

# PARADIGM<sup>TM</sup>

## EXTENDED DISTANCE SYSTEM

The PARADIGM Extended Distance System is a next-generation Cat 6 UTP cabling solution engineered for extended reach, real-world reliability, and simplified deployments. It delivers consistent performance for data rates up to 2.5G and all PoE types, even in environments up to 60 °C. With optimized cable construction and system-level assurance, PARADIGM helps reduce infrastructure costs and expand network coverage beyond the standard 100-meter limit.

### **RECOMMENDED FOR:**

Mission-critical extended distance applications beyond the 100-meter standard

Networks supporting security cameras, Wi-Fi and DAS Systems, access control, and IoT edge devices

Extending network reach across large and distributed environments including healthcare, transportation, education, and warehouses

Supporting optimal return on infrastructure investment by reducing deployment complexity

Data rates up to 2.5G and PoE up to 100 W

Outdoor spaces or large buildings with PoE enabled devices, where thermal performance matters



Built on Stadion cable, the PARADIGM™ Extended Distance System delivers reliable Ethernet and PoE well beyond the 100-meter standard. Stadion's optimized construction is engineered for long runs, elevated temperatures, and high-power PoE, enabling consistent performance for data rates up to 2.5G and all PoE types in environments up to 60 °C.

PARADIGM pairs Stadion cable with ATLAS-X1™ connectivity and system level validation to simplify planning, reduce infrastructure complexity, and extend network reach without compromising reliability. The result is a fully assured solution for expanding coverage across large buildings, campuses, and outdoor environments.

## Use Cases

### Security Cameras & Surveillance Systems

Support up to 275 meters of reach for IP cameras without adding IDFs or active equipment. With verified performance in wet and elevated temperature environments, PARADIGM is the go-to solution for scalable surveillance infrastructure.

### Wireless Access Points & Smart Spaces

Deploy Wi-Fi 6 and 6E access points in large or complex environments with confidence. The system simplifies cabling for high-density wireless networks and ensures consistent signal delivery across extended distances.

### Access Control & Campus Safety Kiosks

Connect remote access control systems and blue-light safety kiosks over extended distances using a simplified copper cabling architecture.

### Harsh Environments

PARADIGM systems support critical infrastructure and are validated to operate across temperatures from -10 °C (14 °F) to +60 °C (140 °F), delivering reliable connectivity in demanding, real-world deployments.

## Environmentally Conscious Design

Environmentally optimized components have been selected for this system to minimize impact, while delivering strong performance beyond category specifications, as well as user-friendly design to enable fast, easy installations.



### Bulk Packaging for Jacks

Select colors of ATLAS-X1 jacks are available in 12-pack GREENPACK™, a compact, reusable, and recyclable packaging, which reduces jobsite waste.




### Less Material Required for New Patch Cord Plug and Boot

Using 72% less plastic in our new patch cord boot also makes our cords lighter to reduce shipping energy and cost.



### Sustainably Smart Packaging

Multiple product packaging options are entirely recyclable and use no single-use plastics.

 Look for this leaf on the following pages for specific points of environmentally conscious product design.

Visit [leviton.com/sustainability](https://leviton.com/sustainability) for details of the Leviton CN2030 program.

- Industry leading support for applications beyond 100 m that works in real-world conditions
- Exceeds ISO/IEC 11801-1 Class E and ANSI/TIA-568.2 Cat 6 requirements for 100 meter channel, permanent link, and component requirements to support network speeds up to 2.5G
- Can be specified and installed globally, making planning and deployment easier
- Provides superior DC loop resistance at 60 °C with  $\leq 25 \Omega$  at 200 m and  $\leq 40 \Omega$  at 275 m to support IEEE 802.3 PoE Type 1, 2, 3, 4 (100 watts max)
- PARADIGM systems can combine Stadion OSP cable and indoor rated SST cables in select configurations for enhanced network flexibility. Contact your local Leviton representative for the application guide

### Extended Length Channels (Greater than 100 meters)

Leviton strongly recommends all cabling systems be installed in compliance with relevant standards. This is to ensure support for current and future applications designed to run on standards-based architecture. Should the need arise to install a channel longer than 100 meters, the risk of a reduction in interoperability is increased and performance becomes dependent on the active equipment used.<sup>1,2</sup>

### Extended Application and PoE Distances

The configurations and products in the system topologies on page 6 will support the applications listed in the Table 1. Note, to use the configurations on Page 6 for extended distances, only the length of the horizontal cable increases (i.e. not the length of any of the patch cords). The distances below went through rigorous testing and engineering modeling to ensure full support of the indicated IEEE 802.3 applications.<sup>3,4,5</sup>

Table 1

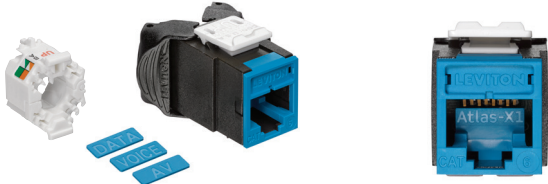
MAX SUPPORTED DISTANCES	PARADIGM with Stadion Cable				
	Data Only	Type 1 (15.4 W)	Type 2 (30 W)	Type 3 (60 W)	Type 4 (100 W)
10BASE-T	For performance data, contact your local sales person. <a href="http://Leviton.com/ns/global-locations">Leviton.com/ns/global-locations</a>				
100BASE-TX					
1000BASE-T					
2.5GBASE-T					

Application Assurance Terms and Conditions:

- All active equipment must comply with IEEE 802.3 standards throughout duration of operation and be configured to allow link segments that significantly exceed 100 meters to operate.
- All cable and components must be installed in accordance with industry best practices and Leviton's Certified Integrator must perform the installation that will be submitted for warranty.
- Temperature of cabling throughout all segments must not exceed 60 degrees Celsius.
- Channels that exceed 100 meters become application specific and must be operated in full duplex mode.
- The extended length channels will support IEEE 802.3 application speeds and PoE power delivery when passing Leviton specific custom limits (network equipment excluded).
- Leviton's special 25-year application assurance warranty will cover extended distance as per configurations outlined in this System Data Sheet. Leviton application assurance terms and conditions apply.
- Twisted-pair Ethernet applications at link segments longer than 100 meters in length are not standards compliant and therefore there is no guaranteed interoperability or functionality with other components or equipment even if they are standards compliant.

Notes:

- <sup>1</sup> Extended distances listed in Table 1 are backed by Leviton's 25-year Applications Assurance Warranty when verified to Leviton specified test limits.
- <sup>2</sup> As active equipment ages, extended distance reach may be reduced.
- <sup>3</sup> By default, some network devices may disable ports if the link is detected to be significantly longer than 100 meters.
- <sup>4</sup> Maximum channel lengths in Table 1 assume 10 m of patch cord for permanent links and 5 m of patch cord for MPTL configurations.
- <sup>5</sup> Any moves, adds, or changes to the channel will require re-testing for warranty coverage to apply. Contact Leviton Application Engineering (US: [contractorprograms@leviton.com](mailto:contractorprograms@leviton.com) or EMEA: [appeng.eu@leviton.com](mailto:appeng.eu@leviton.com)) to acquire specific test limits and testing procedure.



## Jacks

### ATLAS-X1™ Cat 6 Component-Rated QUICKPORT™ UTP Jacks

- Independently tested and guaranteed to exceed all component, permanent link, and channel margins
- Patented Retention Force Technology (RFT) protects against tine damage and maintains contact force between plug and jack, preventing arcing from intermittent disconnects in PoE applications
- Unique, tool-free design requires no specialized termination or re-termination tool
- Short jack design supports a wider range of applications (e.g. shallow boxes, enclosures, bend radius, etc.)
- Terminates from 26 to 22 AWG solid or stranded conductors for use on various cable types
- Robust IDCs can withstand 20 re-termination cycles and jack contacts are tested for 3,000 plug-mating cycles to ensure system longevity
- Available in 14 ANSI/TIA-606-C compatible colors
- Interchangeable icons available (voice, data, A/V, blank) for easy ID
- Select colors available in 12-Pack GREENPACK™ packaging that is fully recyclable
- Jack with internal shutter protects against dust and debris
- Solid metal body dissipates 53% more heat than traditional plastic, minimizing damage from excess heat in PoE applications
- Tine geometry prevents arcing damage where plug and jack make contact

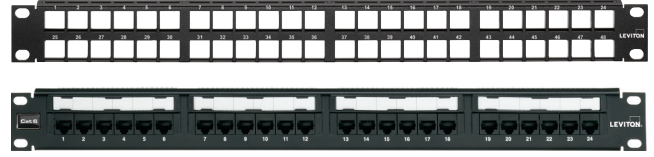
Description	Part No.	Typical Region
ATLAS-X1 Cat 6 UTP QUICKPORT Jack	<a href="#">61UJK-R*6</a>	Global
ATLAS-X1 Cat 6 UTP QUICKPORT Jack, GREENPACK 12-Pack	<a href="#">61UJK-C^6</a>	
ATLAS-X1 Cat 6 UTP QUICKPORT Jack with Shutter	<a href="#">61UJK-S*6</a>	
ATLAS-X1 Bulk Icons, pack of 72	<a href="#">ICONS-IC*</a>	

\* = Color: White (W), Lt. Almond (T), Ivory (I), Yellow (Y), Orange (O), Crimson (C), Dark Red (R), Purple (P), Blue (L), Green (V), Gray (G), Black (E), Brown (B), Pink (K)

^ = Color: White (W), Black (E), Blue (L)

Note: Pink (K) available for 61UJK-R\*6 only.

Not all pack modes are available in all regions. Contact your Leviton representative for details.



## Patch Panels

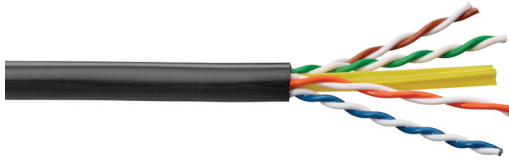
### QUICKPORT Modular Patch Panels

- Accepts all QUICKPORT-compatible connectors
- 49255-H24 and 49255-H48 include cable management bars and write-on port blocks
- Select panels available with magnifying lens label holders to ensure visibility of port labels
- Available in an angled design that allows for cords to easily route directly into vertical managers
- Select panel configurations available in white finish
- Available in a front loading UTP QUICKPORT configuration that supports jack installation from front or rear
- High-density panels are designed to minimize carbon footprint per port
- Designed and manufactured in an ISO 4001 facility

### Cat 6 110-Style Panels

- Independently tested and guaranteed to exceed all component, permanent link, and channel margins
- Universal T568A and T568B wiring cards for 110-style IDC terminations
- Color-coded front labelling for easy port identification (ANSI/TIA-606-C compliant)
- Terminates 26-22 gauge solid conductors
- Capable of multiple re-terminations
- Select panel configurations available in white finish
- Will exceed IEEE 802.3 standard up to 0.5 amps per conductor (100 watts) continuously

Description	Part No.	Typical Region
<b>Modular Panels</b>		
1RU 24-Port Flat QUICKPORT Patch Panel, black	<a href="#">49255-H24</a>	Global
1RU 48-Port Flat QUICKPORT Patch Panel, black	<a href="#">49255-Q48</a>	Global
2RU 48-Port Flat QUICKPORT Patch Panel, black	<a href="#">49255-H48</a>	United States, Canada, LATAM
<b>110-Style Panels</b>		
1RU 24-Port Cat 6 Flat 110-Style UTP Patch Panel, black	<a href="#">69586-U24</a>	United States, Canada, LATAM
2RU 48-Port Cat 6 Flat 110-Style UTP Patch Panel, black	<a href="#">69586-U48</a>	
1RU 24-Port Cat 6 Flat 110-Style UTP Patch Panel, black	<a href="#">69586-B24</a>	Europe, Middle East, APAC



## Cable

### Stadion Cat 6 OSP Cable

- Industry's first Category 6 compliant cable to enable plug-to-plug Gigabit Ethernet and Type 4 PoE at distances up to 225 meters (738 feet)
- 22 AWG OSP cable that exceeds the Cat 6 requirements
- Gel-filled core and rugged jacket provide water and sunlight resistance to support security cameras, Wi-Fi access points, and other devices in challenging environments
- Cable transmits PoE power at 100 m with 89% efficiency which reduces heat-buildup in bundles
- Provides extended distance support for large, outdoor environments
- Excellent choice for high-power, high-bandwidth applications like HD video and IP security
- Features reusable and 100% recyclable reels

Description	Part No.	Packaging	Typical Region
<b>Outdoor/External</b>			
BERK-TEK™ Stadion Cat 6 UTP, Extended Distance Cable, OSP, black	<a href="#">11144870</a>	1000 ft (305 m) Reel	United States, Canada
Stadion Cat 6 UTP, Extended Distance Cable, OSP, black	<a href="#">STADION-X-500BK</a>	1640 ft (500 m) Reel	Europe, Middle East, APAC



GREENPACK™ bulk packs are available in Sustainably Smart packaging

## Patch Cords

### Cat 6 Standard Patch Cords

- Accommodate use in high-density switches, routers, and other electronics
- Snagless plug design with integrated strain-relief boot
- 24 AWG Stranded conductor for longer flex-life
- Supports Power over Ethernet (PoE) — see individual product specifications sheets for full capabilities
- Compatible with Leviton's Secure RJ system providing physical port security and color clips for additional network identification

### VXC Coupler

- A problem solver for IoT devices like cameras, sensors, access control devices and WAPS
- Connects two pieces of 22 - 26 AWG cabling either solid or stranded without proprietary tools
- Supports Power over Ethernet (PoE) - see individual product specification sheets for full capabilities

### Outdoor/External Patch Cords

- Sunlight resistant cable jacket
- Snagless plug design prevents tab breakage
- T568B wiring to function in either T568A or T568B applications
- Supports Power over Ethernet (PoE) - see individual product specification sheets for full capabilities

Description								Typical Region
Standard CM	White	Blue	Gray	Yellow	Red	Green	Black	
Cat 6 Standard Patch Cord CM Rated	<a href="#">6D460-yyW</a>	<a href="#">6D460-yyL</a>	<a href="#">6D460-yyS</a>	<a href="#">6D460-yyY</a>	<a href="#">6D460-yyR</a>	<a href="#">6D460-yyG</a>	<a href="#">6D460-yyE</a>	United States, Canada, LATAM
Standard LSZH	White	Blue	Gray	Yellow	Red	Green	Black	
Cat 6 Standard Patch Cord	<a href="#">C6CPCUyyy-3CCBB-Pzz</a>	<a href="#">C6CPCUyyy-4CCBB-Pzz</a>	<a href="#">C6CPCUyyy-8CCBB-Pzz</a>	<a href="#">C6CPCUyyy-6CCBB-Pzz</a>	<a href="#">C6CPCUyyy-1CCBB-Pzz</a>	<a href="#">C6CPCUyyy-5CCBB-Pzz</a>	<a href="#">C6CPCUyyy-2CCBB-Pzz</a>	Europe, Middle East, APAC, LATAM
Coupler								
VXC Coupler	<a href="#">SBCPI-00S</a>							Global
Device End Cords								
Cat 6A Field Term Plug*	<a href="#">6APLG-S6A</a>							Global
Device End Patch Cord, RDT Indoor/Outdoor*	<a href="#">UAOPP-xxE</a>							United States, Canada, LATAM
Device End Patch Cord, SST Outdoor*	<a href="#">6APC0yyy-2CCSO</a>							EMEA, APAC

xx = Length in feet: 1 - 50 (0.3-6.1 meters)

yy = Length in feet: 1 - 72 (0.3 - 21 meters)

z = Cable type: Z=Zone Cable, S = S/FTP, U=UTP, F=F/UTP, D = F/FTP

\* = Jack type: S = Shielded, T= Shielded with Shutter, U = UTP, V = UTP with Shutter

- = Plugs are not rated for outdoor environments.

xxx = Length in meters: 2 - 50

yyy = Length in meters: 0.5 - 20

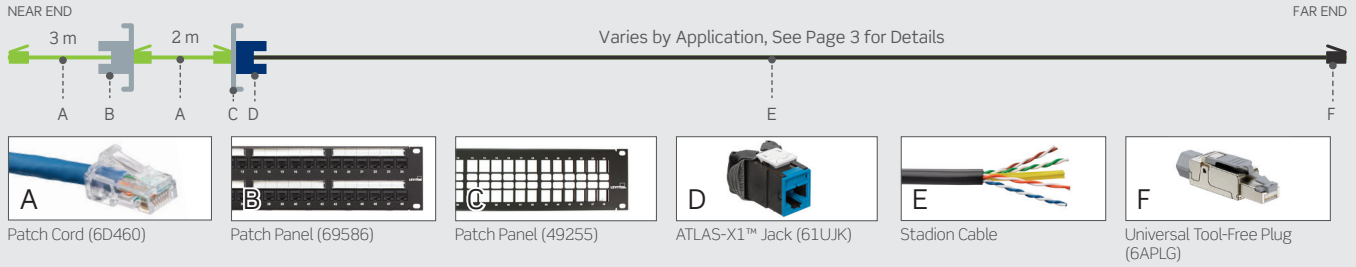
zz = Number of cords per GreenPack: < 3m = 24 cords per pack; > 3m = 12 cords per pack

\* = Labeling: S = Standard, C = Custom

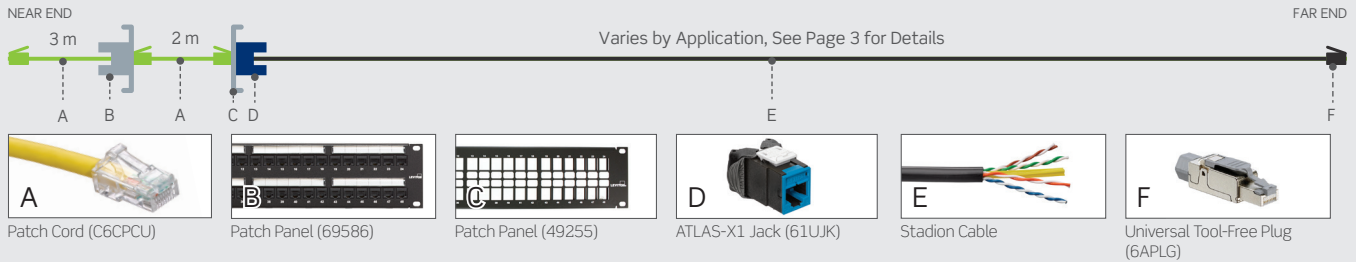
For RDT I/O Patch Cords and SST Outdoor Patch Cords, contact Tech Services at [appeng@leviton.com](mailto:appeng@leviton.com) for product specific Data sheets.

## Extended Distance Topologies

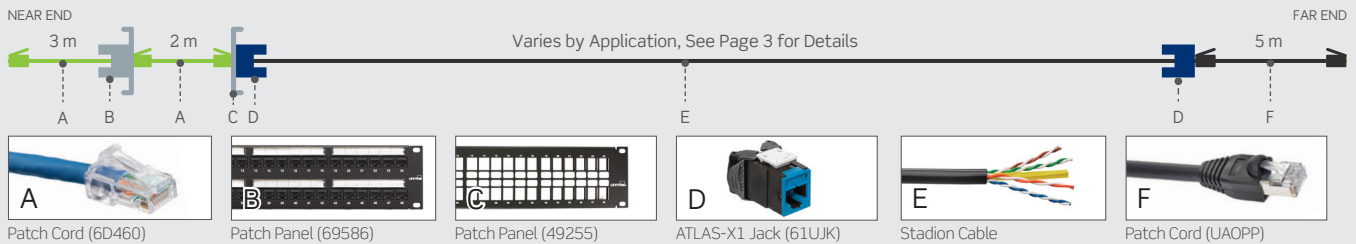
### Extended Distance 2-Connector Channel with MPTL



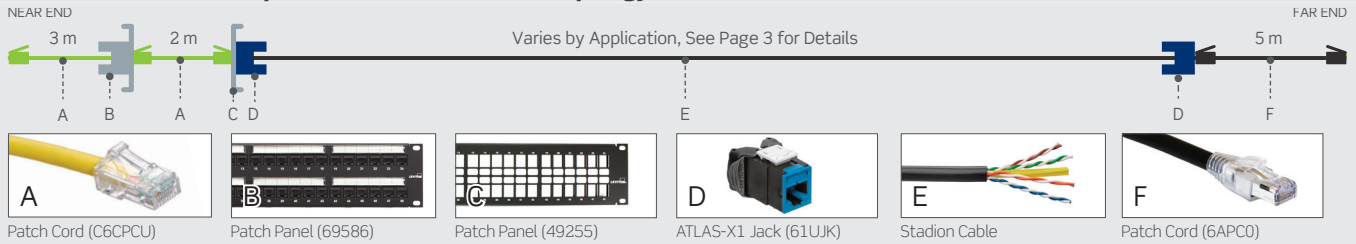
### Extended Distance European 2-Connector Channel with MPTL



### Extended Distance 3-Connector Channel Topology

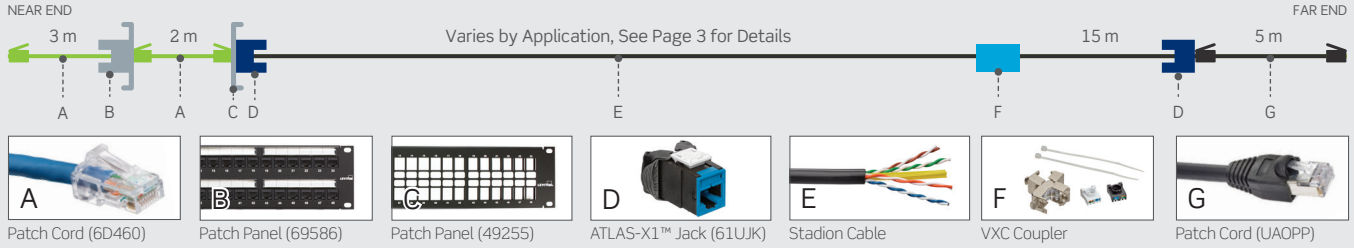


### Extended Distance European 3-Connector Channel Topology

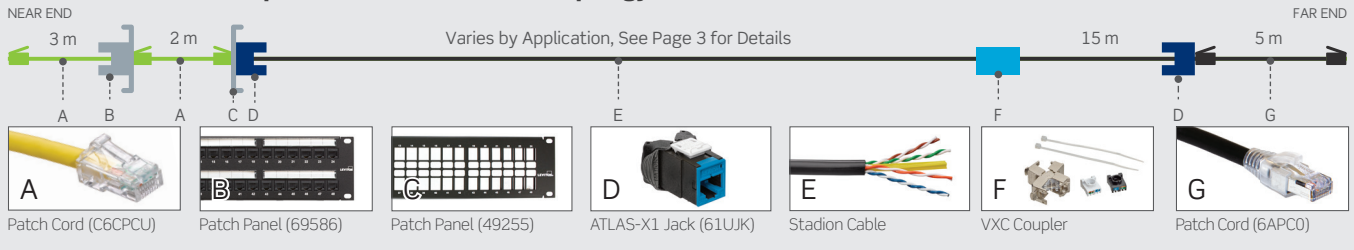


## Extended Distance Topologies

### Extended Distance 4-Connector Channel Topology



### Extended Distance European 4-Connector Channel Topology



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