LA TECHS

FOR ARCHITECTS, BUILDERS AND INTERIOR DESIGNERS

The LA Techs Pre-Wire Standard

Version 1.0 · November 2026 · By Russ Gaskamp, CEO · latechs.com/PreWireStandard

> Bring the integrator in at schematic design, put low voltage on its own sheet, size and cool a central equipment room, run Cat6A to every access point, screen, desk and camera, and add spare conduit to every floor, the attic, the street and any outbuilding. Then walk the house before insulation and photograph every wall. That is most of it; the details are below.

1 What happens at each phase

Schematic design

Ideal time to bring us in

- Agree the scope room by room and get a budget range by system
- Reserve the equipment room: central, ventilated, near the electrical panel
- Choose the lighting approach (Lutron) and flag motorized shades so ceilings can carry pockets

Design development

Locks the things you see

- Keypad locations on interior elevations, grouped at entries, latch sides and bedsides
- Speakers, access points and sensors on the reflected ceiling plan with lights, sprinklers and HVAC
- TV and screen walls: height, recess or lift, and a conduit path
- Shade pocket details with power at one end and a low-voltage path
- Control platform chosen (Control4 or Savant), since keypads and touchscreens differ in size and finish

Construction documents

What goes in the set

- A dedicated low-voltage sheet with a legend, coordinated with the electrical plan
- Equipment room size, power and cooling requirements
- Division 27 and 28 specification sections and narrative specs for lighting control, automation and AV
- Lighting control layout and load schedule for the electrician

Pre-wire After framing, before insulation	• Rough-in to the low-voltage sheet, coordinated with the electrician and the GC schedule • Walkthrough with the owner, designer and integrator; mark every location on the studs • Photograph every wall before insulation and keep the photos with the project file
Trim and commissioning After paint, before move-in	• Devices, keypads, speakers and shades installed; rack built and labeled • Programming, scenes and the network tuned to the finished house • Client orientation, documentation and a 90-day warranty; support plan optional

2 What to run, location by location

Location	Run	Why
Wi-Fi access points	Cat6A home run to every ceiling, outdoor and outbuilding location	Wire every access point; do not plan on mesh for a large home
TVs and screens	Cat6A, power and conduit to the equipment room at every screen, including future ones	Conduit lets video cabling change as formats change
Desks and offices	Cat6A drops at every desk and office location	Wired is faster and steadier than Wi-Fi for work calls
Cameras	Cat6A (power over the network) to each camera, including the driveway and entries	One cable carries power and video
Entry and gate	Cat6A and conduit to the front door, gate and motor court	Intercom, camera and access control share the path
Speakers	Speaker wire to every in-ceiling and in-wall location and each outdoor zone, home-run to the equipment room	Draw speakers on the reflected ceiling plan
Lighting keypads	Control wire to every keypad per the Lutron design	One keypad can replace a bank of switches
Motorized shades	Power and control at every motorized window	Recessed pockets hide the roller
Security sensors	Door and window contacts and motion sensors per the security plan	Roughed in with everything else
Internet service	Empty conduit from the street or utility point to the equipment room	Order service early; providers can take weeks at a new address
Outbuildings	Fiber or conduit to the pool house, guest house or studio during site work	Trenching later is expensive
Spare conduit	With pull strings from the equipment room to each floor, the attic and the roof or eaves	Cheapest insurance on the job

Hardscape	Sleeves under hardscape for landscape lighting and outdoor audio	Before the paving goes down

3 The equipment room

- Central location to keep cable runs short; near the electrical panel is ideal. Not a hot attic, and avoid the garage where you can.
- Size: at least 4 by 6 feet for most larger homes; 6 by 8 feet or more when the house has a theater, whole-home audio and a large network (one to two full racks).
- A door that opens fully, and ceiling height for full-height racks.
- Dedicated circuits, not shared with HVAC or other heavy loads.
- Real cooling or exhaust, sized for the equipment. On larger builds we specify a dedicated mini-split. Heat is the number one cause of equipment failure.
- Every cable labeled at both ends and every patch panel port labeled, so the system can be serviced years later by someone who did not install it.

4 Room by room

Home theater

- Room size and seating rows decided together with the screen size, with riser heights for every seat
- Speaker locations for surround and overhead channels before framing
- Sound isolation in walls, ceiling and doors; its own quiet HVAC zone
- A quiet, ventilated rack location outside the room, and conduit for the projector and screen plus spares
- Lighting zones: aisle and step lights, walls and ceiling

Media room

- Seating layout and screen size decided together
- Speaker locations in the ceiling and walls before drywall
- A ventilated cabinet or closet for the equipment, with conduit to the screen wall
- Shade pockets or blackout channels at every window
- Lighting zones for the screen wall, the seating and the walkway

Home bar and lounge

- Low-voltage wiring for under-counter and shelf lighting before the millwork is built
- Screen location and conduit decided with the cabinet maker
- Speakers in the bar and out to the patio; keypad away from splashes
- Power and a sensor for the wine room or wine fridge

Home gym

- Its own HVAC zone, sized for people working out
- Speaker and subwoofer locations isolated from rooms above or below
- Network drops for connected bikes, rowers and screens
- Floor and wall reinforcement for racks and mounted screens

Yoga and wellness room

- Its own HVAC zone, with a humidity plan if it will be heated
- Shade pockets for sheer and blackout shades
- Lighting zones, with tunable white if you want daylight-to-evening light
- A screen location with conduit, or a recess for a hidden screen

Game room

- Furniture layout first, then lighting over it
- Screen locations and conduit, including a second screen in a long room
- Network drops at every screen and console location

Golf simulator

- Ceiling height and a clear zone for the swing (10 ft or more where you can)
- Blocking in the ceiling for an overhead launch monitor and projector
- Conduit from the equipment location to the screen wall and launch monitor
- Dedicated 20A circuit and a hardwired network drop
- HVAC and an acoustic plan for a projector, a computer and people swinging clubs

5 Who does what

Architect

Shows the low-voltage sheet, keypad elevations, shade pockets, screen walls and the equipment room in the set.

Electrician

Runs power, installs fixtures and wires to the lighting control load schedule.

General contractor

Schedules pre-wire after framing and before insulation, and holds the walkthrough before walls close.

Interior designer

Approves keypad finishes, speaker and screen placement, and concealment in millwork.

Integrator (LA Techs)

Designs the low-voltage plan and lighting control layout, roughs in and installs the systems, programs everything and supports it after move-in.

Energy consultant

Signs off the Title 24 report; we lay out lighting controls with the code in mind and coordinate with them.

6 What the design team gets from LA Techs

- Technology scope document, room by room, with a budget range by system
- Device locations on your plans: keypads, speakers, displays, access points, cameras, shade pockets

- A low-voltage sheet coordinated with the electrical drawings, plus CAD/BIM coordination
- Equipment room size, location, power and cooling requirements
- Division 27 and 28 specification sections and narrative specs for bid documents
- Lighting control layout and load schedule for the electrician
- Pre-wire walkthrough, wall photos and labeled, documented rack at handoff

7 Quick answers

What should be pre-wired in a new home before drywall?
Cat6A to every Wi-Fi access point, screen, desk and camera; speaker wire to every speaker location; control wire to every keypad; power and control at every motorized shade; security sensors; a dedicated equipment room; and spare conduit to every floor, the attic, the street and any outbuilding.

When should an architect bring in a smart home integrator?
At schematic design, or early design development at the latest. By the permit set, shade pockets, ceiling layouts and the equipment room size are already locked.

How big should a home equipment room be?
At least 4 by 6 feet for most larger homes, and 6 by 8 feet or more when the house has a theater, whole-home audio and a large network. It needs dedicated circuits, real cooling and a central location.

Cat6 or Cat6A for a new custom home?
Cat6A. The cable is a small part of the cost, and it is the one thing you cannot easily replace once the walls are closed.

Does low voltage need its own sheet in the drawing set?
Yes. A dedicated low-voltage sheet with a legend keeps keypads, speakers, screens, access points and cameras clear and coordinated with the electrical plan, so nobody improvises in the field.

Who installs smart home pre-wire in Los Angeles?
A licensed low-voltage contractor. LA Techs holds CSLB #1031050 (C-7 low voltage and C-10 electrical), is a CEDIA member and an authorized Control4, Savant and Lutron dealer, and has worked with LA architects and builders since 2006.

Working on a set right now? Send us the plans at latechs.com/Contact or call the new-projects line at 424.324.5509. LA Techs · 15500 Erwin St, Suite 1017, Van Nuys, CA 91411 · CSLB #1031050 (C-7, C-10) · CEDIA member · Authorized Control4, Savant and Lutron dealer.

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