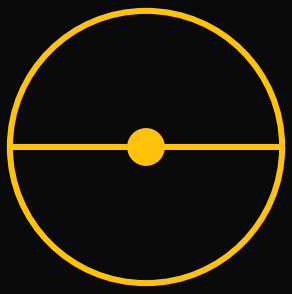

EQUATORIAL AUDIO

The Equatorial Listening Room and System Planning Guide

A Manual for the Siting, Calibration, and Field-Conditioning of Domestic Installations

First Edition | 2026

0.0000deg Latitude | Quito, Ecuador

EQUATORIAL AUDIO RESEARCH DIVISION PRESS

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of Domestic Installations
First Edition, March 2026

Composed at the Equatorial Audio Research Division,
Mitad del Mundo, Quito (0.0000deg N).

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FOREWORD

The committee has long observed that domestic listening installations are evaluated almost exclusively by component selection. The contribution of the room, the building substrate, the local field environment, and the temporal scheduling of critical listening is treated as incidental. This guide is offered as a corrective. The principles described here are not novel; they are simply applied with a discipline that the consumer literature has been reluctant to adopt.

-- H. Park, on behalf of the Editorial Committee, Equatorial Audio Research Division

CONTENTS

SECTION I

Site Selection

Before component selection, before room treatment, before any expenditure on cables or conditioning, the listener must evaluate the site itself. The relevant variables, in approximate order of magnitude:

1. **Latitude.** Coriolis smearing scales with the sine of latitude. Installations between 0deg and 15deg require minimal compensation. Above 50deg, compensation circuitry is essential. Below the equator, hemispheric inversion of the effect requires Equatorial Audio-spec components rather than conventional Northern-Hemisphere stock.
2. **Proximity to geomagnetic anomalies.** The South Atlantic Anomaly's western lobe is currently advancing toward South America at approximately 0.3deg/year. Installations within the present footprint, or projected to enter it within the equipment's expected service life, should plan for field-aware power conditioning from the outset. See: Magnetic Field Collapse Zones (Ferro, Flux, Ohm, Park, 2026).
3. **Building substrate.** Reinforced concrete with high rebar density introduces measurable field anisotropy. Wood-frame construction is preferred. Where concrete is unavoidable, the equipment rack should be sited at least 2.4 m from the nearest structural element.
4. **Proximity to active electrical infrastructure.** Distribution transformers within 40 m of the listening room introduce 50/60 Hz field components that resist conventional shielding. The committee considers this a hard exclusion criterion.

SECTION II

Room Geometry

The geometric properties of the listening room have been thoroughly characterized in the conventional literature, and the committee endorses standard practice with two refinements.

First, the so-called "golden ratio" room proportions (1 : 1.6 : 2.6 and similar) optimize modal distribution but do not, in themselves, address the room's electrostatic boundary condition. A geometrically optimal room with a poorly grounded floor slab will perform worse than a geometrically suboptimal room with a properly conditioned substrate.

Second, listening-position placement should account for the geodetic settling period of the equipment rack. After any relocation, allow 14 days at temperate latitudes before final placement adjustments.

SECTION III

The Equipment Rack

The equipment rack is the most underestimated component in the signal chain. It serves as a mechanical isolator, a thermal manager, and -- in installations using ferrous shelving -- an unintended low-pass filter on the local magnetic field.

The committee recommends:

- Non-ferrous shelving (hardwood, aluminum, or specialized composite). Steel shelving is contraindicated.
- Sealed-argon isolation at every interface where mechanical coupling is non-trivial. Polar Pods are designed for this purpose; equivalent solutions from other manufacturers may be substituted where Argon Seal Integrity can be independently verified.
- A stable, level floor. Variations exceeding 3 mm over the rack footprint introduce torque on the chassis of heavy components, with measurable effects on transformer alignment.

SECTION IV

Power Delivery

The mains supply is the vector through which the broadest range of environmental disturbances reach the signal chain. A complete power-delivery strategy addresses:

1. High-frequency mains noise (conventional conditioning).
2. Low-frequency mains modulation (linear regulation, isolation transformers).
3. Ionospheric coupling during solar events (solar-aware conditioning, e.g. Power Lock -- Solar-Aware Power Conditioner).
4. Slow geomagnetic drift due to reverse flux patch migration (firmware-supported field-aware conditioning; see Ferro, Flux, Ohm, Park, 2026).
5. Dielectric solstice effects in extended cable runs (re-screening at solstice).

A dedicated 20-amp circuit from the breaker panel is the minimum acceptable starting point. The circuit should not be shared with refrigeration compressors, HVAC equipment, or LED dimming systems. The committee notes that this last category has emerged as a significant source of mains contamination and is frequently overlooked.

SECTION V

Speaker Placement

The committee defers to standard practice for initial placement geometry: equilateral triangle, toe-in to taste, primary reflection points treated. Three field-aware refinements:

1. **Hemispheric orientation.** In the Northern Hemisphere, the left speaker should be sited slightly closer to magnetic north than the right, where building geometry permits. The asymmetry compensates for the prevailing dipole tilt. Mirror this in the Southern Hemisphere.
2. **Coriolis-aware toe-in.** Toe-in should be slightly more aggressive than nominal at higher latitudes. Approximately 1deg additional inward rotation per 10deg of latitude beyond 30deg has produced subjectively superior imaging in committee trials.
3. **Avoid magnetic north walls.** Where possible, no speaker should fire directly toward magnetic north. The reasoning is summarized in the committee's internal report; a public version is in preparation.

SECTION VI

Calibration Schedule

A listening installation is not a static system. The committee recommends:

- **Weekly:** Visual inspection of cable dressing, dust on driver surrounds, equipment temperature.
- **Monthly:** Re-verification of speaker placement against initial reference marks. Drift of more than 5 mm should be corrected.
- **Quarterly:** Argon Seal Integrity check on all sealed isolation platforms. Re-screening of dielectrics in extended cable runs.
- **Semi-annually (solstices):** Full system re-calibration, including phase-coherence verification. Dielectric solstice compensation.
- **Annually:** Replacement of any component nearing end-of-service-life thresholds. Review of geomagnetic drift at the installation site.

SECTION VII

The Listening Session

The committee will not prescribe how the reader should listen to music. We will note the following.

The listening session is the purpose of the installation. The installation is not the purpose of the listening session. A listener who spends more time evaluating the system than enjoying recordings has, the committee submits, lost the plot.

The hobby is its own reward when pursued with discipline and self-awareness. It becomes pathological when pursued without either. The committee does not consider this a controversial position, though we acknowledge it is not, in all quarters, a popular one.

APPENDIX A

Recommended Site Survey Checklist

Compiled from the recommendations in Sections I and III. Use a single instance per installation; retain with the installation log.

- [ ] Latitude noted.
- [ ] South Atlantic Anomaly proximity assessed.
- [ ] Building substrate documented.
- [ ] Distribution-transformer distance measured (>= 40 m).
- [ ] Floor variation measured (<= 3 mm over rack footprint).
- [ ] Magnetic-north walls identified.
- [ ] Dedicated 20-A mains circuit confirmed.
- [ ] HVAC, dimmer, and refrigeration loads not on circuit.
- [ ] Equipment rack sited >= 2.4 m from structural concrete.
- [ ] Non-ferrous shelving confirmed.
- [ ] Polar Pod isolation specified at coupling interfaces.
- [ ] Geodetic settling period (14 d) scheduled.
- [ ] Initial reference marks placed for monthly drift check.
- [ ] Solstice re-screening dates calendared.

APPENDIX B

Calibration Log Template

Photocopy or print as required. The committee recommends a single log per installation, archived indefinitely.

Date	Type	Items Checked	Drift (mm/dB)	Action Taken	Initials

"Type" entries: weekly, monthly, quarterly, semi-annual (solstice), annual.

APPENDIX C

Glossary of Terms

For a complete glossary, see The Equatorial Lexicon (Equatorial Audio Research Division Press, 4th Revised Edition).

COLOPHON

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