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Title: **RMX Quieter Fan Update**
Bulletin #: RMX0009
Issue Date: December 20, 2005
Models Affected: 2RU models—RMX 850, 1450, 1850HD, 2450
Bulletin Revision: Preliminary
Production Range: 05/2005 through 11/2005 (serial numbers **0505xxxxxx–1105xxxxxx**)

Description

Some users find the fans used in these RMX models made during this period of production to be objectionably noisy. This is usually due to the type of fan that was used only during that time, which was slightly different than the one used outside this date range. This bulletin describes how to replace the fan with the regular one, which is noticeably quieter.

Note: Because of the tin/lead alloy used in the solder, the amplifiers affected by this service bulletin are not RoHS/WEEE compliant. To prevent contamination, use only solder and soldering/desoldering equipment that will *not* also be used on RoHS/WEEE compliant products.

Instructions

To replace the fan, you will need the RMX replacement fan kit (QSC part number SG-000213-TS) which includes the fan (QSC part number 8900-9050-1) and butt connector wire splices. The splices are only for use in field service where soldering is not practical or a skilled technician is not available; proper service procedure for authorized service centers *will* require desoldering and soldering.

Tools and materials required:

- Philips screwdriver
- Soldering iron and solder suitable for electronics
- Desoldering equipment or desoldering braid
- Hot glue or a plastic tie-wrap

Procedure: Replacing the fan

Disconnecting the fan

1. Turn off the amplifier, disconnect it from the AC mains, and let it sit for at least 10 minutes to let internal voltages bleed down.
2. Remove the top cover of the amplifier chassis.
3. The AC board is located right behind the power transformer. Locate where the fan's red and black wires connect to the board (Figure 1). Cut and peel away any hot glue used on the wires as a strain relief.
4. RMX 850 and RMX 1450: Remove the AC board's five mounting screws and lift it up so the solder joints underneath are accessible (Figure 2). You do not have to cut or unsolder any wires to do this, but you will need to detach a short 3-conductor ribbon cable that runs from the AC board to the nearer channel module.

RMX 1850HD and RMX 2450: These amps have double-sided circuit boards, so you should be able to unsolder and remove the wires from the top side without removing the board.

5. Note the orientation of the red and black wires (the red wire's location is marked "+" on the board, and the black wire's is marked "-"). It is important to keep the same polarity for the wiring of the new fan.

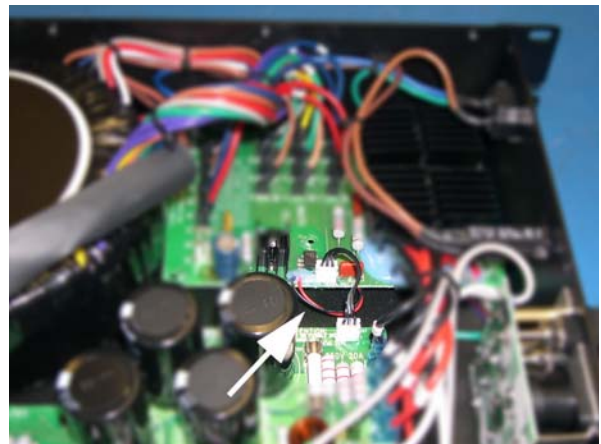


Figure 1. Locating the fan wires connected to the AC board.



Figure 2. Unsoldering the wires.

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6. Unsolder and remove the fan wires. Clear the holes of excess solder.

Removing the fan

7. At the amp's rear panel, remove the four screws from the fan guard. These are also the mounting screws for the fan and the metal wind guide.
8. Lift the metal wind guide out of the amp and set it aside.
9. Remove the fan.

Installing the new fan

10. Remove the protective sleeve from the wires of the old fan and place it on those of the new one.
11. The new fan has arrow markings, located near the wires, that indicate the direction of rotation and of air flow (Figure 3). It is important that the fan be installed so that it will blow air toward the front of the amp.

Hold the fan so its label is upright and facing toward the front of the amp. Place the fan in position in the chassis.

12. Set the metal wind guide into place between the fan and the heat sinks. The fan wires, in their protective sleeve, should fit without chafing into the notches at the bottom of the wind guide.
13. Align the mounting holes of the wind guide, fan, chassis, and fan guard. Also make sure the small black ground wire's lug terminal is in place between the fan and the wind guide (Figure 4). Reattach them all using the same four screws as before. Tighten them only to finger tightness so that the fan frame is not deformed.

14. Solder the wires to the appropriate holes on the AC board. Reattach the AC board to the chassis and the short ribbon cable to the channel module and AC board, if necessary.

15. Apply a generous amount of hot glue where the wires join the AC board. If you don't have hot glue available, use a tie-wrap to secure the wires to the short 3-conductor ribbon cable, so they mutually provide support against excessive flexing, which otherwise could cause the wires to break.
16. Reinstall the top cover of the amp chassis.
17. Turn the amp on. You should feel the fan blowing air out the slots in the amp's front panel, and the amp should work normally. It is now ready to be returned to use.

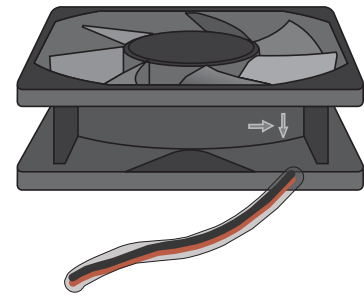


Figure 3. Air flow indication on the new fan.

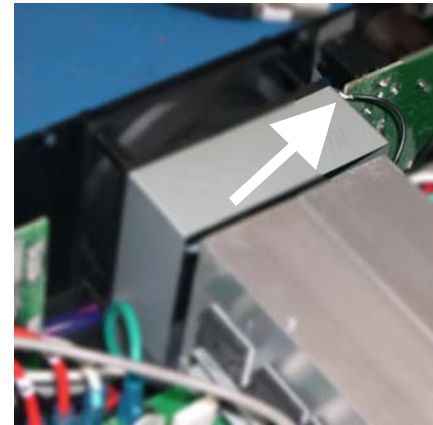


Figure 4. The black ground wire mounts to one of the screws, between the fan and the wind guide.

Contact information

This bulletin is available for download from the Service Bulletins page in the *Tech Support* section of the QSC Audio Web site: http://www.qscaudio.com/support/technical_support/bulletins.htm. 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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