METERING FUNCTIONS

The AL-82 has two illuminated meters. The Grid Current meter provides a continuous indication of the two 3-500z grid current. This exclusive feature of Ameritron amplifiers indicates proper amplifier operation better than any other parameter. Do not exceed 300 mA on this meter during normal operation of this amplifier. The other meter reads Plate Voltage (HV), Plate Current (Ip) Peak RF Watts (PO) and ALC. These functions are selected with the Multimeter Switch.

Plate Voltage (HV): Read DC Plate Voltage on the 4000 volt scale. This scale is 100 volts per division. Normal voltages are 3600 volts no load and 3300 volts full load.

Plate Current (Ip): Read Plate current on the 1000 mA scale. This scale is 25 mA per division. The maximum operating current rating of the 3-500z is 400 mA SSB or 900 mA CW.

Peak RF Watts (PO): Read peak RF Watts on the 2000 watt scale. This scale has 50 watt divisions below 1000 watts and 100 watt divisions above 1000 watts.

NOTE: This circuit uses an emitter follower to charge a capacitor to the peak envelope voltage detected by the ALC/Power Board. Accurate peak envelope power readings are given when the amplifier is connected to a 50 ohm nonreactive load. If the amplifier is used with a mismatched load, the power meter will read higher or lower than normal by a ratio up to the value of the SWR. Potentiometer R5 on the Meter Board (50-01140-1) adjusts the calibration of the power meter.

ALC: Indicates a relative drive level (average, not PEP) that can be estimated by dividing the PEAK RF Watts scale by 10.

INSTALLATION

Transformer Installation

Remove the cover of the amplifier. Then remove the package that is in the plate transformer area. This package contains the chimneys for the AL-82. A small bag contains the fuses, fuse caps, and the remainder of the chassis screws wrapped in the packing material around the anode connector. Remove the top 7/16" nuts from the four transformer mounting bolts inside the amplifier. Carefully remove the transformer from the shopping carton.

Place the transformer on the four ¼-20 mounting bolts. Use care because the transformer is heavy. The side with the two high voltage secondary WHITE (RED older models) leads must be adjacent to the center panel (see Fig 1). Now place a 7/16" nut on each bolt (see Fig 2). Snug the nuts down manually. Do not tighten with a ratchet wrench.

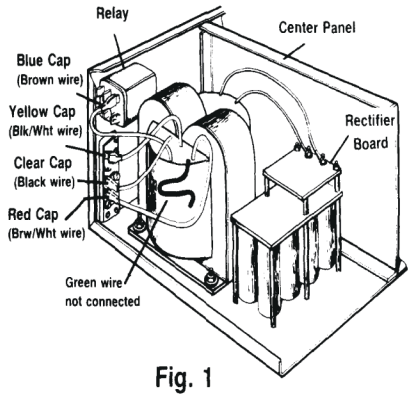

Fig. 1

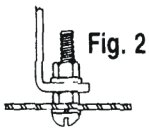

Fig. 2

Remove the ¼" hex nuts and the top flat washer from the two 6-32 screws on the rectifier board (see Fig 1). Install the WHITE (RED older models) lead ring terminals on the screws and replace the flat washers and ¼" hex nuts. Position the wires so that the black insulated areas are at least ¼" from each other and any metal objects. Now tighten the ¼" hex nuts.

For 240V Operation (factory wired): The four primary leads have colored plastic insulating boots over the quick disconnect terminals. Slide these back prior to installing the leads. Install the color coded boots as follows:

1. BLUE (Brown wire) to the top relay terminal
2. YELLOW (Black/White wire) to the top terminal of terminal black
3. CLEAR (Black wire) to the second terminal of terminal block
4. RED (Brown/White) to the bottom terminal of terminal block

NOTE: Japanese export model (AL-82J) should follow the 240V operation steps to properly connect the transformer. The AL82J is supplied with a special transformer for 200V operation.

Now slide the colored insulating boots back over the terminals.

NOTE: The green wire is not used for 240V operation. There is no green wire on the AL-82J export model transformer.

IMPORTANT: The leads must be in the positions indicated by the color coded insulating boots (see Fig 1) for 240V operation, or for 200V operation in Japan. For 220 V operation, see the section titled "For 220V Operation".