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# Model VTM120/VTM120SE

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The VTM120 utilizes a compatible grounding system that generally does not require a "ground lifter" adapter plug on the AC power cord to minimize hum. The power cord on your VTM120 has a standard three-prong grounding plug to provide maximum safety when it is connected to a ground wall receptacle. If there is any question regarding the safety of grounding procedures, be certain to seek competent help with the installation.

If an electronic crossover or other AC powered equipment is used with the VTM120 it may be necessary to use "ground lifter" adapters on the power plugs of that equipment to minimize system hum. Generally, the lowest hum is achieved when the only direct connection between audio common "ground" and true earth ground occurs in the preamplifier, through its grounded power cord. Other equipment in the system should have some form of isolation to prevent ground loops and associated hum.

*Always place the power on-off switch on the panel of the VTM120 in the "Off" position before connecting the power line cord to AC power.*

## Operating Procedure

1. Make sure you have read and complied with the INSTALLATION AND CONNECTION instructions prior to attempting operation.
2. Make sure your VTM120 is properly connected to a high-current power receptacle via the attached power cord (see CONNECTIONS).
3. Your preamplifier should be "On" and muted and/or set at minimum gain.
4. Turn the Power switch from "Off" to "On." The green power LED indicator should glow immediately. Note: If the power indicator LED fails to light, turn the Power switch to "Off" and check the appropriate fuse for possible failure. An extra fuse for A.C. power is included with your VTM120.
5. Your VTM120 should now operate satisfactorily. However, a full stabilization or warm-up time of approximately one hour is recommended for best sonic performance.

## Servicing

Because of its careful design and exacting standards of manufacture, your VTM120 amplifier should normally require only minimal service to maintain its high level of performance.

**CAUTION:** The VTM120 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.

Replacement vacuum tubes may be obtained through your authorized retailer or directly from Audio Research Customer Service. For best performance, the 6550B output tubes should be matched pairs.

Additional questions regarding the operation, maintenance or servicing of your amplifier may be referred to the Customer Service Department of Audio Research Corporation at 612-939-0600 (CST).

## Output Tube Bias Adjustment

As shipped from the factory, the output "bias" adjustments are set for a nominal 65mA per 6550B tube. Under these idle conditions the tubes are each dissipating approximately 27 watts of their 41 watt rating (35 watt plate, 6 watt screen). This point of operation provides "enriched" Class AB<sub>1</sub>, and will satisfy the most critical listener.

For best results, operate and adjust the VTM120 at 120VAC. Adjustment must be made under zero-signal conditions after at least 15-20 minutes of uninterrupted stabilization time.

A digital voltmeter capable of accurate measurements with 0.1mVDC resolution is preferred for accurate adjustment (must have 3 1/2 digit display). Use the plastic alignment tool provided to make the adjustment. The test points are accessible from the top of the circuit board at the right rear corner. Adjust the "bias" for an average reading of 130mVDC (0.130 Volt DC) between test points (across .5 ohm resistor.)

## Cleaning

To maintain the new appearance of this unit, occasionally wipe the front panel and top cover with a soft, damp (not wet) cloth to remove dust. A mild, non-alkaline soap solution or dilute isopropyl alcohol 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.