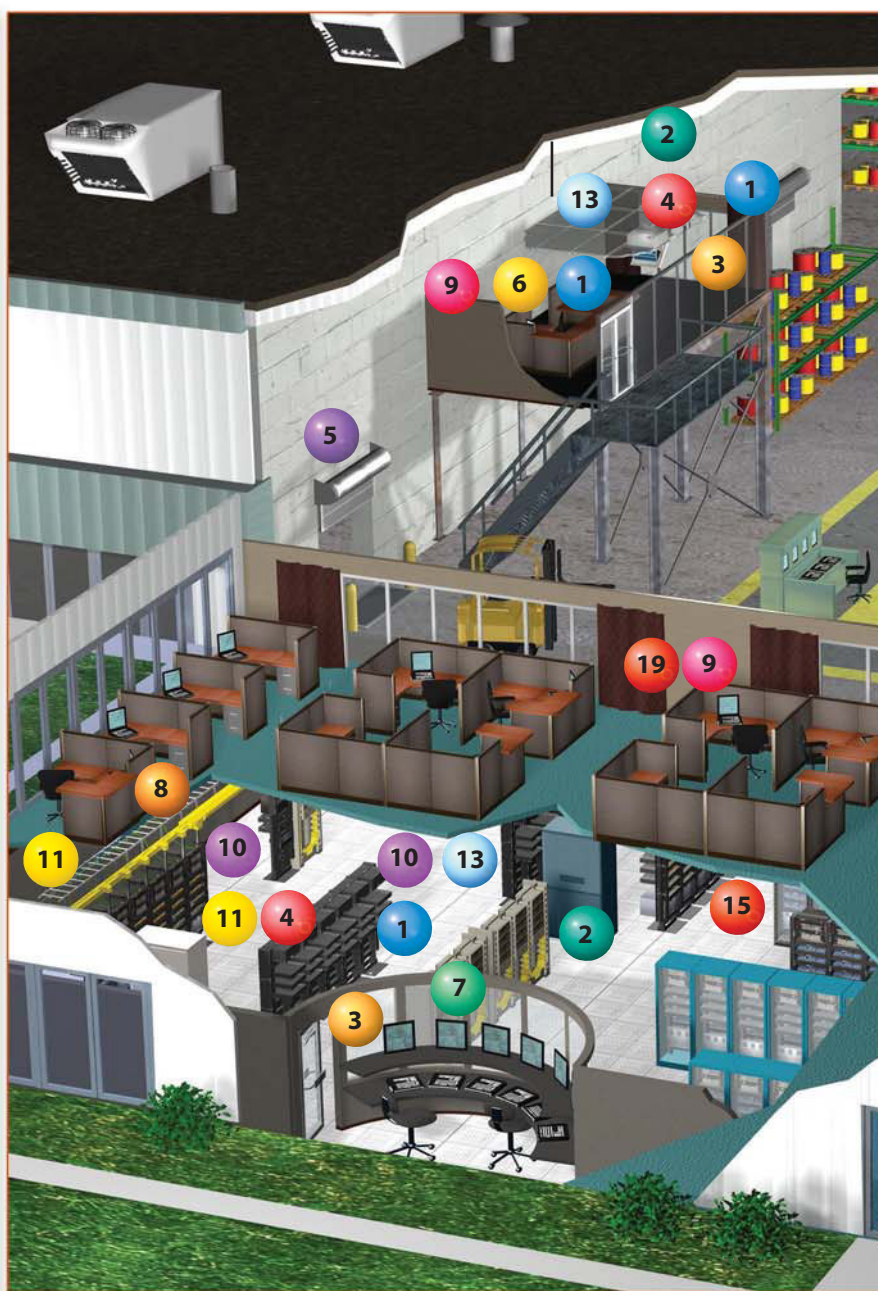


SOLUTIONS ROADMAP

From the data center to the work area to building systems and the factory floor, Panduit delivers comprehensive solutions that optimize the reliability, availability, security, integration, and safety of the physical infrastructure. Through robust, innovative systems designed for intelligent deployment and convergence, Panduit solutions help mitigate risk factors across IT, facilities, operations, and manufacturing to achieve business efficiencies with lower total cost of ownership.





10 Cabinets, Racks, and Cable Management



11 Power and Grounding



12 Industrial



13 Labeling and Identification



14 Wiring Duct



15 Cable Ties and Mounts



16 Stainless Steel



17 Terminals

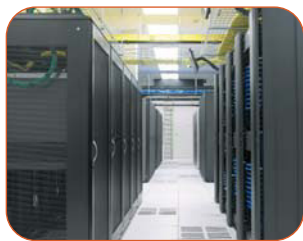


18 Safety and Facility Solutions



19 Abrasion Protection





UNIFIED PHYSICAL INFRASTRUCTURESM APPROACH

The physical infrastructure is the basic foundation on which enterprise systems run, including voice and data communications, power, computing, control, and security systems. The need to provide real-time information, manage applications, and control functional systems through IP networking is also driving increased interdependence, between these systems through several core enterprise areas.

Panduit offers Unified Physical Infrastructure (UPI)-based solutions that help customers optimize the physical infrastructure by intelligently converging physical and logical systems. These solutions leverage real-time information to:

- Manage systems more effectively
- Maximize performance and availability
- Satisfy regulatory compliance requirements
- Increase safety and security in the workplace

As the global leader in comprehensive network solutions, Panduit helps customers manage the physical infrastructure by leveraging robust product systems, technology leadership, and global expertise and by supporting an extensive partner ecosystem, and world-renowned alliances.

Panduit systems optimize availability, reliability, security, integration and safety throughout the physical infrastructure and combine to deliver industry and application solutions that enable business agility and lowest total cost of ownership.

SOLUTIONS THAT ENABLE TECHNOLOGY

As a global leader Panduit is continually focused on industry and application challenges to create solutions that support evolving business needs. In the evaluation and development of technologies, Panduit considers the entire physical infrastructure. Issues such as convergence, interoperability, scalability, and continuity need to be addressed to reduce risk across IT, facilities, and manufacturing. This holistic approach enables business agility through robust, leading-edge systems that optimize design and deployment of the physical infrastructure – delivering maximum reliability, availability, security, integration, and safety.

PHYSICAL INFRASTRUCTURE MANAGEMENT

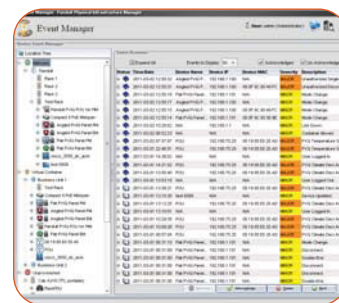
As consolidation, virtualization, and automation become more widely adopted to increase data center efficiency and agility, the elements of power, cooling, asset utilization, and connectivity become an important factor within data centers. This makes physical infrastructure management tools, in conjunction with existing system software management tools, critical to support the changing needs of your data center.

Panduit's Physical Infrastructure Manager™ (PIM™) Software Platform is a physical infrastructure management system for tracking the allocation and utilization of critical IT assets within the data center and throughout an enterprise. The PIM™ Software platform lays the foundation for effective Data Center Infrastructure Management (DCIM) through accurate and timely documentation of these physical assets, improved visibility into asset moves, adds, and changes, and process-driven integration with applicable management systems.

Working with PanView iQ™ (PViQ™) System Hardware and select third-party devices, PIM™ Software provides an end-to-end physical to logical view of the data center and enterprise. This helps reduce the time from receipt of asset to deployment, and allows assets to be effectively reclaimed, re-purposed, and re-deployed. Unlike manual record keeping, PIM™ Software centralizes the collection and representation of a rich set of asset attributes, such as connectivity, space/port availability, and power/environmentals to ensure that the physical infrastructure supports mission-critical applications, enabling effective optimization of the data center's space, power, and cooling resources.

PViQ™ System Hardware provides real-time monitoring of patch field connectivity for enhanced system security and reliability. Using hardware components placed in the network, combined with management software, patch field connections are continuously monitored, accurately documented, and automatically updated. Any change (whether planned or inadvertent) is immediately detected and alerted through the management platform. The system can even guide technicians through moves, adds, and changes, providing greater reliability, security, efficiency, and savings.

PViQ™ System Hardware offers a unique hardware design that allows active management equipment to be installed at the back of PanView iQ™ Patch Panels, eliminating the need for additional rack space and allowing for phased installations. The system also features a web-based graphic user interface (GUI), remote accessibility, and an application program interface that integrates with third-party programs to allow utilization of familiar applications and services through the PViQ™ System Hardware.



POWER OVER ETHERNET (PoE)

Since the introduction of the 2003 IEEE 802.3af Power over Ethernet (PoE) standard, customers have realized the benefits of delivering DC power over standard Category 5e, 6, and 6A copper cabling. Devices such as Voice over IP (VoIP) telephones, wireless access points, IP security cameras and building automation systems increasingly align and converge network traffic over a shared IP-based infrastructure. Because these technologies are often deployed in locations where an available power source is not readily accessible or may be cost prohibitive, supplying managed power through the data cabling is an attractive and cost saving alternative.

DPoE™ Power Patch Panels save valuable rack space in telecommunications rooms, zone enclosures, and data centers with a 1 RU design that allows PoE deployment in space-constrained locations. The DPoE™ Compact 8 Midspan provides a flexible solution for smaller installations and the innovative DC power based design is capable of supplying IEEE 802.3 af-2003 compliant and legacy PoE power to all ports. In the event of a power disruption, the port prioritization capabilities work with a network management solution to ensure that critical applications remain online and available for use, while other non-critical devices are turned off to conserve power.

DPoE™ Power over Ethernet Systems include the DPoE™ Element Manager, a software application that offers optional local and remote manageability of PoE devices and ports. Alerts can be generated on critical conditions, such as loss of power to key devices or from inadvertent disconnections. With the ability to provide location information on all ports and the panel itself, an IT manager can track critical assets and resolve concerns efficiently and effectively.

To support higher power requirements, the DPoE™ Compact 8 Midspan provides 2X power (up to 32 watts) today. Panduit also supports network transmissions up to 1GbE with the DPoE™ 1 Gig™ Power Patch Panel and the DPoE™ Compact 8 Midspan.



10 GIGABIT ETHERNET OVER COPPER

The rapid growth of network traffic and the drive to build and better utilize data centers has many organizations looking toward the benefits of 10 Gig Ethernet (10 GbE) to process, manage, and store increasingly large amounts of data across the network. Panduit 10 Gigabit Solutions incorporate innovative product systems, tools, appliances, software, and services to deliver a comprehensive strategy for unifying the installation and management of your physical infrastructure.

The Panduit® TX6A™ 10Gig™ UTP with MaTriX Technology and Shielded Copper Cabling Systems are complete end-to-end solutions for applications and industries that require increasingly complex and large-scale database processing capabilities. Both shielded or TX6A™ 10Gig™ UTP Copper Cabling System with MaTriX Technology, offer innovative design technologies that work together to suppress alien crosstalk while delivering Category 6A electrical performance. These systems provide end-users with a reliable, cost-effective, and flexible cabling infrastructure that addresses the most demanding applications, including the following:

Enterprise LAN

TX6A™ 10Gig™ UTP Copper Cabling System with MaTriX Technology supports to the desktop to run increasingly sophisticated workgroup applications. Also, with enterprises increasingly relying on VoIP, webcasting, video conferencing, and telepresence to communicate in real time across long distances, TX6A™ 10Gig™ systems enable the convergence of voice, data, and video across unified IP networks.

Data Center

Managing information is no longer enough - data centers must provide real-time access to accurate information in order to support evolving business requirements and organizational growth. TX6A™ 10Gig™ Copper solutions in the data center improve efficiencies of computer devices (servers, switches, routers) and data storage within networks. Copper solutions also support finance, health care, and science sectors that require the high bandwidth and processing power of high performance computing (HPC) clusters to conduct complex analytical modeling tasks.

Panduit also offers SFP+ 10 Gb/s Direct Attach Copper Cable Assemblies. These twinaxial cables are low power, low latency, cost effective interconnects for Top of Rack and short reach interconnects. These cable assemblies support finance, healthcare, and science sectors that require the high bandwidth and processing power of High Performance Computing (HPC) clusters to conduct complex analytical modeling tasks.



10 GIGABIT ETHERNET AND FIBRE CHANNEL OVER FIBER

The rapid growth of network traffic and the drive to build and better utilize data centers has many organizations looking toward the benefits of 10 Gigabit Ethernet (10 GbE) to process, manage, and store increasingly large amounts of data across the network. Panduit® 10Gig™ Solutions incorporate innovative product systems, tools, appliances, software, and services to deliver a comprehensive strategy for unifying the installation and management of your physical infrastructure.



Panduit has developed a comprehensive suite of 10Gig™ fiber products that push beyond the standards using Beyond the Glass™ Design Excellence. New classes of multimode fibers (ISO designated as OM3 and enhanced OM3 [ie. OM4]) enable cost-effective structured cabling solutions by employing low-cost VCSEL-based transceivers to deliver reliable 10 Gigabit Ethernet performance at a reach of up to 300 m. Such fibers also exceed media requirements of ANSI Fibre Channel for 1GFC, 2GFC, 4GFC, 8GFC, and 10GFC.

Selection of a multimode fiber structured cabling solution requires that data integrity, manageability, and security be balanced with reasonable cost expectations and future growth requirements. The availability of low-cost, high-speed transmitter technology makes 50µm laser-enhanced fiber media (i.e. OM3 and OM4) and connectivity systems a more cost-effective solution than laser-based systems. The most economical upgrade paths are those that leverage high fiber grade solutions wherever practical.

Panduit focuses on functional Bit Error Rate (BER) testing as the true determination of high-speed channel performance, and considers BER testing as the evaluation method most relevant to the reliable operation of high-speed Ethernet and Fibre Channel networks. Overall, Panduit fiber research, product development, and manufacturing expertise ensures its solutions deliver optimum performance and reliability for all network applications.

FIBER OPTIC STORAGE NETWORKING SOLUTIONS

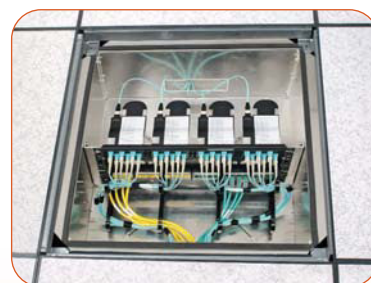
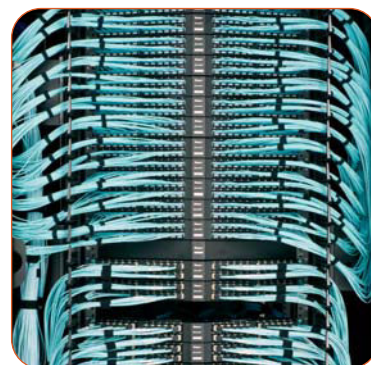
Regulations governing data warehousing and disaster recovery are spurring the construction of high-performing, reliable, and cost-effective storage networking to store, manage, and protect corporate records. As data traffic performance requirements continue to increase, from 4 Gbps and 8 Gbps standards today, to 16 Gbps and higher for future standards, the physical infrastructure must support these demands.

Ensuring high performance requires a complete systems approach to optical transceiver and fiber optic media selection, connectivity choice, channel design and headroom considerations. Panduit's comprehensive suite of fiber optic media and SAN infrastructure products exceed current fiber optic standards and are future-ready using Beyond the GlassSM Design Excellence.

Our storage networking infrastructure solutions are comprised of modular components and high-density patching for maximum agility and scalability over the life of the data center. All system components work together and feature common form factors, accessories, cable routing, and mounting methods so that any component of the physical infrastructure can be easily replicated or utilized elsewhere in the system:

- High-density patch fields with higher port counts accommodate more storage networking connectivity in the same physical space, optimizing equipment rack utilization and conserving valuable data center real estate.
- Best practices for cable management, equipment racking, distribution area layout, pathway routing, and installation techniques ensure infrastructure agility – speed to deploy, increased installer productivity, efficient maintenance, and fast response to changes – in an area where “no down time” is the operating norm.

Ultimately, our fiber research, manufacturing, and solutions development expertise ensure consistent high performance and reliability throughout the storage networking infrastructure.



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PRE-TERMINATED COPPER AND FIBER SOLUTIONS

The ability to deploy cabling quickly with minimal system downtime and maximum reliability is key to efficient design and deployment of the physical infrastructure. An end-to-end pre-terminated, factory-tested cabling system is an ideal alternative to traditional cable installation, termination, and testing.

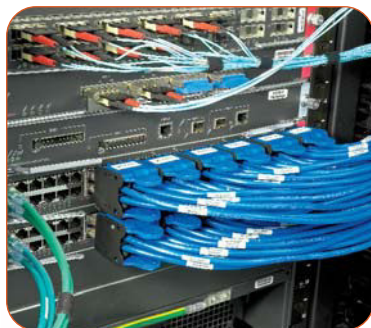
The QuickNet™ Pre-Terminated Cabling System assures quick “plug-in” network deployment and consistent performance while minimizing rework and scrap. Components are precision engineered as part of a complete structured cabling system, connecting switches, servers, and storage equipment via organized patch fields and distribution areas and enabling quick installation in both new and existing facilities. As a result, data centers can handle changing requirements faster and more efficiently than ever before.

The QuickNet™ Copper Cabling System is engineered for maximum design flexibility and high rack density utilization and offers 100% factory-tested pre-terminated cable assemblies in standard and custom lengths and configurations. The QuickNet™ Plug Pack Assemblies facilitate quick and easy connection and disconnection of patch cords to a variety of switches, reducing time and cost associated when installing and maintaining structured cabling links.

The QuickNet™ Fiber Optic Cabling System exceeds the requirements of IEEE 802.3ae 10 GbE and all high-speed ANSI Fibre Channel standards. QuickNet™ Cassettes and Trunk Cable Assemblies and new QuickNet™ SFQ Series Cassettes and Cable Assemblies offer maximum deployment flexibility in QuickNet™ Cassette Enclosures or Patch Panels. These fiber cabling components utilize duplex SC, LC, or MTP* multi-fiber array connectors for high-density, consistent performance, and high reliability. QuickNet™ Copper and Fiber Cassettes are interchangeable for interoperability and future upgrade options within the data center and telecommunications rooms.

Invest in a trouble-free, high performance infrastructure that leverages reliable, scalable QuickNet™ Pre-Terminated components to ensure consistent, dependable system performance with the lowest cost of ownership.

*MTP is a registered trademark of US Conec Ltd.



FASTER IMPLEMENTATION WITH PRE-CONFIGURED PHYSICAL INFRASTRUCTURES

As more businesses are adopting consolidation, virtualization, and automation of IT assets to drive business results, the physical infrastructures needed to support the technologies that make this happen are increasingly more critical to network performance, more complicated to design, and take longer to implement.

Pre-Configured Physical Infrastructures are based on proven reference designs that map the logical architecture to the physical layer. These solutions are pre-engineered, tested, and validated to lower the infrastructure speed to deployment, enhance thermal performance, decrease energy usage, and reduce total cost of ownership (TCO), resulting in reduced risk and increased sustainability.

At the core of the Pre-Configured Physical Infrastructure offering are solutions tailored for the most popular Cisco^ Catalyst, Nexus, and UCS deployments. They include all necessary systems, pre-configured within Panduit cabinets, to rapidly deploy various technology platforms, including:

- Thermal Management
- High Speed Data Transport (HSDT) Copper and Fiber Cabling
- Cable Management
- Grounding and Bonding
- Power Outlet Units (POUs)
- Identification Labels

Panduit Pre-Configured Physical Infrastructures arrive at partner or end user sites ready to be deployed, reducing the time required for planning, designing, procurement, and installation. Packaging and transportation waste that would typically occur when specifying individual components is reduced improving sustainability.

To enable business growth and agility across the entire offering, Panduit Pre-Configured Physical Infrastructures are designed to support various network and compute densities. Modular components such as the QuickNet™ Pre-terminated Cabling System facilitate migration from 10G to 40G or 100G Ethernet with minimum investment and down time.

Leveraging Pre-Configured Physical Infrastructures with comprehensive Smart Data Center Solutions, Advisory Services, and an eco-system of partners, Panduit helps to ensure that partner technology platforms are aligned and integrated with the entire data center infrastructure for true optimization.

^Cisco is a registered trademark of Cisco Technology, Inc.



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NETWORK GROUNDING AND BONDING

The network grounding and bonding system is more than just an insurance policy against a lightning strike. It is an active, functioning system that mitigates risk throughout the enterprise by providing crucial protection to equipment and personnel. Proper grounding is essential for efficient network system performance. Improper grounding can result in failures such as lower data transmission rates, unacceptable downtime, damaging expensive equipment and voiding equipment warranties.

Data center grounding is governed by documents TIA-942, TIA-607-B, and IEEE Std 1100 (IEEE Emerald Book). According to these standards, a properly designed grounding system is one that is intentional, visually verifiable, adequately sized to handle expected currents safely and one that directs these potentially damaging currents away from sensitive communication equipment.

Panduit offers end-to-end solutions to meet customer needs and today's critical application requirements for grounding data centers. Panduit® StructuredGround™ Grounding System provides a high quality, visually verifiable, and dedicated grounding path to maintain system performance, improve network reliability, and protect network equipment and personnel. Highest reliability is ensured; this grounding system meets all applicable grounding and bonding industry standards. Panduit® StructuredGround™ Grounding System gives you what you need to properly protect your investment.



PHYSICAL SECURITY

The network infrastructure provides the applications, support, services, and security necessary to enable agility throughout the organization. It is critical that network security and protection guard against unauthorized access to reduce downtime, prevent vandalism or abuse to system components, and help ensure lowest cost of ownership.

Panduit physical security products reduce risk throughout the physical infrastructure and help organizations maintain secure control of sensitive or confidential information.

- Keyed LC Fiber Optic System incorporates positive/negative keying features and color-coding for effective physical layer security; keyed and color-coded connectors prevent unauthorized moves or changes in patch fields and at workstations
- TX6® 10Gig™ Shielded Copper Cabling reduces electromagnetic and radio frequency interference (EMI/RFI) to improve secure transmission of data between offices, branches, and remote locations
- PanView iQ™ Hardware and Physical Infrastructure Management™ Software is a next-generation physical infrastructure management system that provides real-time monitoring of patch field connectivity to enable quick detection of unintended or improper patch field changes
- RJ45 jack blockout devices, RJ45 plug lock-in devices, and USB blockout devices provide simple and secure methods to secure connections, control access to data, and deter vandalism to jacks-saving time and money associated with downtime, data security breaches, hardware replacement, and infrastructure repair
- LC Fiber Optic Duplex Adapter Blockout Device is a tamper-resistant design which blocks unauthorized access to LC duplex ports. The LC Fiber Optic Lock-In Duplex Clip prevents unauthorized removal of cable and secures connections. The products work to reduce network downtime, data security breaches, and hardware replacement due to theft.
- PanZone® Zone Cabling Enclosures for ceiling, wall mount and in-floor applications offer lockable features to protect against tampering, theft, or other physical abuse to network connections and cables

Whether in the data center, telecommunications rooms, factory floor or work area, Panduit creates innovative solutions that improve security for both data and equipment within the physical infrastructure, ensuring that only authorized individuals have access to building management systems and network devices.



Pages with this icon are part of physical security.



ENTERPRISE SOLUTIONS

Enterprises today require the spaces they occupy to be supported by a wide variety of business systems and communication technologies. Traditional control systems for lighting, security, HVAC, and energy management must now co-exist with IP-based voice, data, and video communication technologies.

Enterprise solutions link facility and network systems directly into the converged building network, generating and sharing data over a single platform to enhance the efficiency and effectiveness of the building as a whole. These solutions are based on running network cabling within shared pathways in order to extend the reach of a physically converged infrastructure to all devices and systems.

Most systems can be physically converged through shared conduit, cable trays, and building pathways; while logically they will converge through a switched IP network. This converged design allows building systems to be considered a true business asset, helping manage risk across the enterprise by:

- Reducing capital expenses by managing installation design and contracting
- Reducing operational expenses through efficient moves, adds, and changes
- Employing a scalable and smart infrastructure that supports TIA/EIA-568 and -569 telecommunications cabling standards
- Enabling greater occupant productivity, safety, and comfort while maintaining the building value over time

The unified approach results in a reliable, interoperable, and scalable physical infrastructure that enables the deployment of converged applications throughout a building to improve manageability, lower total cost of ownership, and ultimately minimize risk.



MULTI-DWELLING/MULTI-TENANT UNIT

MEDIA SERVICES

Multi-dwelling units and/or multi-tenant units (MDU/MTU) consist of buildings with multiple floors and units designated for residential (complexes, apartments, and condominiums) or commercial use (hotels, office complexes, and retail buildings). Individuals occupying these spaces are increasingly demanding access to the latest multimedia communications with the ability for customization.

The Panduit media distribution system allows contractors and building owners to provide end-to-end voice, video, and data systems to their customers by consolidating all incoming communication cable from the building's entry point to a centralized high-density enclosure installed within each unit (typically in a utility or closet). The enclosure uses innovative hubs to distribute these triple play services to individual outlets enabling unique, customer-defined communication access to every room or office of the unit. As needs change, each occupant may easily modify services using modular hubs and high density features that support a greater number of media connections within the enclosure. As a result, the Panduit media distribution system delivers maximum use of space and greater service flexibility while maintaining aesthetics.

From the building demarcation point to the end user's network outlet, the Panduit media distribution system is the most flexible and comprehensive solution for distributing triple play services in support of today's applications and tomorrow's opportunities.



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WIRELESS SOLUTIONS

Since the release of the IEEE 802.11 set of standards, wireless access to data and the Internet has grown in popularity and has contributed to the tremendous growth in the use of WLANs (wireless local area networks) to deliver freedom and mobility to users accessing Ethernet networks. Integrated wired and wireless networks have become essential elements of successful enterprise environments, and are rapidly becoming necessities throughout college campuses, hospitals, convention centers, hotels, and ancillary facilities.

Panduit has collaborated with Cisco Systems to deliver a complete wireless enclosure solution. This solution cost-effectively addresses network deployment, security, and aesthetics by bringing together wired and wireless networks to enable complete interoperability. Integrated networks reduce complexities associated with operating and maintaining devices across multiple environments.

Complementing Cisco System's Integrated Wireless Network are Panduit physical infrastructure solutions. Designed specifically to support a secured wired and wireless environment, Panduit copper and fiber cabling and connectivity systems, wireless access point enclosures, and Power over Ethernet patch panels provide a reliable platform to ensure the most robust and secure enterprise LAN possible.

The Panduit wireless connection delivers proven interoperability that helps ensure reliability and performance throughout the enterprise LAN. End-users deploying an integrated wired and wireless network are able to maximize their network investment by extending their network applications throughout the enterprise in a reliable and cost-effective manner.



ULTIMATE ID® NETWORK LABELING

Permanent labeling is critical for all network cabling system installations. Proper labeling and identification of the physical infrastructure enhances the visibility of all network elements; reduces the time to make moves, adds, and changes; and contributes toward a safer network and data center environment.

Panduit® Ultimate ID® Network Labeling Solutions provide clean and efficient labeling of the network physical infrastructure in accordance with TIA/EIA-606-B. The Ultimate ID® system standardizes on a common label height across all Ultimate ID® products and supports Mini-Com® products (faceplates, surface mount boxes, patch panels) across your installation:

- All labels are protected by a tamper-resistant transparent plastic cover to protect the legend
- All labels are positioned adjacent to, centered on, and parallel to the port they are identifying
- All labels have the same compact height to enhance the appearance of the installation
- All labels are made of a durable, multi-layered, non-adhesive construction that makes installation and removal quick and easy
- The label cover surface is flush with the adjacent faceplate surface

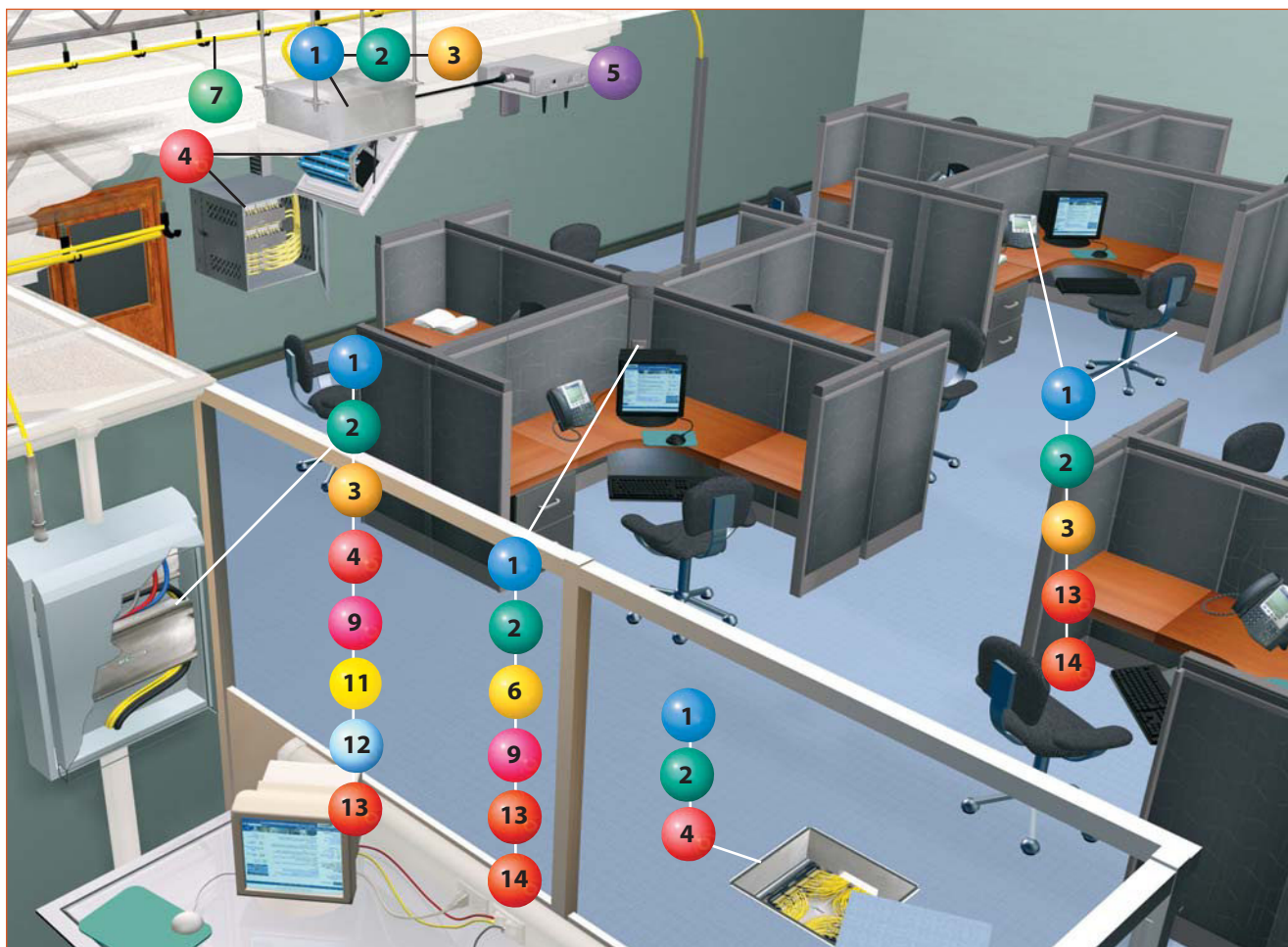
Ultimate ID® Labeling Solutions are available for a variety of printers, including desktop, as well as the Panduit® PanTher™ LS8E and Cougar™ LS9 Hand-Held Thermal Transfer Printers. The PanTher™ LS8E Printer makes compliant labeling fast and easy. Built-in programming lets you line up your legends on patch panel and faceplate labels without guessing how many spaces are needed, which makes the PanTher™ LS8E Printer the best solution for on-site network connectivity labeling.

Ultimate ID® Labeling Software for WINDOWS^ is designed for fast and easy creation of labels for Ultimate ID® Network System patch panels, faceplates, surface mount boxes and marker ties. Ultimate ID® Labeling Software for WINDOWS^ is included with all ID labeling solutions.

^WINDOWS is a registered trademark of Microsoft Corp. in the United States and/or other countries.



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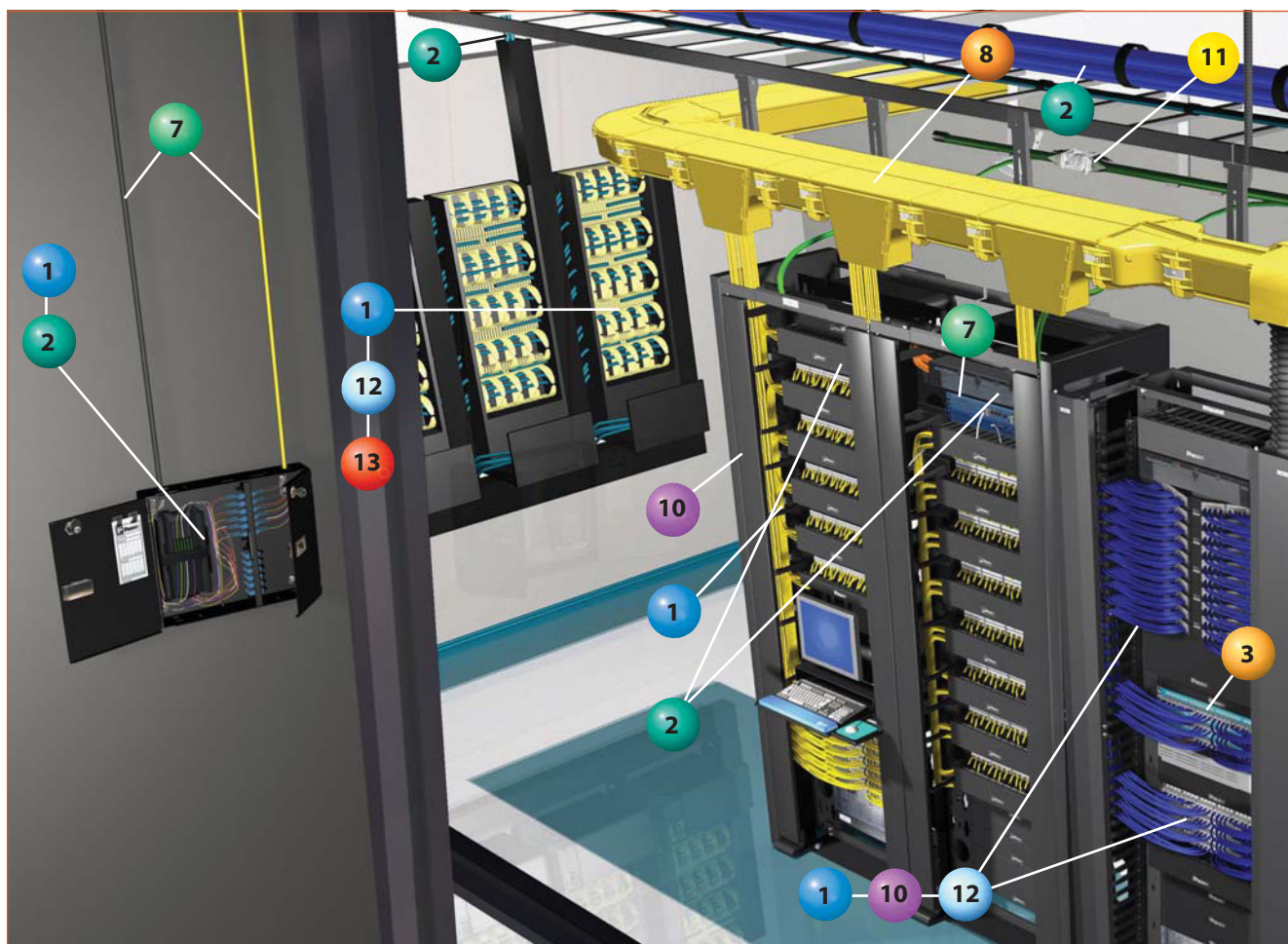
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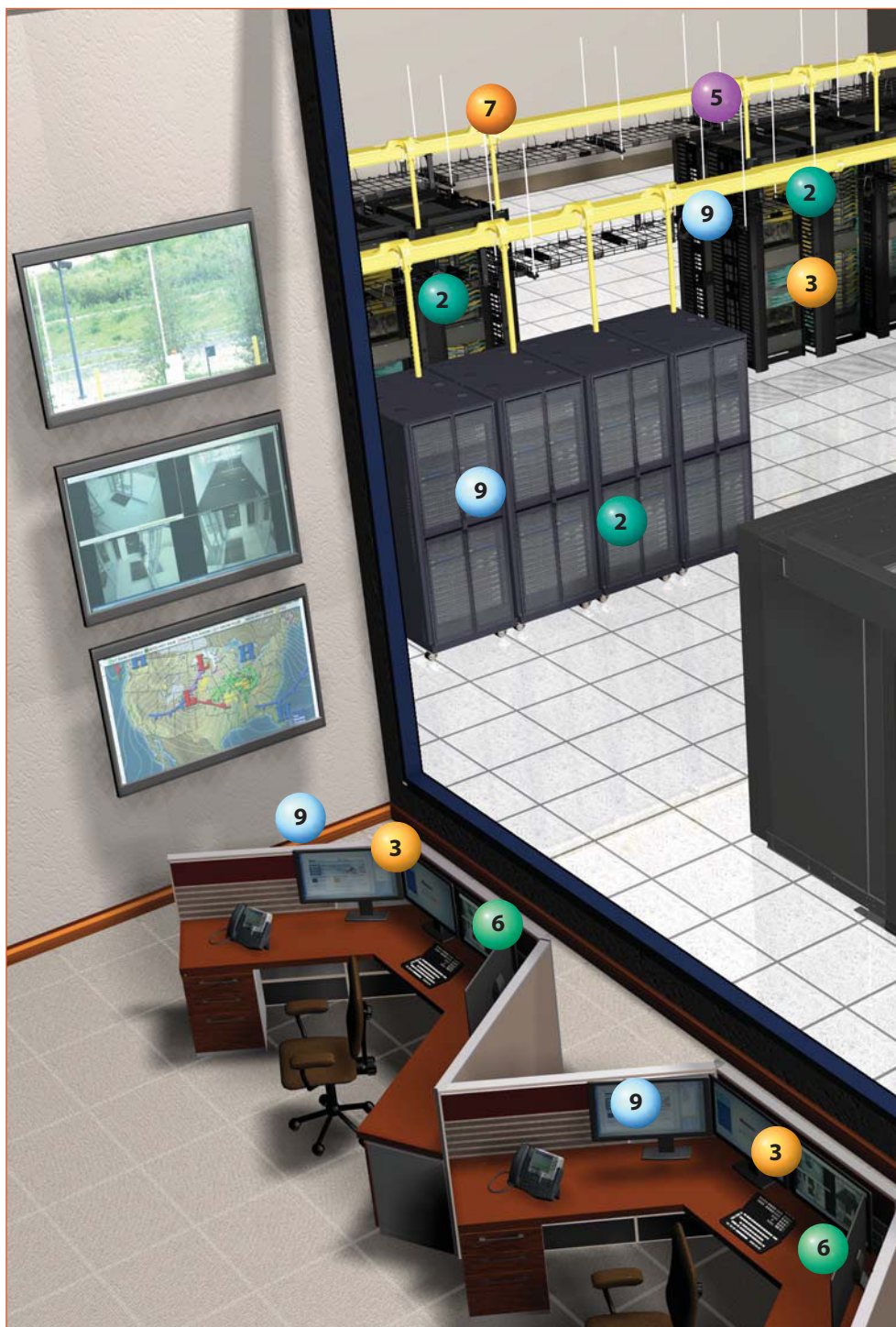
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TX COPPER SYSTEMS SELECTION GUIDE

Panduit offers end-to-end cabling system solutions for copper and fiber cabling applications. Panduit cabling systems provide a complete, high performance, reliable, synergized structured cabling infrastructure to optimize your network performance while providing one point of contact.

	Panduit® TX6A™ Systems	Panduit® TX6500™ Systems	Panduit® TX6000™ Systems	Panduit® TX5500™ Systems
Standards	- ANSI/TIA-568-C.2 Category 6A - ISO/IEC 11801 Edition 2, Amendment 1 Class E_A	- ANSI/TIA-568-C.2 Category 6 - ISO/IEC 11801 Edition 2 Class E - TSB-155 Supports 10GBASE-T applications up to 37 meter channels	- ANSI/TIA-568-C.2 Category 6 - ISO/IEC 11801 Edition 2 Class E - TSB-155 Supports 10GBASE-T applications up to 37 meter channels	- ANSI/TIA-568-C.2 Category 5e - ISO/IEC 11801 Edition 2 Class D
Performance (Bandwidth)	>500 MHz	>350 MHz	>300 MHz	>175 MHz
Applications	- Ethernet 10GBASE-T, 100BASE-T, 1000BASE-T (Gigabit Ethernet), 10GBASE-T - Data center applications for switch-to-switch links, storage area networks, computer cluster farms, storage on demand, and aggregation of data - Vital business management applications, scientific modeling, work group file transfer and media rendering - Web-enabling applications such as Voice over Internet Protocol (VoIP) and live video/audio broadcasting - Power over Ethernet (PoE)	- Ethernet 10BASE-T, 100BASE-T (Fast Ethernet), 1000BASE-T (Gigabit Ethernet), 10GBASE-T (10 Gigabit Ethernet over limited distances as specified in the industry 10GBASE-T standards) 155 Mb/s ATM, 622 Mb/s ATM, 1.2 Gb/s ATM - Token Ring 4/16 - Voice/data systems - Voice over Internet Protocol (VoIP) - Power over Ethernet (PoE)	- Ethernet 10BASE-T, 100BASE-T (Fast Ethernet), 1000BASE-T (Gigabit Ethernet), 10GBASE-T (10 Gigabit Ethernet over limited distances as specified in the industry 10GBASE-T standards) 155 Mb/s ATM, 622 Mb/s ATM, 1.2 Gb/s ATM - Token Ring 4/16 - Voice/data systems - Voice over Internet Protocol (VoIP) - Power over Ethernet (PoE)	- Ethernet 10BASE-T, 100BASE-T (Fast Ethernet), 1000BASE-T (Gigabit Ethernet), 155 Mb/s ATM, 622 Mb/s ATM, 1.2 Gb/s ATM - Token Ring 4/16 - Voice/data systems - Voice over Internet Protocol (VoIP) - Power over Ethernet (PoE)
Pre-Terminated Connectivity	QuickNet™ Copper Cabling System (pages B.8 – B.13)	QuickNet™ Copper Cabling System (pages B.8 – B.13)	QuickNet™ Copper Cabling System (pages B.8 – B.13)	QuickNet™ Plug Pack Assemblies (pages B.10 – B.11)
	QuickNet™ Plug Pack Assemblies (pages B.10 – B.11)	QuickNet™ Plug Pack Assemblies (pages B.10 – B.11)	QuickNet™ Plug Pack Assemblies (pages B.10 – B.11)	
Cable	TX6A™ and TX6A-SD™ 10Gig™ Copper Cable with MaTriX Technology (page B.19)	TX6500™ Enhanced Category 6 UTP Copper Cable (page B.26)	TX6000™ Category 6 UTP Copper Cable (page B.27)	TX5500™ Category 5e UTP Copper Cable (page B.39)
Jack Modules	Mini-Com® TX6™ 10Gig™ Jack Modules (pages B.16 and B.20)	Mini-Com® TX6™ PLUS Jack Modules (page B.28)	Mini-Com® TX6™ PLUS Jack Modules (page B.28)	Mini-Com® TX5e™ Jack Modules (page B.40)
Patch Panels	DP6A™ 10Gig™ Patch Panels (page B.22)	DP6™ PLUS Patch Panels (page B.31)	DP6™ PLUS Patch Panels (page B.31)	DP5e™ Patch Panels (page B.43)
Patch Cords	TX6A™ and TX6A-SD™ 10Gig™ Patch Cords with MaTriX Technology (page B.19)	TX6™ PLUS Patch Cords (page B.34)	TX6™ PLUS Patch Cords (page B.31)	TX5e™ Patch Cords (page B.46)
Punchdown Systems	—	GP6™ Punchdown System (pages B.76 – B.82)	GP6™ Punchdown System (pages B.76 – B.82)	Pan-Punch® 110 Category 5e Punchdown System (pages B.84 – B.91)

FIBER OPTIC SYSTEMS SELECTION GUIDE

	Panduit Multimode Systems			Panduit Singlemode Systems
	OM3/OM4 10Gig™ 50µm	OM2 50µm	OM1 62.5µm	OS1/OS2 9µm
Standards	- IEEE 802.3z 1GBASE-SX – 850nm - IEEE 802.3ae 10GBASE-S – 850nm 10GBASE-LX4 – CWDM 1,2,4,8,10 and 16 Gigabit Fibre Channel, (FC-x00-M5*-SN-I, and 10GFC 1200); x = 1, 2, 4, 8, 12, and 16 * = E (OM3) or F (OM4) - x = 1,2,4,8,12 and 16 - InfiniBand (IB-xX-yDR-SX); x = 1, 4, 8, 12 lanes; y = S, D, Q (Single, Double, Quadruple data rates) - SONET OC-192/SDH STM-64, (OIF VSR4-04)	- IEEE 802.3j 10BASE-F – 850nm - IEEE 802.3u 100BASE-FX – 850nm - IEEE 802.3z 1GBASE-SX – 850nm - IEEE 802.3ae 10GBASE-S – 850nm 10GBASE-LX4 – CWDM 1, 2, 4 Gigabit Fibre Channel, (FC-x00-M5-SN-I); x = 1, 2, 4 - InfiniBand (IB-xX-yDR-SX); x = 1, 4, 8, 12 lanes; y = S, D, Q (Single, Double, Quadruple data rates)	- IEEE 802.3j 10BASE-F – 850nm - IEEE 802.3u 100BASE-FX – 850nm - IEEE 802.3z 1GBASE-SX – 850nm - IEEE 802.3ae 10GBASE-S – 850nm 10GBASE-LX4 – CWDM 1, 2, 4 Gigabit Fibre Channel, (FC-x00-M5-SN-I); x = 1, 2, 4 - InfiniBand (IB-xX-yDR-SX); x = 1, 4, 8, 12 lanes; y = S, D, Q (Single, Double, Quadruple data rates)	- IEEE 802.3z 1GBASE-LX – 1310nm - IEEE 802.3ae: 10GBASE-LX4 – CWDM 10GBASE-LX – 1310nm 10GBASE-EX – 1550nm - InfiniBand (IB-xX-yDR-LX); x = 1, 4 lanes; y = S, D, Q (Single, Double, Quadruple data rates) - SONET OC-192 and OC-768
Bandwidth (EMBc in MHz.km)	- Standard reach fiber: OM3>2000 - Extended reach fiber: OM4>4700	- Standard reach fiber: >510 - Extended reach fiber: >950	>220	N/A
Reach (@850nm)	- Standard reach OM3 fiber: up to 1000m (1GBASE-SX); up to 300m (10GBASE-S); up to 300m (10GBASE-LX4) - Extended reach OM4 fiber: up to 1040m (1GBASE-SX); up to 550m (10GBASE-S)	- Standard reach OM2 fiber: up to 600m (1GBASE-SX); up to 82m (10GBASE-S); up to 240m (10GBASE-LX4) - Extended reach OM2 fiber: up to 750m (1GBASE-SX); up to 150m (10GBASE-S)	OM1 fiber: up to 300m (1GBASE-SX); up to 33m (10GBASE-S); up to 300m (10GBASE-LX4)	OS1/OS2 fiber: up to 5km (1GBASE-LX); up to 10km (10GBASE-LX4); up to 10km (10GBASE-LX); up to 40km (10GBASE-EX)
Applications	- Data centers (switch-to-switch horizontal links)and storage area networks - Financial and medical applications; data warehousing - High performance computing – scientific modeling, simulation and Bioninformatics	- Building backbones and zone cabling - Fiber to the enclosure – delivery of high bandwidth to workgroup applications - Fiber to the desk – digital content creation and video file transaction	- Legacy building backbones and zone cabling - Fiber to the enclosure – delivery of high bandwidth to workgroup applications - Fiber to the desk – digital content creation and video file transaction	- Campus and building backbones - Entrance facilities and equipment rooms - Carrier equipment applications “Dark fiber” enterprise applications
Cable	Opti-Core® Fiber Optic Cable			
	10Gig™ OM3/OM4 Multimode (pages C.4 – C.18)	OM2 Multimode (pages C.4 – C.18)	OM1 Multimode (pages C.4 – C.18)	OS1/OS2 Singlemode (pages C.4 – C.18)
Fiber Optic Connectors	OptiCam® Pre-Polished Cam, Opti-Crimp® Pre-Polished Crimp, and Field Polish Connectors			
	Multimode LC, Keyed LC, and SC (pages C.19 – C.27)	Multimode LC, Keyed LC, SC, ST, and FJ® (pages C.19 – C.27)	Multimode LC, Keyed LC, SC, ST, and FJ® (pages C.19 – C.27)	Singlemode LC, Keyed LC, SC, ST, and FJ® (pages C.19 – C.27)
Adapters, Adapter Modules, and Fiber Adapter Panels	Fiber Optic Adapters, Mini-Com® Fiber Optic Adapter Modules, and Opticom® Fiber Adapter Panels			
	10Gig™ OM3/OM4 Multimode MPO/MTP*, LC, Keyed LC, and SC (pages C.28 – C.43)	OS1 Multimode MPO/MTP*, LC, Keyed LC, SC, ST, and MT-RJ (pages C.28 – C.43)	OM1 Multimode MPO/MTP*, LC, Keyed LC, SC, ST, and MT-RJ (pages C.28 – C.43)	OS1/OS2 Singlemode MPO/MTP*, LC, Keyed LC, SC, ST, and FC (pages C.28 – C.43)
Pre-Terminated MTP® Cassettes	QuickNet™ SFQ Series and QuickNet™ MTP® Cassettes			
	10Gig™ OM3/OM4 Multimode (pages C.44 – C.53)	OM2 Multimode (pages C.44 – C.53)	OM1 Multimode (pages C.44 – C.53)	OS1/OS2 Singlemode (pages C.44 – C.53)
Enclosures, Trays, Patch Panels, and Accessories	QuickNet™ and Opticom® Enclosures, Trays, and Patch Panels and Mini-Com® Patch Panels			
	(pages C.54 – C.62)	(pages C.54 – C.62)	(pages C.54 – C.62)	(pages C.54 – C.62)
Patch Cords, Pigtails, Reference Cable Assemblies, and Kits	Opti-Core® Fiber Optic Patch Cords, Pigtails, and Reference Cable Assemblies and Kits			
	10Gig™ OM3/OM4 Multimode LC, Keyed LC, and SC (pages C.63 – C.90)	OM2 Multimode LC, Keyed LC, SC, ST, and FJ® (pages C.63 – C.90)	OM1 Multimode LC, Keyed LC, SC, ST, and FJ® (pages C.63 – C.90)	OS1/OS2 Singlemode LC, Keyed LC, SC, ST, and FJ® (pages C.63 – C.90)
Hydra, Interconnect, and Trunk Cable Assemblies	QuickNet™ Hydra, Interconnect, MTP® Trunk, and Traditional Trunk Cable Assemblies			
	10Gig™ OM3/OM4 Multimode (pages C.91 – C.100)	OM2 Multimode (pages C.91 – C.100)	OM1 Multimode (pages C.91 – C.100)	OS1/OS2 Singlemode (pages C.91 – C.100)
Termination Kits and Tools	OptiCam® and Field Polish Connector Termination Kits and Tools			
	(pages C.101 – C.106)			

*MTP is a registered trademark of US Conec Ltd.



RoHS

GLOBAL SERVICES AND SUPPORT

Panduit maintains a dedicated global sales force of highly qualified industry experts to provide professional, consultative sales guidance. In addition, partnership with Panduit Certified Installers, Designers, and System Integrators offers assistance from design through implementation and post-sale support. Panduit also teams with best-in-class partners to deliver interoperable, open architecture solutions. Combined, these partnerships provide the services and support to deliver comprehensive, reliable solutions and reduce the total cost of ownership.

ENVIRONMENTAL POLICY

Panduit embraces green thinking as a core value. As a global manufacturer, our mission is to design facilities and products for the present generation without compromising the ability of the future generations to meet their needs. Our company-wide commitment has resulted in the long-standing deployment of programs throughout our global facilities that use energy efficiently, reduce energy consumption, and minimize our ecological footprint.

Specifically, Panduit is committed to the prevention of pollution through compliance with applicable legal requirements and continuous improvement of our environmental performance. This policy is implemented through a mature and effective environmental management system (EMS) that includes planning, training, measurement, reporting, and review. Panduit is also committed to being a good corporate neighbor by engaging in global long-term sustainability initiatives that protect, replenish, and restore the communities in which we live and operate.

We communicate our green philosophy throughout the industry as an active participant of the U.S. Green Building Council, developers of the LEED Green Building Rating System; The Green Grid, a global consortium dedicated to advancing the energy efficiency of data centers and business computing ecosystems worldwide; and the NEMA "Call to Action" steering committee, which is dedicated to limiting the use of hazardous materials in electrical products.

RESTRICTION OF HAZARDOUS SUBSTANCES (RoHS)

Applicable Panduit products comply with the material restrictions of European directives on the *Restriction of Hazardous Substances* (RoHS; 2002/95/EC) and *Waste Electrical and Electronic Equipment* (WEEE; 2002/96/EC). All global Panduit manufacturing facilities are registered to the *ISO 14001:2004* and *ISO 9001:2000* standards, and we are currently working towards compliance with REACH regulations (Registration, Evaluation, Authorization, and Restriction of Chemicals) passed by the European Union in 2007.

PANDUIT BUSINESS PARTNER PROGRAM

In an era where differentiation is demanded, the Panduit Business Partner Program enhances our partners' productivity, profitability, and business growth by focusing on the design, development, marketing, delivery, and maintenance of Panduit solutions.

Panduit is committed to providing our partners with the tools and resources necessary to successfully deliver Panduit solutions through the entire customer lifecycle: consulting, planning, design, deployment, implementation, operation, and maintenance. The Business Partner Program leverages Panduit's Unified Physical InfrastructureSM (UPI) approach to help partners enhance their business offering – from hardware and software to services and solutions – and deliver maximum customer value.

Increased Business Capabilities: Panduit's top partners are certified to deliver Panduit solutions that improve customer capabilities while increasing operational efficiency. A wide range of partners across multiple disciplines are available to help you increase revenue and drive new business efficiencies.

Increased Differentiation: Enjoy strategic advantage over your competition by working with partners that understand Panduit solutions and product systems technologies. Utilize Panduit's UPI-based solutions to enrich and specialize your data center, enterprise, and industrial automation offerings, optimizing your core business systems while driving resource and energy efficiencies across the physical infrastructure.

Enhanced Customer Relevance: In a dynamic business environment, customers value a wide breadth of capabilities that can be leveraged to increase business agility now while managing risk into the future. As you work with Panduit partners, your success will increase as your physical infrastructure capabilities grow.

Panduit Business Partner skill sets range from electrical and networking to IT, consulting, architecting, engineering, and design. Training and certifications earned by partners enable them to share the best practices and lessons learned in physical infrastructure environments, and then pass this increased knowledge and expertise to customers.

Overall this comprehensive program addresses key needs across critical physical infrastructure systems to increase partner differentiation and enhance relevance with customers.

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Copper
Systems

C.
Fiber
Optic
Systems

D.
Power
over
Ethernet

E.
Zone
Cabling

F.
Wireless

G.
Outlets

H.
Media
Distribution

I.
Physical
Infrastructure
Management

J.
Overhead &
Underfloor
Routing

K.
Surface
Raceway

L.
Cabinets,
Racks &
Cable
Management

M.
Grounding &
Bonding

N.
Industrial

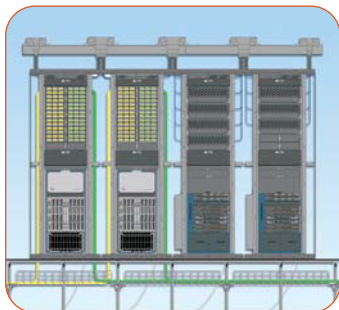
O.
Labeling &
Identification

P.
Cable
Management
Accessories

Q.
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PANDUIT DESIGN TOOLS

The Panduit design tools program provides software tools that will speed up the design process and increase the quality of schematic design and construction drawings, IT/end customer drawings, specification and RFQs, utilizing Panduit products wherever possible.



These design tools allow a quick design of a data center or telecommunications room for a customer, allowing them to see a visual representation of that data center utilizing Panduit product. These visual representations can be in either 2D or 3D based on the designer's expertise and/or software configuration.

PANDUIT PROFESSIONAL SERVICES

Panduit Professional Services ensures that the foundation on which your systems function is reliable and operationally efficient, so that you can focus on the maximizing value to your top-of-mind business objectives. Our primary objective is to help you identify and minimize the risk of physical layer issues by providing integrated services and solutions built around your business needs and fully integrated with your system's architecture.



Panduit methodology-based approach defines the most critical elements to minimize operational risk, maximize return on investment, and build a reliable physical infrastructure for any system deployment. Combining our global collaboration and delivery model with our network of skilled partners, we are able to deliver consistent, best-in-class physical infrastructure, anywhere in the world.