

# INSTRUCTIONS FOR THE HAFLER DH-222 AMPLIFIER BRIDGING KIT FOR THE DH-220

The DH-222 may be installed in a Hafler DH-220 power amplifier to enable easy conversion to a high power monophonic amplifier, bridging the two conventional channels to a single floating output which can deliver in excess of 400 watts into an 8 ohm load. Its rated power output is 350 watts across the audio band.

When switched to monophonic operation (UP), signal input should be provided to the LEFT input jack only, and the output should be connected only to the two center RED (+) terminals. No connection of the load is to be made to the black output terminals. Because of the floating output, neither side of the load may be grounded. Thus it is unlikely that stereo speaker switching boxes, or headphone adapters may be used, as these often have a common ground between the left and right channels.

The speaker fuses may be replaced with higher values than the 2-5 ampere range suggested for stereo operation, if desired, depending on the degree of protection for the speaker which is intended. The graph shows the nominal sustained power output limit of a 7 ampere standard fuse, which is the maximum recommended value. Smaller values will provide more protection for the speakers; larger ratings are at the user's risk.

Both speaker fuses should be the same value. If one speaker

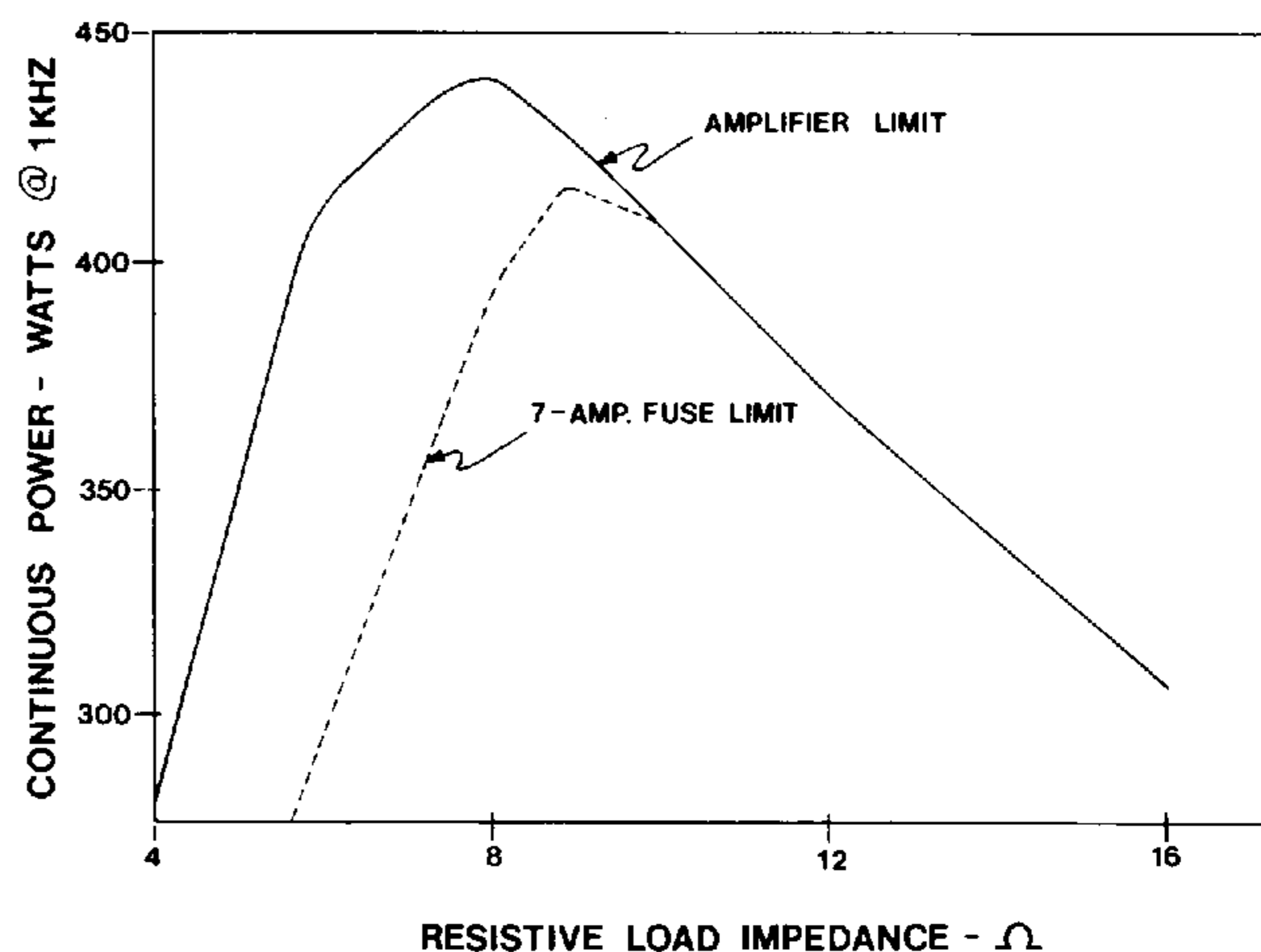
fuse blows in mono operation, both should be replaced, for it is likely that the second has been weakened. For equivalent load impedance, each speaker fuse provides the same power output protection as in stereo operation.

With the internal conversion switch DOWN, the amplifier functions as a conventional stereo amplifier, with normal input and output connections. The minimum recommended load impedance, which is limited only by thermal factors (ability of the heat sinks to dissipate high energy levels), is 6 ohms in mono; the usual 3 ohms in stereo. The amplifier circuit can safely accommodate lower impedance loads, of course.

The conversion, which takes less than an hour, involves only changes to the input wiring, and installation of the switch with its mounting bracket and one resistor. These instructions assume familiarity with the usual kit building descriptions, and reminders. For more details in this regard, see the construction section of your DH-220 amplifier manual. You must be certain you have made a good solder connection wherever one is called for, not only to the wire you have attached, but to any others already connected to that point. The notation (S) indicates a soldered connection; (S-2) denotes that there are two wires to be soldered. Use only 60/40 rosin core solder. Be careful not to let the soldering iron touch adjacent components on the circuit board; excessive heat could change their operation, with the possibility of damage to the amplifier.

## KIT PARTS LIST

1	Switch, DPDT	SZ114
1	Mounting bracket	MS183
1	Indexing washer	HW123
1	Lockwasher	HW122
2	Nut, switch mounting	HK125
2	Nut, 6-32 KEP	HK112
2	Screw, machine, 6-32	HA116
1	Resistor, 3000 ohms	RZ017
	Wire, red, 22 gauge	
	Wire, green, 22 gauge	
	Wire, black, 22 gauge	



## LIMITED WARRANTY

The parts in the DH-222 are guaranteed against defects for one year from the date of purchase. Installation in a DH-220 amplifier is the owner's responsibility. In the event of difficulty with the completed unit, charges for service, if any, will be in accordance with the warranty provisions for the amplifier, if it was purchased as a kit. If it was purchased as a factory assembled unit, there is the further stipulation that faults incurred as a result of improper installation of the DH-222 are the owner's responsibility, but in other respects the original warranty applies. This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

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# DH-222 INSTALLATION INSTRUCTIONS

- 1  Disconnect AC power from the amplifier, and remove all connecting cables. Wait 5 minutes to allow capacitors to discharge before proceeding with disassembly.
- 2  Remove all 8 screws between the fins of each amplifier module so that the cover may be removed, and the modules tilted outwards for easier access.
- 3  Unsolder the pair of twisted wires connected to holes 1 and 2 at the top of the *right* channel PC-19 circuit board. The right channel is the one nearest the power switch. This pair must also be unsoldered from the right input socket on the back panel, because it will be more convenient to use lighter gauge wiring.
- 4  Prepare a 6½" red wire, and a 6½" black wire. Start with the black wire ½" longer than the red wire, and twist them together uniformly throughout their length. At the end where the black wire projects, connect it to the *short* lug of the right input socket. (S-2). Be sure the existing wire to the adjacent ground lug is properly connected. Connect the corresponding end of the red wire to the long lug of the input socket. (S). Place this pair off to the right edge.
- 5  Prepare a 5½" red wire, and a 5½" black wire. With the ends even, twist these together and connect the red wire to hole #1 at the top of the right channel PC-19 circuit board. (S). Connect the black wire to hole #2. (S).
- 6  Prepare a 20" green wire. Cut a 20" black wire, but remove the insulation from only one end. Starting with the bare end of the black wire ½" longer than the green wire, twist these together. At the far end, where the black insulation has not been removed, the black wire will not be connected, but instead will be secured by wrapping it in a tight circle around the green wire a short distance from the bare green end. It is very important that no bare wire be visible from the black insulation. The single green wire is to be connected near the center of the *left* circuit board to the hole designated "B", located just below the bias adjustment potentiometer. (S). It must be securely soldered, but be careful that you do not damage adjacent components.
- 7  Making sure that no wires are pinched between the module and the chassis in the process, reinstall the left module to the chassis with 4 sheet metal screws.
- 8  Select the switch and its 2 nuts, lockwasher and indexing flat washer, and the switch mounting bracket. Install one nut all the way onto the switch collar, and follow it with the indexing washer with its lug projecting towards the handle lever. Mount the switch on the bracket so that the lever points in the direction of the bracket flange, and the indexing lug engages the locating hole in the bracket. Secure it with the lockwasher and the second nut.
- 9  Select the two machine screws and nuts, and install the switch bracket between the two transistors at the rear of the right module, so that the switch lever points towards the fins.
- 10  Select the 3000 ohm resistor and trim its leads to ½". Connect it between switch lugs #4 and #5. Solder only lug #5.
- 11  Select the red and black pair from the right input socket and connect the black wire to switch lug #3. Do not solder this connection yet. Connect the red wire to switch lug #1. (S).
- 12  Select the red and black pair from the right channel circuit board holes 1 and 2. Connect the black wire to switch lug #3. (S-2). Connect the red wire to lug #2. (S).
- 13  Select the green and black pair and separate the wires for about 1½". Connect the green wire to right circuit board hole "A". (S). Connect the black wire to hole "E". (S). Hole "A" is located in line with the switch about 1½" from the rear edge of the board. "E" is located ½" below hole 2, near the top of the board.
- 14  Place the green and black pair towards the rear of the module, and down past the midline of the switch. Where it passes lug #5, approximately 4½" from the end of the wires, cut *only* the green wire. Strip each end ¼". Connect the short green section to switch lug #4. (S-2). Connect the longer green wire from the left board to switch lug #6. (S).
- 15  Be careful no wires are pinched as you reinstall the right module to the chassis with 4 screws. Place the long green and black pair under the rear lip of the chassis. The pairs to the top eyelets on each board, and to the connections in the center of the board should be kept at least ½" off the board, where they are clear of the components. Make sure the unconnected black wire end near the left circuit board cannot touch any components.
- 16  The switch lever should be placed in the upper position for monophonic operation. In the lower switch position, the amplifier functions as a conventional stereo amplifier. Reinstall the amplifier cover with the remaining 8 screws.

