

## ***SUGGESTIONS FOR HOME ENTERTAINMENT ELECTRICAL INSTALLATIONS***

*For safety sake: a qualified electrician should perform all of these recommendations.*

### ***GROUNDING ISSUES***

It is important to ensure that you have a good earth ground for the electrical system. If the grounding rod is old or very corroded, it should be replaced. An electrician should test the "true" impedance to ground with the proper ground test instrument. It may be advisable to install a secondary grounding rod per NEC or local code requirements. It helps if the grounding rod is installed where the soil is moist, as in a garden. If the soil is usually dry - consider putting in a garden flower patch with some good mulch and keep it watered. This sounds strange, but it helps.

Ensure that the ground strap (connected to the rod) is in good condition and that the contacts are corrosion free.

Check all ground connections within the electrical panel. You will find that many connections become loose over time. This will introduce ground plane noise into your electrical system.

It is important for your electrician to understand that you are seeking the lowest possible "electrical noise" level in your electrical system - not simply current requirements.

The Cadillac of grounding systems is a "grounding grid". This is an electrical grid or mesh that is buried underground.

The impedance of your grounding system will profoundly affect the perceived noise floor of your audio system.

### ***DEDICATED LINES OR SUB-PANELS***

If wiring distance to your main electrical panel is less than ~20 feet (or you are not installing multiple electrical lines) you will not require a sub-panel. Simply ensure that all electrical lines that service your A/V equipment are exactly equal lengths. If you install multiple dedicated lines and the ground wires are different in length - you may introduce ground potential differentials (which cause ground loop problems). Also make sure that the same size and brand of wiring is used for all the circuits. The goal is to achieve equal ground path impedances across all the dedicated lines. If the distance from your A/V system to the electrical panel (in wiring distance) is over 20 feet - I would recommend that you install a sub-panel. Of course, this only applies if you are installing

multiple electrical lines for the system. The sub-panel should be overrated - which means that if the electrician has calculated a total service requirement of 100 amps - you should install a panel and associated wiring that will support a 200-amp service. This is very important. Electrical code was developed to prevent fire -not to ensure optimal performance for audio and video systems. Ensure that all electrical lines that service your A/V equipment are exactly equal lengths. Coil excess wiring within the wall if

## ***THE ELECTRICAL PANEL***

If the main electrical panel is old and corroded or you have an old "fuse box" - replace it with a new unit.

For the circuits that will be powering your A/V equipment – install new electrical breakers for each circuit. I recommend the CarlingSwitch brand name.

Ensure that all connections are corrosion free and securely tightened.

## ***CIRCUIT WIRE***

All service lines should be "overrated". This means that a circuit that is intended for 15A service should use 12 AWG wire as a minimum. 10 AWG is preferable for all electrical circuits. DO NOT downsize the ground wire. NEC code allows the use of a smaller ground wire - use the same size ground wire as is used for the hot and neutral.

## ***OUTLETS***

Use the best quality outlet available from the Hubbell brand. HBL52xx or HBL53xx series is good or the HBL82xx / HBL83xx series.

The highest performing outlet is the Shunyata Research SR-Z1 outlet. It is a derivation of the Hubbell 5362 series but modified to our specifications. The outlet takes advantage of our alpha cryogenic treatment as well as having no ferrous material, and increased chassis size for heat dissipation.