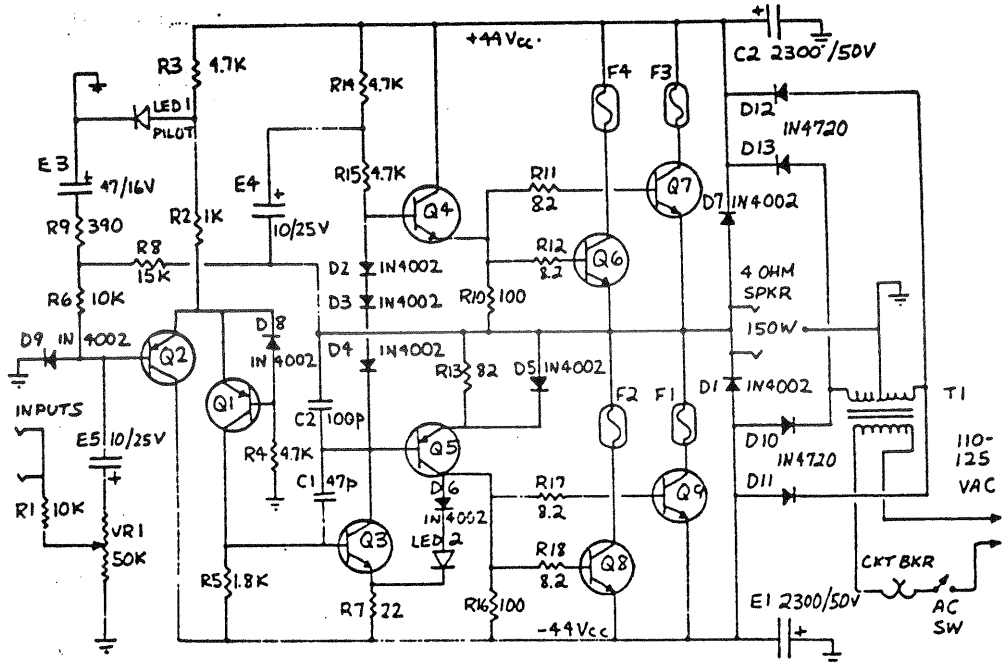
QSC AUDIO PRODUCTS
1926 PLACENTIA AVENUE ☐ COSTA MESA, CALIFORNIA 92627

QSC Power Amp 3.5 (A3.51, A3.52) Service Instructions.

1. The QSC Power amp 3.5 (revisions A3.51, A3.52) was produced from Jan 76 to Mar 77. The circuit was a fairly standard quasi-complimentary output design with differential input transistors.
2. The major problem with these units will usually be corrosion in the circuit board connector, aggravated by deformation caused by rough handling, etc. The symptoms include cutting out, unstable or wavering output into loads, "Fading power" etc. The condition is easily seen as non-linearity or notches in the output waveform, while watching on a scope. The cure is to solder the connector to the circuit board foil, working from the underneath of the unit. Be sure that the solder adheres properly without bridging together any pins on the connecter.
3. Occasionally, you will see a badly burned out circuit board. In these cases, the new A3.6 circuit can be fitted. Contact QSC for replacement and adaptation sheet.
4. In-Chassis Servicing.
   a. Remove top and bottom covers for easy access.
   b. Note the power transistor fault fuses. A single bad output transistor should result in one blown fuse with no further damge. Multiple failures may indicate damaged driver or bias diodes (D2,3,4).
   c. Testing should be performed with a Variac, scope, and dummy load (4 ohm). With no load, increase AC voltage while monitoring signal. A good amp should pass undistorted signal above 20V AC. Nominal performance at 120 VAC should be 24V RMS into 4 ohms, just at clipping, with current limiting (into 2 ohm) at about 10A peak. DC offset, -200mv typ.



QSC 09B (A3.52) Ckt.

All R in ohms
All C in uf unless noted
Q1,2 2N4036
Q3,4 2N6473
Q5 2N6475
Q6-9 RCA1B01 (2N6254)
D2,3,4 thermal bias
R13 sets idle current
R14,15 set upper cur. lim
D6, LED2 set lower lim

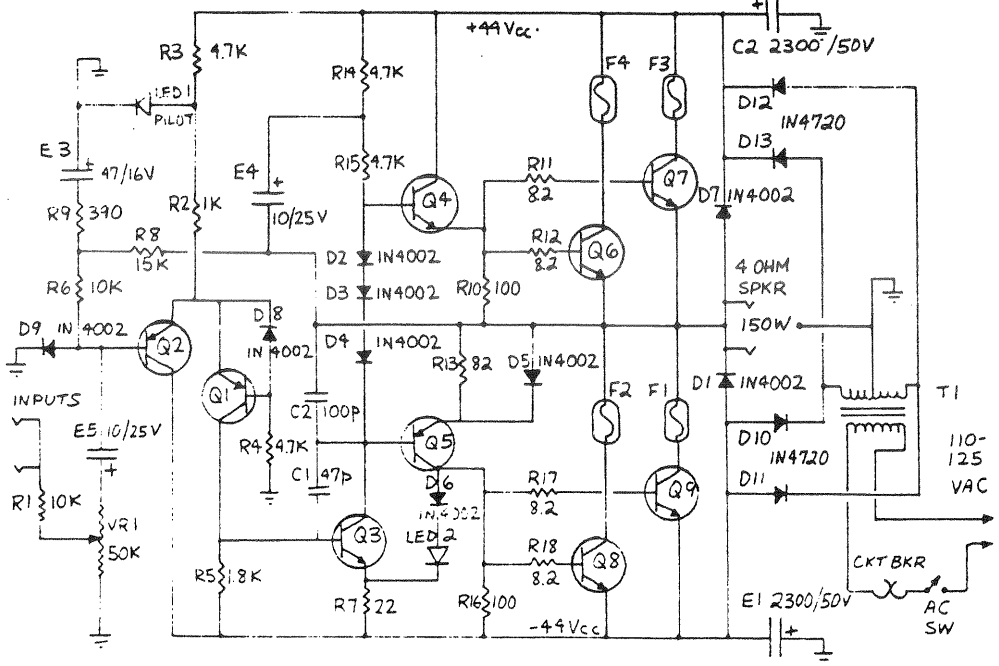
Rev, 3-76: R2 = 1.8K
R5 = 2.7K
R7 = 10
Rev, 9-76: R14,15 = 6.8K
R10,13,16 = 22
D10-13 = IR60S2

Note: QSC has determined that the Motorola MJ15015 is a superior replacement for the 2N6254, and will supply this part in the future.

QSC

QSC POWER AMP 3.51 SERVICE INSTRUCTIONS

1. The QSC 3.51 circuit, QSC 09-B, replaces the original 3.5 circuit as of January 1, 1976. Input protection diodes D8, 9 and Output collector fuses F1,2,3,4 have been added for improved reliability. Power and frequency response are slightly improved.
2. Exchanging Plug-in Circuit Board:
   a. Unplug the amp from the AC current supply.
   b. Remove the top cover of the chassis for better visibility.
   c. Unscrew the 4 bolts holding on the faceplate handles. The faceplate with Circuit Board attached will now slide out of its connector in back.
   d. Carefully disconnect the two wires leading to the AC switch.
   e. Remove the Gain control knob and nut.
   f. Unscrew the four black bolts on the faceplate, and replace the old Circuit Board with the new unit.
   g. Reassemble in reverse order. Plug the AC leads to each terminal of the AC switch (in either order). Be sure the Circuit Board slides into the rear chassis connector properly. Refit handles, Gain control nut, knob, and top cover. Amp should now be ready to test.
3. In-chassis Servicing:
   a. Remove top and bottom covers for easy access to circuit.
   b. Note the power transistor fault fuses. A single bad output transistor should result in one blown fuse with no further damage. Multiple failures may indicate damaged driver or input stages, or open circuit in D2,3,4 (bias diodes). Unclip fuse to check outputs.
4. Testing:
   a. Connect amp to Variac, oscilloscope, switchable load resistors, and signal source.
   b. With no load resistance, slowly increase Variac while monitoring output signal. A good amp should pass undistorted audio above 20 VAC.
   c. Normal performance at 120 VAC: Vcc= ± 44V (no load); Power out just at clipping, 24 VRMS into 4 ohms (144 WRMS); Maximum peak current (into 2 ohms or less), 10A ± 10%; DC offset, -200 mv typ.



QSC 09B Ckt. Schem.

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Q3,4 2N6473
Q5 2N6475
Q6-9 RCA1B01 (2N6254)
D2,3,4 - thermal bias
R13 sets idle current (100 ma at 100°C)
R14,15 set upper current limit
D6,LED2 set lower lim.

Revisions 3-76 R2 = 1.8K
R5 = 2.7K
R7 = 10K

MFG. By Quilter Sound Co., Costa Mesa, Calif. 92627