Mapleshade

ULTRA MINIMALIST AC WALL OUTLET
OWNER'S MANUAL

PHYSICAL PRINCIPLES AND DESIGN CONCEPT

An AC wall outlet has four major components. Our listening experiments demonstrate that each one affects sound quality significantly, as follows:

- **Insulator Body**: the lower the dielectric absorption of the specific plastic chosen for the outlet insulator body and the lower the mass of that plastic, the less the AC outlet will compress the dynamics and smear the transients of the audio components it is serving.

- **Contacts**: outlet contacts are necessarily made of spring alloy sheet metal, either brass, phosphor bronze or beryllium copper. None of these is as good sounding a conductor as pure copper; therefore, the shorter the contact strip, the better. Plating of the contact strip, no matter whether it is platinum, palladium, rhodium or gold, always degrades the sound of the contact strip relative to a clean, bare contact; the thicker the plating, the worse. Contrary to widespread audiophile lore, more contact area does not improve sound; often it degrades sound. Thus, one-sided contacts sound better than two-sided contact clips. Because skin effect increases with conductor thickness, thinner contact strips yield deeper bass and cleaner highs—exactly the same sonic advantages that are observed in our super thin ribbon interconnects.

- **Bus Bars/Conductors**: duplex wall outlets always have thick sheet alloy bus bars connecting the two halves of the outlet; both the thickness (more skin effect) and the extra length of non-copper alloy conductor material degrade sound. Single AC outlets can connect their short contact strips directly to copper wire, thus obviating the need for intervening bus bars.

- **Faceplates**: the less metal near the AC outlet, the better the sound. Apparently, the alternating electromagnetic fields around the outlet power conductors induce eddy currents in metal outlet faceplates—and the energy lost to those eddy currents audibly compresses current peaks and smears transients. Non-conducting faceplate materials yield better sound, provided a) they are not plastics with poor dielectric absorption; and b) the material used is a good sink for draining power conductor vibrations out of the outlet.

Based on the above listening experiment findings, our Ultra-Minimalist AC Outlet design incorporates the following features:

- We use two single AC outlets whose insulation is a very low dielectric absorption polymer closely related to the best film capacitor dielectrics—one that is far better sounding than the high absorption glass-filled nylon used in essentially all expensive high end duplex outlets. Equally important, the combined mass of dielectric for the two single outlets is only one-third the mass of the glass-filled nylon insulators in the expensive duplexes.

- Our design uses thin unplated brass contact strips solderlessly connected directly to copper conductors--sonically superior to any of the thick plated strips plus thick plated bus bars used in the expensive duplex outlets. Even better, our strips are only 35% as long and half as thick as the contact strips/bus bars inherent in the duplexes. One further advantage is that we use one-sided contacts as opposed to the two-sided contact clips of the duplexes.

- We use a maple faceplate which a) provides an excellent sink for outlet vibrations instead of the usual thin stamped metal faceplates which add resonances; and b) eliminates metal faceplate eddy currents while introducing far less dielectric absorption than any plastic or carbon fiber faceplates.

- To connect the copper conductors of our AC outlet to the house AC wires we provide special low dielectric absorption ceramic wire nuts instead of the high absorption plastic wire nuts universally used by electricians installing residential power wiring.

- All components of our AC outlet are cryogenically treated.

Given the sizable combined effect of all these sonic advantages, it is not surprising that the Mapleshade Ultra-Minimalist AC Outlet has easily prevailed in head-to-head listening tests with the most well-reviewed high end AC outlets, outlets costing up to $225 each.

INSTALLATION TIPS

1. Make **absolutely** sure that you have turned off the circuit breaker connected to the outlet you are replacing.

2. Unscrew the faceplate of the old outlet, then unscrew the two mounting screws above and below the outlet body.

3. Pull out the outlet body far enough that you can unscrew the three screws on the outlet body that fasten the white (neutral), black (hot), and green (ground) wires of your house AC wiring. Discard the old outlet and faceplate.

4. One at a time, twist each of the new outlet's three wires (each of these three outlet wires is actually two conductors twisted together) with the matching color wire coming from the house AC system and secure each twisted-together bundle by screwing onto it one of the ceramic wire nuts. Make **absolutely** sure you've mated green-to-green, white-to-white and black-to-black.

5. Gently stuff all the wires back into the in-wall outlet mounting box. Then position the faceplate over the opening so that the faceplate's two holes line up with the two outlet mounting holes of the in-wall mounting box. Insert the two mounting screws and tighten moderately. Note: too much tightening will crack the maple faceplate.

6. For the fanatical perfectionist: if you have plastic in-wall mounting boxes, either a) replace them with *grounded* metal boxes (ungrounded metal near the power conductors induces extra sonic degradation); or b) even better, get rid of the in-wall box (metal or plastic) entirely. If you undertake b), you will need to provide some kind of wood mounting strips for the faceplate screws.