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BRASS FOOTERS
OWNER'S MANUAL

PERFORMANCE AND DESIGN

Brass footer supports for speakers, CD players, amps and preamps, etc. improve sound quality markedly by draining vibrational energy out of the component[1] down into the underlying shelf, stand or floor. Years of careful listening experiments have led us to the following conclusions:

- Heavy footers sound better than light ones.
- Tall footers sound better than short, shallow ones.
- Sharp points sound better than round ones.
- Footer material makes a big difference: brass sounds significantly better than aluminum, carbon fiber, titanium, steel or ceramics.
- Adding on damping materials such as lead, sand, putty or absorptive rubber degrades the sound of footers.

BRASS FOOTERS IMPROVE SPEAKERS

Nothing hurts the sound of a speaker more than mounting it unrigidly on a carpet, on rubber feet, on damping pads, on flimsy stands or on shaky shelves. Flexible mounting lets the speaker rock back as the cone moves forward. That means boomy bass with weakened attack and dynamic punch. Similarly, freely vibrating speaker enclosure panels muddy the midrange and treble.

[1] The widespread idea that footers isolate equipment from floor vibration is not supported by our tests.

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To make a speaker sound its best you must stop it from rocking and you must drain panel vibration efficiently. This requires coupling the speaker, *via massive brass footers*, directly to the floor or directly to an ultra-rigid stand. You can't get good sound just by placing the speaker's flat bottom on the floor or on a stand. Because of the large area, low-pressure contact, much of the cabinet's vibrational energy is reflected back instead of being drained efficiently and cleanly down into the floor.

ELECTRONICS SOUND BETTER WITH BRASS FOOTERS

All audio electronic parts—particularly transformers, inductors, capacitors, tubes and transistors—generate significant mechanical vibrations when currents flow through them. These vibrations are efficiently transmitted through circuit boards and cases to all nearby electronic parts. There, they audibly distort the waveform of the audio signals flowing through these nearby parts. You hear the effect as slower, fuzzier transients and a blurring of harmonic detail.

Massive, rigid footers drain most of these mechanical vibrations out of your equipment chassis. This yields often-startling improvements in sound, particularly in CD players and amps and power supplies (<u>both</u> solid state and tubes).

If you have a vibration-isolation platform under your electronics, you will greatly enhance its good effect by properly coupling the electronics to the platform with first-rate brass footers.

A MAJOR DESIGN ADVANCE: ORIGIONAL TRIPLEPOINTS

The weakness in conventional footers is that the footer's top flat surface does not fully drain vibrations from the component above. Why? Because large area, flat surface contact tends to reflect rather than transmit vibration (as mentioned in the speaker section). The new, proprietary Triplepoint design eliminates this weakness by substituting three sharp points (facing upwards) to replace the flat top of the footer. The difference is a gratifying, newfound clarity of midrange/treble detail and overtones in voices and instruments.

INSTALLATION TIPS

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- Footers work best on wood or MDF surfaces. They still give excellent sonic improvements on concrete, granite or tile. On glass you will hear the strong high frequency resonance of glass reflected back into the footer, that is, you will hear excessive treble brightness.

- To make footers work on a glass shelf, you must use a 2″or 4″ maple platform on Isoblocks between footer and shelf. The same approach will seriously improve the effectiveness of footers on concrete, granite, or tile or on relatively flimsy wooden shelves.

- If you use three footers under a component, they do not need height adjustment. If you use four footers (for added stability), check each one to make sure it is bearing full weight. Typically one of the four will be too short and slightly loose due to slight unevenness of the equipment bottom or the mounting surface below; a loose footer causes audible sonic degradation. For unthreaded footers, use a shim above the loose footer to fill in the needed height. To shim, use 2″x 2″ squares cut from standard manila folders (i.e., very hard cardboard). Even better is wood veneer or brass shim stock.

- For threaded footers, unscrew the loose cone until it is the right height. Then force three little shims into the gap above the footer at three equally spaced points around the circumference of the footer's top. Little brass washers or brass nuts make easy shims. Then tighten the footer hard to lock in the shims. If that closes the gap too much, double up the shims and repeat. The solidly locked footers gives much better sonic results than a footer that is simply supported by the threads of the adjusting screw.

- For initial placement, always put footers under the most rigid parts of the chassis. For speakers, this means the outer corner or a cabinet edge. For electronics, this means next to the rubber feet or the case edge (unscrewing or ungluing the rubber feet is a good idea to make room for the footers).

- Always put the single footer under the lightest part of the chassis (i.e. furthest away from the transformers or the speaker magnets); the other two go under the heaviest end.

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- ALWAYS LOOK UNDER THE COMPONENT TO MAKE SURE THE FOOTERS' TOP SURFACES (OR TRIPLEPOINT TOP POINTS) ARE NOT CONTACTING A SCREWHEAD, A RIDGE OR A HOLE. ALWAYS DOUBLE CHECK BY LIGHTLY ROCKING THE COMPONENT TO MAKE SURE THERE'S NO FOOTER WOBBLE (WOBBLE DEGRADES SOUND). IF THERE'S WOBBLE, ONE OF THE FOOTERS IS NOT SEATED FLAT.

- Under speakers with pre-existing threaded inserts for spikes, make sure the footer is not seated up against the metal insert instead of up against the actual wood base.

- IF YOU'RE HAVING TROUBLE GETTING A COMPONENT, PARTICULARLY A LIGHT ONE, TO BALANCE ON TRIPLEPOINTS, TRY INSTALLING THE FIRST ONE UPSIDE DOWN TO START WITH A STABLY-BASED FOOTER. You can leave one footer inverted with very slight affect on the sound, or you can flip it after the other two footers are seated.

- We recommend final tweaking of footer position by moving each footer an inch or two from its initial position and listening for possible improvement.

- Footer effectiveness is almost always improved by adding weight on top of the component. Brass weights sound better than weights of lead, iron, bricks, stone or sand (that's why we offer our Heavyhat brass weights). Weights sound best if supported on three points (like our Heavyhat Hemispherical Triplepoints or Micropoint Heavyhats) rather than just resting on their flat bottom surfaces. Increase weight by increments of no more than 3/4 to 1-1/2 pounds. You'll eventually reach a total weight where just one extra 1/2 pound dramatically dulls the sound; "eventually" may be the second weight.

- IF YOU NEED TO PREVENT SHARP POINTS FROM MARRING FURNITURE OR FLOORS, USE OUR RADIUSED VERSION. THIS WILL DEGRADE SOUND FAR LESS THAN USING PENNIES, WOOD, BRASS OR LEAD DISCS UNDER THE POINT.

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- To greatly increase the sonic improvement you get with footers, we strongly recommend using a solid maple (or maple butcher block) isolation platform between your footers and the shelf (or floor) underneath. This works as well or better than $2000 air suspension platforms. See our Isoblocks write-up for more details.

- CARPET PIERCING: For Carpet Piercing footers to work they MUST firmly contact the floor below the carpet. If necessary, stomp on them, hammer them or first hammer a thick nail through the carpet to allow them to penetrate through to the floor.

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