

Home Theater and Entertainment Room Planning Guide

20 decisions that shape the room.

ABOUT THIS GUIDE

Twenty decisions, not a parts list.

A theater is not a product you buy. It is a room you design, and the room is the part that lasts. Screens get replaced. Speakers get upgraded. Processors come and go on three-to-five year cycles. The room itself - dimensions, isolation, sightlines, power, network, conduit - is the part that pays back for the next twenty years, or quietly limits everything you put inside it.

This guide is for homeowners, architects, designers, and builders thinking through a dedicated theater, a flexible media room, or a great room that doubles as cinema. It is the same set of decisions we walk through with clients in design development, before drywall, before gear, before anyone gets attached to a brand.

We design, deploy, install, configure, and support Lutron and Ketra projects. We are an Elite Pro Crestron Dealer, HTA Luxury Certified, OSHA Certified, and a Ubiquiti UISP/Pro Partner. We work with reference-tier products from Steinway Lyngdorf, Wisdom Audio, Procella, Ascendo, JBL Synthesis, Sony, JVC, and Kaleidescape - but the product is downstream of the room. Get the twenty decisions in this guide right and your theater will outlast every component inside it.

THE TWENTY DECISIONS

Build the room. The system follows.

Twenty decisions, in order. Read them once front to back. Then keep them open during the conversations that come.

O I

Decide what the room actually is - dedicated theater, media room, or great room with cinema mode.

The first decision is the honest one. A dedicated theater is a single-purpose room: blacked-out, isolated, fixed seating, reference acoustics, no daylight. A media room is dual-purpose: cinema by night, family room by day, with some compromise on both sides. A great room with cinema mode is mostly living space with lighting and shading that can shift it into viewing posture for a film. Each is a legitimate choice, and each drives different infrastructure. A dedicated theater earns isolation, riser, and a screen wall. A media room earns motorized shading and acoustic treatment dressed as joinery. A great room earns a recessed display, in-ceiling speakers from Sonance or Origin Acoustics, and a Crestron Home scene that drops the shades and the lights together. Name the room before you spec it.

Set the seating row before you set the screen.

02

The seating position is the geometry. Everything else follows. In a dedicated theater the primary row sits at roughly 0.4 to 0.45 of the room length back from the screen wall, with a second row stepped up on a riser of eight to twelve inches. That single dimension determines screen size, projector throw, speaker angles, subwoofer placement, and the height of every acoustic panel. Specify the room with the seating drawn in. We build the rest of the design outward from that point: SMPTE viewing angles, Atmos overhead spacing, sightlines to surrounds. The takeaway is simple. Do not let the screen, the projector, or the rack drive the room layout. The chair drives the room.

03

Pick the display class first, then the brand - laser projector, Mini-LED, OLED, or LED wall.

Display class is a room decision, not a brand decision. A dedicated theater with controlled light and a 120-inch image is a laser projector room - Sony VPL-XW8000 or JVC NZ800 against a properly tensioned screen. A media room with ambient light asks for a 98-inch Mini-LED or a Samsung MicroLED, where reflections and brightness matter more than absolute contrast. A reference monitoring environment is Sony BVM-HX310 territory. A great-room flex space at 85 inches can land on OLED for film and Mini-LED for daytime sport. An LED wall - Samsung The Wall, Planar, Leyard - is a different conversation entirely, with structural, power, and HVAC implications. Decide the class first, then choose the brand inside it.

Aspect ratio drives the screen, not the other way around.

O4

Film is shot in multiple aspect ratios, and projecting all of them onto a 16:9 screen wastes pixels and image area for the films that matter most. A scope screen - 2.35:1 or 2.40:1 - with a laser projector that supports memorized lens settings is the right answer for any room where film is the primary content. Constant image height is the cleaner architectural choice. Constant image width is the cleaner cinema choice. A 16:9 screen still belongs in flexible rooms with mixed sports, streaming, and gaming. Settle the aspect ratio early because it changes the screen wall width, the speaker positions on either side of the screen, and the masking system. Aspect ratio is geometry, not preference.

05

Treat the room as an acoustic system, not a list of speakers.

A speaker fighting a bad room will always lose. Reference reproduction begins with the room: parallel walls broken up, first reflection points damped, low-frequency modes managed with bass traps and corner loading, RT60 targets in the 0.25 to 0.35 second range for a dedicated theater. Steinway Lyngdorf, Procella, Ascendo, and JBL Synthesis systems all assume an acoustically treated room and read very differently in an untreated one. Wisdom Audio's planar designs ask for specific boundary loading. Treatment is not optional and not decorative. It is millwork-integrated panels, fabric-stretched walls, hidden bass traps in corners and behind seating. Design the acoustic envelope before the speakers and the speakers perform to spec.

06 Atmos channel counts are tools, not trophies.

7.4.4 is a room. 9.4.6 is a room. 11.4.8 is a room. The number that fits is determined by ceiling height, room length, and listening position spread, not by a desire to print a bigger number on the proposal. Above 7.4.4 the returns are real but require a longer room and a higher ceiling - generally nine feet or more clear of soffits - and a properly designed top layer of overheads from a system family like JBL Synthesis, Procella, or Ascendo. A nine-foot ceiling with four well-placed overheads will outperform an eight-foot ceiling with six poorly placed ones. Specify the channel count the room can actually carry. Restraint reads as confidence.

07

Speaker placement is dictated by the listening position, not the wall.

Front three speakers sit at the screen height and on the mix-stage angles - left and right at roughly 22 to 30 degrees off the center seat, center on axis behind a perforated screen. Surrounds at 90 to 110 degrees, rear surrounds at 135 to 150, all aimed at the seating, not at the room's geometric center. In-wall systems from Sonance Reference Series or Origin Acoustics Director Reserve hide the boxes. On-wall and freestanding designs from Steinway Lyngdorf and Wisdom Audio ask for clear paths to the seats. If the wall fights the geometry, the wall moves - in a dedicated theater the wall is yours. The room exists to serve the listening position, not to host it.

08

Subwoofers are placed by ear and measurement, not by symmetry.

Bass is the part of the room that most readily exposes a bad design. A single sub in a corner produces room modes you will hear in the seat as a thirty-decibel swing. Four subs - distributed asymmetrically, often two front corners and two rear corners or mid-walls - sum more evenly across multiple listening positions. Calibration with Trinnov Altitude, Dirac Live Bass Control, or REW with a UMIK is the only way to know whether they are actually working. Procella, JTR, Ascendo, and Wisdom Audio all support multi-sub arrays. The takeaway: do not arrange subs for visual symmetry. Arrange them for measured response and let the millwork hide them.

Calibrate or do not bother.

09

A theater that has not been calibrated is a list of components in a room. Calibration is the step that turns it into a system. Trinnov Altitude does room correction and bass management at the reference end. Dirac Live - on Storm Audio, NAD, or Arcam processors - covers the high mid-market. Audyssey XT32 on Marantz and Denon handles the practical tier. The work is the same in principle: measured frequency response at the seats, target curve set to taste, time-alignment locked, levels matched. Plan for a calibrator on site for a full day, and plan to live with the room for a week before final adjustment. Calibration is the difference between a system you bought and a system you actually hear.

Lighting scenes belong in the design, not bolted on after.

IO

The light in a theater is part of the picture. Sconces dim to a precise percentage during trailers and to black at feature start. Step lights and pathway lights pick up automatically when the system pauses. House lights and ceiling cans return at the right color temperature on credits. Lutron HomeWorks does this at the architectural standard. Ketra adds color-correct, tunable light when accuracy matters - art walls, sconces, ceiling fields that need to shift across the day. Restrepo designs, deploys, installs, configures, and supports both platforms. The scenes - feature, intermission, trailers, clean - belong in the schematic design conversation, not in a post-install service call.

Motorized shading is part of the theater system.

II

In any media room or great room with daylight, shading is not a separate trade. Lutron Sivoia QS shades on a Crestron Home or Lutron HomeWorks scene close before the projector strikes and open on the way out. Blackout shades behind decorative shades in a dual-layer pocket give you both a daytime room and a nighttime theater on the same wall. Specify the pockets, the power runs, and the conduit during framing. Retrofitting motorized shades into a finished ceiling is a finish-grade demolition job. The shades are part of the cinema scene, not an accessory to it. Coordinate the spec with the integrator before the window order goes to the trade.

The rack belongs in a closet, not behind the screen.

I2

A theater rack belongs in a separate, ventilated, accessible room - ideally adjacent to the theater, never inside it. Salamander Designs and Middle Atlantic make the cabinets and racks. The room around them matters more. Plan for thirty to fifty inches of clearance front and rear, dedicated cooling sized to the heat load, separate mechanical ventilation that does not share the theater's HVAC return, and a service door wide enough to walk a rolling rack through. A rack in the theater is acoustic noise, heat, and a long cable run to every entry the family touches. A rack in a designed closet is a service interface for the next twenty years.

I3

Power conditioning and dedicated circuits are not optional in a reference room.

A reference theater asks for clean, conditioned, properly grounded power. That means dedicated 20-amp circuits for the rack on isolated grounds, balanced or symmetrical conditioning from Furman or Torus, surge protection at the service entrance, and a UPS sized for the processor and the network so a flicker does not reboot the system mid-film. Projectors with laser light engines pull substantial inrush current. Subwoofers can spike on the loudest passages. Undersized circuits show up as breaker trips and ground loops you can hear through the speakers. Specify the electrical scope with the integrator at the table during the electrical rough.

The network is the spine of the theater.

I4

Modern theaters are network-dependent. Kaleidescape streams library content over the LAN. Crestron processors carry control traffic. Projectors expose firmware and tone-mapping updates over IP. A reference room belongs on Ubiquiti UniFi switching with a dedicated theater VLAN, multi-gig uplinks to the rack, and a properly placed access point that is not also serving the family's iPhones. Restrepo is a Ubiquiti UISP/Pro Partner. We build the network on enterprise-class hardware on a refresh schedule we manage remotely. The theater is not a consumer device. Its network should not be either. Design the network as a system, not as an accessory.

Control system selection is a 10-year decision.

I5

The processor that runs the theater will outlast three or four generations of source devices and likely two generations of display. Crestron Home and the 4-Series processors are the long-horizon choice for reference rooms. Restrepo is an Elite Pro Crestron Dealer and we program directly. Savant and Control4 are legitimate alternatives at different scales. The decision matters because changing control platforms five years in is a rewire, a rewrite, and a relearn for the family. Pick the platform that fits the home's wider ecosystem - lighting, shading, HVAC, security - and stay on it. A single control surface for one room is a remote. A single control philosophy for the house is a system.

I6

Source equipment - what you actually plan to play matters.

A theater designed for 4K HDR Blu-ray and a personal film library asks for a Kaleidescape Strato C and Terra server pair, an Apple TV 4K for streaming, and a high-end disc transport like the Panasonic UB820 or the Magnetar UDP800 for physical media. A theater designed for live sports asks for a high-quality cable or fiber feed, a tuner that handles the local market, and integrations to the family's preferred apps. A theater designed for gaming asks for HDMI 2.1, 4K at 120Hz, low-latency processing, and a console shelf with proper ventilation. List the sources before you specify the processor and the display.

I7

Plan for cable runs you have not thought of yet.

Conduit is the cheapest line on the schedule and the most expensive thing to add later. From the rack to the screen wall, run two two-inch conduits with pull strings, not one. From the rack to each speaker location, oversize the path. From the rack to the seating, run a conduit you can pull a future seat-shaker, headphone amp, or sub line through. From the theater to the network closet, run fiber alongside copper. From the rack to the outdoor entertainment zone if there is one. Every conduit added during framing costs pennies. Every conduit pulled after drywall costs thousands and bruises the millwork. Run more than you think you need.

I8

HVAC is part of the acoustic budget.

A theater's noise floor is set by its HVAC. Standard residential ductwork delivering air at high velocity through small registers makes a reference room impossible to listen to at low levels. The solution is oversized ductwork, lined plenums, two ninety-degree turns between the air handler and the room to attenuate mechanical noise, and large-area registers sized for low velocity. Target NC-25 or quieter for a dedicated theater, NC-30 for a media room. Coordinate with the mechanical engineer during design development. This is a sheet-metal conversation, not a control-system one. A quiet room is built by the trades, not added by the integrator after.

Service and remote support are part of the price.

I9

A theater that cannot be serviced is a theater the family will stop using. Remote monitoring on the network, scheduled firmware management on the processor and display, an annual on-site calibration check, and a defined response time for a downed system are part of what you are buying when you commission a reference room. Crestron's remote toolset, OvrC on the network side, and proper documentation on the rack make a system that the next technician - or the next homeowner - can pick up cold. Ask about the service plan during the proposal. The relationship lasts longer than the install. Choose the firm with that in mind.

20

Build the room for the system you will buy in five years, not the one you bought last year.

Display technology, immersive audio formats, and source standards move on three-to-five-year cycles. The room does not. Build the conduit, the network, the power, the acoustics, and the rack infrastructure for the system that will be in the room in 2030: 8K source content, evolved Atmos and Auro 3D channel counts, higher-bandwidth HDMI standards, possibly an LED wall replacing the projector. The screen, the speakers, the processor, the sources will all change. The room you build around them is the asset. Specify it that way and the next two upgrades are a service call. Specify it for last year's gear and the next upgrade is a renovation.

ABOUT RESTREPO INNOVATIONS

A practice built for the long view.

Restrepo Innovations is a luxury technology integration practice based in Franklin Lakes, New Jersey, serving NJ, CT, and NY. Our four divisions share one standard of work and one standard of documentation across every project we touch.

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CERTIFICATIONS

Elite Pro Crestron Dealer . HTA Luxury Certified
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