

Q Amp Discrete Module: Test Procedure

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File Location: This file is located on the CO-OP PC (Merle-co-op)\\ D:\Cdms\Qamps\
Qamp – Discrete\qampD_test_proc.doc

This document should be used along with the "Q Amp Discrete Module Users Manual document and schematic to test and/or troubleshoot the Q Amp Discrete module.

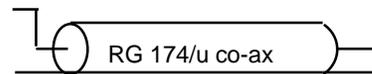
1) The board should be tested using the pre-assembled 96 pin VME test plug with the following labeled inputs/outputs:

Pin 19 a,b,c: +15 FEIN

Pin 22 a,b,c: -15 FEIN

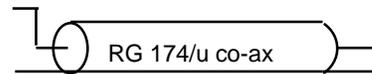
Pin 26 b: Drain

Pin 26 c: FEGND



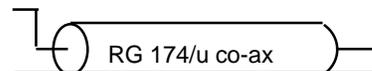
Pin 28 b: Feedback

Pin 28 c: FEGND



Pin 30 b: Source

Pin 30 c: FEGND



Pin 32 a,b,c: FEGND

2) First test the board to make sure the + and – 14 volts are between 13.8 and 14.2 volts.
Refer to the schematic for proper testing points.

- 3) The board should be drawing current, of about 60 mA on the supplies.
- 4) If everything looks normal, power down, connect the "Drain", "Feedback", and "Source" to the "Warm FET Box" as described below:
- 5) Setting up the "Warm FET Box":
Note: All connections should be made with RG 174/u co-axial cables (8ft in length) terminated with KINGS, K-Loc, straight plug connectors (P/N 1075-1), to prevent unwanted noise and distortions from adversely affecting the very sensitive amplifier.

The internal schematic of the "Warm FET Box" is illustrated in fig. 1 below.

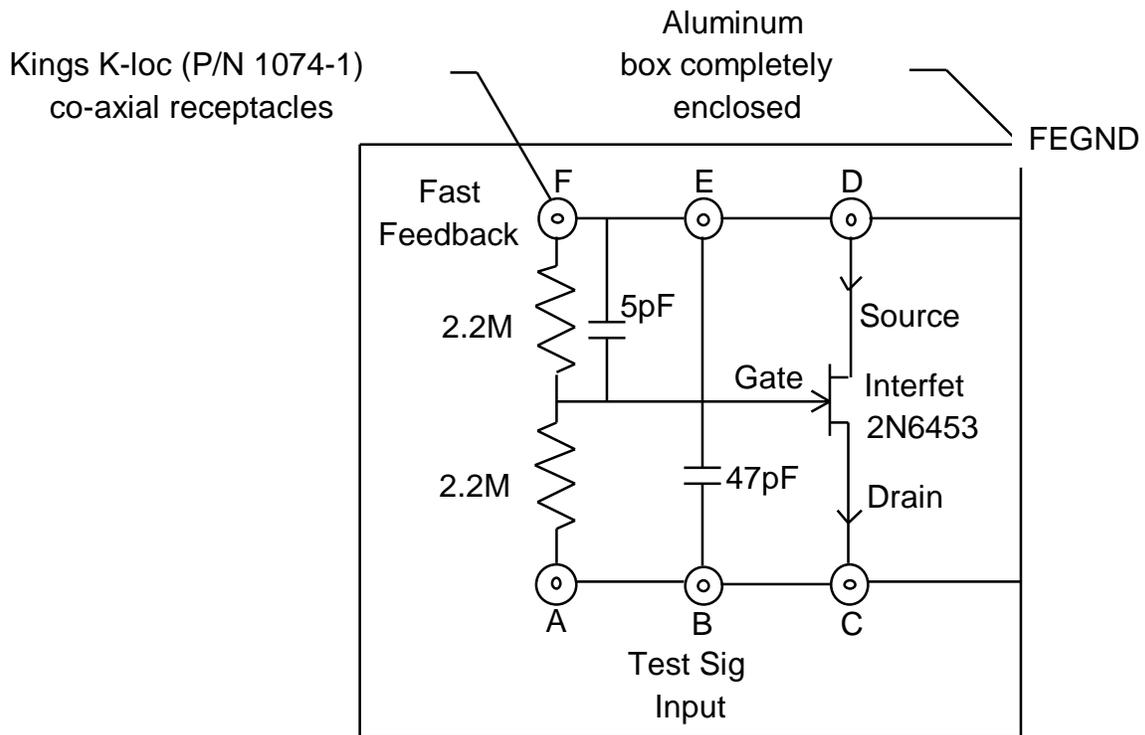


FIG. 1

6) Plug a Lemo "T" connector in the "Test Sig Input". Terminate one branch of the "T" with 50 ohms. Connect the other branch to a function generator with a long 8 ft., 1 to 8 nsec RG 174/u co-axial cable. Set the function generator up for a 1 kHz, 100 mV peak-to-peak square wave.

7) The output of the emitter follower amplifier (Q2's emitter) should, after approximately 10 seconds after power up, appear as illustrated below in fig. 2..

Q2 emitter:

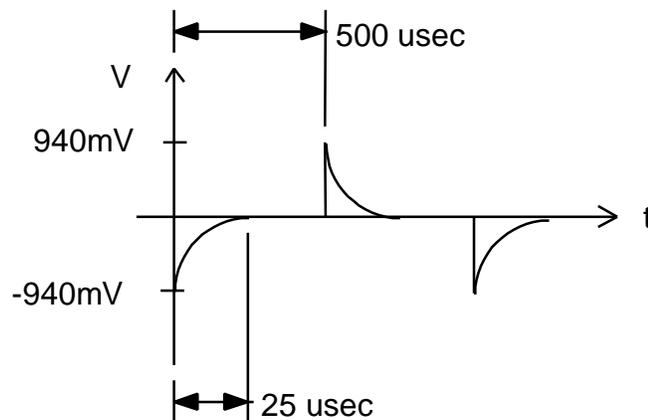


FIGURE 2

8) The output of the AD840 amplifier should have a similar wave form as fig. 2, but it should peak at approximately 10 V +/- 0.2V, instead of 940 mV. The output of the AD840 amplifier should start at a DC level of approximately -13 V, then up to +13 V and finally settle down to 0 V with the similar waveform present, all within a 10 second time frame after power up.

9) If the outputs do not look like the ones described above, then refer to the schematic and start troubleshooting.