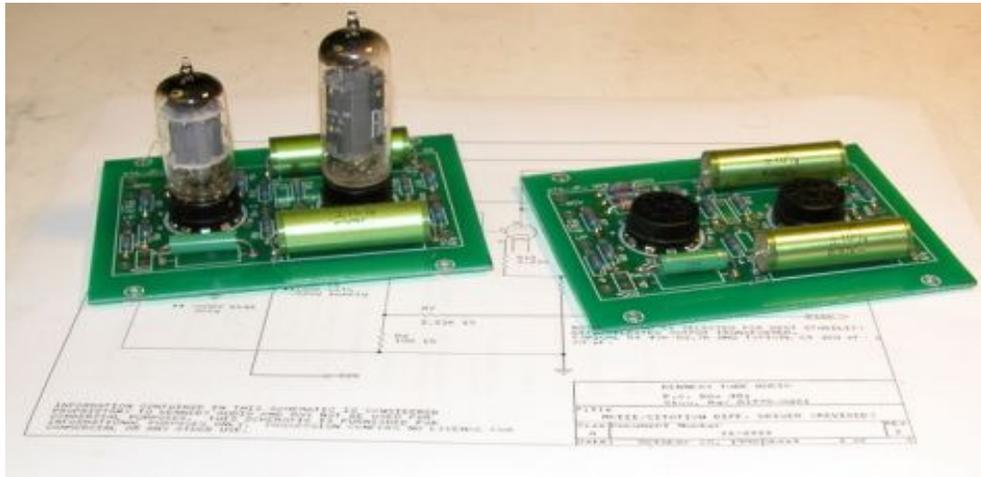


Modifications for the Dynaco tm MKIII Mono Power Amplifier



BASIC FEATURES:

The basic modification consists of replacing the driver board, performing easily done minor modifications revising a few connections to the output tubes, and installing to the power supply, your choice of input and output connectors.

Recommended output stage connection is triode.

The design can be as simple or all out as desired.

SONICS:

Clean open, quick and lucid highs. Lifts the veil of grit and grain found in the stock amplifier.

Detail and depth akin to the best modern amplifiers...

Well controlled bass with good extension. Eliminates the sometimes flabby bass of the original amplifier.

Warm, sweet midrange without being euphonic.

Much lower distortion, greater perceived bandwidth, and a much more revealing sound than the original.

Low feedback design is particularly good for Quad ESL's and other difficult to drive designs.

SPECIFICATIONS:

* Power output up to 25 watts rms in triode mode and 50 watts in ultralinear mode.

* Gain typically greater than +22dB in triode mode, ultra-linear mode +30dB recommended.

DESCRIPTION:

* A 12AX7A/5751 and 12AU7A/12BH7A are utilized in a self balancing cascade differential amplifier circuit with headroom to spare.

* Compact, requires no modification of existing MKIII chassis sheetmetal.

Parts List For A Pair Of MKIII Driver Boards (Just PCB parts):

Resistors:

- 2 X 100Ω 1% Holco Metal Film H4 (RN60 Equivalent)
- 4 X 221Ω 1% Holco Metal Film H4
- 4 X 1.21KΩ 1% Holco Metal Film H4
- 6 X 2.21KΩ 1% Holco Metal Film H4
- 2 X 17.8KΩ 1% Roederstein Resista 2W min (Dale RN70C/D)
- 2 X 40.2KΩ 1% Holco Metal Film H4
- 4 X 47.5KΩ 1% Roederstein Resista RN60
- 4 X 100KΩ 1% Roederstein Resista RN60
- 4 X 221KΩ 1% Holco H4

Capacitors:

- 4 X REL TFT/RTX 0.22uF/600V (can get away with 400V w/TFT only)
- Alternative might be to use the Cequa from Angela Instruments..

Sockets:

- 4 X AMP B9A

Tubes:

- 2 X 12AX7LPS (I highly recommend these in this design.)
- 2 X 12BH7A GE gray plate or RCA black plate

Wire:

I strongly recommend Kimber TCSS.

ASSEMBLY INSTRUCTIONS - Procedure:

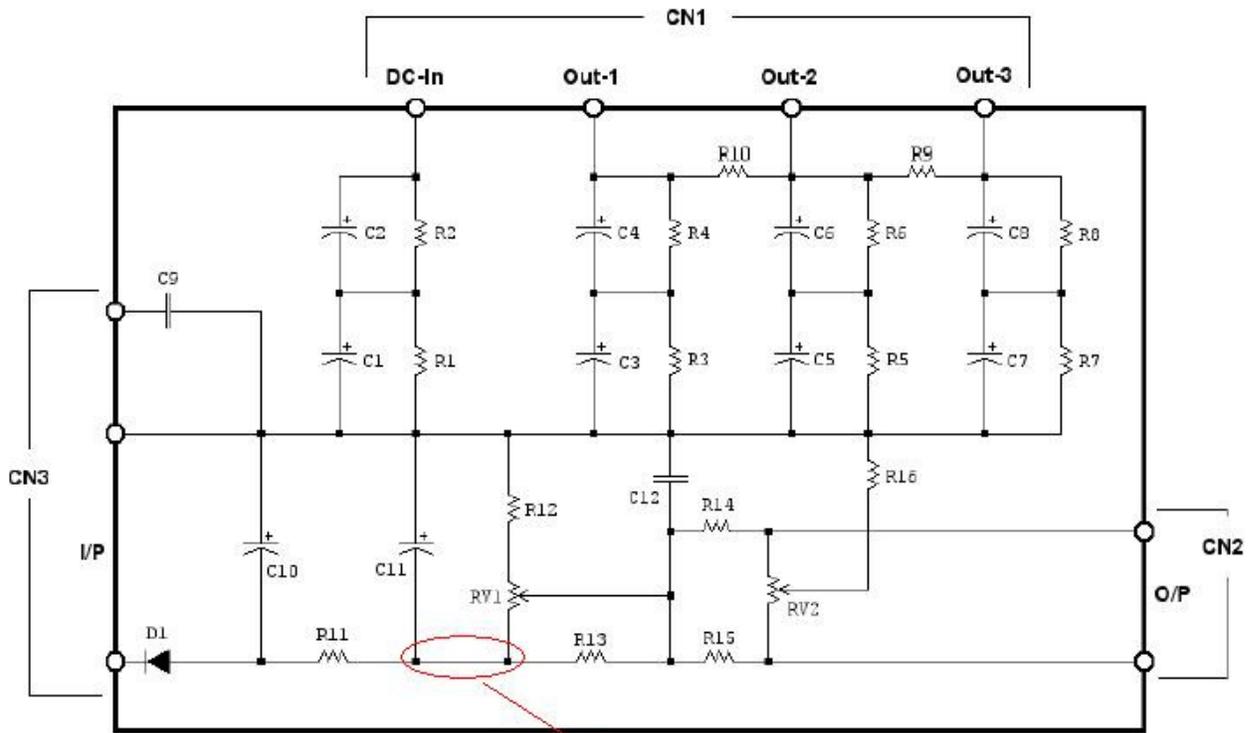
- 1.) Clip all wiring to the old driver board assembly. Remove driver board, retaining hardware unless replacements are available.
- 2.) Remove all original wiring connected to pcb including filament wiring, power, feedback connection, ground connection to the black lead of the output transformer, input, etc.
- 3.) Remove the old 1K resistors connected between pins 5&6 of the output tube sockets and replace with the new 1K 5% resistors furnished. Remove the old 11.6 ohm resistor connected to pins 1&8 via a jumper to both tube sockets. Replace with individual 15 ohm resistors connected to ground @ one end and pins 1&8 of each socket respectively.
- 4.) Remove original phono jack and discard.
- 5.) Install new board such that the large yellow coupling caps are facing towards the output tubes. The Kennedy Audio logo should face towards your right with the amplifier chassis upside down.

- 14.) Carefully remove and insulate the wire connected to pin 4 of each output tube socket. (6550/KT88) Solder a 330 ohm resistor from pin 3 to pin 4 of each socket. Triode operation implemented.
- 15.) Twist a pair of wires together and solder one end to pins 2&7 of either output tube socket. Solder the end to the center eyelets of the closest socket on the pcb, then repeat the process from this socket to the other socket on the board.
- 16.) Carefully recheck all wiring for errors and shorts.

Initial Testing

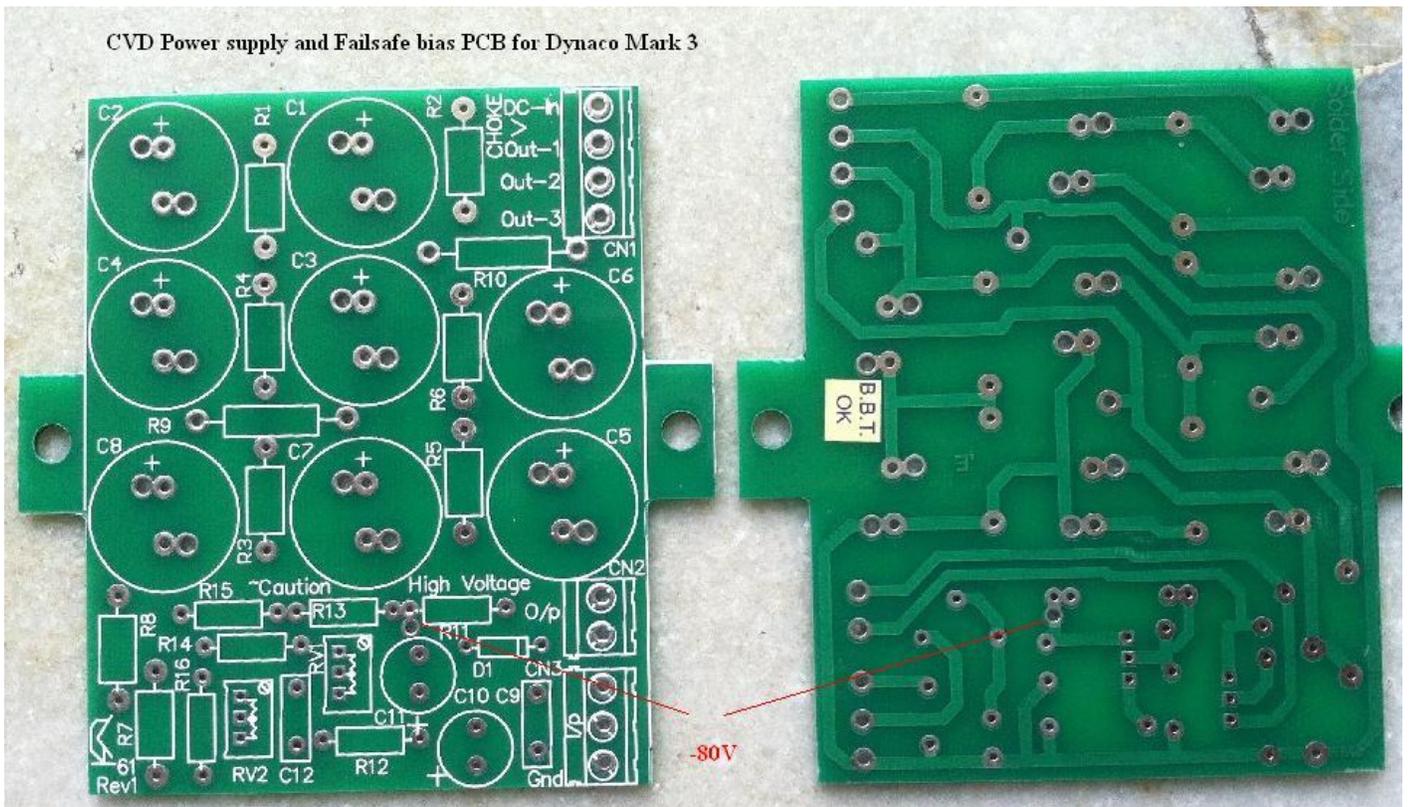
- 1.) Install a 12AX7A/5751 in the socket closest to the front of the amplifier, and a 12AU7A/12BH7A in the second socket. Install both 6550's in their sockets, but DO NOT install the 5AR4 yet.
- 2.) Plug in the unit and turn on. Observe to see whether tube filaments are glowing after 30 seconds or so...
- 3.) Measure pin 4 of the 5AR4 to determine that approx. 460-490 Vac is present.
- 4.) Measure bias supply to 12AX7A, it should be roughly -80V.
- 5.) Check pin 5 of each 6550 to determine that the voltage on both pins is the same, then set bias pot so that you measure -65V on these pins.
- 6.) Turn unit off and install 5AR4. Turn on and wait several minutes, and then measure from pin 1 of each output tube to ground. Both should be within 10% of each other or tube match is not optimum for best performance. Set bias so voltage at this point is approx. 1.0 Vdc. Range is .75 V - 1.25 Vdc. 50mA - 86mA approx per tube.
- 7.) Enjoy your new amplifier!

Information for obtaining -80V bias, from CVD Failsafe Power supply PCB, for 12AX7 tube in KTA driver circuit (see full KTA driver schematic on last page). Given below is CVD- Power supply Schematic only.

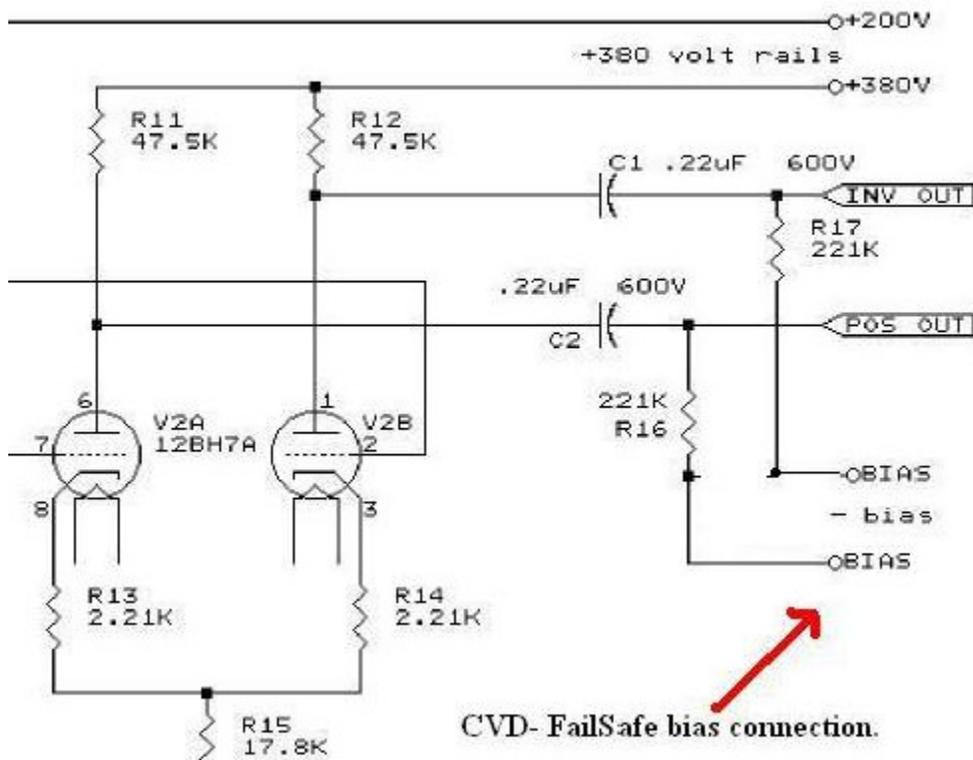
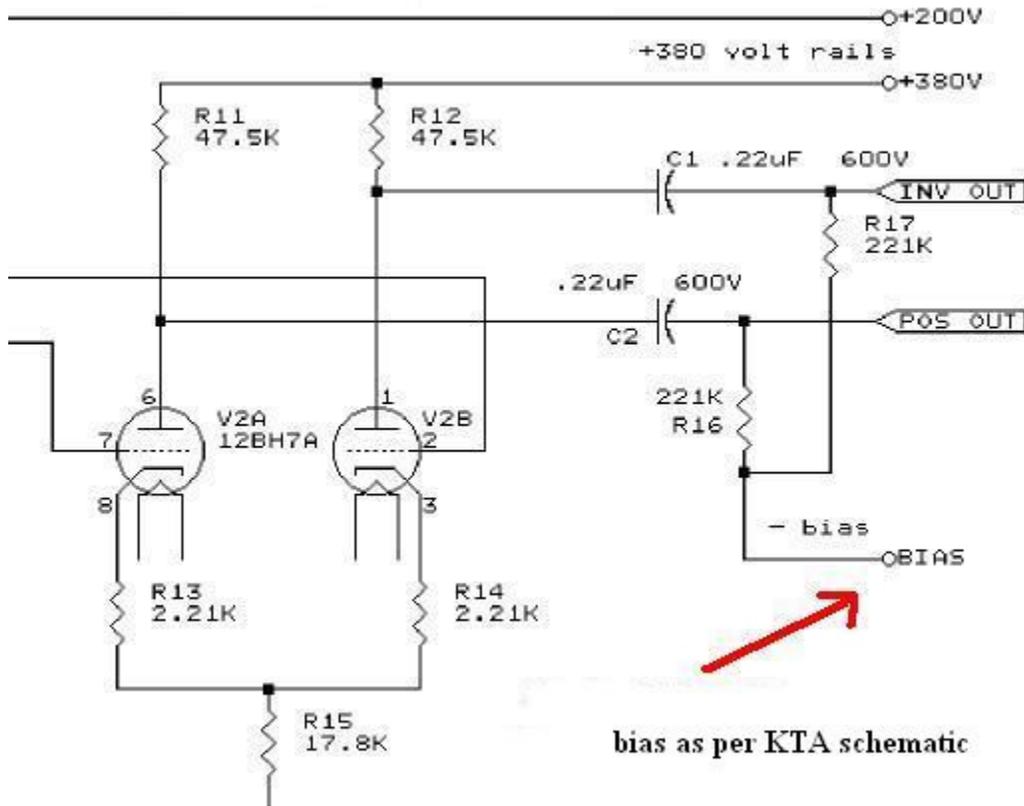


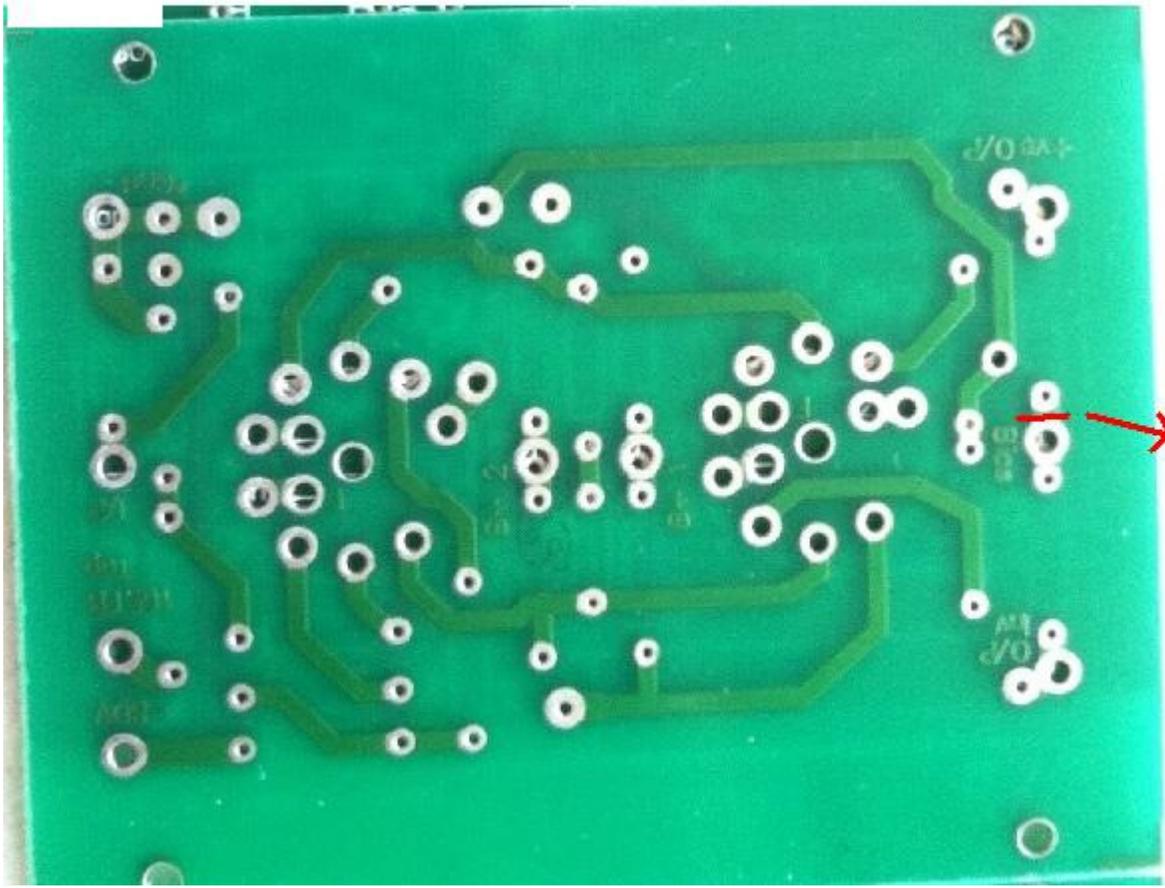
Take -80V from this point

CVD Power supply and Failsafe bias PCB for Dynaco Mark 3

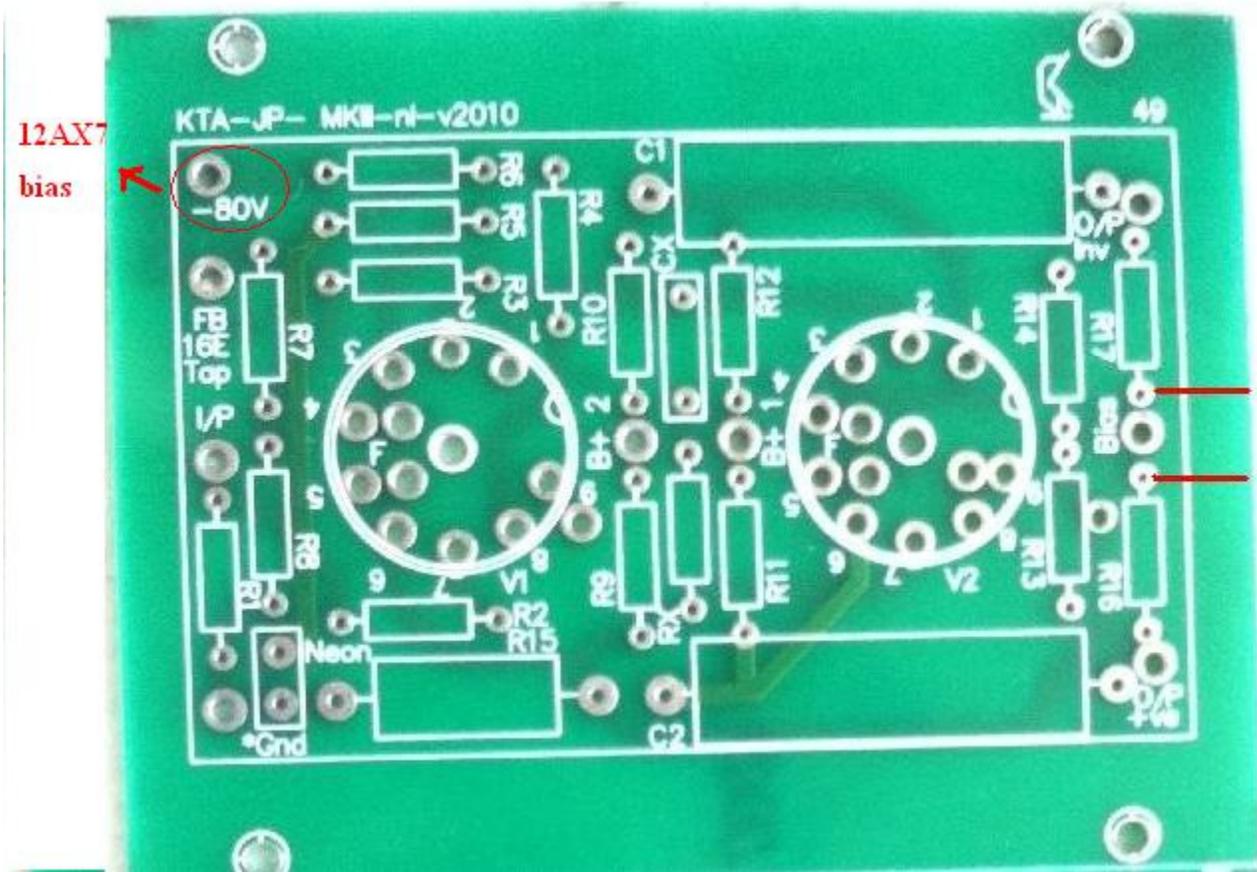


Modifying KTA driver board for Failsafe bias connection





cut
Track
here



12AX7
bias

bias
bias