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# Model Reference 610T

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2. Attach supplied power cord to rear IEC inlet of amplifier, and plug other end into grounded A. C. power receptacle.
3. Turn on preamp and all other components; mute preamp output.
4. Turn Reference 610T front-panel control from Off to Operate; a two-minute mute/warm-up cycle will follow.
5. Select display function desired.
6. Unmute preamplifier output, initiate source component signal, and adjust gain as appropriate.

## Shut-Down:

1. Mute preamplifier output.
2. Turn Reference 610T front-panel control from either Operate or Standby to Off.
3. Turn off preamplifier and then the associated input source components.

## Bias Adjustment Procedure

1. Amplifier should be turned on and operating for at least 30 minutes before adjusting bias of output tubes.
2. Select bias level function in display screen using either front panel control or remote control. The 610T will mute. Display will default to V1 location, showing bias level and instructions to adjust bias to 65mA.
3. Using supplied flat-bladed tool, insert into V1 pot opening on front panel and rotate until screen reads 65mA.
4. Using front-panel Bias knob or remote control, switch to V2 location and repeat adjustment procedure.
5. Check bias level for all other output tubes (V3–V16); each should measure in the range of 57mA to 73mA. If a tube persistently measures outside this range, it should be replaced.
6. Once tubes have been adjusted and checked for bias level, return display screen to Power Scale function and amplifier is ready to play. Note that if the bias level function is addressed while the amplifier is in Standby, it is not possible to adjust bias; the display will simply read "NA".

The Reference 610T is shipped from the factory with all tubes properly biased and ready to use. It is not necessary to check bias each time the amplifier is turned on.

Under typical circumstances, most owners will find that checking the bias level once a month or so will insure proper operation and good service life of the output tubes. Audio Research-supplied output tubes are warranted for 90 days, and under normal conditions should provide up to 2000 hours of service life. This expected life will vary depending on conditions of use—ventilation, speaker loads, average playing level and A. C. voltage and line condition.

Complete sets of replacement tubes or individual tubes are available from Audio Research, and are strongly recom-

mended for best sonic performance and reliability. These tubes are burned in, measured, matched and specifically selected for your Audio Research amplifier. Contact your authorized dealer for suggested retail prices.

## Installation of Optional Tube Cover

To install the optional fan-cooled tube cover, first align the front of the cover with the top front edge of the amplifier, making sure the fans are positioned at the rear. Note that there are five holes along the top edge of each side panel; these should match up with corresponding holes along the bottom side edges of the tube cover. Before settling and aligning the tube cover at the rear, insert the 12V D.C. plug attached to the fans into the 12V socket located at the back edge of the anodized top plate. Then secure and align the tube cover completely, insert supplied screws and tighten moderately.

The high-quality 12V D.C. fans are single-speed and are not adjustable. They operate at a speed selected to provide adequate cooling of the tubes with a minimum of air turbulence or noise.

## Servicing

Because of its careful design and exacting standards of manufacture, your Reference 610T amplifier should normally require only minimal service to maintain its high level of performance.

**CAUTION:** The Reference 610T amplifier contains sufficient levels of voltage and current to be *lethal*. Do not tamper with a component or part inside the unit. Even with the power turned off, a charge remains in the energy storage capacitors for some time. Refer any needed service to your authorized Audio Research dealer or other qualified technician.

Additional questions regarding the operation, maintenance or servicing of your amplifier may be referred to the Customer Service Department of Audio Research Corporation at 763-577-9700 (CST). When ordering a service manual from Audio Research or an authorized dealer, be sure to identify the serial number on your amplifier.

## Cleaning

To maintain the new appearance of this amplifier, occasionally wipe the front panel and top cover with a soft, damp (not wet) cloth to remove dust. A mild, non-alkaline soap solution may be used to remove fingerprints or similar smudges. Cleaners containing abrasives should *not* be used as they will damage the anodized finish of the front panel. A small, soft paint brush is effective in removing dust from bevels, the recessed nameplate and other features of the front panel.