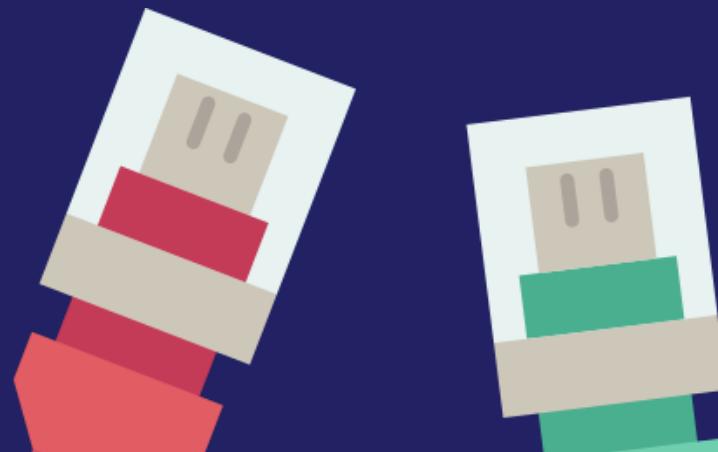




# Structured of Network Cabling

“PATCH PANEL”





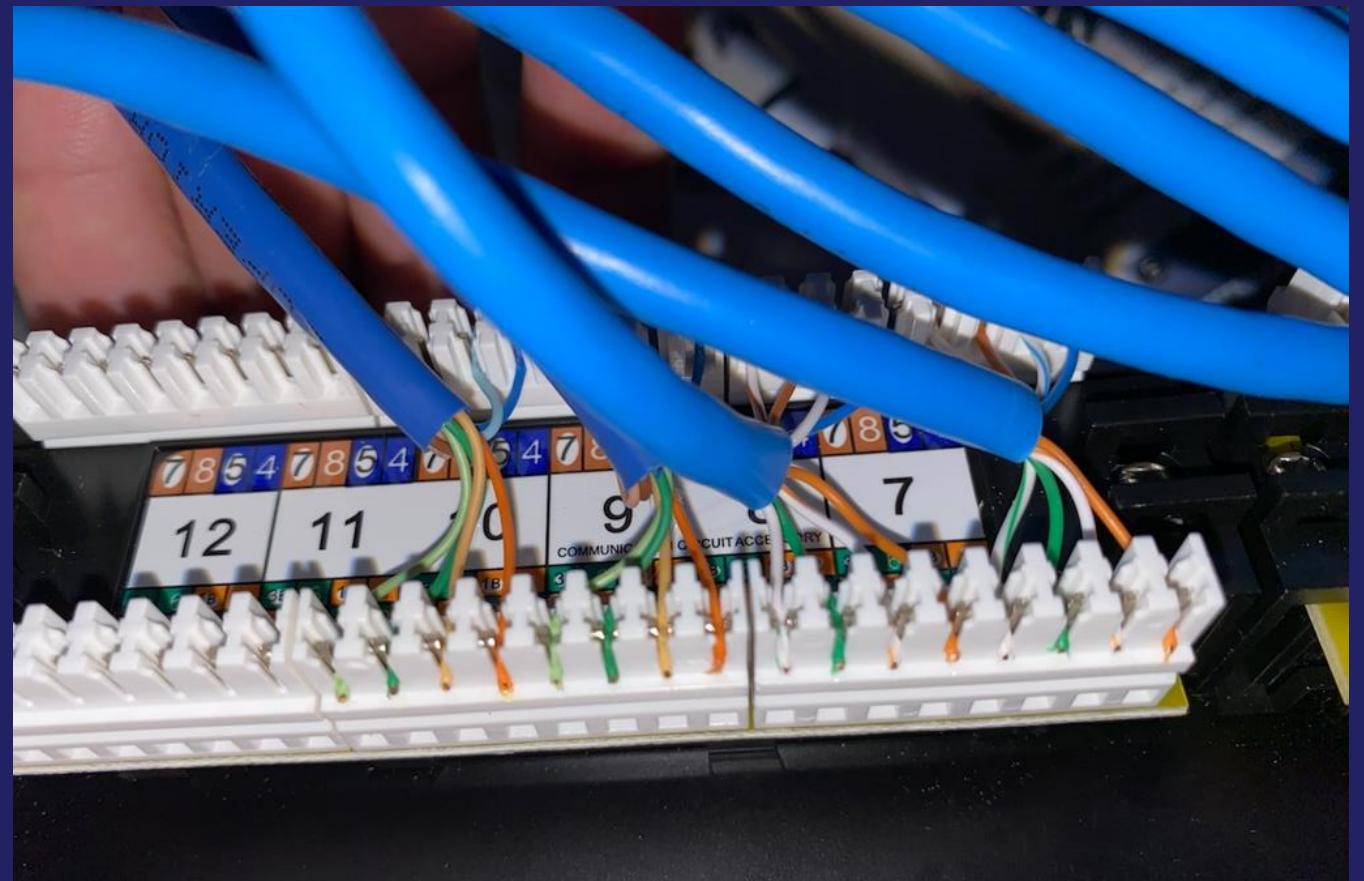
# LEARNING OBJECTIVES:

1. Understand Patch Panel Fundamentals in networking and cable management.
2. Identify Patch Panel Components and describe the various parts and features of a patch panel, including ports, cables, and labeling systems.
3. Configure Patch Panel Effectively in setting up and organizing Computer Server.



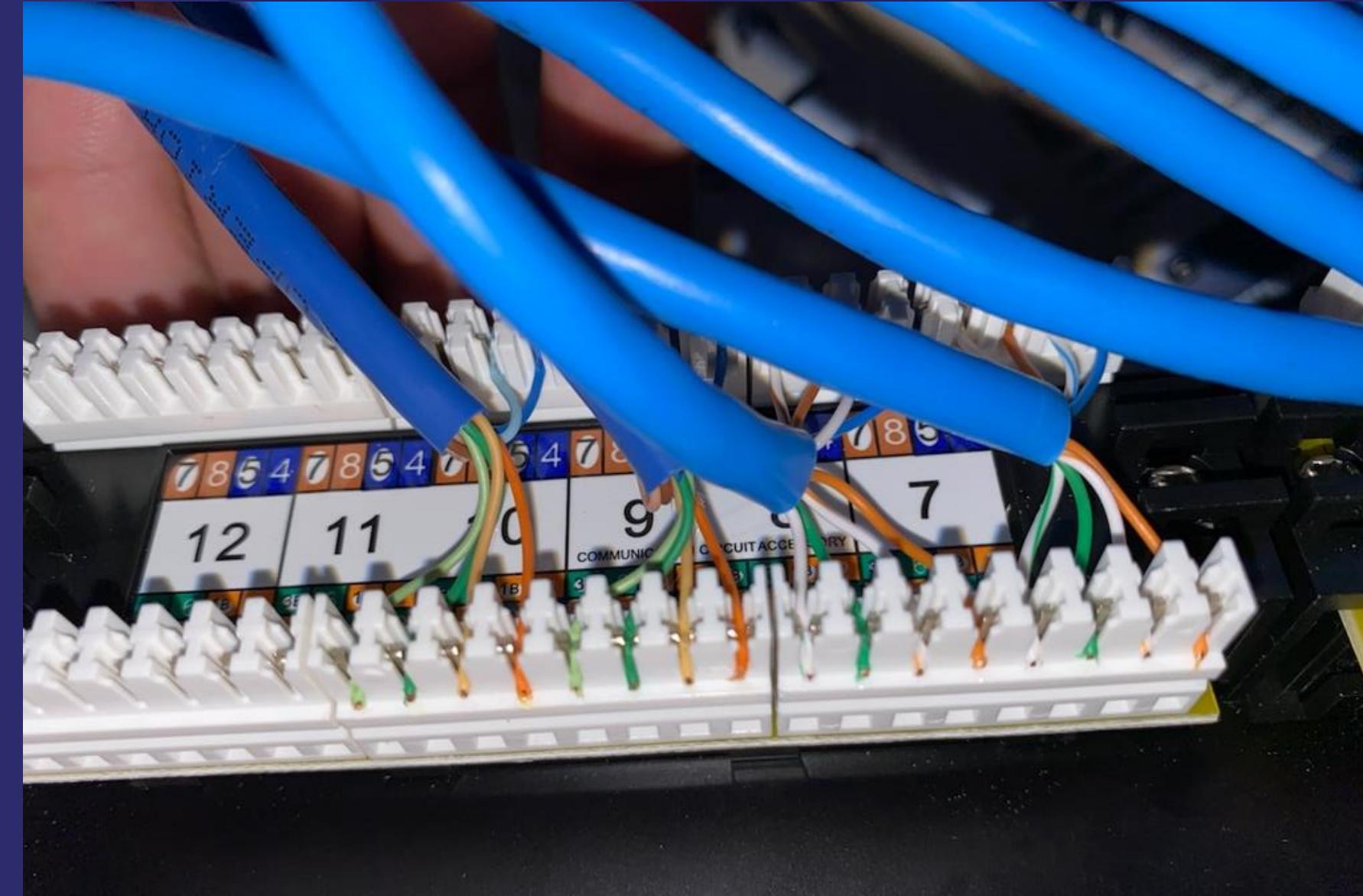
# ⋮ PATCH PANEL

Patch panels simplify cable management, enhance troubleshooting, and provide documentation and traceability for all connected workstations.



# ⋮ PATCH PANEL

avoid tangled knots of CAT6 cable across the  
Local Area Network (LAN)



# Types of Patch Panels

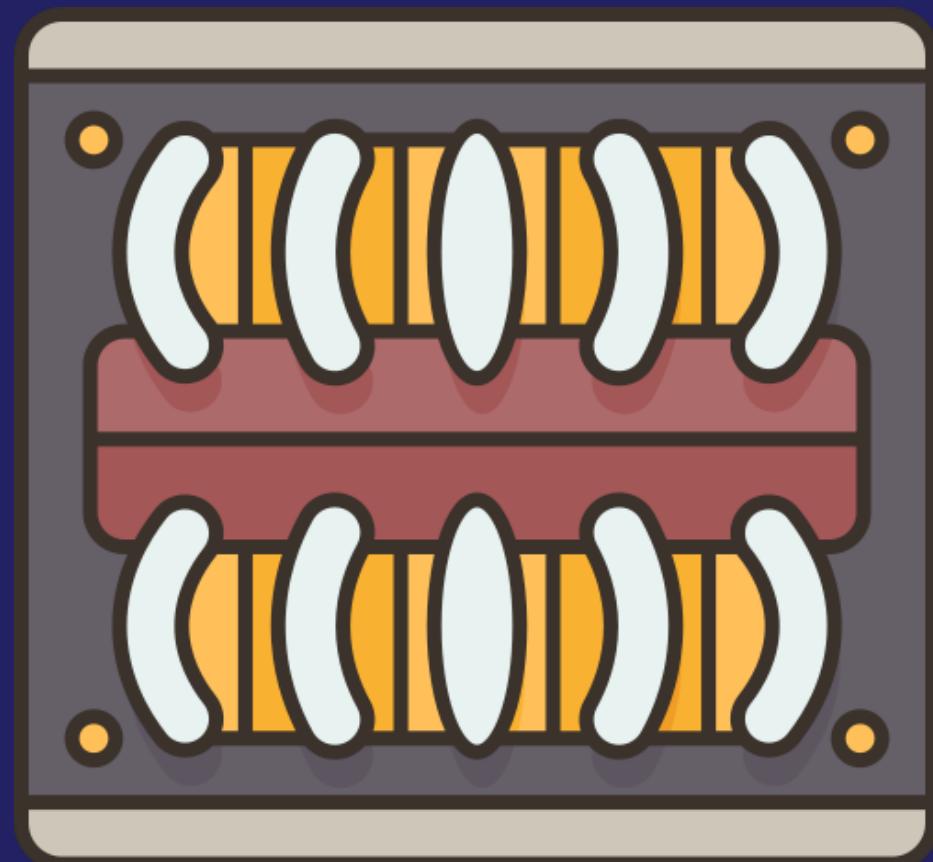
1. Coaxial Patch Panel - is designed for setting up a video distribution network. It allows users to distribute multiple video signals from their source to the select output device.



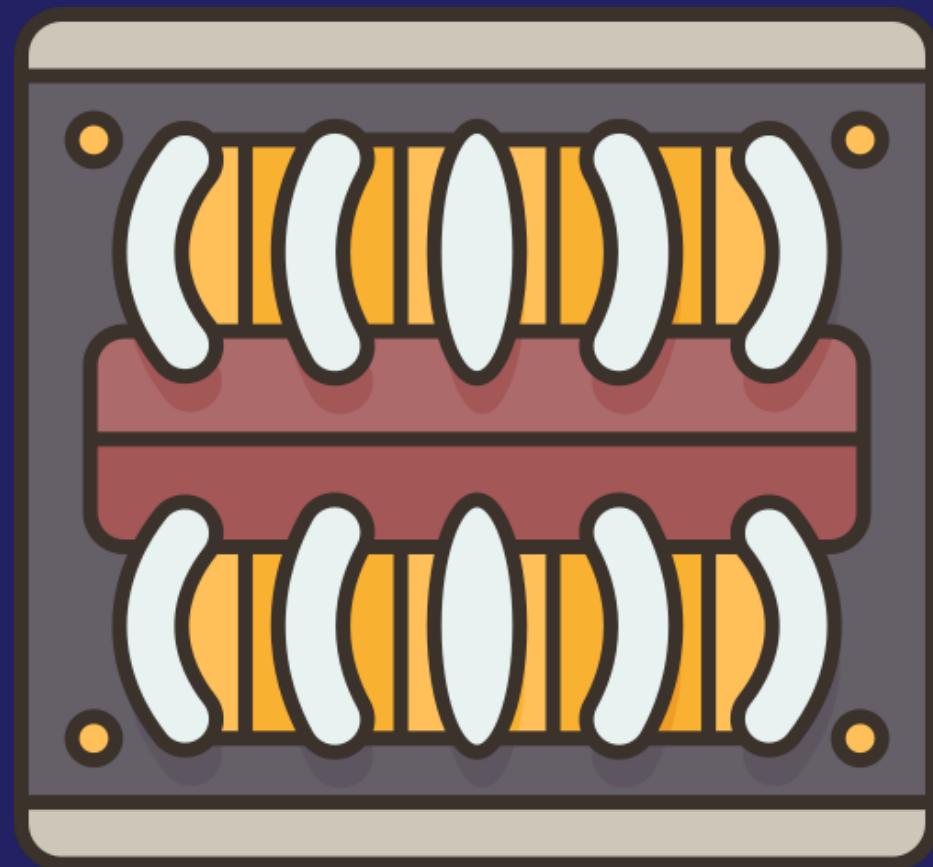
# Types of Patch Panels

1. Ethernet RJ45 Patch Panel - cables like Cat5e, Cat6, Cat6a, and Cat7. It is used in a local area network (LAN) as a mounted hardware assembly that contains ports to connect and manage incoming and outgoing

DO WE NEED A PATCH  
PANEL TO EVERY  
INTERNET CONNECTION?

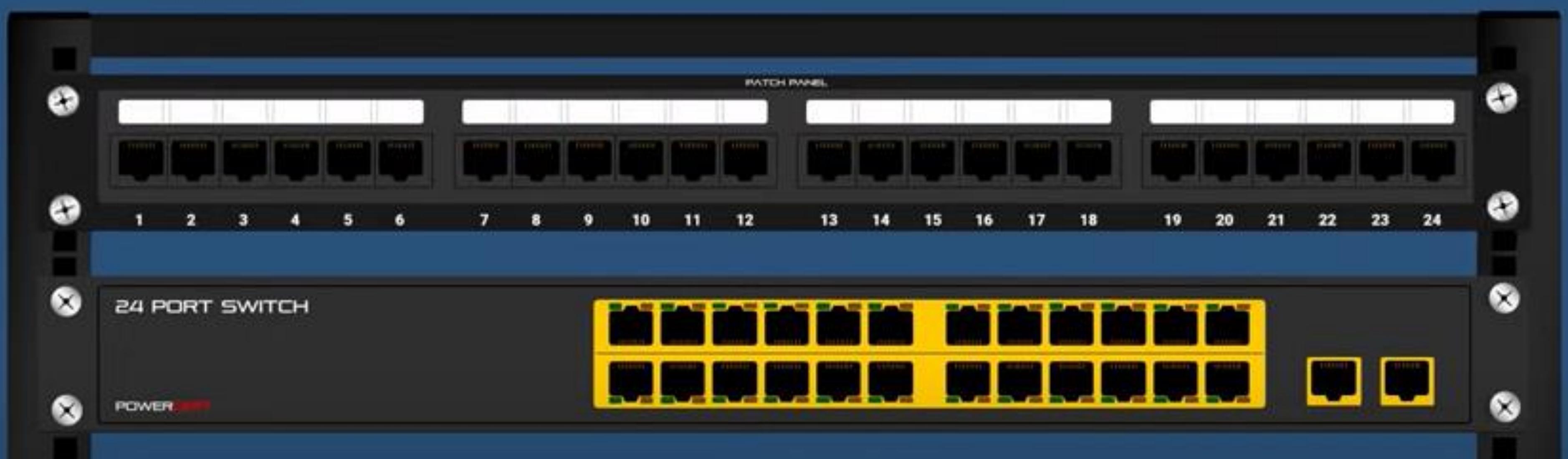


# BIG ORGANIZATION COMPANIES

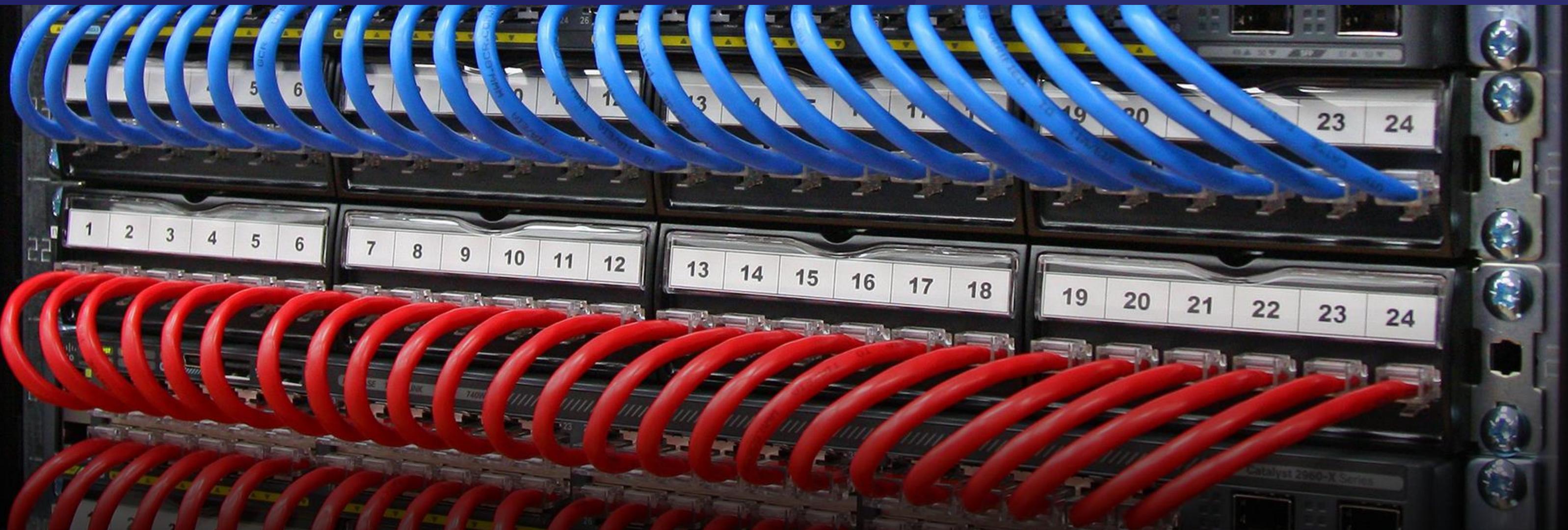


# Server/Rack Unit:

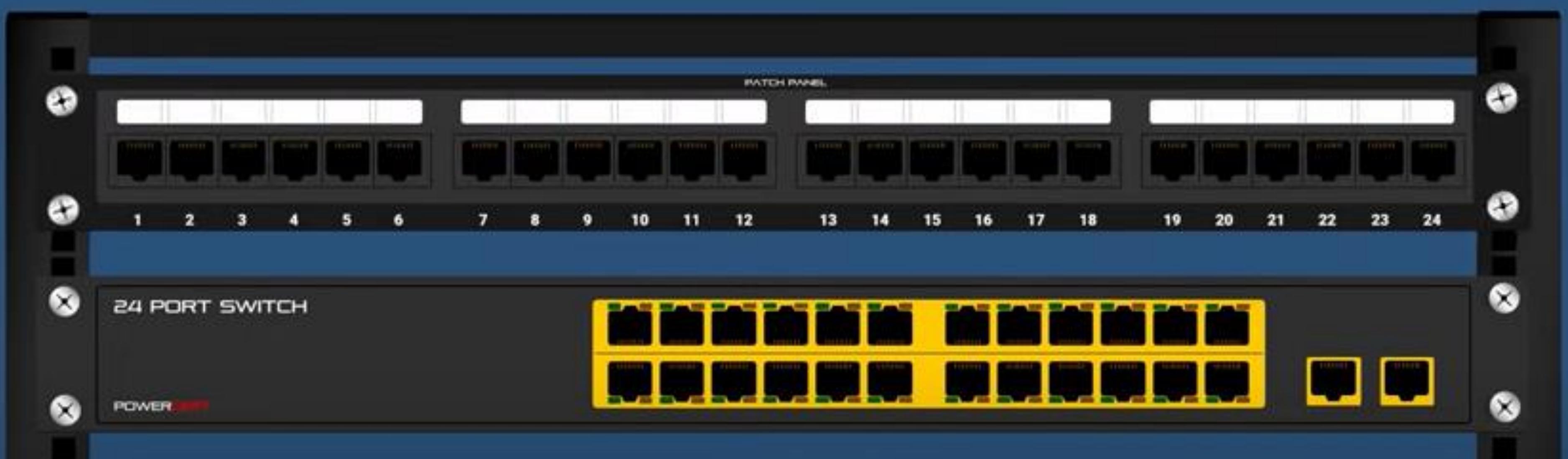




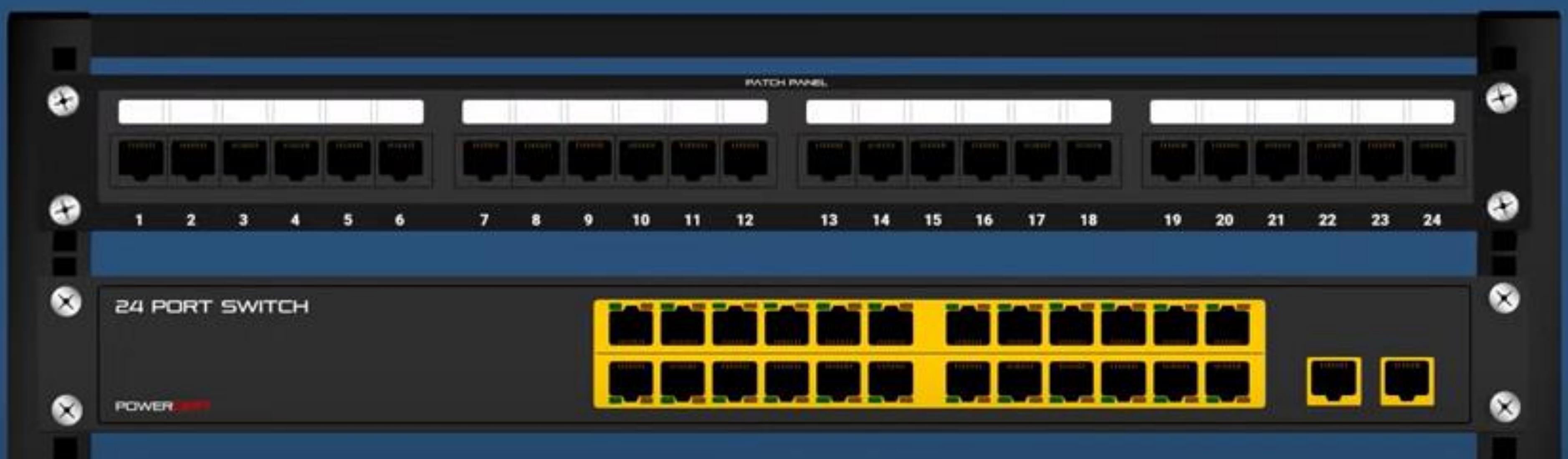
The patch panel will screw into the same rack that the switch is located on.



allowing for short cables to be connected between the switch and the patch panel.

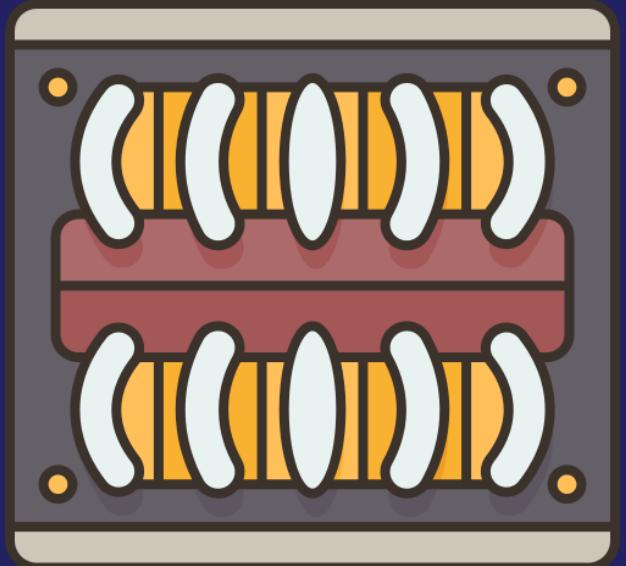


Patch panels come in different sizes. Usually, there are 12, 24, 48, or 96 ports

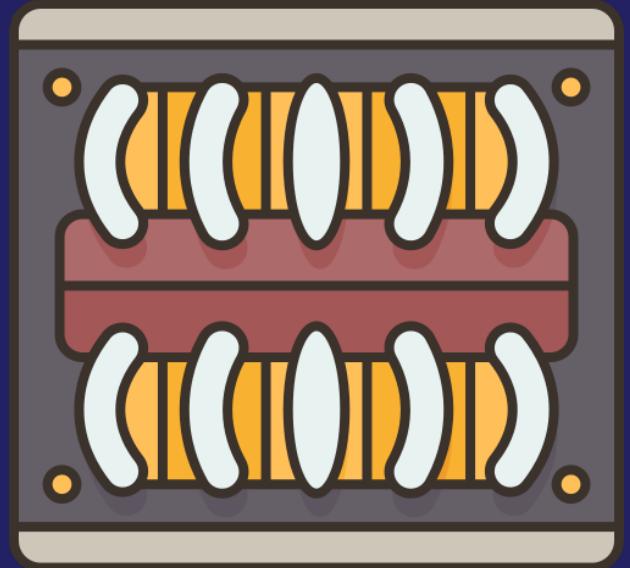


patch panels allow for labeling. This helps the admin know exactly which cable goes to what workstation.

# Did Transmission Speed Differences in Patch Panels?



# Specification of the cables



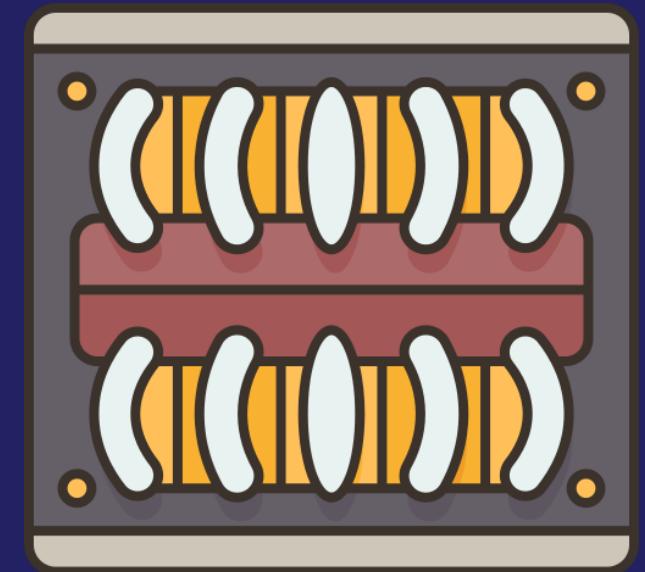
# RESIDENTIAL AND COMMERCIAL USE

- 1. Cat5e (Category 5 Enhanced):** Supports up to 1 Gbps, 100 MHz, suitable for residential and small office networks.
- 2. Cat6 (Category 6):** Supports up to 10 Gbps, 250 MHz, commonly used in commercial and industrial settings.
- 3. Cat6a (Category 6 Augmented):** Supports up to 10 Gbps, 500 MHz, offers better performance and longer cable runs

# INDUSTRIAL AND HIGH-SPEED APPLICATION

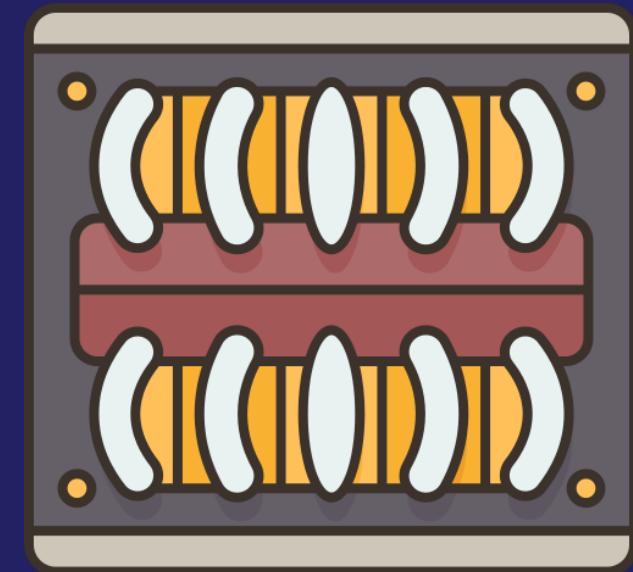
- 1. Cat7 (Category 7):** Supports up to 40 Gbps, 600 MHz, used in high-speed industrial and data center applications.
- 2. Cat7a (Category 7 Augmented):** Supports up to 100 Gbps, 1000 MHz, offers even higher speeds.

patch panel is simply a  
non-electronic component  
used to manage and  
organize cables.

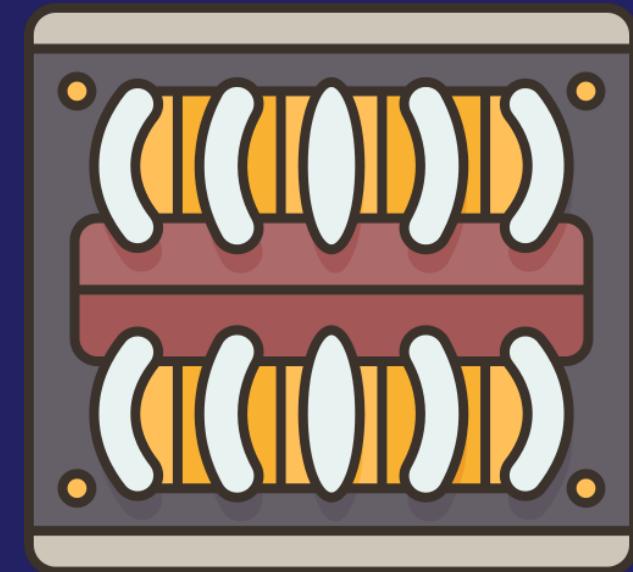


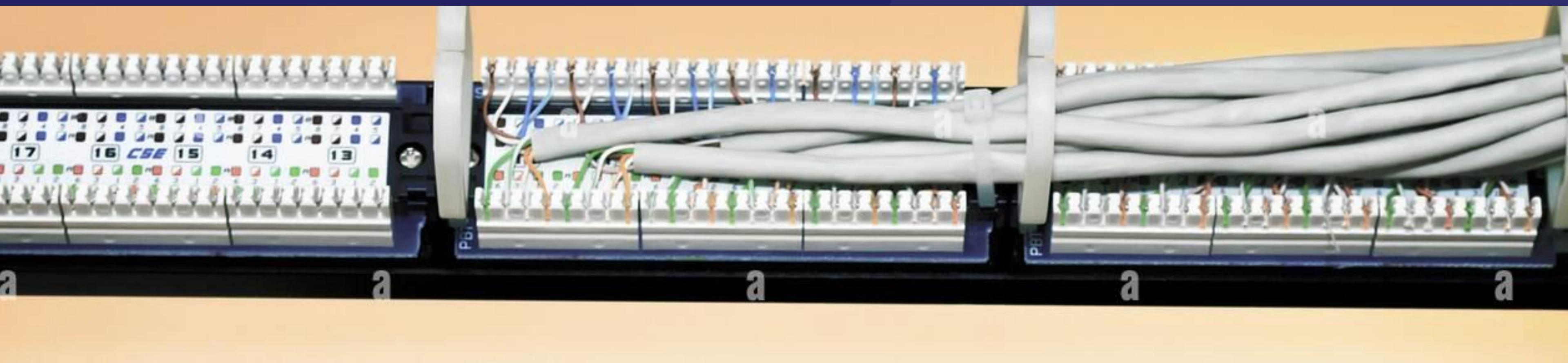
# SWITCH

manages data flow between the  
devices



# Do Patch Panels Have Different Wiring Standards?



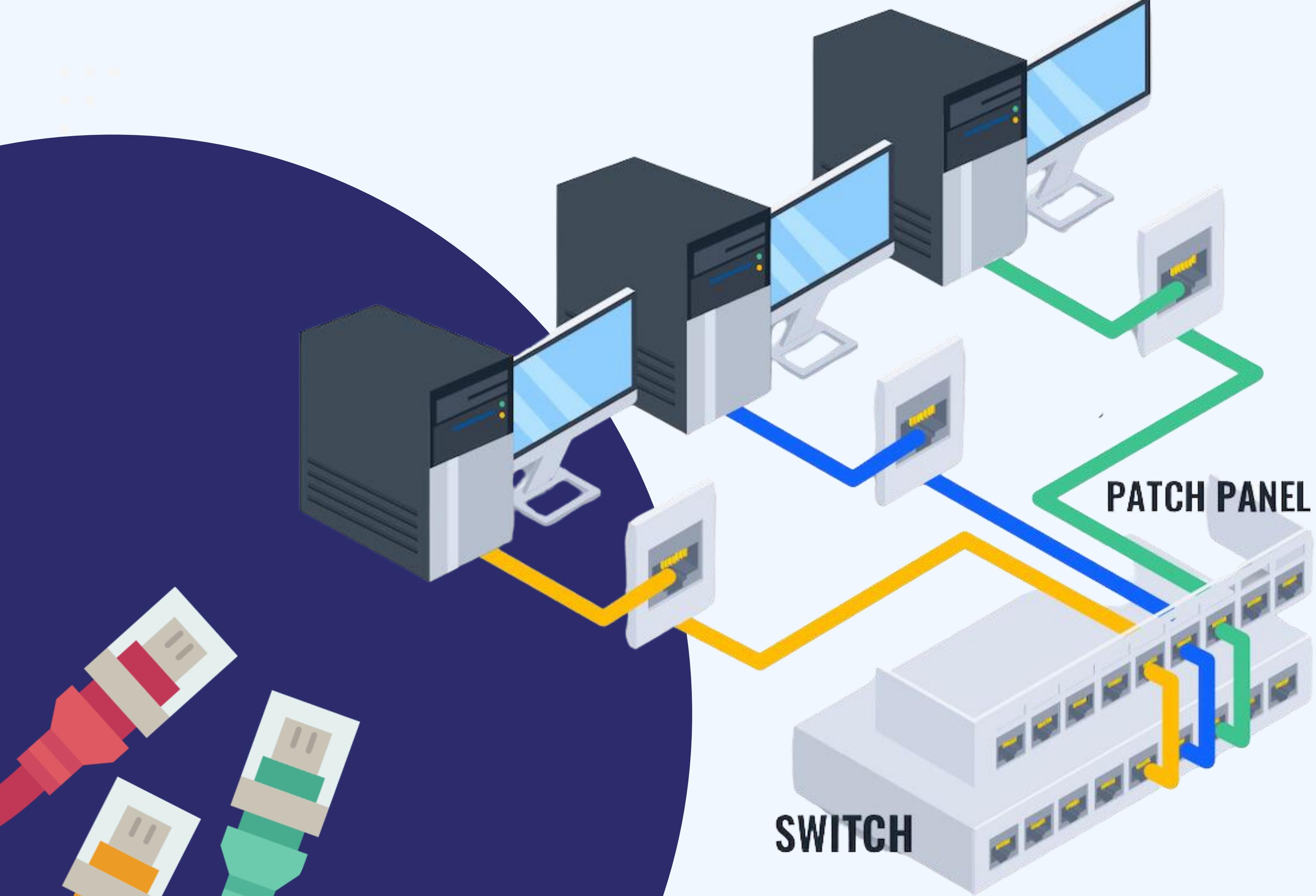


TIA/EIA  
568A and 568B

# Straight-through

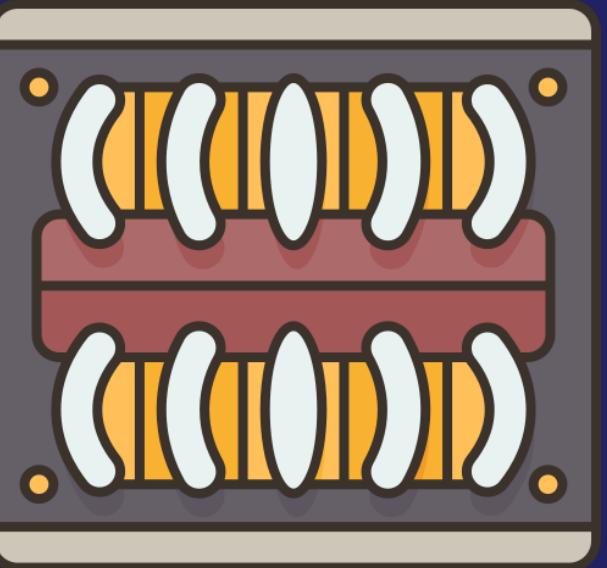
TIA/EIA

568A and 568B



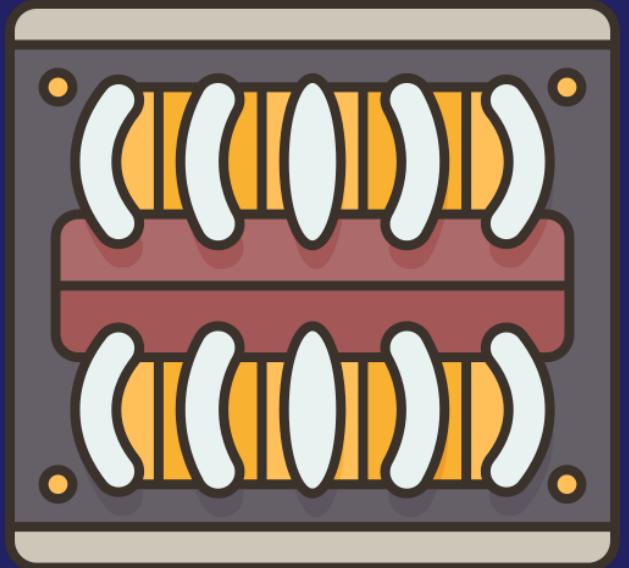
# Patch Panel

## Features



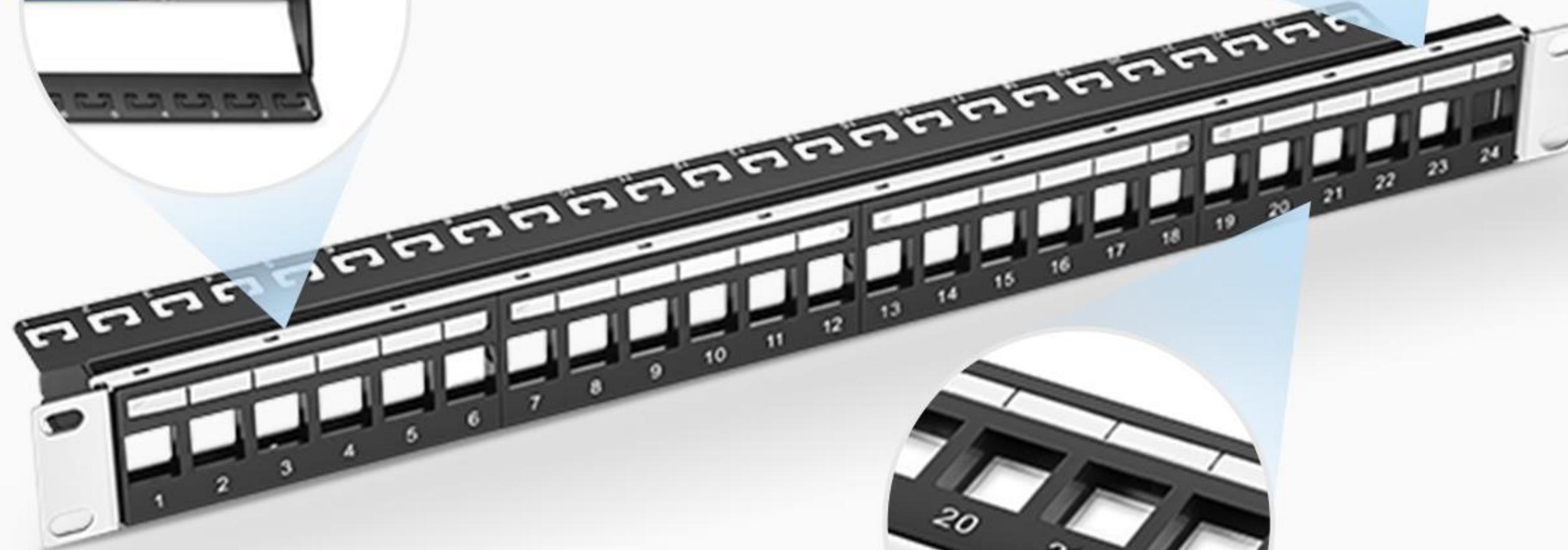
# Gold-plated connectors

Improved anti-corrosion protection and are compliant with all-important fire safety standards.



• •  
• Detachable Back Bar

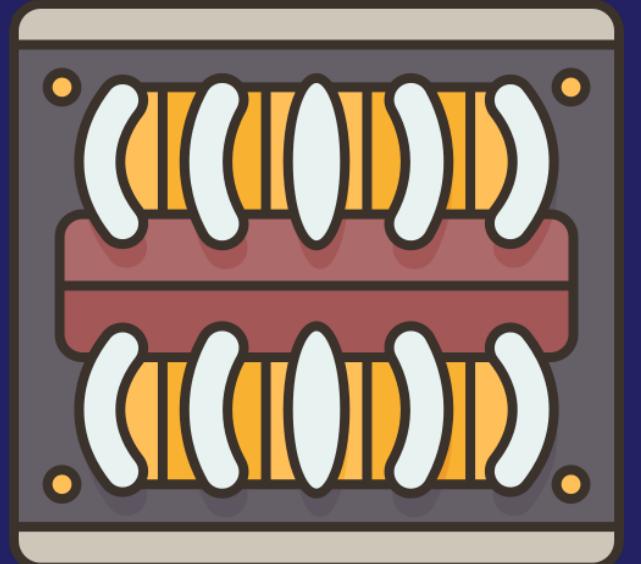
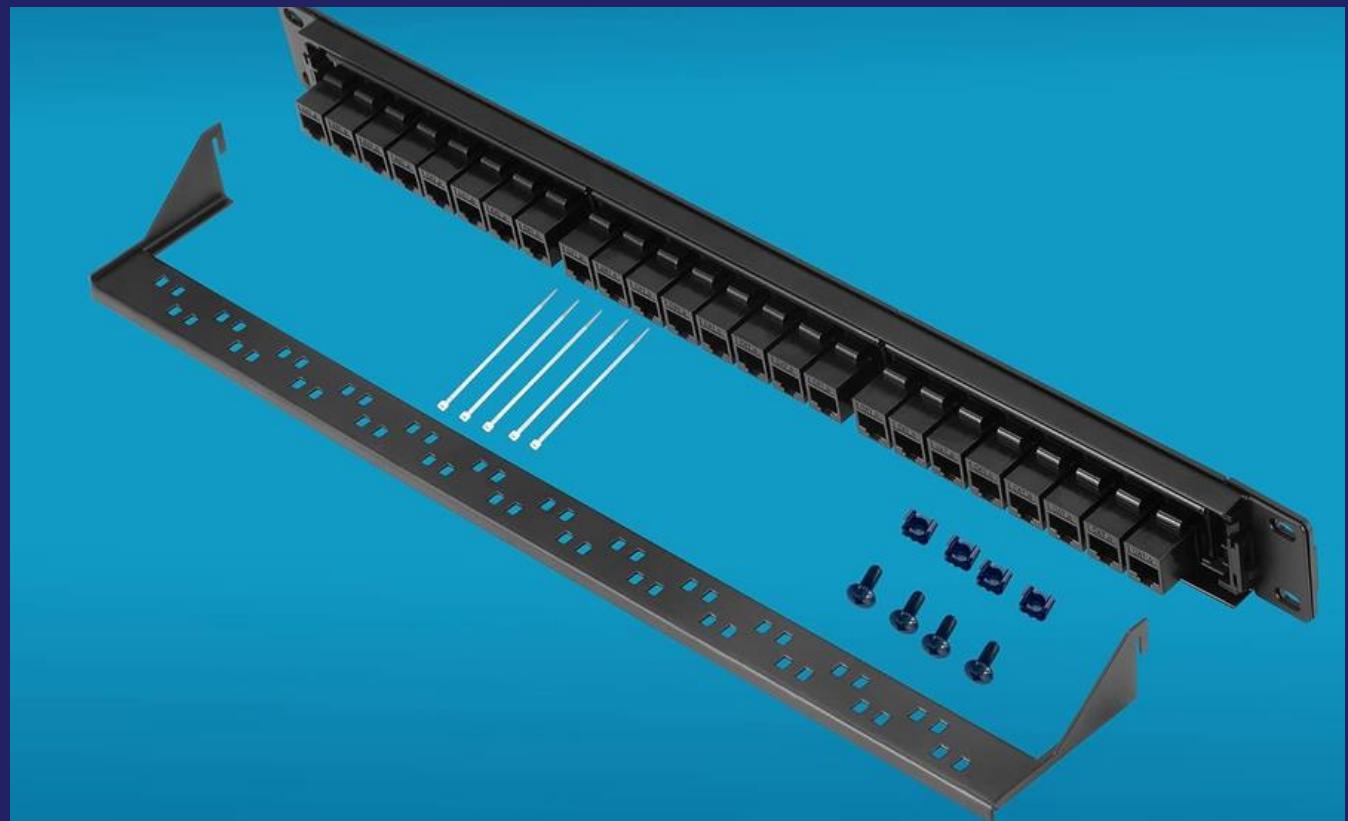
Ground Lead



Numbered and Labeled Ports

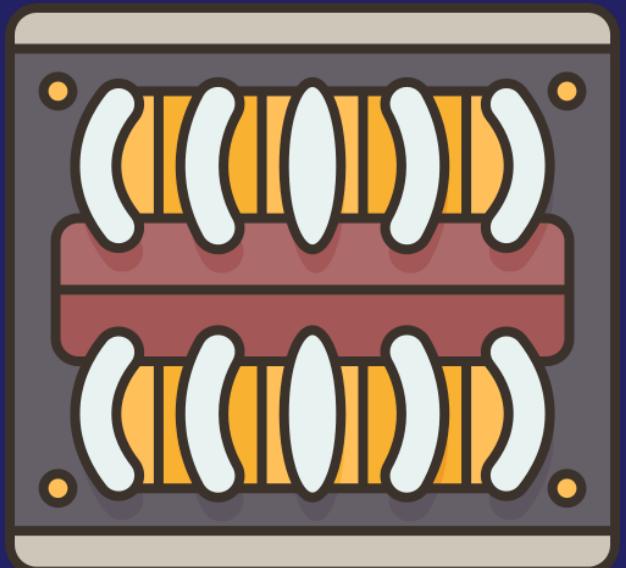
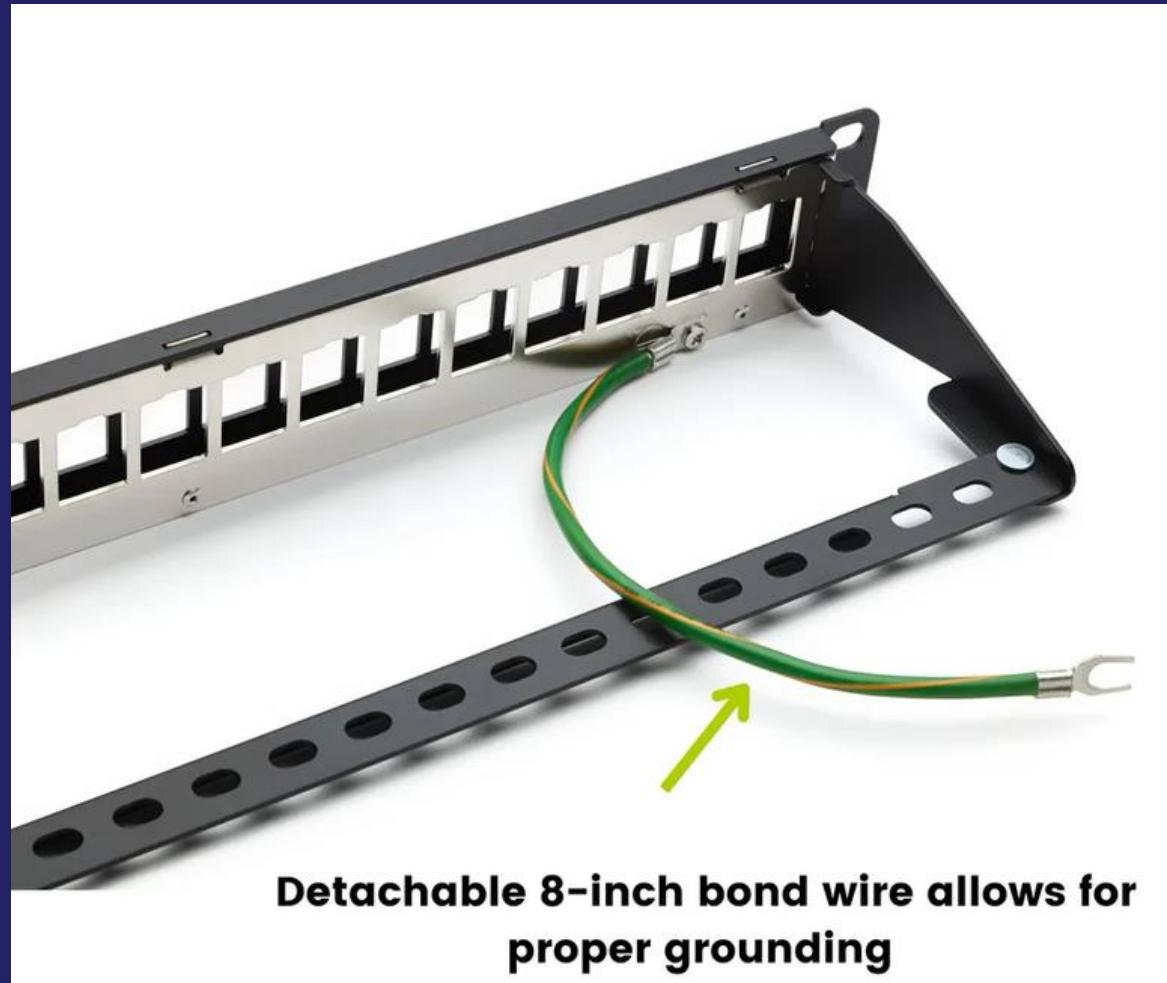
# DETACHABLE BACK BAR

detachable rear strain relief  
bars, numbers, and labels  
for easy identification and  
reference.

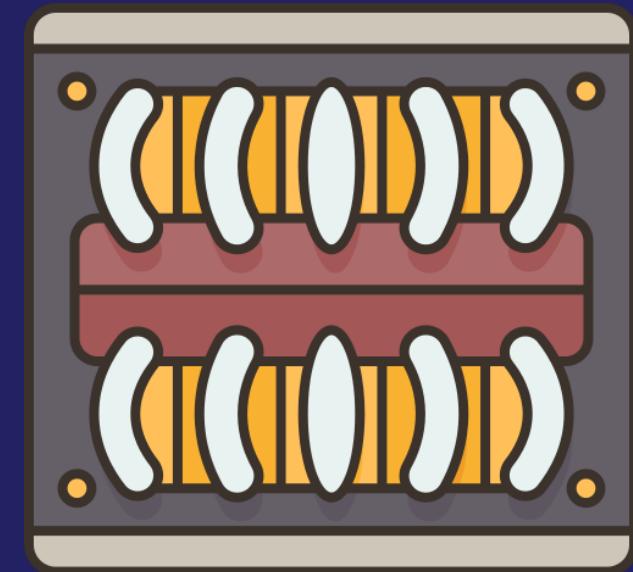


# GROUND-LEAD

ground wires ensure communication line cable performance. All FS patch panels comply with ISO/IEC11801 and TIA/EIA568 standards.



# Utilizing the Network Diagram



# Choose the Right Standard

Select either T568A or T568B wiring standard and stick to it throughout your network to avoid confusion.



TIA/EIA 568A Wiring	
1	White and Green
2	Green
3	White and Orange
4	Blue
5	White and Blue
6	Orange
7	White and Brown
8	Brown

TIA/EIA 568B Wiring	
1	White and Orange
2	Orange
3	White and Green
4	Blue
5	White and Blue
6	Green
7	White and Brown
8	Brown