the negative (black or -) terminals. Please leave these links in position, ensuring that both the wire link and the cable are trapped in the hole when tightening the screw terminals.



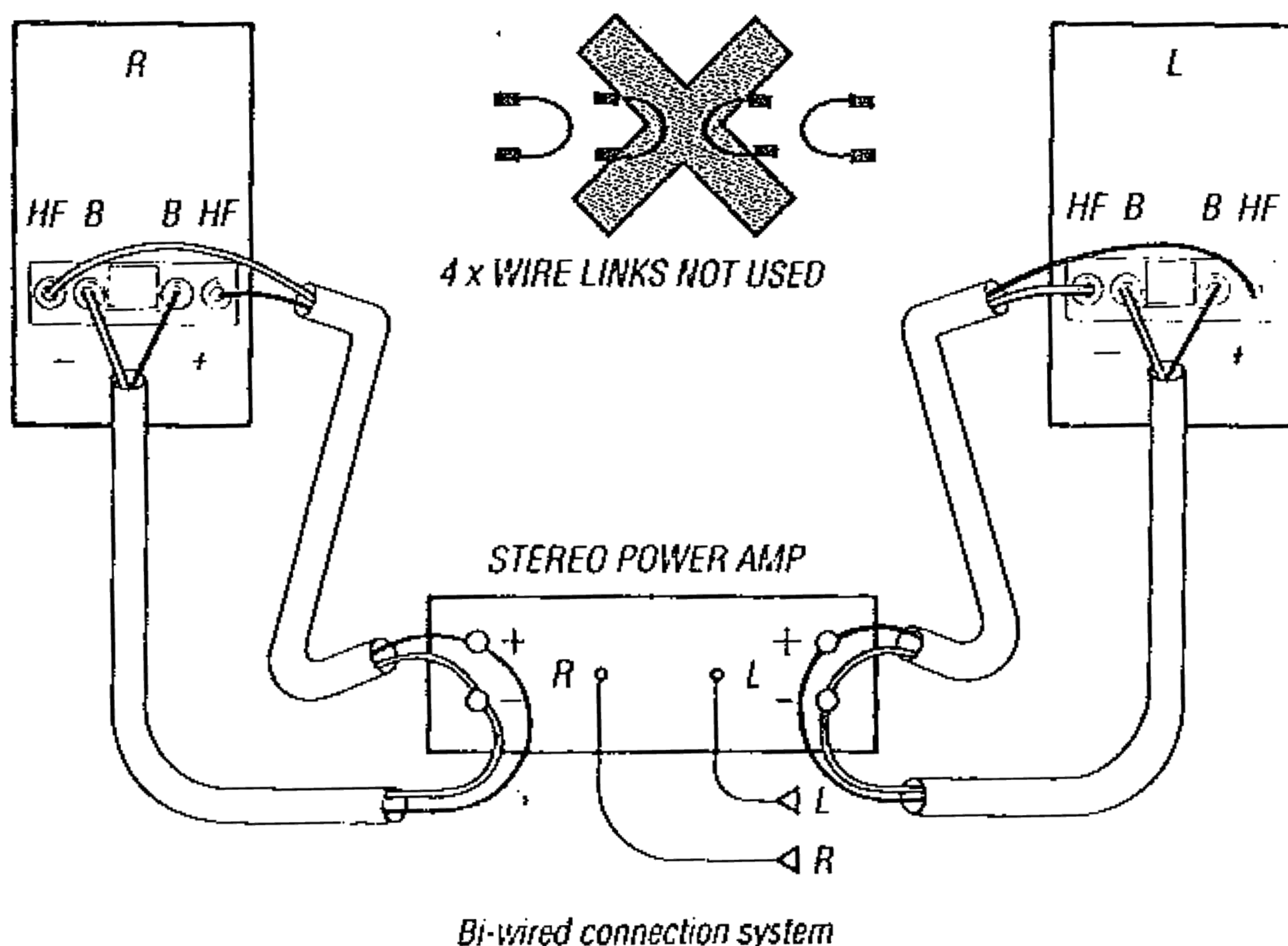
a. Two core cable connection system

Connect the end of the speaker cable which is attached to the RIGHT POSITIVE (red or +) output terminal on the amplifier to the POSITIVE (red or +) BASS terminal on the back of the loudspeaker which will be positioned on the right as you view the system. Then connect the end of the speaker cable which is connected to the RIGHT NEGATIVE (black or -) output terminal on the amplifier to the NEGATIVE (black or -) BASS terminal on the back of the same loudspeaker. Repeat this procedure for the left speaker enclosure.

**NOTE:** Most quality speaker cables are coded to help identify positive and negative strands. This obviates the need to 'trace' the wires back to the amplifier. Additionally, you may wish to have the cables fitted with colour-coded, red and black connectors.

### b. Bi-Wired (dia. 2)

Many hi-fi users have found that sonic gains can be made by using two sets of wire to each speaker, in a layout named 'bi-wiring'. This provides a separate feed from the amplifier to each driver. The cables can be identical for feeding to the HF and BASS drivers, or you can fine-tune the sound even further by experimenting with different wires for the HF and BASS drivers.



To use this method of connection, first remove the wire links to separate the HF and BASS crossover networks. Connect two cables to the single sets of terminals on the back of the amplifier, using one set of wires as the BASS cable and the other as the HF cable, repeating this for the second speaker.

Connect the BASS cable from the RIGHT POSITIVE (red or +) output terminal on the amplifier to the POSITIVE (red or +) BASS terminal on the back of the loudspeaker which will be positioned on the right as you view the hi-fi system. Then connect the cable connected to the RIGHT NEGATIVE (black or -) output terminal on the amplifier to the NEGATIVE (black or -) BASS terminal on the back of the right-hand loudspeaker.

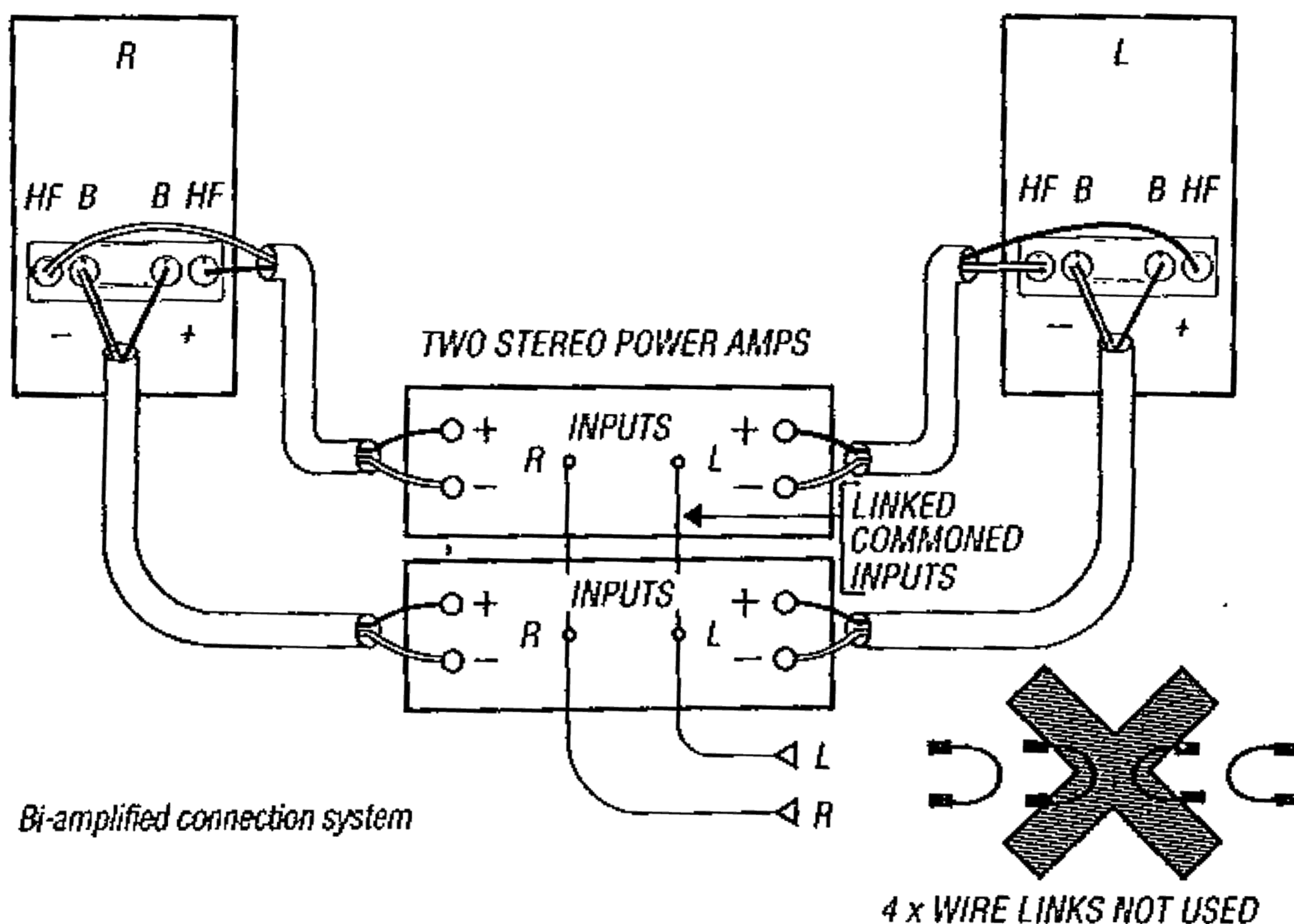
Repeat this with the second set of HF cables from the RIGHT output terminals on the amplifier to the HF terminals on the back of the right-hand loudspeaker, again ensuring POSITIVE to POSITIVE (red or +) and NEGATIVE to NEGATIVE (black or -) connections.

Repeat this procedure for the left-hand speaker.

**NOTE:** Many modern amplifiers now feature two sets of speaker outputs specifically designed for bi-wiring. If your amplifier does not have this facility and the speaker output terminals on your amplifier cannot accept two sets of speaker cables, it is possible to purchase 4mm plugs designed for 'piggy-back' or 'stacking'. Additionally, your dealer can assist in preparing the two sets of speaker cables required for bi-wiring by fitting them with a single connector for attachment to the amplifier.

### c. Bi-Amplified (dia. 3)

Even further gains can be made by using separate amplifiers for the BASS and HF drivers. This requires either two stereo power amplifiers or four mono-block amplifiers. They are connected to the pre-amplifier using either linked common inputs or, in the case of certain pre-amplifiers, separate outputs from the pre-amplifier. We shall refer to the two amplifiers as the BASS and HF amplifiers. (Your dealer will be able to advise you of the suitability of your system for bi-amplification)



To use this method, remove the wire links to separate the BASS and HF crossovers. Connect the speaker wire from the RIGHT POSITIVE (red or +) output terminal of the BASS amplifier to the POSITIVE (red or +) BASS terminal on the speaker which will be positioned on the right hand side as you view the system. Connect the speaker wire from the RIGHT NEGATIVE (black or -) output terminal of the BASS amplifier to the NEGATIVE (black or -) BASS terminal of the same speaker. Then connect the speaker

*The Celestion 300 is a floor-standing version of the 100, its transmission-line design built into a full-height cabinet with adjustable spikes fitted to the underside. Once positioned for optimal performance, pressing down on the enclosure will enable the spikes to pierce carpeting for rigid fixing to the floor. As with the Si stand when used on wooden or tiled floors, the spikes fitted to the 300 should be placed on small coins to prevent damage.*

*Speaker positioning involves experimentation, as the relative positioning of the loudspeaker to the back and side walls affects both bass performance and stereo 'imaging'. We recommend the following positions as a starting point; as you grow familiar with the performance of the 100 and 300, you will be able to detect the changes brought about by even small amounts of repositioning.*

*Ideally, the speakers should be placed approximately 244cm (8') to 305cm (10') apart, with the ideal listening position 2m (6') from the line of the speakers. (See diagram). Place the speakers 450mm (18") to 600mm (24") from the back wall and 600mm (24") to 1200mm (48") from the side walls. The speakers should be pointing inward toward the listening seat at an angle of about 30 degrees. The latter positioning is called 'toeing in' and it can have a marked effect on stereo imaging. Try to keep the positioning symmetrical, although this may not be possible in some rooms due to types of furnishing or room dimensions and shape (eg L-shaped rooms).*

*As you experiment with positioning, you will find that bass increases as you reduce the distance between the speakers and the walls, but this will affect the stereo performance. Conversely, you can improve the stereo imaging by bringing the speakers further into the room, but with a slight reduction in bass performance. After you have moved the speakers by small amounts, you will be able to discern a point where the balance best suits your tastes.*

*Note that the performance of speakers stands can be improved if they are filled with lead shot or dry sand. This adds mass to enhance the stand's stability and damping.*

## **5. POWER HANDLING**

*Celestion 100 and 300 loudspeakers have been designed to deal with all types of programme material and both digital and analogue playback systems. They work best with modern quality amplifiers rated at between 25 and 120 Watts RMS and can handle the dynamic range of modern recordings to suit the demands of a hi-fi system used in domestic surroundings.*

*Because of the high level of linearity in the loudspeakers, the onset of distortion which precedes system overload may not be readily apparent. Should you detect distortion when you increase the volume, this is normally a sign of overloading and you should decrease the volume slightly. Failure to do so may result in damage to the loudspeakers or the amplifier. Your Celestion dealer will help you to select an amplifier which matches the needs of the Celestion 100 and 300 and your own listening requirements.*

*Celestion recommends that you avoid the use of tone controls, graphic equalisers or similar tone shaping controls if possible as their presence may have a deleterious effect on the loudspeaker's performance.*

***Designed and developed by Celestion International Ltd.***

# CELESTION

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# CELESTION 300

## SPEAKER TYPE T NUMBER

Walnut T4343  
 Mahogany T4344  
 Black T4345

## SPECIFICATIONS

**Low Frequency Performance:** -3dB @ 48Hz  
 -6dB @ 26Hz (free space conditions)

**Sensitivity:** 84dB SPL 1 watt/1 metre (free space conditions)

**Power Handling:** 120 Watts programme

**Amplifier Requirements:** 25-120 Watts programme

**Drive Units:** 1 x Celestion aluminium dome tweeter - 32mm (1 1/4")  
 1 x Celestion cast bass unit - 165mm (6 1/2")

**Crossover:** 2.2kHz, 3rd order Butterworth high and low pass

**Internal Volume:** 18 litres (0.6 cubic feet) plus 1.7 metre transmission line  
 47 litres total internal volume

**Cabinet:** Medium density fibreboard construction. Lowest frequencies radiated by Acoustic Transmission Line with acoustic low pass filters. Full height twin vertical braces with horizontal bracing in both directions

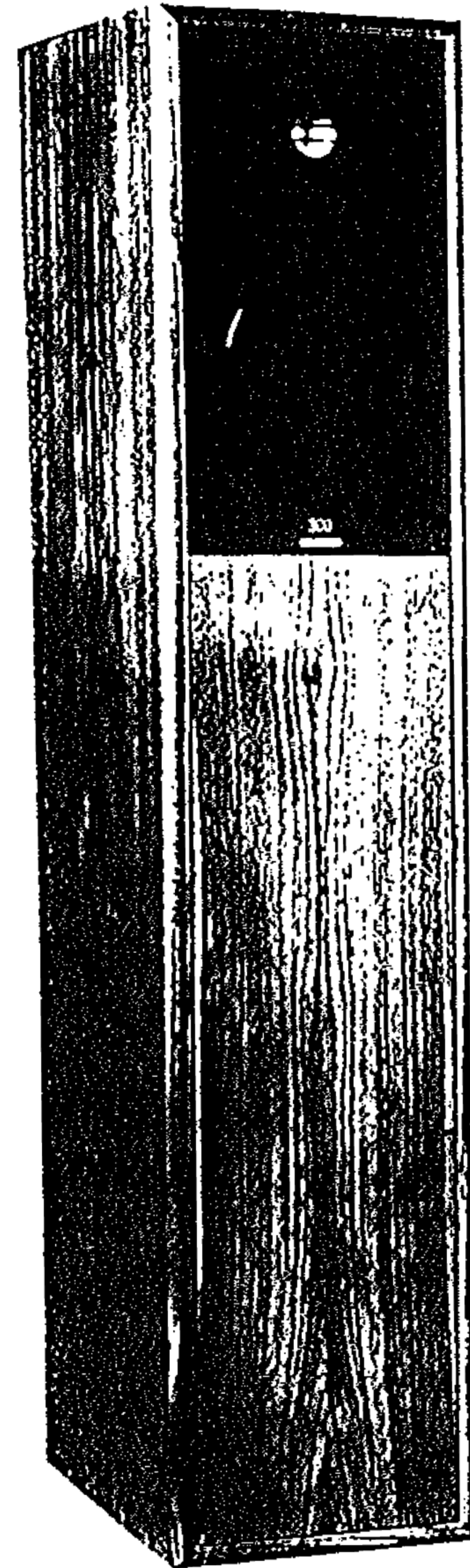
**Terminals:** Two pairs of 4mm gold plated binding posts (colour coded) with wire links - Bi-wireable

**Finish:** Black oak, walnut and mahogany real wood veneers

**Impedance:** 8 Ohm

**Dimensions:** 970mm (38 2") high  
 210mm (8 3") wide  
 326mm (12 8") deep inc. 11mm (0 4") grille

**Weight Each:** Unpacked 19.7kg (43.4lbs)  
 Packed 23.1kg (50.9lbs)

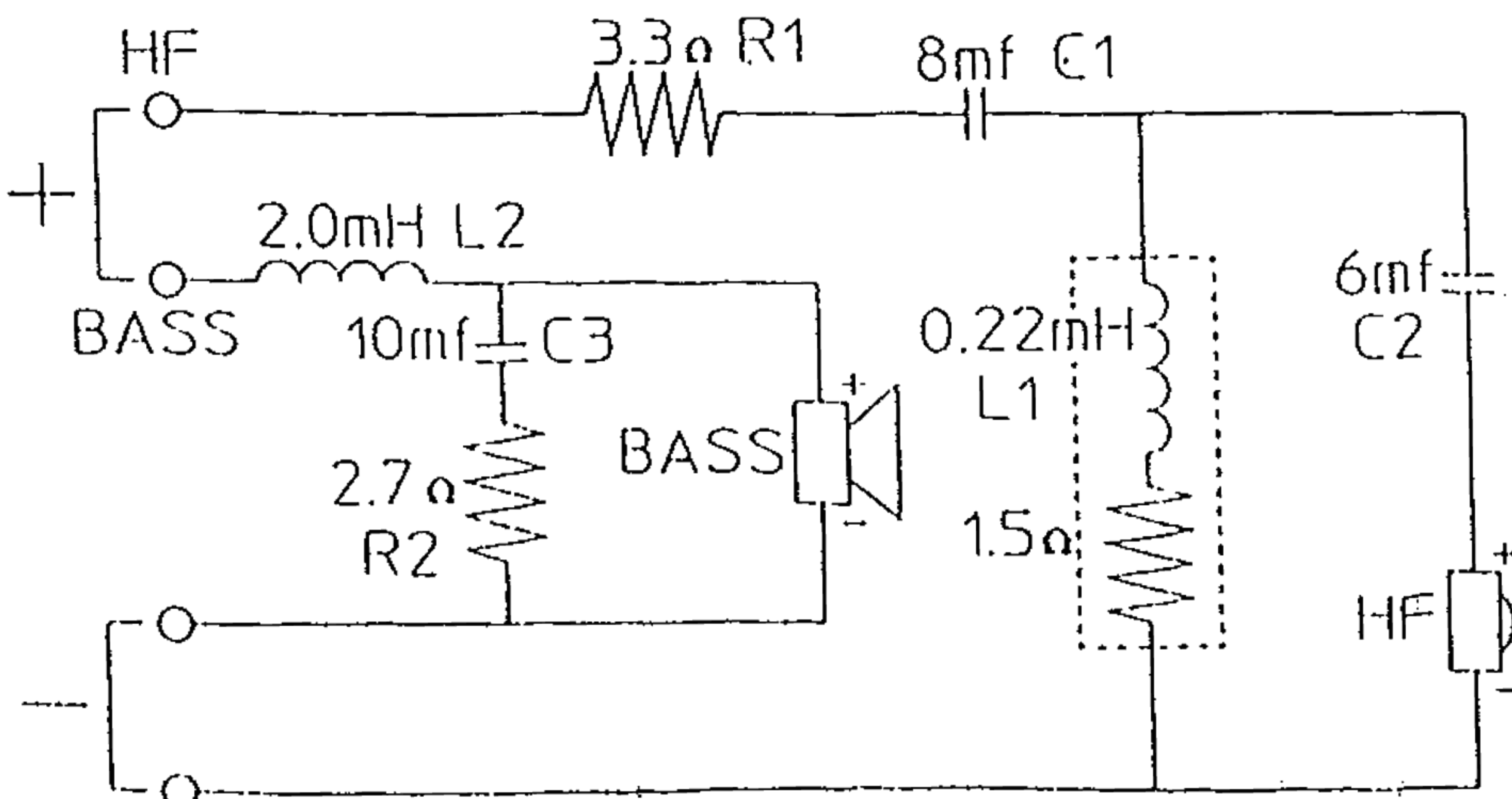


## SPARE PART NUMBERS

HF Unit	T4279/P
Bass Unit	T4280/P
Crossover	SA7600/P
Cabinet Walnut	SP7282
Cabinet Mahogany	SP7284
Cabinet Black	SP7283
Grille for All	SA7599

## Repair Kit

T4279/R  
 N/A



CROSSOVER CIRCUIT DIAGRAM

