

THE 8417G MONO AMPLIFIER

OPERATING INSTRUCTIONS

The Quicksilver Mono Amp is designed to give the best of tube amp performance at a price previously not possible. To ensure this performance these instructions should be followed closely.

INITIAL TURN-ON

Insert the tubes in their proper sockets. Connect the amp into the system and turn it on. Make sure the bias is between 80 and 110 ma after 60 seconds or so, and is between 110 and 120 ma after 20 minutes or more of operation. Check bias once a month or so.

SPEAKER CONNECTION

Screw terminals are used for speaker connection because of their superior sonic performance. The output transformer wires are silver soldered directly to the screw strips eliminating any output wiring. Placing the amp directly behind the speaker with a very short speaker wire will further improve the performance. The connection to the 4 or 8 ohm tap will be determined by the rating on the back of your speaker system. The 1 ohm tap is for special applications only.

AVOIDING POTENTIAL PROBLEMS

To insure trouble-free operation from your *Quicksilvers*, the following tips are recommended. Connect and disconnect the preamp *only* when the amps are *off*. Don't drive the amps hard when they are cold, or with the speakers disconnected.

NOTE: The output tubes are very sensitive during their first 50 hours of operation.

FUSE BLOWING

If the 2 amp (slo-blo) fuse blows, replace it with the same type fuse and check the bias. A large change could indicate a damaged 8417 tube. No change in bias would indicate other problems, such as poor system grounding, an unstable preamp, a shorted speaker, etc. If fuse blowing continues these possibilities should be checked. Substituting the 8417s and the fuse from the other amp will also help to diagnose the problem. If the problem follows the output tubes then they are probably damaged.

TUBE REPLACEMENT

Tubes should be replaced only with the same type and brand originally in the amplifier. The 8417 output tubes must be replaced as a matched pair and should be purchased through *Quicksilver Audio* or a *Quicksilver* dealer. *Quicksilver* Output Tubes are "burned-in" for 10 hours prior to matching, and their performance is guaranteed. IMPORTANT: The output tubes must be biased when replaced (see Initial Turn-on).

SPECIAL FEATURES

Quicksilver Mono Amps use no circuit boards or transistors. They are hand-wired with the best parts available. All tubes are run well within their ratings and are protected from turn-on surge. All these factors contribute to the *Quicksilver Mono Amplifiers'* excellent reliability.

FUSE BLOWING

The mono amp has no sound-degrading protection circuitry, so the line fuse value is chosen close to the minimum value that will work. A fuse can blow during normal use every now and then.

If a fuse blows, insert a new 3 amp slo-blo fuse and check the bias. If the bias returns to normal shortly then there is no damage to the 8417 tubes. If it is more than 20 or 30 ma different than before, an 8417 tube is damaged. Turn the amp off until these tubes have been replaced and cause has been corrected.

Damage to the 8417 tubes is caused by:

- a shorted speaker or speaker wire
- large mismatch between speaker and amp impedances
- constant hard clipping or overdriving
- excessive bias setting
- an unstable preamp (beware of modified preamps)

If you need assistance, contact Quicksilver Audio 209-477-6428.

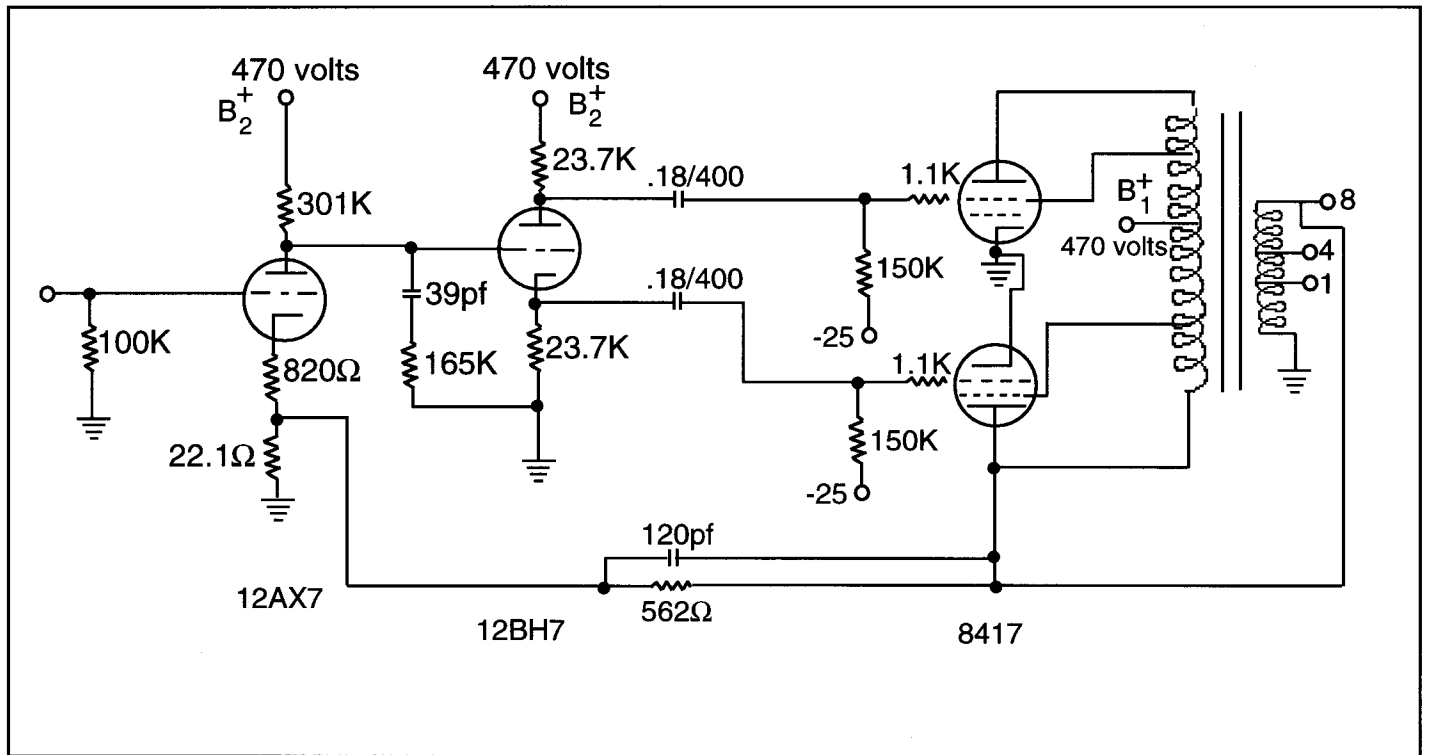
BIAS INSTRUCTIONS

1. Locate bias jack and bias control between transformers, toward input-output side of amp.
2. Insert bias meter plug into bias socket. (Generally it's easiest to push bias meter plug into jack just far enough to get a reading). Remember, the tubes are hot.
3. Turn bias control slowly with a screw driver until reading is between 100 and 110 milliamperes when amp is cold or between 115 and 125 milliamperes after amp has been on 20 minutes or more.
4. Unplug bias meter.

CAUTION: Do Not Connect Bias Meter With Music Playing.

CAUTION: Bias Higher Than 125 ma May Damage Output Tubes.

Quicksilver Audio 8417 (Philips) Mono Amplifier Schematic



Voltage Chart

=/- 5%

Voltages measured to ground

Pin	12AX7	Pin	12BH7	Pin	8417	Pin	5AR4
1	0	1	310	1	0	1	0
2	0	2	150	2	0	2	465
3	0	3	158	3	465	3	0
4	6.6AC(3.3)*	4	6.6AC(3.3)*	4	465	4	345AC
5	6.6AC(3.3)*	5	6.6AC(3.3)*	5	-25App**	5	0
6	150	6	0	6	-25App**	6	345AC
7	0	7	0	7	6.6(3.3)*	7	0
8	.9	8	0	8	0 (3.3)*	8	465
9	0	9	0				

2 to 8 = 5.2AC

*(Values for units with SN 101 through 1500)

**Use high impedance volt meter