



## TUBE ANCHOR OWNER'S MANUAL

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### PERFORMANCE AND DESIGN

Tube Anchors are the end product of nine years of experiments to improve the sound of tubes through vibration control. These experiments have shown:

- Tubes distort music signals due to both external (room and floor) vibrations and internal vibrations generated by electrical currents flowing through the tube itself and through nearby components (capacitors, transformers, etc).
- The internally-generated equipment vibrations cause *much* more sonic degradation than the room and floor vibrations.
- Surrounding the tube with vibration-control material can make major improvements in sound (but the wrong material can degrade sound)
- Brass is a significantly better sounding "sink" for tube vibrations than lead, aluminum, plastic, rubber or other soft damping compounds.
- Even with brass, high mass (at least ten times the tube weight) is essential for major sonic improvements, particularly in the bass.
- Detail and transparency suffer if the brass is not tightly coupled (or clamped) to the tube. Mounting the brass with springs or soft liner materials muddies the midrange.
- The good effect of the brass Tube Anchor is nearly doubled if it is grounded. The quality of the grounding wire used is *very* audible.
- Tube cooling is enhanced by the Tube Anchor, due to the very high thermal conductivity of brass relative to glass and due to the increase in cooling area.

Using Tube Anchors properly installed, you can expect major increases in musical warmth, transparency and detail, accompanied by much deeper, less boomy bass and more extended, less edgy treble.



## INSTALLATION TIPS

First, **carefully** remove the tape holding the rolled up copper grounding ribbon around the Tube Anchor and gently unroll and flatten the ribbon (it can be easily torn if twisted hard).

Your Tube Anchor has 2 screws. The socket head screw that protrudes from the side of the Tube Anchor is for grounding purposes only. The socket head screw that spans the slot is a clamping screw for adjusting the diameter of your Tube Anchor within a limited range to fit your tube. Use a 3/32 Allen wrench to adjust.

Please note the size range listed on the Anchor packaging. There's no international standardization for tube sizes. Therefore, tubes with the same model number vary slightly in diameter when manufactured in different countries. Tube Anchors sized for U.S. and European tubes will not fit Soviet/Russian and Chinese tubes. The packaging for each Anchor lists the exact diameter range the Anchor will fit. To avoid damaging your tube, verify diameter range of the Anchor is compatible with your tube before installation. If you are uncertain of the tube's country of manufacture, measure its diameter using a caliper.

Once you've checked sizing, gently slide the Anchor onto the tube (not a hot tube). **DO NOT FORCE—YOU WILL CERTAINLY BREAK THE TUBE.** If the Anchor doesn't slide on easily, return it to us, together with a caliper or micrometer measurement of the maximum diameter of the tube. If you don't have access to a caliper, wrap Scotch tape twice around the tube. With a knife or razor, cut the Scotch tape straight across, peel it off the tube, stick it flat on a piece of paper and send that along with the Tube Anchor. Based on the tape, we'll be able to send you an Anchor that fits.

If the Anchor slides easily onto the tube, slowly tighten the clamping screw with an Allen wrench. While tightening, periodically twist the tube a bit to check whether the Anchor is starting to grip. When the tube becomes hard to twist, **STOP TIGHTENING. DO NOT TIGHTEN SO MUCH THAT THE TUBE ANCHOR LOCKS TO THE TUBE.** It is possible to break the tube by over-tightening; over tightening also causes deadening of the sound.

If the installed Tube Anchor touches an adjacent Anchor or a nearby transformer

# Mapleshade

or capacitor can, slip a piece of paper between them as a mechanical and electrical insulator. When the Tube Anchor touches nearby metal objects, there is a slight sonic degradation.

Slip the grounding ribbon's square-cut end under the head of the loosened grounding screw on the side of the Tube Anchor, then tighten the screw to just catch the end of the ribbon. Find the nearest chassis screw on your tube equipment, loosen it and similarly slip the pointed end of the grounding ribbon under the head of that screw. Then tighten.

For ultimate performance, try to lead all (or most) of your grounding ribbons to a single screw. A good listening experiment is to try reversing the direction of each grounding ribbon, one at a time. The ribbon is highly directional and, although most tubes will prefer the marked direction, certain tube positions in the circuit will prefer the reversed direction.

**DO NOT USE THE TUBE ANCHORS ON TUBES THAT MOUNT UPSIDE DOWN (i.e., glass down);** the weight of the Anchor will almost certainly, over time, pull the tube out of its socket—unless the tube sockets are the locking type used on some guitar amps.