

WIRE-IT

STRUCTURED CABLING

The 2026 Guide to Low Voltage Wiring

Everything you need to know about structured cabling,
Cat6A, PoE, and smart building infrastructure.

A free resource from Wire-It | Omaha, NE

What Is Low Voltage Wiring?

Low voltage systems operate at 50 volts or less and carry the intelligence of your building: data, voice, video, and control signals. In 2026, if a device talks, senses, or controls, it runs on a low voltage network.

Key Systems That Depend on Low Voltage

- Enterprise LAN and Wi-Fi 7 access points
- IP CCTV with edge analytics and cloud backup
- VoIP phone systems and unified communications
- Building management and smart lighting controls
- Access control, intercoms, and alarm panels
- Audio/visual distribution and digital signage
- PoE-powered devices (cameras, APs, sensors)

Cable Selection Guide for 2026

Cable Type	Speed	PoE Support	Best For
Cat6A	10 Gbps	PoE++ (90W)	2026 baseline for all copper runs
Cat6	1 Gbps	PoE+ (60W)	Budget-conscious short runs only
Single-mode Fiber	100+ Gbps	N/A	Campus backbone, long runs
Multi-mode Fiber	10-40 Gbps	N/A	Building risers, data centers

Your Low Voltage Readiness Checklist

- All copper runs use Cat6A or better
- Fiber backbone connects floors and buildings
- Cable pathways are labeled and documented
- PoE budget calculated for all powered devices
- Wi-Fi heat map completed for AP placement
- Dedicated VLAN segmentation planned for IoT, cameras, and guest traffic
- Cable pathways have room for 30% future growth
- Fire-rated plenum cable used where required by code
- Grounding and bonding meets TIA-607 standards
- Network rack locations have adequate power, cooling, and access

Wire-It Tip: Choosing the wrong cable today guarantees a rip-and-replace project within 5 years. Cat6A is the minimum standard for any commercial installation in 2026.

Ready to Take the Next Step?

Book a free commercial cabling audit with Wire-It today.

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