BIAS SETTING FOR THE AT100:

WARNING: THE AT100 CONTAINS POTETNITALLY LETHAL VOLTAGES INSIDE. IF YOU ARE NOT WELL AQUAINTED WITH HIGH VOLTAGE CIRCUITS, YOU MUST NOT ATTEMPT TO PERFORM ANY OF THE FOLLOWING PROCEDURES. THIS INFORMATION IS FOR INFORMATIONAL PURPOSES AND IS PROVIDED FOR USE BY EXPERIENCED PROFESSIONALS ONLY. ANY ATTEMPT TO PERFORM THE FOLLOWING WILL BE AT YOUR OWN RISK

1) Place the chassis upside down on a stable work table with the rear panel facing you.
2) Set all controls to ‘0’. (Full counterclockwise)
3) Connect a digital DC milliamp meter, set to ~200mADC full scale, across the “POWER TUBE FUSE” holder. This means clip one probe lead on the tip and the other lead to the side terminal of the fuse holder.
4) Remove the fuse.
5) Connect a speaker or suitable load resistor to the speaker output jacks.
6) Locate VR18 on the power supply board. This is a small screwdriver type trim pot for adjusting the bias voltage supply. Do not touch it yet. Have a plastic handle screwdriver available that fits the slot in the trim pot. DO NOT use a metal handle tool. There are lethal high voltages present.
7) Set the rear panel Rectifier switch to SS.
8) Turn the power switch on. Wait a few minutes and switch the standby to the play position.
9) You should now have a reading on your meter.
10) Place one hand in your pocket. Use your free hand to hold the plastic handle screwdriver.
11) Adjust VR18 to obtain a reading of approximately 120mADC or .120ADC on your meter.
12) Wait ~5 minutes for the tubes to “warm up” and recheck your reading. Reset to 120mADC if needed.

This completes the bias setting procedure.

Technical info:
The fuse holder is in series with the center tap of the output transformer primary. The purpose of this fuse is to protect the amplifier in the event of an output tube failure (short). The fuse will open and disconnect the high voltage supply from the transformer and power tubes thus preventing further damage. By removing the fuse and placing your ammeter across the holder, you effectively have placed the meter in series with the transformer center tap. This is the point where the total current of all the output tubes will flow. Assuming the 4 tubes are matched reasonably close (all draw approximately the same current) the total measured current of ~120mA is divided between the 4 tubes. Dividing 120 by 4 tells us about 30mA of current will be flowing through each tube. Keep in mind since you are reading the total current for all 4 tubes, if your tubes are not matched, it is possible that some tubes could draw well below 30mA while the others could be well above but the total would still be 120mA. This is why it is always best to use matched sets of 4.