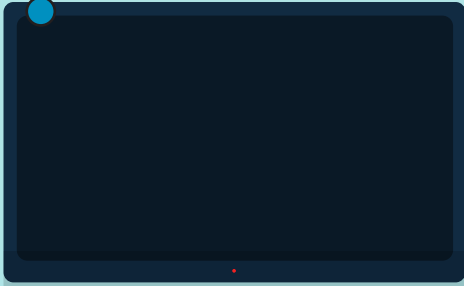


Atlona® AV Solutions



TrueEdge™ Wall Mount Enclosure



Mini-Com® Jack Modules,  
Faceplates,  
and Surface Mount Boxes

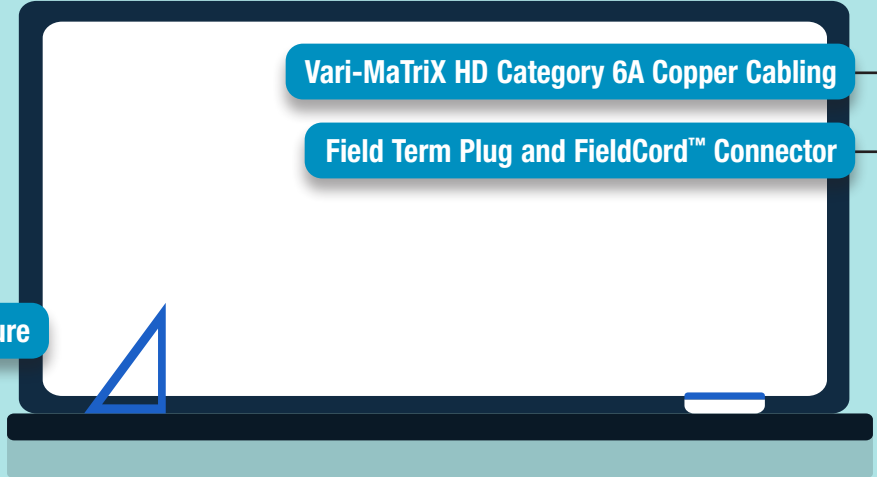


Surface Raceway



Vari-MaTriX HD Category 6A Copper Cabling

Field Term Plug and FieldCord™ Connector



# K-12 Education Infrastructure Solutions by Panduit and Atlona

**PANDUIT**®

 **ATLONA**®  
a PANDUIT company



More than ever, technology is a significant factor in how schools teach, and students learn. Typically referred to as Instructional Technology, it can include all manner of digital technology including computer hardware, software, the internet, and other resources that facilitate and enhance student learning in the classroom. The promise is that technology will foster increased collaboration, engagement, and support among faculty and students. However, technology cannot do this on its own, and thoughtful development of curriculum and professional development are required to produce the best results.

While curriculum is outside the scope of this document, the following two technology infrastructure areas are critical to the success of any method of instruction:

**Network Infrastructure:** The network is vital for connecting technology and infrastructure is foundational to that network. A robust physical layer is critical in ensuring a reliable network throughout the school or campus, to support:

- Always-on wireless connectivity for student, faculty, and staff devices
- Reliable transmission of data between instructors and students and throughout the campus
- Ample bandwidth to support a variety of instruction platforms, communication, and smart building applications
- Power over Ethernet to deliver power and Ethernet through a single cable

**AV Systems:** At the classroom level, audiovisual distribution systems make displaying lessons to students, students sharing their content with the class, and participation of remote students possible. Key elements of AV infrastructure for classrooms include:

- Reliable transmission of the instructor's AV content to large format display devices
- Management of AV and related signals so remote students feel like they are in the room
- Providing student access to large format displays for collaboration
- System control that is easy-to-use and support

Panduit has been more than a supplier to educational facilities since our founding in 1955. We continually innovate and work to ensure we provide the foundational infrastructure needed to provide optimal student and faculty experiences. This infrastructure needs to be reliable and adaptable to support changing needs over many years. Panduit offers a comprehensive array of copper, fiber, AV, and supporting infrastructure products that will support student and educator needs both today and into the future.

# Network Infrastructure Recommendations for Educational Facilities

Networks within schools fall under the guidance of ANSI/TIA-4966: Telecommunications Infrastructure Standard for Educational Facilities. The standard recommends:

- Copper: Category 6A cabling solutions for new installations
- Fiber: LC connectors with OM4 or OM5 cabling for new installations

Beyond meeting the standards, the physical layer should support key systems within a building or across a campus:

- **Wireless:** When COVID-19 shifted learning from the classroom to remote, school districts quickly mobilized to put devices in students' hands. A survey by [EdWeek Research Center](#) found that by March 2021, 90 percent of school districts in the United States provided one device per student in high schools and middle schools; 84 percent of elementary schools had one device per student. These wireless tablets and computers make Wi-Fi the most in-demand system within a school. To meet Wi-Fi demand, Panduit recommends running at least two to four Category 6A cables to every wireless access point. This ensures there is cabling available for future wireless expansion to Wi-Fi 6E and Wi-Fi 7, allowing for elements like link aggregation or additional access points to support spectrum partitioning or extra capacity.
- **Classroom Technology:** software, hardware, web-based or stand-alone, educators use a myriad of digital tools to deliver education in the classroom.
- **Smart Building Systems:** systems like intelligent lights, access control, security cameras, and building automation systems are growing in popularity, requiring a robust network to support the connected devices, as well as space in the telecommunications closet to house the equipment. A wired backbone ensures that connected devices have the data and power needed.
- **Power over Ethernet:** hard wired sensors and equipment can receive data and power over a single Ethernet cable, eliminating concerns over battery monitoring and maintenance.

## AV Infrastructure Recommendations for Classrooms

- **AV extension:** Distances between the teacher's desk and the display(s) for students typically exceed the capabilities of standard HDMI cables. HDBaseT™ extenders are a great solution for sending content from a laptop or other source to the display at distances of up to 330 feet over a single Category 6 or 6A cable.
- **AV and USB extension:** For remote students, it is important that the AV system allows them to see and hear what is happening in class as well as for them to be seen and heard. HDBaseT solutions that include USB signals for cameras and audio systems help remote students be part of the class.
- **Wireless collaboration:** Reliable Wi-Fi and wired infrastructure as well as network-based presentation components allow students to wirelessly share content from their device on the classroom display, with the permission of the teacher.
- **Control and support:** Whether it's a sensor that detects presence in the room or a press of a touch panel button that automates system startup, it is important that the AV control system is simple so users can concentrate on instruction. Network based control systems also simplify support by allowing remote access to address issues when necessary.

# Network Infrastructure for Schools

Panduit Category 6A solutions deliver bandwidth, along with the industry's best thermal properties to manage Power over Ethernet.

## Copper Cable

Panduit cables offer the highest performance in the smallest available form factors.



PUP6AHD04BU-G



PUP6004BU-WLP

Part Number	Performance Level	Flame Rating	AXT Barrier Tape	Cable Diameter (In.)	LP Rating	Packaging	Color
PUP6AHD04BU-G	Category 6A UTP Premium	Plenum (CMP, FT-6)	Vari-MaTriX Cables	0.230	CMP-LP (0.7A)	Reel	Blue
PUR6AV04BU-G		Riser (CMR, FT-4)	Continuous	0.260	CMR-LP (0.5A)		
PUP6XHD04BU-G	Category 6A UTP Standard Compliant Plus	Plenum (CMP, FT-6)	—	0.230	CMP-LP (0.7A)	Easy Payout Carton	
PUP6004BU-WLP	Category 6 UTP Enhanced	Plenum (CMP, FT-6)	—	0.222	CMP-LP (0.5A)		
PUR6004BU-W		Riser (CMR, FT-4)	—	0.237	—		
PUP6C04BU-ULP	Category 6 UTP Standard Compliant Plus	Plenum (CMP, FT-6)	—	0.205	CMP-LP (0.5A)		
PUR6C04BU-U		Riser (CMR, FT-4)	—	0.210	—		

## Connectors

Panduit Mini-Com® connectors deliver reliability and performance that comes from years of innovation and focus on quality. Quick and easy installation makes the system easier to install and manage.



CJ6X88TGBL



CJ688TGBU

Part Number	Jack Type	Performance Level	Color*	Termination Style
CJ6X88TG*	Unshielded Standard	Category 6A	Black (BL), Blue (BU), Electric Ivory (EI), Green (GR), International Gray (IG), Off White (IW), Orange (OR), Red (RD), Violet (VL), White (WH), Yellow (YL)	TG-Style
CJ688TG*		Category 6		
CJ6X88TG*-24		Category 6A	Black (BL), Blue (BU), White (WH)	
CJ6X88TG*-24		Category 6		

Replace \* in part number with color code to select color  
-24 indicates 24 pieces per package



Panduit also offers accessories like angled wire caps (CJUDCAPBU-C and CJLRCAPBU-C) that allow jacks to be placed in areas with a tight bend radius.



### Plugs

Field terminable plugs terminate as easily as a jack to offer simple and reliable terminations for applications like wireless access points and security cameras.

Part Number	Plug Type	Performance Level	Color*	Termination Style
<b>FP6X88MTG</b>	Unshielded Straight	Category 6/6A	Black	TG-Style
<b>FP6X88MTG-X</b>				
<b>FPUD6X88MTG</b>	Unshielded 45° Angled			
<b>FPUD6X88MTG-X</b>				



**FP6X88MTG**

-X indicates 10 pieces per package



The newest addition to the field terminable family of plugs is the FieldCord Connector, designed with a small plug and cable for use in applications with a small port opening, where the traditional field term plug may be too large.

Part Number	Plug Type	Performance Level	Flammability Rating	Length (m)	Color*
<b>FC-ICCP0.5MBU</b>	Unshielded Connector Cord	Category 6A	CMP	0.5	Blue
<b>FC-ICCP1MBU</b>				1	
<b>FC-OCCO1MBL</b>	Shielded Connector Cord		CMX/CMR	1	Black



**FC-ICCP0.5MBU**

\*Also available in white, replace BU in part number with WH to indicate white

## Patch Cords

High-quality and high-performance patch cords with small diameters support any needed connections in your building or classroom. Patch cords are pre-labeled for use with the *RapidID™* Network Mapping System.



UTP28X7BU

Part Number	Performance Level	Cable Type	AWG	Cable Diameter In. (mm)	Flammability Rating	Length^	Color*
UTP28X^*	Category 6A	Unshielded	28	0.185 (4.7)	CM/LSZH	8 in., 1, 3, 5, 7, 10, 15 ft.	Off White (blank), Black (BL), Blue (BU), Green (GR), Red (RD), Yellow (YL)
UTP28SP^*	Category 6			0.15 (3.8)			
UTP6AX^*	Category 6A		24	0.25 (6.4)	CM	1, 3, 5, 7, 10, 15 ft	
UTPSP^*Y	Category 6			0.24 (6.0)			
BKA6ASD8INBL	Category 6A		26	—		8 inches	

## Faceplates

With a variety of port densities and styles, these faceplates work with any Mini-Com® Jack Modules. These faceplates allow for rear-mounting of jacks.



CFPL2IWY



CFPSL4IWY

Part Number	Ports	Style	Identification	Color
<b>Classic Series</b>				
CFPL1IWY	1	Flat	Label Pocket	Off White
CFPL2IWY	2		Adhesive	
CFP2IW		Sloped	Label Pocket	
CFPSL2IWY	4			
CFPL4IWY		Sloped		
CFPSL4IWY				
<b>Executive Series</b>				
CFPE2IWY	2	Flat	Label Pocket	Off White





## Patch Panels

Panduit pioneered angled patch panels, making it easier to route cables to the side of racks and cabinets, enabling higher density in the telecommunications closet. A variety of port densities, configurations, labeling options, and colors mean you can find the right patch panel for your application.

Part Number	Number of Ports	Number of Rack Units	Style	Identification	Color
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### Flush Mount



CPPA24FMWBLY

CPP24FMWBLY	24	1	Flat	Adhesive	Black
CPPA24FMWBLY			Angled		
CPP48FMWBLY	48	2	Flat		
CPPA48FMWBLY			Angled		

### Front Access



CPPL48WBLY

CPP24WBLY	24	1	Flat	Adhesive	Black
CPPL24WBLY				Label Pocket	
CPP48WBLY	48	2		Adhesive	
CPPL48WBLY				Label Pocket	
CPPLA48WBLY			Angled		

## Outlet Boxes

Surface mount boxes accept Mini-Com® Jack Modules to provide protected connections for a variety of devices.



CBX2WH-A

Part Number	Ports	Style	Identification	Magnet	Color
CBX1WH-A	1	Elongated	Adhesive	—	White
CBX2WH-A	2	Elongated		CBM-X	White



**SKRJ45RD-X**

## Network Physical Security

Prevent unauthorized network access via network connections with lock-in and block-out devices.

Part Number	Type	Color
<b>SKRJ45RD-X</b>	SmartKeeper RJ45 Blockout Device	Red
<b>SKUSBA-V</b>	SmartKeeper USB Type A Blockout Device	
<b>SKUSBC</b>	SmartKeeper USB Type C Blockout Device	
<b>SKMKEY</b>	SmartKeeper Master Key	Gray
<b>PSL-DCPLRE</b>	RJ45 Plug Lock-In Device, Recessed	Red
<b>PSL-DCPLE</b>	RJ45 Plug Lock-In Device, Standard	

## Wall Mount Switch Cabinet

Bring connections closer to devices with the TrueEdge™ Vertical Wall Mount Enclosure.



**WME3BL**

Part Number	Description
<b>WME3BL</b>	TrueEdge™ Wall Mount Enclosure houses 36" of active equipment in a low-profile enclosure; 9.5" deep x 42" high
<b>WME31RU</b>	Bracket for TrueEdge Wall Mount Enclosure
<b>WMEGK</b>	Ground Kit for TrueEdge Wall Mount Enclosure
<b>PZAEFAN</b>	Fan Kit for TrueEdge Wall Mount Enclosure
<b>P08D09M</b>	SmartZone™ Monitored Input PDU
<b>ACF06</b>	SmartZone™ Security Handle
<b>U01N11V</b>	SmartZone™ UPS



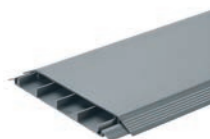


## Raceway

Route, protect, and conceal data, voice, and video cabling along walls or above floors.



LD5WH6-A



AFR4BCBL6

Part Number	Description	Interior dimensions	Length (feet)	Color
LD5WH6-A	LD5 Surface Raceway Channel with latching cover and adhesive mounting	0.77" wide × 0.46" deep	6	White
LD5IW8-A	LD5 Surface Raceway Channel with latching cover and adhesive mounting	0.77" wide × 0.46" deep	8	Off White
LD10WH6-A	LD10 Surface Raceway Channel with latching cover and adhesive mounting	1.5" wide × 0.94" deep	6	White
LD10IW8-A	LD10 Surface Raceway Channel with latching cover and adhesive mounting	1.5" wide × 0.94" deep	8	Off White
LD3WH6-A	LD3 Surface Raceway Channel with latching cover and adhesive mounting	1.01" wide × 0.58" deep	6	White
AFR4BCBL6	Above Floor Raceway 4-channel base and cover, ADA compliant	6.93" wide × 0.5" deep	6	Black
AFR4TBLGBL	Above Floor Raceway Table Leg Fitting to route cable to a table	6.4" wide × 30" high	—	Black

## Labeling and Identification

Proper identification of cables, racks, panels, and outlets not only is required to meet standards, but also simplifies management of the network after installation.



MP300

Part Number	Description
<b>Printer and Easy-Mark Software</b>	
MP300	MP300 PXE Series Mobile Printer, combines Epson print technology and Panduit labeling and software expertise for industrial grade marking solutions for network and electrical contractors
EMPLUS-DL	Easy-Mark Plus™ Labeling Software, online download

### Front Access



R100X150V1M

Part Number	Label Type	Labels per Cassette	Print-On Area Color	Width (In.)	Length (In.)
R100X150V1M	Turn-Tell®	100	Black on White	1.0"	1.5"
S100X150VAM	Self-Laminating	175	Black on White	1.0"	1.5"

# AV Infrastructure Solutions for Schools

## AV Extension

Extension addresses the distance limitations of standard HDMI® cables when running AV content from the teachers' desk to a display at the front of the classroom or a projector in the ceiling. HDBaseT extender kits, like the **Avance™ Series** from Atlona, support transmission distances of up to 330 feet over easy to install Category 6/6A cable. Installation is further simplified by remote power, where one supply powers both the transmitter and receiver. Advanced features including EDID filtering and clock stretching ensure video transmission integrity and stable connections.



**AT-AVA-EX70-KIT**



**AT-AVA-EX100CE-BP-KIT**

Part Number	Description
<b>AT-AVA-EX70-KIT</b>	Avance 4K/UHD HDMI Extender Kit <ul style="list-style-type: none"> <li>• Extend 4K/UHD up to 130 feet</li> <li>• Remote power</li> <li>• EDID filtering and clock stretching ensure more reliable transmission</li> </ul>
<b>AT-AVA-EX100CE-BP-KIT</b>	Avance 4K/UHD HDMI Extender Kit <ul style="list-style-type: none"> <li>• Extend 4K/UHD up to 330 feet</li> <li>• Also extends Ethernet and control</li> <li>• Bidirectional remote power</li> <li>• EDID filtering and clock stretching ensure more reliable transmission</li> </ul>

## AV and USB Extension

Many of Atlona's **Omega™ Series** products extend both AV content and USB signals over HDBaseT. Support for USB signals is critical to get the keyboard and mouse controls from an interactive display back to the teacher computer as well as integrating cameras and audio systems with videoconferencing applications for remote students. Omega offers both table mount and wallplate transmitters to suit a variety of classroom environments, as well as switcher models to support multiple inputs and outputs.



**AT-OME-EX-KIT-LT**



**AT-OME-EX-WP-KIT**



**AT-OME-MS42**

Part Number	Description
<b>AT-OME-EX-KIT-LT</b>	Omega TX/RX for HDMI and USB <ul style="list-style-type: none"> <li>• Extend HDMI, control, and USB up to 230 feet</li> <li>• Remote power</li> <li>• HDBaseT link testing</li> </ul>
<b>AT-OME-EX-WP-KIT</b>	Wallplate TX/RX for HDMI and USB <ul style="list-style-type: none"> <li>• Extend HDMI, control, and USB up to 330 feet</li> <li>• Wallplate transmitter</li> <li>• Remote power</li> </ul>
<b>AT-OME-MS42</b>	Omega Matrix Switcher with USB <ul style="list-style-type: none"> <li>• 4x2 matrix switcher</li> <li>• Local and long-distance outputs</li> <li>• HDBaseT output extends HDMI and USB up to 330 feet</li> <li>• Also extends Ethernet and control</li> <li>• Remote power for the receiver</li> </ul>

## Wireless Collaboration

Schools with reliable Wi-Fi and wired network infrastructure can leverage that resource for classroom AV as well as traditional data purposes. Atlona wireless presentation systems use the network to allow students to share their screen on the display or projector at the front of the room, fostering collaboration with classmates and the teacher. Products are available that allow sharing content from multiple users at the same time and switching capabilities to integrate wireless with other sources. Instructor and moderator modes allow the teacher to ensure only acceptable content is shared.



**AT-WAVE-101**



**AT-OME-MS52W**

Part Number	Description
<b>AT-WAVE-101</b>	<p>Wireless Presentation Platform</p> <ul style="list-style-type: none"> <li>• Allows simultaneous content sharing for up to four presenters</li> <li>• Wireless screen casting for iOS®, Android™, Mac®, Chromebook™, and Windows® devices</li> <li>• Instructor Mode allows a user to manage content</li> </ul>
<b>AT-OME-MS52W</b>	<p>Matrix Switcher with Wireless Link</p> <ul style="list-style-type: none"> <li>• 5x2 matrix switcher</li> <li>• Local and long-distance outputs</li> <li>• HDBaseT output extends HDMI and USB up to 330 feet</li> <li>• Native wireless screen casting for AirPlay®, Google® Cast™, and Miracast™ with moderator mode</li> </ul>

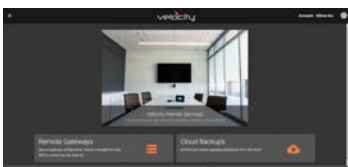
## Control and Support

Classrooms AV systems run the gamut from simple to complex, but in all cases, it is paramount that they be easy-to-use so teachers can focus on working with students instead of operating the system. Atlona offers simple control solutions including switchers that turn on a display when a source is connected and an occupancy sensor that uses presence in the room for startup or shutdown.

Velocity™ is our innovative IP-based AV control system for more complex operations and automation. It allows the room to be prepared for presentation with the press of a single touch panel button. If preferred, instructors can control the system with their personal mobile device by scanning a QR code. Velocity also supports remote configuration, management, and control to increase the efficiency of help desk support teams.



**AT-VTPG-1000VL**

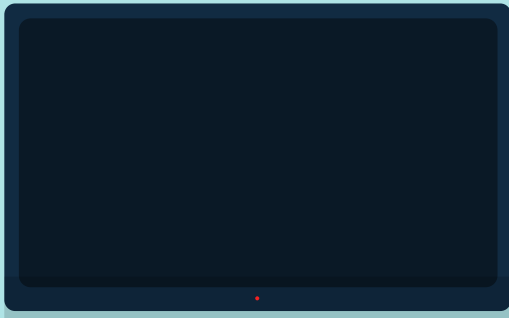


**AT-VPS-RG**



**AT-OCS-900N**

Part Number	Description
<b>AT-VTPG-1000VL</b>	<p>Velocity All-In-One Control System</p> <ul style="list-style-type: none"> <li>• 10" touch panel with integrated one room gateway</li> <li>• Intuitive browser-based setup for fast system configuration</li> <li>• Dual purpose glass and wall mount</li> <li>• PoE for remote power and data over a single cable</li> </ul>
<b>AT-VPS-RG</b>	<p>Velocity Remote Management</p> <ul style="list-style-type: none"> <li>• Configure and manage Velocity AV control systems over the internet</li> <li>• Reduce costs associated with on-site visits</li> <li>• Increase responsiveness to technical support issues</li> <li>• BYOD AV control through the internet</li> </ul>
<b>AT-OCS-900N</b>	<p>Network-Enabled Occupancy Sensor</p> <ul style="list-style-type: none"> <li>• Detects occupancy, temperature, and ambient light level</li> <li>• Communicates state over Ethernet</li> <li>• Works with WAVE, Omega, and Velocity for AV automation</li> <li>• Customizable detection area</li> <li>• PoE for remote power and data over a single cable</li> </ul>



# PANDUIT®

Since 1955, Panduit's culture of curiosity and passion for problem solving have enabled more meaningful connections between companies' business goals and their marketplace success. Panduit creates leading-edge physical, electrical, and network infrastructure solutions for enterprise-wide environments, from the data center to the telecom room, from the desktop to the plant floor. Headquartered in Tinley Park, IL, USA and operating in 112 global locations, Panduit's proven reputation for quality and technology leadership, coupled with a robust partner ecosystem, help support, sustain, and empower business growth in a connected world.

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Atlona, a Panduit company, is a leading manufacturer of AV distribution, AV over IP, collaboration, and control solutions. Our goal is to improve technology for the sharing of ideas, through innovative AV products.

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