Service Bulletin

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Title: **Matching HPRi gain with earlier HPR versions**
Bulletin #: HPR0001 Issue Date: March 21, 2007
Models Affected: HPR "F," "W," and "i" Bulletin Revision: A
Production Range: All

Description

The newer HPRi series powered loudspeakers have 10 dB less maximum gain than their predecessors, the HPR-F and HPR-W series. The two different series can be used together, side-by-side, simply by adjusting their gain controls to compensate, as shown in Figure 1.

An alternate but more involved approach is to modify the circuitry of the amplifier module of one type of loudspeaker to match the other. In the HPR "top boxes," i.e., the HPR 152F, HPR 153F, HPR 152i, and HPR 153i, this is done by changing the value of resistor R314. In the subwoofers—the HPR 151W, HPR 181W, HPR 151i, and HPR 181i—the resistor to change is R554. Replacement gain control labels are available from QSC.

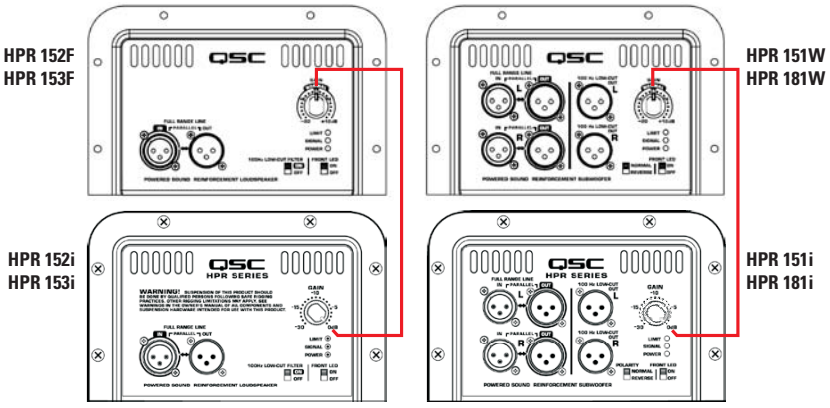

Figure 1: Match the gains of the "F" and "W" versions with the "i" versions by the numeric labels (for example, 0 dB = 0 dB), not by knob position.

See Table 1 for the correct resistor values. This modification requires removing the amplifier module and replacing surface-mount components, so it should be left to a qualified technician; damage caused by an improper modification may void the warranty.

Table 1. Resistor changes

Model	R314 change
HPR 152F *(to match HPR 152i)*	was 47 kΩ; should be 15 kΩ
HPR 152i *(to match HPR 152F)*	was 15 kΩ; should be 47 kΩ
HPR 153F *(to match HPR 153i)*	was 75 kΩ; should be 24 kΩ
HPR 153i *(to match HPR 153F)*	was 24 kΩ; should be 75 kΩ
Model	**R554 change**
HPR 151W, HPR 181W *(to match HPR 151i or HPR 181i)*	was 150 kΩ; should be 47 kΩ
HPR 151i, HPR 181i *(to match HPR 151W or HPR 181W)*	was 47 kΩ; should be 150 kΩ

Instructions

Tools and material required

- Philips (cross) screwdriver
- Tweezers
- Soldering iron (preferably with an SMT tip)
- RoHS-compliant (lead-free) electronic grade solder
- **HPR 152i:** 47.0K 1% 805 SMT resistor (QSC part # RE-247006-GP), gain control label (QSC part # LB-000695-GP)
  HPR 152F: 15.0K 1% 805 SMT resistor (QSC part # RE-215003-GP), gain control label (QSC part # LB-000696-GP)
  HPR 153i: 75.0K 1% 805 SMT resistor (QSC part # RE-275005-GP), gain control label (QSC part # LB-000695-GP)
  HPR 153F: 24.0K 1% 805 SMT resistor (QSC part # RE-224001-GP), gain control label (QSC part # LB-000696-GP)
  HPR 151i or **HPR 181i:** 150K 1% 805 SMT resistor (QSC part # RE-315001-GP), gain control label (QSC part # LB-000695-GP)
  HPR 151W or **HPR 181W:** 47.0K 1% 805 SMT resistor (QSC part # RE-247006-GP), gain control label (QSC part # LB-000696-GP)

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Procedure

1. Disconnect the loudspeaker's power cord from the AC outlet and wait at least 10 minutes for the internal voltages to bleed down.
2. Remove the amplifier module.
3. **HPR 152i, HPR 152F, HPR 153i,** or **HPR 153F:** Locate and remove resistor R314 (see Figure 2). Replace it with a resistor of the appropriate value. Be careful to avoid damaging the nearby ribbon cables with the soldering iron.
   HPR 151i, HPR 181i, HPR 151W, or **HPR 181W:** Locate and remove resistor R554 (see Figure 3). Replace it with a resistor of the appropriate value.
4. Re-install the amplifier module.
5. Check the HPR series powered loudspeaker for proper operation.
6. Carefully pull the knob off the shaft of the gain control.
7. Peel the backing off the label and align it with the opening where the gain control is. The right edge of the label should abut the edge of the panel recess (Figure 4).
8. When the label is in the proper position, apply pressure to it to make it adhere to the panel (Figure 5). The adhesive may take up to 72 hours to reach full strength, so be careful to not disturb the label.
9. Re-install the gain control knob.

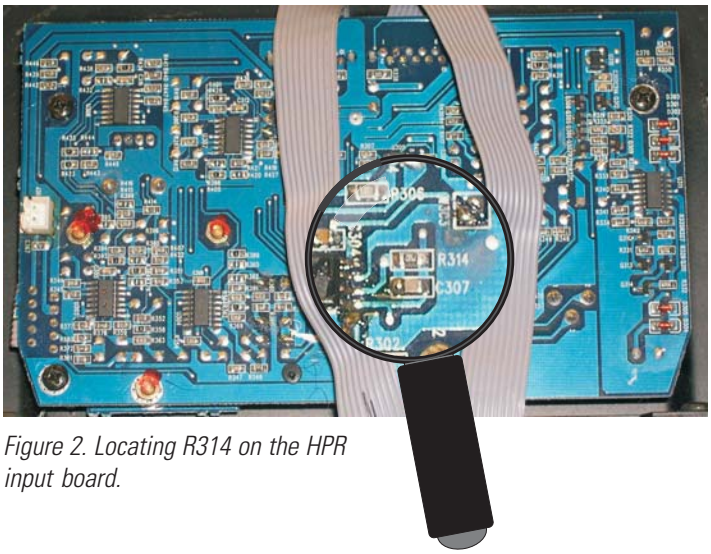

Figure 2. Locating R314 on the HPR input board.

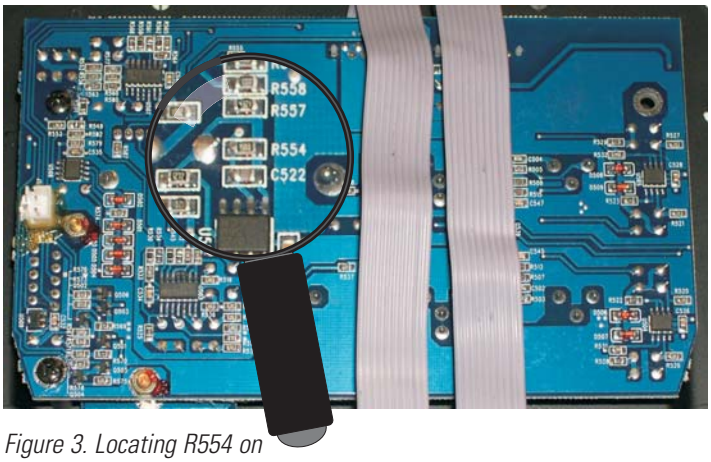

Figure 3. Locating R554 on the HPR subwoofer input board.

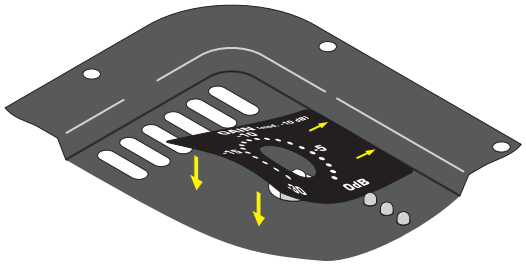

Figure 4. Align the label with the gain control and with the panel recess.

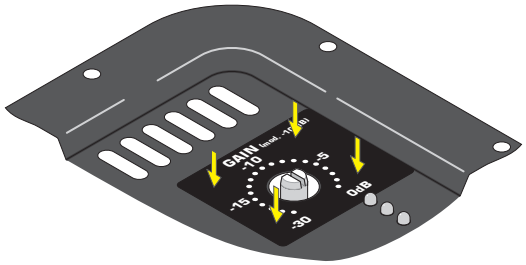

Figure 5. Press the label onto the panel. Allow 72 hours for the adhesive to reach full strength.

Contact information

If you need any further information regarding this service procedure, please contact QSC Technical Services at the addresses or numbers below.

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