EXTREME™

6

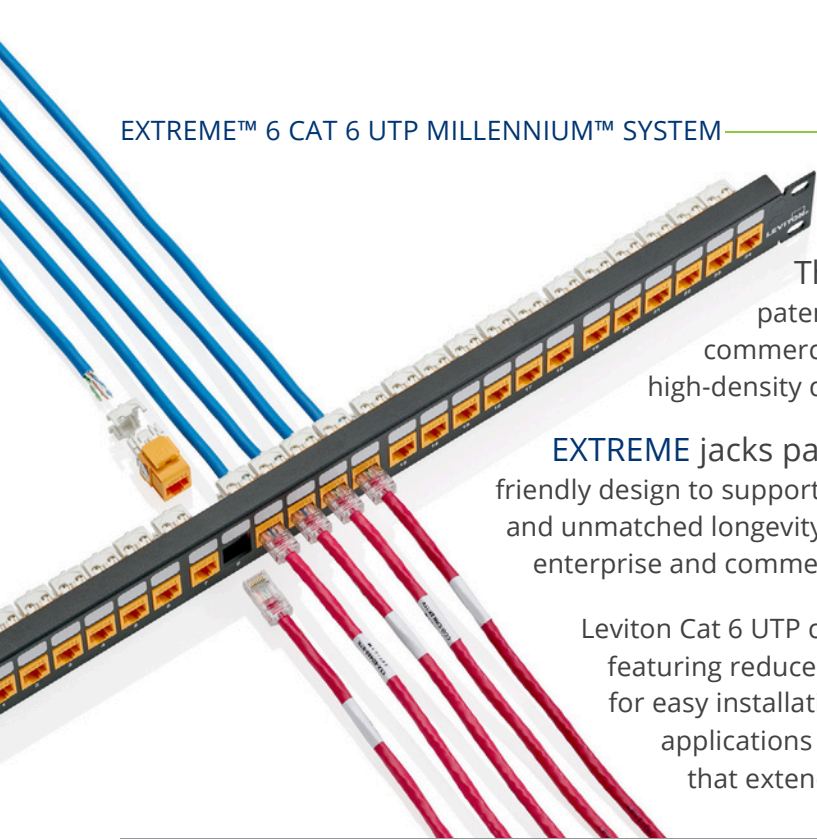# CAT 6 UTP MILLENNIUM™ SYSTEM

Aglobal Cat6structuredcablingsystemthatfeatures ourEXTREME jack and Cat 6 cable, and offers standard 1000BASE-T and 2.5/5GBASE-T performance and value. MILLENNIUM Systems are global solutions available everywhere.

RECOMMENDED FOR:

1000BASE-Tand2.5/5GBASE-T network applications

Enterprise and intelligent building systems

Network applications for commercial, warehousing, and education environments

IP-based security and intelligent building systems utilizing UTP cabling

Applications optimizing environment sustainability

Global enterprises that want high performing Cat 6 systems everywhere

Applications requiring PoE support up to 100 watts

Document contains guaranteed system performance and extended distance data.

The EXTREME 6 MILLENNIUM Cat 6 UTP system is a patented technology structured cabling system ideal for commercial or enterprise applications that require a compact, high-density design and reduced outside diameter.

EXTREME jacks pair high-quality, guaranteed performance with a user-friendly design to support fast, easy installations. With enhanced performance and unmatched longevity, the jacks are well suited for an extensive range of enterprise and commercial networks.

Leviton Cat 6 UTP cable is third-party verified to Category 6 standards, featuring reduced-diameter construction without the center spline for easy installation and termination. It is capable of transmitting applications up to 5GBASE-T and is ideal for network applications that extend to 250 MHz.

Use Cases

IntelligentBuilding Systems Requiring UTP Cabling	**Enterprise Workstation Applications**	**Installations and Retrofits with Limited Pathway Space**	**Connections for Wireless Networks**
Provide PoE and data to clocks, HVAC control, key card scanners, and other IoT devices.	Typical office applications that require an economical UTP solution including video conferencing and VoIP, across 10/100/1000BASE-T.	Makes moves, adds, and changes in an existing Cat 6 network faster and easier.	For 5GBASE-T networks to support wireless applications that require broad coverage up to 5 Gb/s.

Environmentally Conscious Design

Environmentallyoptimizedcomponentshave beenselected for this system to minimize environmental impact, while delivering strong performance beyond category specifications, as well as user-friendly design to enable fast, easy installations.

Bulk Packaging for Jacks

The EXTREME Cat 6 jack is availableinmultiplebulk pack options, with select colors available in 200-pack GREENPACK™ packaging that is reusable and recyclable. EXTREME jack bulk packs eliminate more than 2 million single-use polybags every year to help reduce jobsite waste.

Sustainably Smart Packaging

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

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.

Sustainable Product Design

The copper, insulation, or filler materials in our category cables incorporate recycled materials to reduce the overall carbon footprint.

• Meets ANSI/TIA-568.2 Cat 6 and ISO/IEC 11801-1 Class E requirements for channel, link, and component performance to support IEEE 1000BASE-T, and 2.5/5GBASE-T networks

• Cost effective Cat 6 system with margins and fast installation

• Third-party tested and verified

• Error-free Gigabit Ethernet performance

• Products made in ISO 9001 certified facilities

• IEEE 802.3 PoE Type 1, 2, 3, 4 (100 watts Max)

Guaranteed* System Performance Parameters

Parameter	Margin Guarantee
Insertion Loss	2 %
NEXT	1 dB
PSNEXT	2 dB
ACR-F (ELFEXT)	2 dB
PSACR-F (PSELFEXT)	For performance3 ddaBta, contact your local sales person. Leviton.com/n2s /dgBlobal-locations
Return Loss	
ACRN	3 dB
PSACRN	3 dB
TCL	1 dB
ELTCTL	4 dB

* Values represent guaranteed margins to ANSI/TIA-568.2 standard at 20°C ambient temperature. All parameters comply with ANSI/TIA-568.2 Cat 6 and ISO/IEC 11801-1 Class E requirements across the entire frequency range. All values represent worst-case margins for 17 to 100 meter channel configurations (or 17 to 93 meters when using 28 AWG (6H460) patch cords). System performance margin guarantees are representative of the specific components and topologies as listed on page 6 of this solution data sheet document. Contact your Leviton technical representative for more information on alternative components and channel configurations. Details at Leviton.com/NS/Warranty. Guaranteed System Performance applies exclusively when the system is installed and tested by Leviton Network Solutions Certified Installers. Guaranteed margin values apply at the time of installation.

Extended Length Channels
(Greater than 100 meters)

Leviton stronglyrecommends that all cabling systems be installed in compliance with relevant standards 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.[1,2]

Extended Application and PoE Distances

The products inthe EXTREME 6 systemshownonpage 4 and 5 will support the applications listed in Table 1 at the indicated distances in up to 4-connector channels. The distances below went through rigorous testing and engineering modeling to ensure full support of the indicated IEEE 802.3 applications.[3,4,5]

Table 1

	IEEE 802.3 PoE			
	Type 1 (15.4 W)	Type 2 (30 W)	Type 4 (90 W)	Type 3 (60 W)
10BASE-T	200 m	125 m	125 m	125 m
100BASE-TX	140 m	125 m	125 m	125 m
1000BASE-T	1F0o5r mperformance1 0d5at ma, contact yo1u0r5 l omcal sales pe1rs0o5 Leviton.com/ns/global-locations			
2.5GBASE-T	105 m	105 m	105 m	105 m
5GBASE-T	100 m	100 m	100 m	100 m

[1] Extended distances listed in table 1 are backed by Leviton's 25-year ApplicationsAssuranceWarrantywhentested to Leviton specified test limits..

[2] Extended distance performance requires Leviton modular patch panels and QUICKPORT™ jacks only and does not apply to channels constructed with punch-down panels. Actual application performance will vary depending on the device manufacturer, part number, software, model, revision, and/or configuration.

[3] The use of 28 AWG patch cords in a channel over 100 meter is not allowed.

[4] Channels that exceed 100 meters become application specific.

[5] Any moves, adds, or changes to the channel will void the warranty.

RWL
A GCG COMPANY

Jacks

EXTREME Cat 6 Component-Rated QUICKPORT™ Jacks

- Third-party tested and verified to exceed performance requirements
- Tested and approved for use in air-handling spaces (plenum rating) in accordance with UL Standard 2043
- Patented Retention Force Technology protects against tine damage and maintains contact force between plug and jack, preventing arcing from intermittent disconnects in PoE applications
- Circuit board technology for exceptional high-frequency operation
- Gas-tight insulation displacement contacts provide excellent conductor retention and resistance to surface-contact oxidation for life of the system
- Pair Separation Tower design facilitates separation of conductors and minimizes untwisting
- Patented dual-layer wiring label simplifies punchdown and reduces rework
- 90 or 180 degree bi-directional entry eases cable bend radius in back boxes
- Supports Power over Ethernet (PoE) — see individual product specifications sheets for full capabilities
- QUICKPORT jacks are compatible with all Leviton modular panels, wallplates, and surface-mount boxes
- Regrind plastic incorporated into manufacturing process to reduce the amount of waste to the landfill
- Engineered and manufactured for real-world ruggedness, longevity, and reliability
- Select colors available in recyclable, plastic free 200 pack bulk packaging
- Capable of multiple re-terminations, minimizing waste and maximizing re-use
- Designed for durability and longevity, reducing the need for replacement over the life of the network

Description	Part No.	Typical Region
EXTREME Cat 6 QUICKPORT Jack	61110-R*6	Global
EXTREME Cat 6 QUICKPORT Jack, GREENPACK 200-Pack	61110-2^6	Global

* 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)
^ Color: White (W), Black (E)

Note: Not all colors and pack modes are available in all regions. Contact your Leviton representative for details.

Cable

Cat6UTP Cable

- Compact, round design saves space
- Small, fillerless design reduces environmental impact of product lifecycle and decreases installation and termination times
- CPR and LSHF/LSZH cables are made using 100% renewable energy in our PAS2060 carbon neutral manufacturing facility in the UK
- CMP and CMR cable is available in a 1,500 ft recyclable SMARTPAK™ box in the US, Canada, and Mexico reducing cable scrap by 50% and cardboard waste by 28% compared to standard 1000' boxes
- Packaging materials are 100% recyclable

Description	Part No.	Packaging	Typical Region
BERK-TEK™ PLENUM (CMP)			
Cat 6 24 AWG U/UTP Cable, CMP, white	10136230 10136228 11091255	1000 ft (305 m) Box	United States, Middle East, Canada
Cat 6 24 AWG U/UTP Cable, CMP, blue	UTP6P-104-MLB	1000 ft (305 m) Box	
Cat 6 24 AWG U/UTP Cable, CMP, gray		1000 ft (305 m) Box	
Cat 6 24 AWG U/UTP Cable, CMP, blue		1500 ft SMARTPAK box	
Cat 6, 24 AWG U/UTP Cable, CMP, white		1000 ft (305m) Box	Canada
BERK-TEK RISER (CMR)	UTP6P-106-MWB	1000 ft (305m) Box	
Cat 6 24 AWG U/UTP Cable, CMR, white			
Cat 6 24 AWG U/UTP Cable, CMR, blue	10136340 10136339 11091253	1000 ft (305 m) Box	United States, Canada
Cat 6 24 AWG U/UTP Cable, CMR, gray	UTP6R-104-MLB	1000 ft (305 m) Box	
Cat 6 24 AWG U/UTP Cable, CMR, blue		1000 ft (305 m) Box	
Cat 6, 23 AWG U/UTP Cable, CMR, blue		1500 ft SMARTPAK box	
Cat 6, 23 AWG U/UTP Cable, CMR, white		1000 ft (305m) Box	Canada, LATAM
CPR EuroClass (B2ca, Cca, Dca, Eca)	UTP6R-106-MWB	1000 ft (305m) Box	
Cat 6 24 AWG U/UTP Cable, LSHF/LSZH EuroClass Eca, violet	C6U-Eca-B305VT4 C6U-Eca-500VT4	1000 ft (305 m) Box	
Cat 6 24 AWG U/UTP Cable, LSHF/LSZH EuroClass Eca, violet	C6U-Dca-B305BU4 C6U-Cca-B305GN4	1640 ft (500 m) Reel	
Cat 6 24 AWG U/UTP Cable, LSHF/LSZH CMR EuroClass Dca, blue	C6U-Cca-500GN4 C6U-B2ca-B305OR4 C6U-B2ca-500OR4	1000 ft (305 m) Box	
Cat 6 24 AWG U/UTP Cable, LSHF/LSZH CMR EuroClass Dca, blue		1640 ft (500 m) Reel	Europe
Cat 6 24 AWG U/UTP Cable, LSHF/LSZH EuroClass Cca, green		1000 ft (305 m) Box	
Cat 6 24 AWG U/UTP Cable, LSHF/LSZH EuroClass Cca, green		1640 ft (500 m) Reel	
Cat 6 24 AWG U/UTP Cable, LSHF/LSZH EuroClass B2ca, orange		1000 ft (305 m) Box	
Cat 6 24 AWG U/UTP Cable, LSHF/LSZH EuroClass B2ca, orange		1640 ft (500 m) Reel	
Low Smoke Halogen Free (LSHF / LSZH)			
Cat 6 24 AWG U/UTP Cable, LSHF/LSZH EuroClass Eca, violet	C6U-Eca-B305VT4	1000 ft (305 m) Box	
Cat 6 24 AWG U/UTP Cable, LSHF/LSZH EuroClass Eca, violet	C6U-Eca-500VT4	1640 ft (500 m) Reel	Europe, LATAM, APAC
Cat 6 24 AWG U/UTP Cable, LSHF/LSZH CMR EuroClass Dca, blue	C6U-Dca-B305BU4	1000 ft (305 m) Box	
Cat 6 24 AWG U/UTP Cable, LSHF/LSZH CMR EuroClass Dca, blue	C6U-Dca-500BU4	1640 ft (500 m) Reel	

* LANMARK branded cable available in United States, Canada, Puerto Rico, and Mexico. Some exceptions apply.
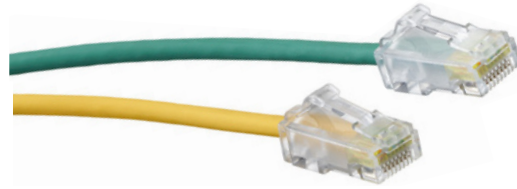
Patch Panels

Modular Patch Panels

• Mounts on 19-inch equipment racks
• Accepts all QuickPort-style connectors
• Includes port numbers
• 49255-H24 and 49255-H48 include cable management bars and write-on port blocks
• Magnifying lens label holders ensure visibility of port labels (49255-L24, 49255-L48)
• Available in an angled design that allows for cords to easily route directly into vertical managers, saving rack space by eliminating horizontal management
• Select panel configurations available in white powder coat finish

Cat 6 110-Style Panel

• Patented Retention Force Technology protects tines from damage and increases system longevity
• Universal T568A and T568B wiring cards for 110-style IDC terminations
• Color-coded front labeling for easy port identification (ANSI/TIA-606-C compliant)
• Terminates 26-22 AWG solid conductors
• Centralized labeling (available on 48-Port) promotes greater visibility of labels when patch cords are routed into horizontal cable management above and below the patch panel
• Capable of multiple re-terminations
• Panel available with patented magnifying lens label holder for easy reading
• Will exceed IEEE 802.3bt standard up to 0.5 amps per conductor (100 watts) continuously
• Third-party tested and verified to exceed performance requirements
• Mounts on 19-inch equipment racks

Patch Cords

Cat 6High-FlexPatch Cord

• Small 0.15" (3.8mm) cable OD to maximize cable capacity in pathways
• Supports Power over Ethernet (PoE) — see individual product specifications sheets for full capabilities
• Accommodate use in high-density switches, routers, and other electronics
• Bend radius is a narrow 0.60 inches (15.2mm), versus 1.0 inch (25.4mm) for typical Cat 6 patch cords
• Snagless plug design with integrated strain-relief boot
• Plug contacts rated to 2,500 mating cycles
• Dual-rated cable jacket (CM/LSZH)
• Compatible with Leviton's Secure RJ system providing physical port security and color clips for additional network identification
• GREENPACK™ Bulk Pack to reduce packaging
• Optimized end-to-end design utilizing up to 72% less plastic material than standard boot designs
• Third-party verified carbon footprint Lifecycle Analysis data available
• Living Building Challenge Red List Free product

Cat 6 Standard Patch Cord

• Supports Power over Ethernet (PoE) — see individual product specifications sheets for full capabilities
• 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
• Compatible with Leviton's Secure RJ system providing physical port security and color clips for additional network identification

Description Modular Panels	Part No.	Availability
24P 1RU Modular Patch Panel		
48P 1RU Modular Patch Panel	49255-H24	Global
48P 2RU Modular Patch Panel	49255-Q48	Global
110-Style Panels 24P 1RU Cat	49255-H48	Canada, LATAM, and US
6 110-Style UTP Patch Panel		
48P 2RU Cat 6 110-Style UTP Patch Panel	69586-U24	Canada, LATAM, and US
24P 1RU Cat 6 110-Style UTP Patch Panel	69586-U48	Canada, LATAM, and US
	69586-B24	APAC, Europe, and Middle East

Description	Part No.	Availability
High-Flex Dual-Rated CM/LSZH		
Cat 6 High-Flex Patch Cord CM/LSZH Rated	6H460-xx‡	Global
Standard CM		
Cat 6 Standard Patch Cord CM Rated	6D460-xx‡	United States, Canada, Latin America
Standard LSZH		
Cat 6 Standard Patch Cord LSZH Rated	C6CPCUxxx-#CCBB	Europe, Middle East, Asia Pac
CP Cord		
Cat 6 CP Cord	CPC6UU	Europe, Middle East, Asia Pac

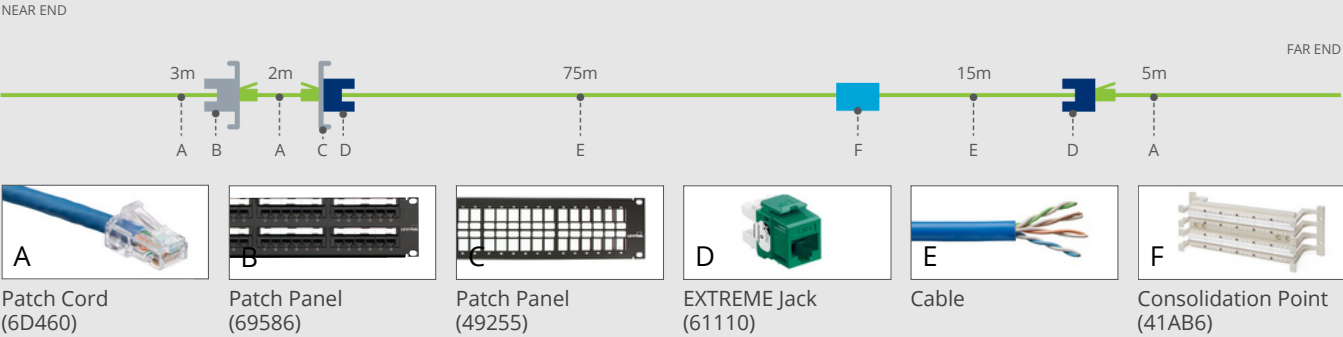‡ = Color: White (W), Blue (L), Gray (S), Yellow (Y), Red (R), Green (G), Black (E)
xx = Length in Feet: 1-20 (0.3-6.1 meters)
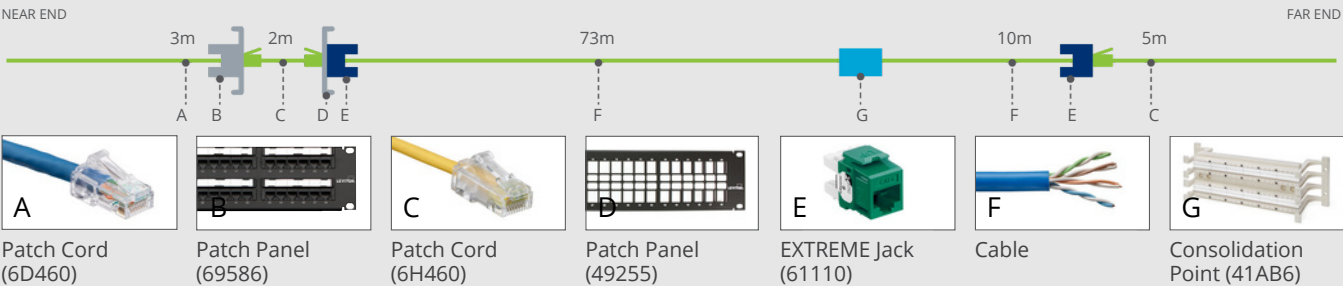xxx = length in meters (010 = 1 meter; 020 = 2 meter)
= Cable color: Red (1), Black (2), White (3), Blue (4), Green (5), Yellow (6), Violet (7), Gray (8)
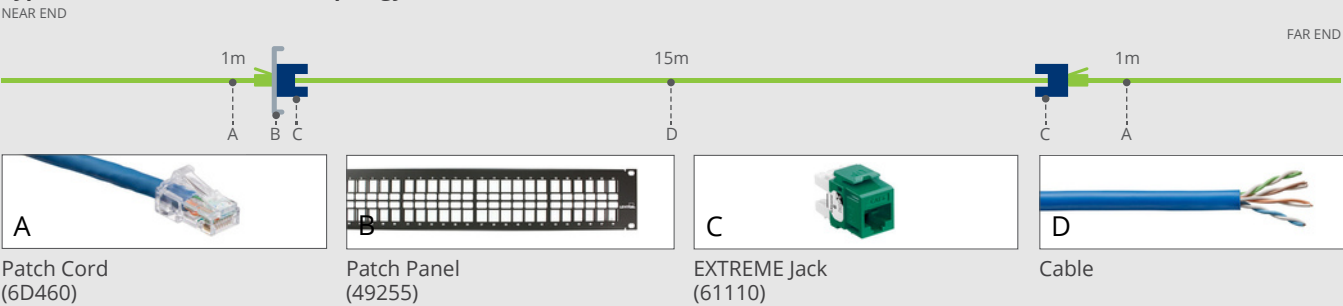
System Topologies

Typical 4-Connector Channel Topology – Standard Patch Cords

NEAR END

FAR END

| 3m | 2m | | 75m | | 15m | 5m |
| A | B | A | C D | E | F | E | D | A |

A — Patch Cord (6D460)

B — Patch Panel (69586)

C — Patch Panel (49255)

D — EXTREME Jack (61110)

E — Cable

F — Consolidation Point (41AB6)

Typical 4-Connector Channel Topology – High Flex Patch Cords

NEAR END

FAR END

| 3m | 2m | | 73m | | 10m | 5m |
| A | B | C | D E | F | G | F | E | C |

A — Patch Cord (6D460)

B — Patch Panel (69586)

C — Patch Cord (6H460)

D — Patch Panel (49255)

E — EXTREME Jack (61110)

F — Cable

G — Consolidation Point (41AB6)

Typical 2-Connector Channel Topology

NEAR END

FAR END

| 1m | | 15m | | 1m |
| A | B C | D | C | A |

A — Patch Cord (6D460)

B — Patch Panel (49255)

C — EXTREME Jack (61110)

D — Cable

Typical European 4-Connector Channel Topology

NEAR END

FAR END

| 3m | 2m | | 75m | | 15m | 5m |
| A | B | A | C D | E | D | F | A |

A — Patch Cord (C6CPCU)

B — Patch Panel (69586)

C — Patch Panel (49255)

D — EXTREME Jack (61110)

E — Cable

F — CP Cord (CP-C6UU)