

**DE**

THE BRIDGE

# OWNER'S MANUAL

# INTRODUCTION

## ELECTRICAL CONNECTIONS

The Bridge is a stereo passive phase inverter which offers a means of expanding the power output capabilities of a single stereo power amplifier by approximately four times (twice the power rating at 50% output impedance). To achieve proper results at all frequencies, it is essential that the two channels of the bridge have identical performance in all respects (frequency response, phase response, and matched gain). The Bridge developed by Great American Sound Co. uses quadrafil-wound transformers with specifications that achieve the above requisites economically without the nonlinearities, noise, and distortion of active circuitry.

A feature of the use of the Bridge is that the resultant output signal slewing rate for a pair of bridged amplifiers is twice the rate specified for each individual amplifier.

**UNPACKING:** Before attempting to install the Bridge, carefully unpack the amplifier and inspect it for any sign of damage. In the event you discover some shipping damage, please contact your dealer immediately.

Save the shipping carton and all associated packing materials for later use should you ever need to transport the unit. The shipping materials have been carefully designed to transport your Bridge with a minimum of disturbance.

**INSTALLATION:** The Bridge can be mounted in any position and placed where necessary within reach of the audio cables utilized for interconnection. Refer to the typical hook-up diagram. Two shielded audio cables are required to interconnect the stereo outputs of your audio preamplifier and the stereo input jacks of the Bridge. Now connect two shielded audio cables between the upper pair of output jacks on the Bridge to your first power amplifier. A similar pair of shielded audio cables must be connected between the lower pair of output jacks on the Bridge to your second power amplifier. (These amplifiers should be identical to each other to obtain balanced stereo sound output).

Now, connect the *positive* speaker output from each of the two channels of amplifier number 1 to speaker A using 16 gauge or heavier wire. Repeat with amplifier number 2 and speaker B.

**NOTE:** The (-) black speaker binding posts are not used on either amplifier. Also, when properly connected, an upper (amp 1) or lower (amp 2) pair of outputs on the bridge are connected to a single amplifier.

**CAUTION:** Improper hookup can result in severe damage to some amplifiers. Before using, carefully double check wiring to that shown in the diagram. GAS Co. will not be responsible for amplifier failures caused by improper connections.

### SPEAKER PHASING

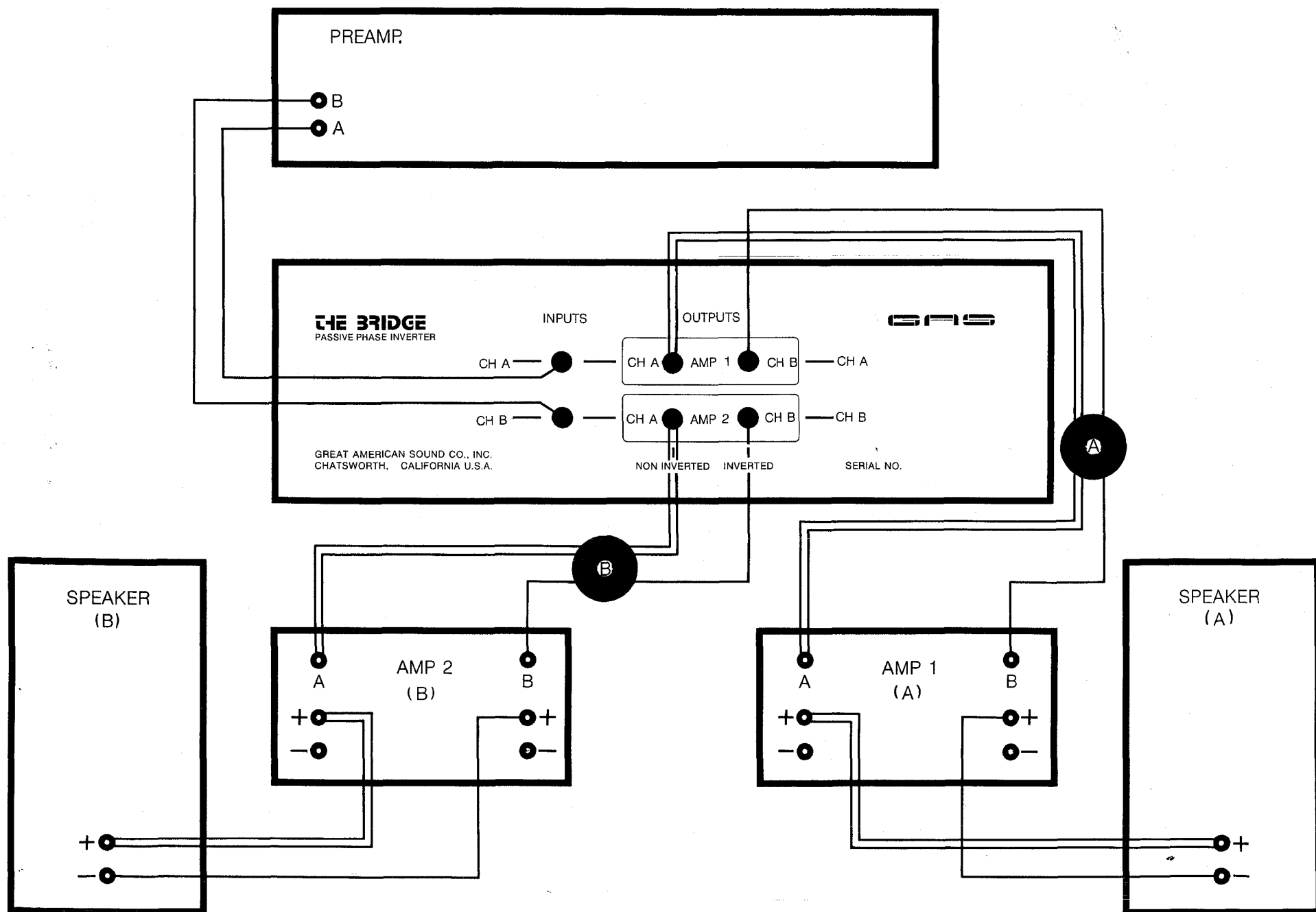
To obtain proper stereophonic phasing and correct bass response, it is necessary that the left and right stereo speakers are connected *in phase*. The simplest way to achieve proper phasing is to interconnect both speakers with the identically same lead orientation.

To make this in-phase connection, observe the wire or cable coding on the cord being used. Most frequently a ridge or groove can be observed on one edge or one side of the lamp cord wire pair. Sometimes one of the wires is tinned (silver colored) while the other is bare (copper colored). Another technique sometimes used is to provide a thread tracer along one of the wires.

Whatever tracer is used, it should be used to identify the wire lead which is attached to the B channel terminal on the amplifiers and the negative (-) terminal on the loudspeaker system. The same tracer identification procedure must be used in attaching the other channel with its associated loudspeaker system.

Verification of proper phasing is achieved by noting a unity in sound when solo vocalists perform during stereo operation. A more-evident verification is an enhanced-bass response when speakers are connected in phase compared to a reduced-bass response when the speakers are connected out-of-phase (phases opposing).

# TYPICAL HOOKUP



## SPEAKER RATINGS

Because of the high-power capability associated with bridged amplifiers, it is important to determine the Power Capability Rating of the speaker used. This rating must be equivalent to or exceed twice that for one-half the corresponding impedance for the bridged amplifier to protect the speaker from possible damage. Great American Sound Co. cannot be responsible for damage done to a speaker where the speaker rating is too low for the application.

## IMPEDANCE RATINGS

Most speakers have either 16, 8, or 4-Ohm impedance ratings. Consult the specifications accompanying the speaker to determine their ratings. If no specification rating can be determined, the rating can generally be identified by measuring the speaker with an Ohmmeter. The rating is usually 20% to 30% higher than the Ohms read with the Ohmmeter.

It is not recommended that a speaker or speaker-system combination be used with bridged amplifiers where its resulting impedance is less than 4 Ohms. Although no damage should result, the output power will be restricted by the amplifier's protection circuitry and some of the protection fuses might open (blow). The impedance seen by the bridged amplifier is one-half of the speaker's impedance.

## TRANSFORMER:

Quadrafilar Wound

## BANDWIDTH:

Source: 600 Ohms 5 Hz-25KHz  
50 Ohms 0.1 Hz-300KHz

## DISTORTION:

Source: 50 Ohms Less than .01% (100Hz-20KHz)  
at 2V Output Less than .04% (20Hz)

## INSERTION LOSS:

Less than 0.1 dB

## SIZE:

Utility 10 in. X 3.5 in. X 5.25 in.  
25.0 cm X 8.75 cm X 13.1 cm  
Rack Mount 19 in. X 4 in. X 7 in. deep  
47.5 cm X 10 cm X 17.5 cm deep

## WEIGHT:

Utility 6 lbs./13.2 Kg  
Rack Mount 7 lbs./15.4 Kg

880004-478

PRINTED IN U.S.A.

**GAS**  
THE GREAT AMERICAN SOUND CO., INC.  
20940 LASSEN ST. • CHATSWORTH, CALIF. 91311 U.S.A. • (213) 998-8100