

PLANNING GUIDE

A/V Project Planning Guide

Plan the complete system before you select the parts.

THE INFRASTRUCTURE CORE



CORE PRINCIPLE Plan the complete path—not individual products. Every source needs a compatible route through connection, processing, distribution, and control to its destination.

PLAN IN FIVE MOVES

1

DEFINE

room + users

2

MAP

source to output

3

SIZE

U + depth + weight

4

SUPPORT

power + cooling + cabling

5

VERIFY

fit + access + growth

ROOM + USERS

What must people see, hear, share, control, or record?

SOURCES + OUTPUTS

List every input, processing point, destination, and zone.

CONTROL + NETWORK

Capture remote access, PoE, bandwidth, and control needs.

ENVIRONMENT

Check security, ventilation, noise, access, and cable pathways.

A strong A/V system starts behind the screen.

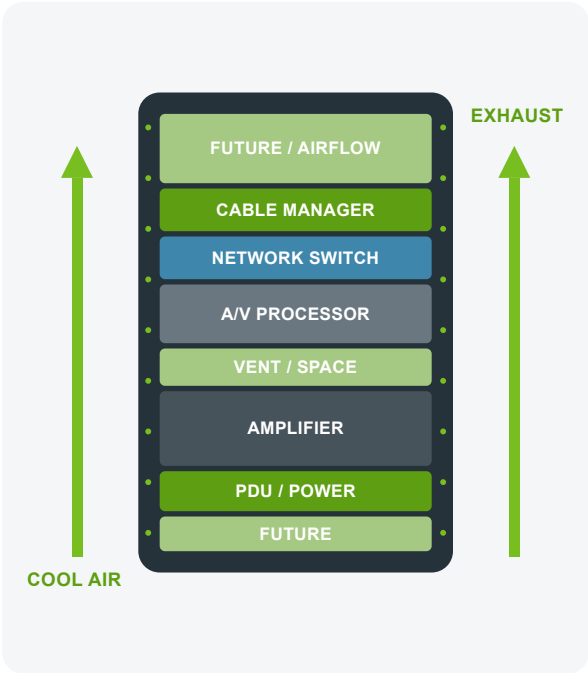
The rack, power, airflow, and cable pathways are the foundation.

STEP 1

Build the Rack Plan

Fit the installed assembly—not only the device chassis.

- 1 **1U = 1.75 in.** Count equipment, shelves, panels, managers, cooling, and reserve space.
- 2 **DEPTH** Add connectors, cable bend radius, doors, and rear service clearance.
- 3 **WEIGHT** Include equipment, UPS, shelves, hardware, and cabling.
- 4 **ACCESS** Check front, rear, side, door swing, and replacement paths.
- 5 **GROWTH** Leave 20–30% open capacity when practical.



CHOOSE THE ENCLOSURE

			
WALL OPEN FRAME Compact • easy access Confirm wall + load	WALL CABINET Secure • enclosed Confirm depth + airflow	4-POST FRAME Deep / heavy equipment Confirm rails + floor	FLOOR / A/V CABINET Larger integrated system Confirm route + cooling

FIT CHECK

Chassis depth + connectors + cable bend + door clearance = **required usable depth**

COMMON FIT MISSES

RACK-MOUNTABLE May still require ears, rails, a shelf, or separate hardware.	EXTERIOR DEPTH Is not usable depth. Account for doors, rails, and connectors.	DEVICE WEIGHT Add shelves, UPS, cabling, and wall or floor mounting limits.
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STEPS 2-4

Connect it. Power it. Cool it.

Plan these systems together so they do not compete for space or access.



NETWORK + CONTROL SUPPORT EVERY STEP

CABLE

- Match signal + distance
- Separate from power
- Protect bend radius
- Label both ends

POWER

- List watts + plugs
- Confirm circuit load
- Choose PDU orientation
- Identify UPS needs

AIRFLOW

- Find intake + exhaust
- Keep vents open
- Move heat out of room
- Check fan noise

PAIR EACH WITH THE RIGHT ACCESSORY

Route power and signal separately where practical. Follow manufacturer instructions, project specifications, and applicable codes.

NON-RACK DEVICE
Vented shelf

HEAVY / DEEP DEVICE
4-post shelf or rails

CABLE BUNDLE
Manager, lacing bar, ties

EXTRA HEAT
Fan system or ventilation

UNUSED SPACE
Blanking / spacer panel

MANY POWER CORDS
Horizontal or vertical PDU

FIELD TERMINATION
Patch panel + keystones

SERVICE ITEMS
Rack drawer + labels

DOCUMENT EACH SIGNAL PATH

CONNECTION
cable + connector

DISTANCE
total routed length

PERFORMANCE
format + bandwidth

TERMINATION
adapter + extension

SERVICE
access + labeling

COMMON PLANNING MISTAKES

CABLE
Chosen by connector—not distance, bandwidth, or rating

POWER
Sized by outlet count—not circuit load

AIRFLOW
Fans added before checking device direction

ROUTING
Bundles block vents, doors, or service access

LABELING
No consistent IDs or controlled service loops

GROWTH
Every rack unit and outlet committed on day one

STEP 5

Pre-Purchase Visual Check

If every box is checked, the project is ready for a final compatibility review.



RACK / CABINET

U • depth • weight
access • growth



SHELVES / RAILS

device footprint
support • ventilation



CABLE MANAGEMENT

route • bend • label
service loop



POWER

load • plugs • PDU
surge • UPS



COOLING

intake • exhaust
room heat • noise



CONNECTIVITY

signal • distance
rating • termination

FINAL 12-POINT CHECK

- | | |
|--|---|
| ☐ ROOM Use case + locations confirmed | ☐ PATH Sources → processing → outputs mapped |
| ☐ SPACE U count includes accessories + reserve | ☐ DEPTH Connectors + bend + doors included |
| ☐ LOAD Rack, shelf, and wall ratings verified | ☐ ACCESS Install + service clearances available |
| ☐ POWER Circuit + outlets + PDU + UPS checked | ☐ COOLING Ventilation + room heat removal planned |
| ☐ CABLE Type + length + rating + route matched | ☐ HARDWARE Rails + shelves + screws included |
| ☐ LABELS Rack, ports, and both cable ends identified | ☐ TEST Compatibility + acceptance plan reviewed |

AFTER STARTUP: FOUR QUICK CHECKS

NO / UNSTABLE SIGNAL

Verify cable specification, routed length, adapters, and extension.

ONE DEVICE RUNS HOT

Check local obstruction, spacing, and ventilation direction.

WHOLE RACK RUNS HOT

Check exhaust clearance, room temperature, and HVAC operation.

CIRCUIT TRIPS

Stop and have the load and circuit reviewed by a qualified professional.

BUILD THE FOUNDATION WITH NAVEPOINT

Compare racks, cabinets, shelves, power distribution, cooling, cable management, bulk cable, patch panels, and connectivity accessories at navepoint.com.

EXPLORE RACKS & CABINETS

SHOP RACK SHELVES

CABLE MANAGEMENT

FANS & COOLING

Planning aid only. Confirm manufacturer instructions, structural and electrical requirements, and applicable building, fire, and electrical codes.