COMMSCOPE®

DSX-1

Digital Signal Cross-Connect and Digital Signal Interconnect Products

COPPER CONNECTIVITY SOLUTIONS | 4TH EDITION

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Introduction
Cross-Connect System

Increased demand for optimal network performance has created a greater need for reliable connectivity equipment. CommScope's digital signal cross-connect (DSX) products provide a competitive advantage by managing digital equipment and maintaining superior cable management. DSX equipment is used as a centralized cross-connect interface between network elements (NE), enabling nonintrusive and intrusive access for testing, patching, and circuit reconfiguration without disturbing permanent equipment connections.

Technology

The DSX interface enables patching, terminating and rearranging of circuits as traffic patterns change and demands on the network grow. At DS1 (1.544 Mbps) digital signal rates, DSX equipment connects NEs such as office repeaters, digital switches, channel banks, digital loop carriers, multiplexers, and digital loop switches.

Each NE is permanently cabled to a DSX-1 terminal. Any two NEs can be connected to each other in a nondedicated manner by means of a semi-permanent cross-connect jumper between two DSX-1 terminations. The cross-connect jumper allows flexibility for future network reconfiguration. Internal jack circuits provide input/output connections to each digital signal source.

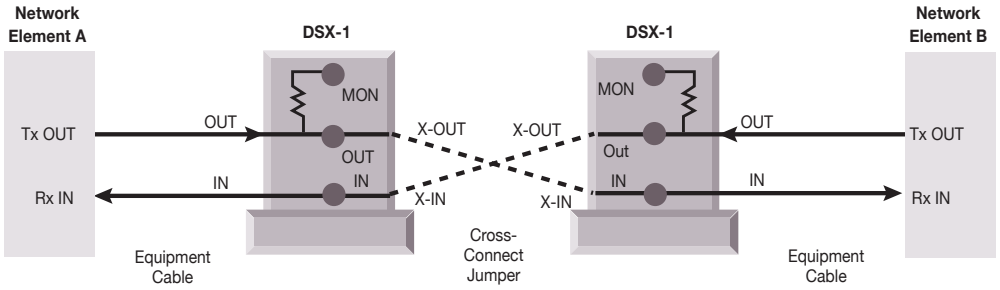
DSX equipment consists of four basic elements:

IN/OUT Terminations: Permanently connects the NE to the DSX interface.

Cross-Connect Terminations: Connects the two DSX locations carrying the signals from the NEs. The network diagram below shows the semi-permanent connections between DSX equipment.

Jacks: IN and OUT switching jacks allow access to the NE's input and output signals for test and patching operations. A MONITOR jack is connected to the OUT jack for nonintrusive access to the output signal. Dual MONITOR jacks provide bidirectional signal monitoring from one location.

LEDs: Flashing LEDs at each end of the DSX circuit quickly and easily identify the cross-connected circuit.



DSX Semi-Permanent Connections

Application

The management of equipment cables and cross-connect jumpers is addressed at the DSX bay framework, ensuring an organized and expandable network. The DSX system should be placed in a centralized location. Whether in a central office, remote site, or wireless bay station or hub, DSX delivers a flexible centralized location to access and monitor network signals.

Introduction
Connecting with Your Network

Cross-connection encourages seamless expansion, simple rerouting and quick restoration for today's evolving networks.

Reduce costs; increase revenues; satisfy customers—the tenets of service providers as they balance today's tenuous financial climate with the promise of next-generation products and services. And as networks migrate and expand to include more complex services, reliability and flexibility become even more vital to their success. That is why digital system cross-connect (DSX) solutions remain the best option for connecting network elements.

The deployment of DSX platforms eases network expansion; allows circuit access for nonintrusive testing, monitoring, and patching; and establishes a central termination point for efficient circuit rearrangements. It allows operators to add a migration of technological platforms and bring advanced services closer to customers while preserving integrity at the network's core.

Make the Connection

Telecommunications networks must be designed to seamlessly absorb new growth, accommodate wiring changes, and restore failed circuits quickly. In its journey from source to destination, a signal travels through a gamut of telecommunications equipment that transforms, grooms, multiplexes, switches, demultiplexes, and routes the signal. Operators have three accepted methods of routing this signal: direct connect, interconnect, and cross-connect via a DSX. Direct connection and interconnection suffer from significant limitations, but the DSX remains fully capable of providing optimal flexibility, reliability, and access to the network.

DSX, coupled with a robust connectivity infrastructure, enhances several work operations:

- Faster service provisioning with greater capacity
- Increased service reliability and protection of electronic equipment and network elements
- Fundamental maintenance including physical layer access
- Quicker service recovery
- Simple, uncomplicated rollovers in future network migration planning
- Nonintrusive network element replacement and testing

Connectivity typically accounts for 1% to 10% of the upfront costs of network deployment. A small investment to simplify procedures, reduce errors, and minimize outages. Many network performance problems stem from restricted access for maintenance, cable congestion, rerouting or monitoring capabilities. And each problem is a high-maintenance proposition characterized by longer service interruptions, operational inefficiency, and frustrated customers that can be easily averted with a DSX solution.

But there is more to connecting a network than simply running cables between network elements.

Network design plays a crucial role in determining whether a network will generate revenue or lose profitability through excess labor costs and missed service opportunities.

Network design is evaluated against three criteria:

- Flexibility
- Central termination point
- Circuit access

Flexibility

Change is inevitable. In today's dynamic, evolving networks, it isn't a matter of if things will change—it's a matter of how much. Today's communications networks demand a migration platform equipped with the cable management and physical rearrangement flexibility to accommodate new services and network elements. Today's networks demand the flexibility of DSX.

Unlike a direct connect solution, where network elements are directly connected to one another in a dedicated, pre-assigned method, a DSX solution serves as the demarcation point. This limits faults to individual circuits only, allowing changes to be performed with minimal recabling and labor costs.

Direct connection forces operators to locate cables and then pull them to new locations, resulting in an extensive, intrusive reengineering process that demands a great deal of time and money recabling each network element. In contrast, a DSX allows operators to simply remove and replace a small wire on its cross-connect field to reroute circuits. This quick resolution is critical for maintaining service even during massive redesigns.

Introduction
Connecting with Your Network

Easier reconfiguration allows operators to manage the subsequent traffic flow when access to the physical network layer is required. Technicians can simply patch into the corresponding circuits with a patch cord for reconfiguration or monitoring purposes.

Central Termination Point

During network element rearrangements, a DSX can manage all rerouting, terminating, and maintenance functions from a centralized location. Without this centralized termination point, as in direct connection, cables must be pulled from each network element and subsequently rerouted to new destinations. Cables soon litter the central office; tracing becomes difficult; and labor costs soar. Mining for the physical facilities on the backplane of a network element is cramped and time-consuming. This method of hardwiring jeopardizes reliability and often results in interrupted service because damage isn't limited to individual circuits but effects can quickly spread to all circuits within a shared component like a common electronic backplane. For instance, a dropped wrench could knock out an entire network element, inducing havoc throughout the network.

DSX and interconnect systems allow operators to do all maintenance and rerouting from one location. These robust devices protect other, more delicate equipment from inadvertent damage during the circuit rearrangement process. And with easy circuit identification centralized, wiring on network elements' backplanes remains undisturbed and unharmed.

Circuit Access

A network's success often depends on how quickly it adapts to change and the simplicity of its maintenance capabilities. Networks require physical access points on every circuit for monitoring, patching, and testing purposes. The ability to tap into and read the signal on any circuit—and not interrupt service to customers—is invaluable in today's market. By incorporating jacks, DSX is the only solution that can localize a fault by allowing operators complete access to any circuit, anytime.

Passing a signal through a jack creates a "window" into the circuit. Through this window the signal can be monitored or pulled out, or a new signal can be introduced, by placing a temporary patch cord into the corresponding ports. By inserting one end of the patch cord into a monitor port on the DSX, and the other end into a test unit or other device, operators can monitor a signal without interrupting service.

When intrusive testing is required, operators simply plug the patch cord into the IN/OUT port on the cross-connect field of the DSX. The signal flow to the cross-connect field is interrupted and a new connection between the jack and patch can be made. The signal can then be sent to a testing device to check for transmission errors or to another network element to temporarily reroute the signal.

The integration of a DSX into the network allows operators to patch around faulty circuits quickly and easily. And operators are given time to restore the primary circuit without fear of service outages for customers.

Passing the Test of Time

Networks evolve over time as technology changes and advanced services are adopted. Equipment obsolescence and the necessary incorporation of new technologies present carriers with on-going challenges. When the customers and the market are ready, the carrier must move quickly or risk missing revenue opportunity. A DSX cross-connect point allows deferment of property/plant and equipment expenses and allows upgrades to new technologies with the least disruption to current services. A physical plant with optimal cable management capabilities encourages quick reconfigurations, upgrades, and diverse alternate routing. And only through the cross-connection of network elements will service providers be able to meet the changing needs of their networks.

Introduction

Bantam Jack Technology Features

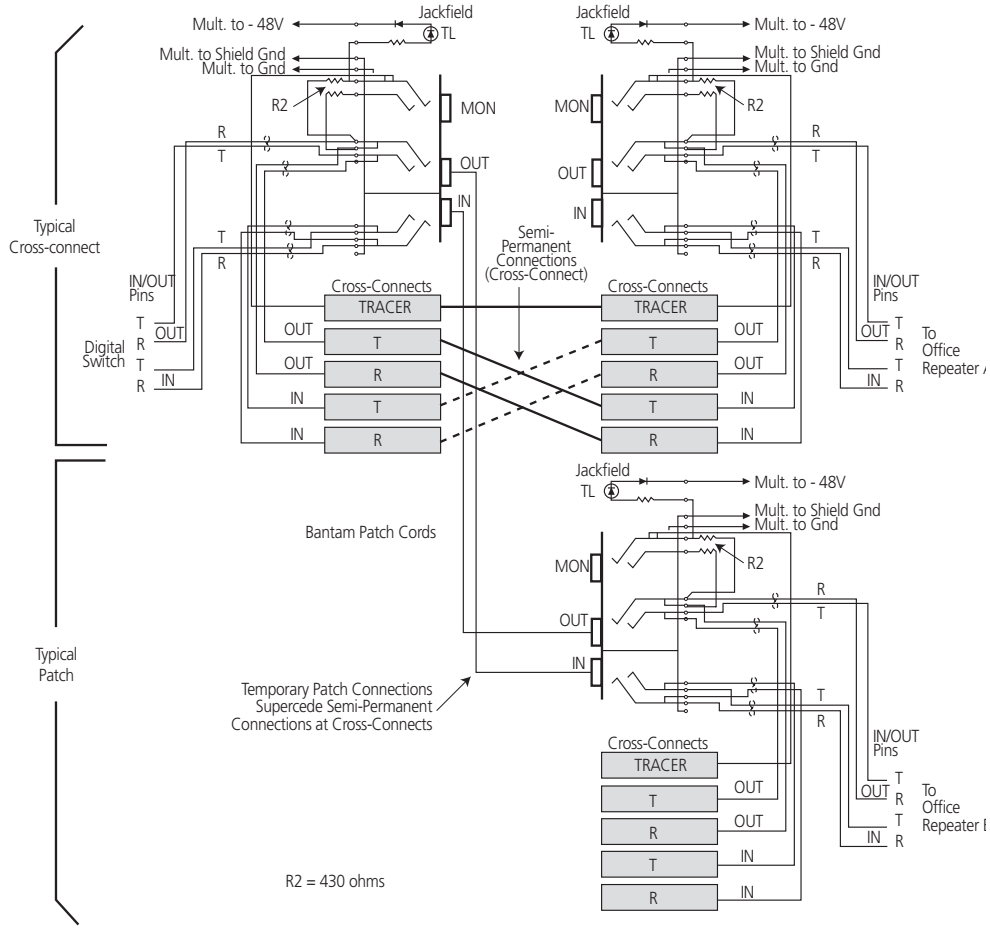
In order to understand how a DSX performs cross-connect and patching functions, it is best to study its key component, the jack, shown in the figure below.

Typical Cross-Connect

Network digital equipment (NE) have two connection points where the digital signal can enter and exit the equipment. Each DSX jack is connected to a single NE by connecting the "OUT" pins to the signal exiting the NE and the "IN" pins to the signal entering the NE. When one jack is connected to each NE, test and access functions can be performed.

Typical Patch or Circuit Rearrangement

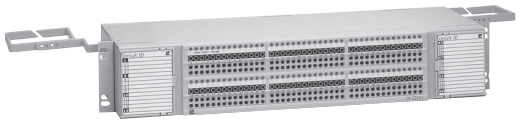
In order to temporarily patch or reroute a circuit, the digital signal from one NE is routed through a designated normally closed jack (one "IN" and one "OUT" jack per NE) to a pair of jacks on another NE. The circuit is completed by cross-connecting the "OUT" of one jack; i.e., digital switch, to the "IN" on the other jack; i.e., office repeater. Likewise, the "IN" on the first jack is cross-connected to the "OUT" of the second jack, thus forming an interconnection between the two jacks and therefore between the two NEs.



DSX Jack Schematic Illustrating Cross-Connect and Patching Functions

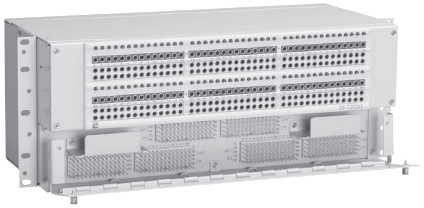
Introduction
Panel Configuration Features

Cross-connect panels are available in a variety of cross-connect formats, circuit densities and labeling options. The following examples highlight standard product options:

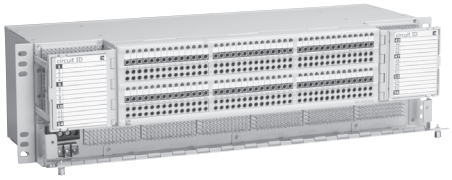


Rear Cross-Connect
Rear cross-connect panels feature jacks on the front of the panel. Equipment cable interfaces and cross-connect interfaces are located on the rear of the panel.

Front (Split) Cross-Connect
Front (split) cross-connect panels feature both jacks and cross-connect interfaces on the front of the panel. Half of the cross-connects are on the left side of the jacks, half are on the right side. Equipment cable interfaces are located on the rear of the panel.



Front (Below) Cross-Connect
Front (below) cross-connect panels feature both jacks and cross-connect interfaces on the front of the panel. The entire cross-connect field is located below the jacks. Equipment cable interfaces are located on the rear of the panel.



Total Front Access Cross-Connect
Total front access panels feature all interfaces on the front of the panel. Cross-connect interfaces are on either side of the jacks and equipment cable interfaces are located below the jacks.

Introduction

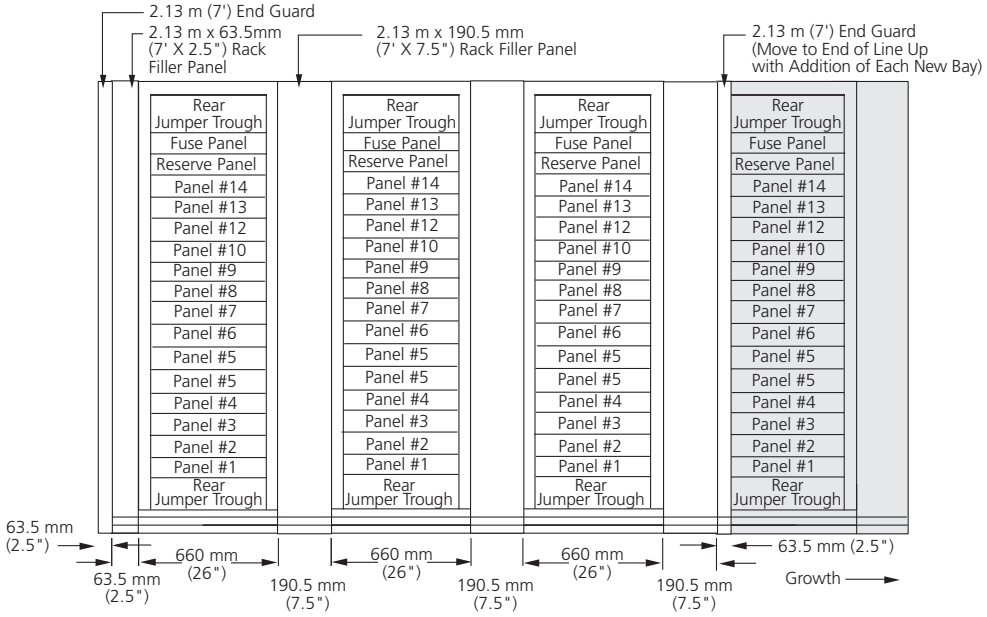
Skeleton Bay Lineup Features

A typical DSX system consists of two or more bays joined together to form a DSX bay lineup. A lineup can be designed for either rear or front cross-connect configurations. Both configurations use the same basic skeleton bay framework, which supports the DSX panels and auxiliary equipment and includes integrated cable management.

Lineup Design and Requirements

The cross-connect lineup illustration below shows the increased density achieved in a lineup using DSX*i*® panels. Up to 5,880 circuits can be managed in a five-bay lineup, compared to the traditional 4,620 circuits. This maximizes valuable floor space, while still providing proper cable management to support high volumes of cross-connect jumpers. A complete DSX lineup consists of:

- Integrated cable management on each bay, which provides all the necessary hardware to safely and easily route equipment cables and cross-connect jumpers throughout a lineup. When additional bays are needed in a network, existing jumpers can remain intact while additional cabling is routed and reconfigured. Properly designed cable management is critical in maintaining network integrity and allowing unimpeded growth.
- Rack filler panels between bays, which allow room for routing equipment cables into each bay. Spacing also provides room for jumper rings placed on the bay for control of vertical jumper routing. The spacer width between bays is determined by the number of DSX terminations per bay and the type of cabling used. Notice that a rack filler panel is provided at the growth end of the lineup and is ready for the next bay addition.
- End guard panels at the end of bay lineups, which protect cables routed in the duct area and provide a location for bay alarm indicators and AC light switches.
- A maintenance bay is typically designated as every third or fourth bay within a DSX lineup. In addition to DSX panels, auxiliary or maintenance equipment such as bridging office repeaters, interbay panels, communication panels, equipment shelves for portable test sets, and pencil and storage drawers are placed in this bay. These maintenance bays allow office technicians to maintain digital services efficiently.
- Cross aisle panels, which should be placed in the top position of each bay in multiple lineup systems, to extend cross-connections safely to other lineups. A cross aisle panel is connected to an adjacent cross aisle panel in another lineup by permanent tie cables.



Typical DSX Lineup Expansion

Introduction

Skeleton Bay Lineup Features

As the central part of the DSX lineup, each skeleton bay provides preassembled cable management and the basic framework to securely support valuable network equipment and allow efficient and organized cable routing. Panels and chassis are selected and installed separately for system customization and flexible growth. Bays are also available fully loaded with preinstalled DSX panels. Each skeleton bay is preconfigured for either front or rear cross-connect applications.

DSX bays are available in a 15-inch footprint depth. This provides additional jumper capacity for lineups with greater growth potential. The additional 3 inches of depth provides over 50 percent additional capacity in the upper and lower jumper troughs. The bays are available in 19- or 23-inch mounting widths. Each skeleton bay includes:

- Integrated cable management, which provides all the necessary hardware to safely route equipment cables and cross-connect jumpers throughout the bay. When a panel needs to be added, existing jumpers can remain intact while additional cabling is routed and reconfigured. Extra large vertical jumper rings ensure routing is never restricted and support high volumes of cross-connect jumpers. Jumper troughs placed at the top and bottom of each bay route jumpers horizontally between bays. This continuous horizontal wireway assures a nonblocking system where any two circuits may be cross-connected. Whereas permanent equipment cabling is tied into place, the semi-permanent cross-connect jumpers are not, but rather float in the vertical and horizontal wireways and may be rerouted as the network changes over time. Cable tie brackets attached to the side of the rack provide a means to secure NE equipment cabling and keep them neatly separated from jumpers.
- Network unequal flange-type racks provide efficient vertical cable ducts for NE equipment cabling. The typical rack height is 7 feet to allow technician access to circuits and jacks without the need for ladders. Configurations over 7 feet are available upon request.
- Fuse panels, which are preinstalled in the uppermost part of the bay, below horizontal wireways.
- Guard boxes, which provide a bumper at the base of the bay to prevent maintenance equipment from hitting bay equipment panels.

Additional equipment recommended:

- AC raceways and outlets, which are placed on the guard boxes and provide space for electrical wiring. They are recommended on every third or fourth bay and are ordered separately.
- Rack installation kits, which provide hardware to anchor the rack to the floor and support the top of the rack to superstructure above. Kits for both concrete and computer floors are available and are ordered separately.

Introduction
Product Family Features

CommScope offers many varieties of DS1 products to ensure that the right features are available for your specific cross-connect or interconnect needs. From the fixed-circuit DSX*i*® panels to the modular FlexDSX® panels, all DS1 panels are proven performers that have set the industry standard. The modular systems minimize initial network costs by growing the network as customer demand increases. All are backed by CommScope's quality manufacturing and dedicated sales and service team to help keep networks running smoothly.

Product Family Comparison

Feature	DSX*i* Panels	FlexDSX Panels	Modular Bantam Panels	Interconnect Panels
Front Cross-Connect	•	•	•	
Rear Cross-Connect	•	•	•	
Fixed-Circuit Panels	•			•
Modular Chassis		•	•	•
Removable Jacks		•	•	•
Single Monitor Jack (3 ports)	•		•	•
Dual Monitor Jacks (4 ports)		•		
In-Service Patching	•	•	•	•
Ability to Prewire Backplane without Jacks		•	•	•
Tracer LEDs	•	•	•	•
Designation Labels	•	•	•	•
WECO/EIA Mounting	•	•	•	•
Maximum Circuits Per Panel	84	84	112	84

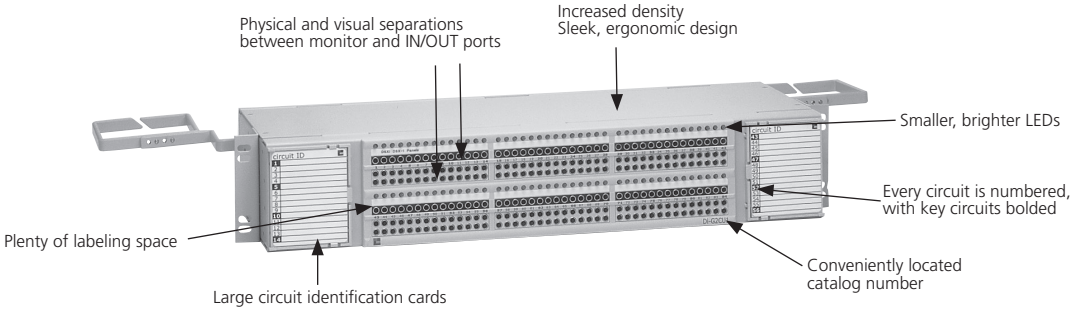
DSX*i*® Family

Introduction – Design Elements

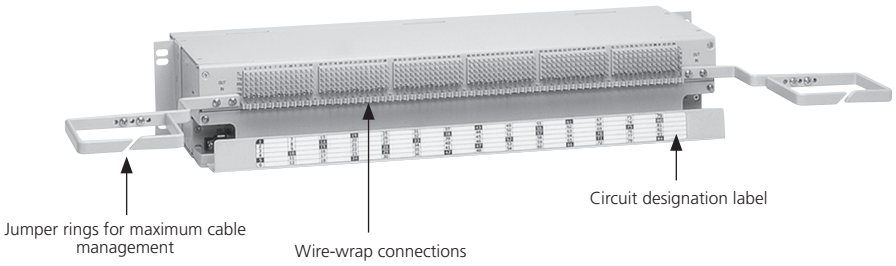
CommScope's DSX*i*® product family is the next generation of panels for digital signal cross-connect in T1 networks. DSX*i* panels have improved density and manageability—making this the preferred choice in fixed-circuit DSX-1 equipment.

Features

- **Increased density**
  Up to 27 percent greater bay density, saving valuable floor space.
- **Innovative design**
  Easier circuit access and faster identification to help save time and money.
- **Ingenious cable management**
  Ensures cables are kept well organized.
- **Incredibly reliable panels**
  Designed to comply with NEBS Level 3 standards and backed by a lifetime warranty.
- **Brighter LED**
- **Improved designation**



Front View



Rear View

DSXi® Family
84-Termination Rear Cross-Connect Panels

Features

- Improved circuit density by 20 percent with 4-inch-high panels
- Two 4-inch by 4-inch vertical jumper rings
- WECO/EIA mounting brackets
- Circuit identification cards with major circuits bolded
- Red tracer LEDs for easier circuit identification
- Panel color: putty

Di-G2CU1
(Front View)

Di-G2CU1
(Rear View)

Ordering Information

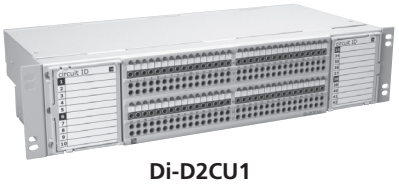
Cross-Connect	IN/OUT Cabling	Designation	Dimensions (HxWxD)	Mounting Options	Catalog Number
Rear	Wire-wrap	1-28 A 1-28 B 1-28 C	102 mm x 582 mm x 203 mm (4" x 23" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-G2GU1
Rear	Wire-wrap	1-84	102 mm x 582 mm x 203 mm (4" x 23" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-G2CU1
Rear	64-pin	1-28 A 1-28 B 1-28 C	102 mm x 582 mm x 203 mm (4" x 23" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-G3GU1
Rear	64-pin	1-84	102 mm x 582 mm x 203 mm (4" x 23" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-G3CU1
Rear	Wire-wrap	1-28 A 1-28 B 1-28 C	178 mm x 483 mm x 203 mm (7" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-F2GU1*
Rear	Wire-wrap	1-84	178 mm x 483 mm x 203 mm (7" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-F2CU1*

*Accommodates 19" or 23" rack mount.

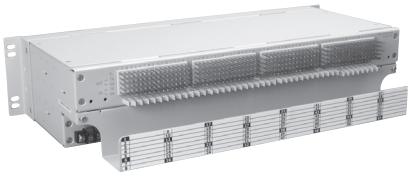
DSX*i*® Family
64-Termination Rear Cross-Connect Panels

Features

- Two 4-inch by 4-inch vertical jumper rings
- Circuit identification cards with major circuits bolded
- WECO/EIA mounting brackets
- Red tracer LEDs for easier circuit identification
- Panel color: putty



Di-D2CU1
(Front View)



Di-D2CU1
(Rear View)

Ordering Information

Cross-Connect	IN/OUT Cabling	Designation	Dimensions (HxWxD)	Mounting Options	Catalog Number
Rear	Wire-wrap	1-32 A 1-32 B	102 mm x 483 mm x 203 mm (4" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-D2GU1*
Rear	Wire-wrap	1-64	102 mm x 483 mm x 203 mm (4" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-D2CU1*

*Accommodates 19" or 23" rack mount.

DSX*i*® Family
56-Termination Rear Cross-Connect Panels

Features

- Two 4-inch by 4-inch vertical jumper rings
- Circuit identification cards with major circuits bolded
- WECO/EIA mounting brackets
- Red tracer LEDs for easier circuit identification
- Panel color: putty

Di-A2GU1
(Front View)

Di-A2GU1
(Rear View)

Ordering Information

Cross-Connect	IN/OUT Cabling	Designation	Dimensions (HxWxD)	Mounting Options	Catalog Number
Rear	Wire-wrap	1-28 A 1-28 B	102 mm x 483 mm x 203 mm (4" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-A2GU1*
Rear	Wire-wrap	1-56	102 mm x 483 mm x 203 mm (4" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-A2CU1*
Rear	64-pin	1-28 A 1-28 B	102 mm x 483 mm x 203 mm (4" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-A3GU1*
Rear	64-pin	1-56	102 mm x 483 mm x 203 mm (4" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-A3CU1*

*Accommodates 19" or 23" rack mount.

DSXi® Family
84-Termination Front Cross-Connect Panels

Features

- Increased circuit density by 14 percent with 6-inch-high panels
- Two 2-inch by 4-inch vertical jumper rings
- Circuit identification cards with major circuits bolded
- WECO/EIA mounting brackets
- Red tracer LEDs for easier circuit identification
- Front cross-connect and network equipment cable interface
- Panel color: putty

Di-M2GU1
(Front View)

Di-M2GU1
(Rear View)

Ordering Information

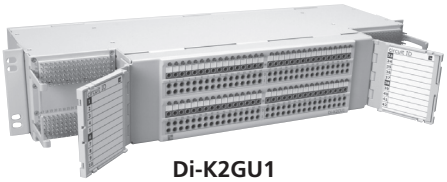
Cross-Connect	IN/OUT Cabling	Designation	Dimensions (HxWxD)	Mounting Options	Catalog Number
Front (split)	Wire-wrap	1-28 A 1-28 B 1-28 C	102 mm x 582 mm x 203 mm (4" x 23" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-M2GU1
Front (split)	Wire-wrap	1-84	102 mm x 582 mm x 203 mm (4" x 23" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-M2CU1
Front (split)	64-pin	1-28 A 1-28 B 1-28 C	102 mm x 582 mm x 203 mm (4" x 23" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-M3GU1
Front (split)	64-pin	1-84	102 mm x 582 mm x 203 mm (4" x 23" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-M3CU1
Front (below)	Wire-wrap	1-28 A 1-28 B 1-28 C	178 mm x 483 mm x 203 mm (7" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-T2GU1*
Front (below)	Wire-wrap	1-84	178 mm x 483 mm x 203 mm (7" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-T2CU1*

*Accommodates 19" and 23" rack mount.

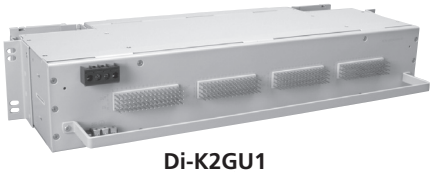
DSX*i*® Family
64-Termination Front Cross-Connect Panels

Features

- Increased circuit density by 20 percent with 4-inch-high panels
- Two 2-inch by 4-inch vertical jumper rings
- Circuit identification cards with major circuits bolded
- WECO/EIA mounting brackets
- Red tracer LEDs for easier circuit identification
- Panel color: putty



Di-K2GU1
(Front View)



Di-K2GU1
(Rear View)

Ordering Information

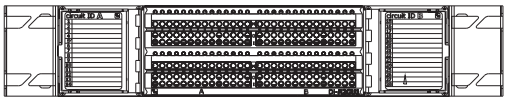
Cross-Connect	IN/OUT Cabling	Designation	Dimensions (HxWxD)	Mounting Options	Catalog Number
Front (split)	Wire-wrap	1-32 A 1-32 B	102 mm x 582 mm x 203 mm (4" x 23" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-K2GU1
Front (split)	Wire-wrap	1-64	102 mm x 582 mm x 203 mm (4" x 23" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-K2CU1
Front (below)	Wire-wrap	1-32 A 1-32 B	152 mm x 483 mm x 203 mm (6" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-R2GU1*
Front (below)	Wire-wrap	1-64	152 mm x 483 mm x 203 mm (6" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-R2CU1*

*Accommodates 19" and 23" rack mount.

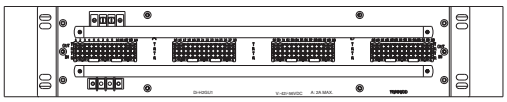
DSX*i*® Family
56-Termination Front Cross-Connect Panels

Features

- Improved circuit density by 14 percent with 6-inch-high panels
- Two 2-inch by 4-inch vertical jumper rings
- Circuit identification cards with major circuits bolded
- WECO/EIA mounting brackets
- Red tracer LEDs for easier circuit identification
- Panel color: putty



Di-H2GU1
(Front View)



Di-H2GU1
(Rear View)

Ordering Information

Cross-Connect	IN/OUT Cabling	Designation	Dimensions (HxWxD)	Mounting Options	Catalog Number
Front (split)	Wire-wrap	1-28 A 1-28 B	102 mm x 483 mm x 203 mm (4" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-H2GU1*
Front (split)	Wire-wrap	1-56	102 mm x 483 mm x 203 mm (4" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-H2CU1*
Front (split)	64-pin	1-28 A 1-28 B	102 mm x 483 mm x 203 mm (4" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-H3GU1*
Front (split)	64-pin	1-56	102 mm x 483 mm x 203 mm (4" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-H3CU1*
Front (below)	Wire-wrap	1-28 A 1-28 B	152 mm x 483 mm x 203 mm (6" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-N2GU1*
Front (below)	Wire-wrap	1-56	152 mm x 483 mm x 203 mm (6" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-N2CU1*
Front (below)	64-pin	1-28 A 1-28 B	152 mm x 483 mm x 203 mm (6" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-N3GU1*
Front (below)	64-pin	1-56	152 mm x 483 mm x 203 mm (6" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-N3CU1*

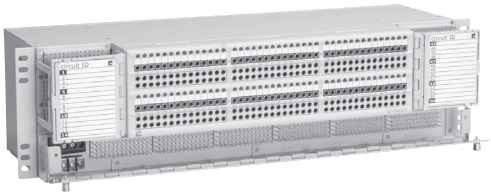
*Accommodates 19" and 23" rack mount.

DSX*i*® Family

84-Termination Total Front Access Cross-Connect Panels

Features

- Increased circuit density by 14 percent with 6-inch-high panels
- Two 2-inch by 4-inch vertical jumper rings
- Circuit identification cards with major circuits bolded
- WECO/EIA mounting brackets
- Red tracer LEDs for easier circuit identification
- Front cross-connect and network equipment cable interface
- Panel color: putty



Di-X2CU1
(Front View)

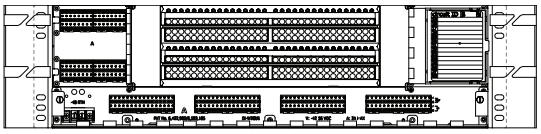
Ordering Information

Cross-Connect	IN/OUT Cabling	Designation	Dimensions (HxWxD)	Mounting Options	Catalog Number
Total front access	Wire-wrap	1-28 A 1-28 B 1-28 C	152 mm x 582 mm x 203 mm (6" x 23" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-X2GU1
Total front access	Wire-wrap	1-84	152 mm x 582 mm x 203 mm (6" x 23" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-X2CU1

DSX*i*® Family
64-Termination Total Front Access Cross-Connect Panels

Features

- Two 2-inch by 4-inch vertical jumper rings
- Circuit identification cards with major circuits bolded
- WECO/EIA mounting brackets
- Red tracer LEDs for easier circuit identification
- Front cross-connect and network equipment cable interface
- Panel color: putty



Di-W2GU1
(Front View)

Ordering Information

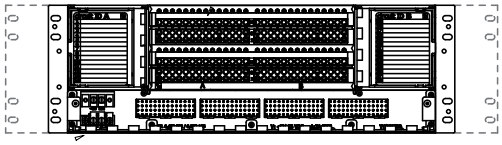
Cross-Connect	IN/OUT Cabling	Designation	Dimensions (HxWxD)	Mounting Options	Catalog Number
Total front access	Wire-wrap	1-32 A 1-32 B	152 mm x 582 mm x 203 mm (6" x 23" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-W2GU1
Total front access	Wire-wrap	1-64	152 mm x 582 mm x 203 mm (6" x 23" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-W2CU1

DSX*i*® Family

56-Termination Total Front Access Cross-Connect Panels

Features

- Two 2-inch by 4-inch vertical jumper rings
- Circuit identification cards with major circuits bolded
- WECO/EIA mounting brackets
- Red tracer LEDs for easier circuit identification
- Front cross-connect and network equipment cable interface
- Panel color: putty



Di-U2GU1
(Front View)

Di-U2GU1
(Rear View)

Ordering Information

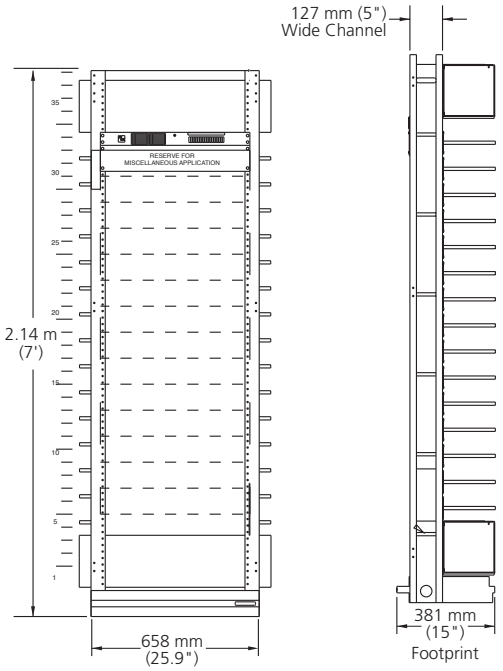
Cross-Connect	IN/OUT Cabling	Designation	Dimensions (HxWxD)	Mounting Options	Catalog Number
Total front access	Wire-wrap	1-28 A 1-28 B	152 mm x 483 mm x 203 mm (6" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-U2GU1*
Total front access	Wire-wrap	1-56	152 mm x 483 mm x 203 mm (6" x 19" x 8")	Flush, 51 mm, 76 mm, 102 mm (2", 3", 4") recess	Di-U2CU1*

*Accommodates 19" and 23" rack mount.

DSX*i*® Family
Rear Cross-Connect Skeleton Bays

Features

- Accommodates rear cross-connect style DSX*i*® panels
- Increased density with up to 1,176 terminations in a 23-inch bay
- WECO network-style racks
- Equipped with fuse panel, upper and lower horizontal jumper troughs, and vertical jumper rings
- Bay color: putty



DMB-77WC01
(Front View)

(Side View)

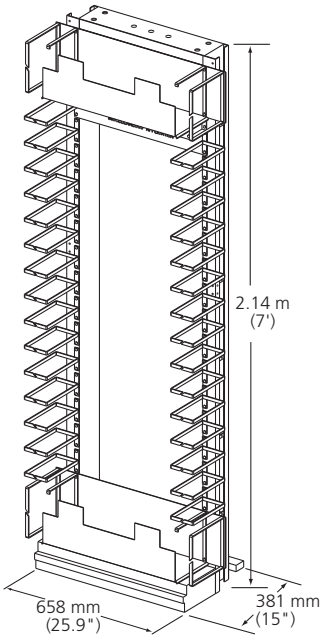
Ordering Information

Description	Dimensions (HxWxD)	Catalog Number
19" bay		
Rear cross-connect skeleton bay, empty Accommodates up to (14) 102 mm (4") high 56-termination panels, 784 terminations	2.14 m x 483 mm x 381 mm (7' x 19" x 15")	DMB-77WC02
23" bays		
Rear cross-connect skeleton bay, empty Accommodates up to (14) 102 mm (4") high 84-termination panels, 1,176 terminations	2.14 m x 584 mm x 381 mm (7' x 23" x 15")	DMB-77WC01
Rear cross-connect bay, fully loaded with 14 Di-G2GU1 panels	2.14 m x 584 mm x 381 mm (7' x 23" x 15")	DMB-72WC02
Rear cross-connect bay, fully loaded with 14 Di-G2CU1 panels	2.14 m x 584 mm x 381 mm (7' x 23" x 15")	DMB-72WC01

DSX*i*® Family
Front Cross-Connect Skeleton Bays

Features

- Accommodates front cross-connect style DSX*i*® panels
- Increased density with up to 784 terminations in a single 19-inch bay; 1,176 terminations in a 23-inch bay
- WECO network-style racks
- Equipped with fuse panel, upper and lower horizontal jumper troughs, and vertical jumper rings
- Bay color: putty

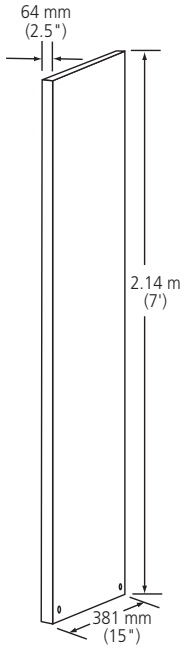


DMB-78WC01
(Front View)

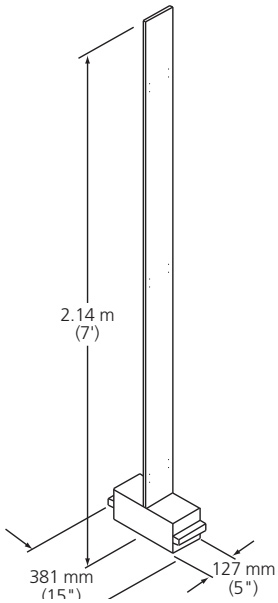
Ordering Information

Description	Dimensions (HxWxD)	Catalog Number
19" bay		
Front cross-connect skeleton bay, empty Accommodates up to (14) 102 mm (4") high 56-termination panels, 784 terminations	2.14 m x 483 mm x 381 mm (7' x 19" x 15")	DMB-78WC02
23" bays		
Front cross-connect skeleton bay, empty Accommodates up to (14) 102 mm (4") high 84-termination panels, 1,176 terminations	2.14 m x 584 mm x 381 mm (7' x 23" x 15")	DMB-78WC01
Front cross-connect bay, fully loaded with 14 Di-M2GU1 panels	2.14 m x 584 mm x 381 mm (7' x 23" x 15")	DMB-71WC02
Front cross-connect bay, fully loaded with 14 Di-M2CU1 panels	2.14 m x 584 mm x 381 mm (7' x 23" x 15")	DMB-71WC01

DSX*i*® Family
Rack Hardware



Universal End Guard Panel
(RAC-7B0162)



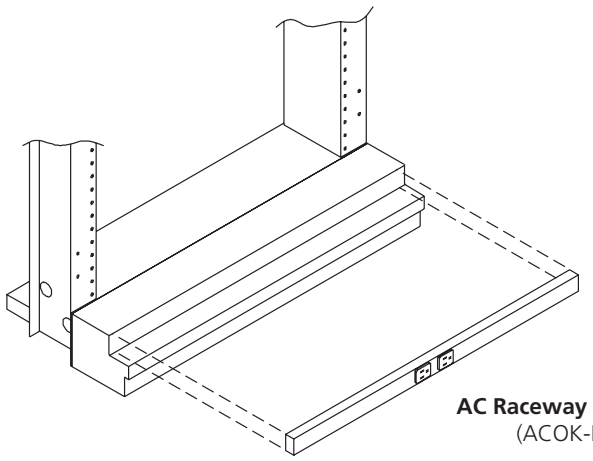
Rack Filler Panel
(RAC-7C0545)

Ordering Information

Description	Dimensions (HxW)	381 mm (15") Deep System Catalog Number
Rack filler panel		
Closed guard box for concrete floors–equipment cables enter from overhead	2.14 m x 64 mm (7' x 2.5")	RAC-7C0539
	2.14 m x 120 mm (7' x 5")	RAC-7C0545
	2.14 m x 191 mm (7' x 7.5")	RAC-7C0810
	2.14 m x 254 mm (7' x 10")	RAC-7C0551
Open guard box for raised floors–equipment cables enter from below	2.14 m x 64 mm (7' x 2.5")	RAC-7C0633
	2.14 m x 120 mm (7' x 5")	RAC-7C0639
	2.14 m x 191 mm (7' x 7.5")	RAC-7C0811
	2.14 m x 254 mm (7' x 10")	RAC-7C0645
Universal end guard panel	2.14 m (7')	RAC-7B0162

Note: color is putty.

DSX*i*® Family
Rack Hardware



AC Raceway with Outlet
(ACOK-PWNB)

Ordering Information

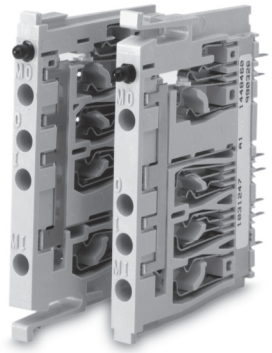
Description	Dimensions (HxW)	Catalog Number
AC raceway		
With outlet (2 per rack where outlets are required)		ACOK-PWNB
Without outlet (2 per rack where outlets are not required)		ACB-PWNB
AC raceway filler		
64 mm (2.5"); (2 per 2.5" filler panel)		AC-PWNB-RS2.5
127 mm (5"); (2 per 5" filler panel)		AC-PWNB-RS5
254 mm (10"); (2 per 10" filler panel)		AC-PWNB-RS10
Blank panels		
WECO	51 mm x 584 mm (2" x 23")	PWBP-2023
	102 mm x 584 mm (4" x 23")	PWBP-4023
	152 mm x 584 mm (6" x 23")	PWBP-6023
	203 mm x 584 mm (8" x 23")	PWBP-8023
EIA	45 mm x 584 mm (1.75" x 23")	PWBP-1723
	89 mm x 584 mm (3.5" x 23")	PWBP-3523
	133 mm x 584 mm (5.25" x 23")	PWBP-5223
	178 mm x 584 mm (7" x 23")	PWBP-7023
Rack installation kits		
Concrete floor rack installation kit; for use ***with*** overhead cable racking 2.14 m (7') network rack kit includes: (1) floor mounting kit (1) top attachment kit for 7' rack (12) rack tie bracket kits (1) rack grounding kit		RINST-DSX7-PW
Raised floor rack installation kit (zone 4 rated); for use ***without*** overhead cable racking 2.14 m (7') network rack kit includes: (1) raised floor mounting kit (12) rack tie bracket kits (1) rack grounding kit		RINST-DSXRFL-PW

Note: color is putty.

FlexDSX® Family
Introduction – Design Elements

Features

- **Four-port jack cards**
  Dual monitor ports enable circuit monitoring in both directions
- **Staggered jack alignment**
  Supports industry-standard patch cords
- **Up to 84 circuits in a 6-inch-high chassis**
  Increased bay density
- **Integrated cable management**
  Jumper rings and rear cable bars are installed on the skeleton bay
- **IN/OUT cable terminations on the backplane**
  Provides multiple circuit count configurations - 84, 64 and 56



Four-Port Jack Card

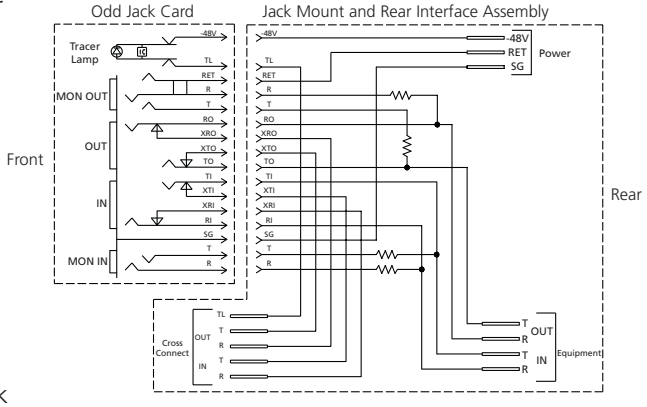
Four-Port Jack Card

The four-port jack card features dual monitor ports, allowing the signal to be monitored in both directions from a single access point. Staggered even/odd jacks allow industry-standard patch cords to be used.

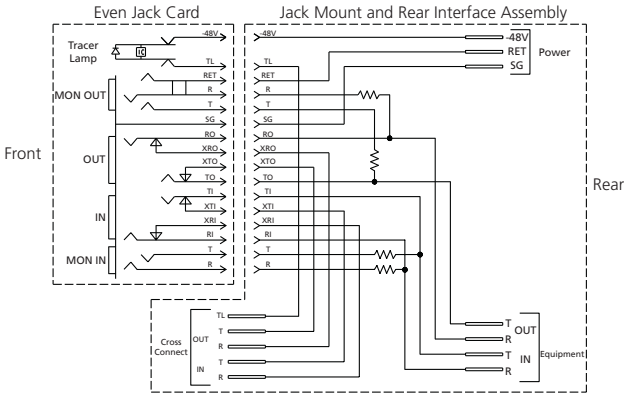
Monitoring or testing the circuit in both directions from a single location simplifies troubleshooting and saves technician time. Access to both ends of the circuit is critical, especially when the other end of the cross-connect is less accessible, such as in collocation applications.

FlexDSX® chassis accommodate four-port jack cards with dual monitor ports. Using these dual monitor ports, technicians save time by monitoring both sides of a circuit from a single test access point.

The modular FlexDSX components consist of the dual monitor jack, four-pack module and the chassis. The jack card slides into the four-pack module that includes the wire-wrap IN/OUT equipment cable termination that creates the backplane. Staggered jacks maximize density so that industry-standard patch cords are used. The FlexDSX modular system provides multiple circuit counts of 84, 64 and 56.

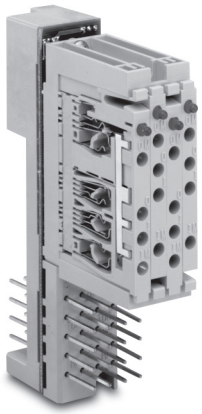


Odd Jack Card Assembly



Even Jack Card Assembly

FlexDSX® Family
Introduction – Design Elements



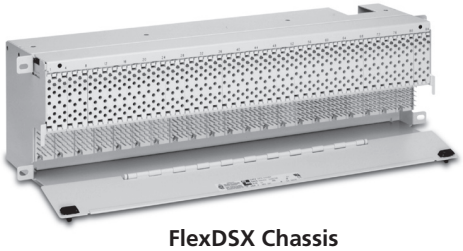
Four-Pack Module

Four-Pack Module

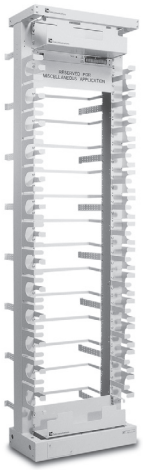
FlexDSX® four-pack module contains four individual jack cards. IN/OUT equipment cable terminations on the backplane maximize flexibility.

Chassis

The FlexDSX chassis is loaded with four-pack modules. The fully loaded chassis system simplifies ordering and minimizes expense.



FlexDSX Chassis



FlexDSX Skeleton Bay

Skeleton Bay

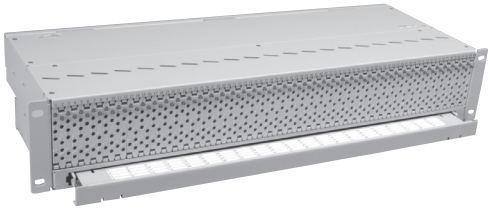
The skeleton bay holds up to ten FlexDSX chassis with one panel position reserved for miscellaneous applications. The bay is equipped with fuse panel, jumper rings, troughs and rear cable tie-down bars for superior cable management.

FlexDSX® Family

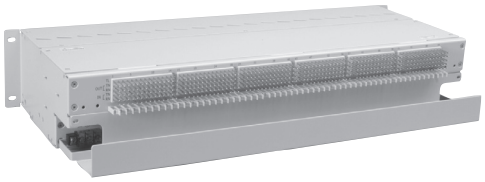
84-Termination Rear Cross-Connect Panels

Features

- Rear cross-connect
- All chassis are fully loaded with four-port jack cards
- Circuit identification labels
- Two 4-inch by 4-inch vertical jumper rings
- Tracer LEDs for fast circuit identification
- Chassis color: putty



DFX-100084-R
(Front View)



DFX-100084-R
(Rear View)

Ordering Information

Terminations	Designation	Dimensions (HxWxD)	Mounting Options	Catalog Number
84	1-84	102 mm x 582 mm x 254 mm (4" x 23" x 10")	Flush	DFX-100084-R

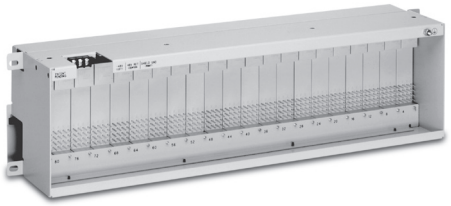
FlexDSX® Family

84-Termination Front Cross-Connect Panels

Features

- All chassis are fully loaded with four-port jack cards
- Circuit identification labels
- Two 4-inch by 5-inch vertical jumper rings
- Tracer LEDs for fast circuit identification
- Chassis color: putty

DFX-100084
(Front View)



DFX-100084
(Rear View)

Ordering Information

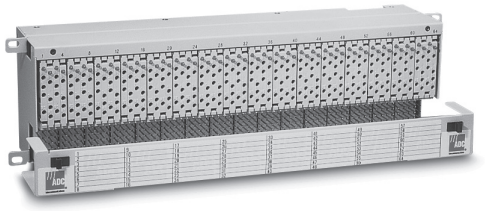
Cross-Connect	Terminations	Designation	Dimensions (HxWxD)	Mounting Options	Catalog Number
Front	84	1-84	152 mm x 582 mm x 152 mm (6" x 23" x 6")	Flush	DFX-100084

Components of FlexDSX® System	84-Termination Panel
Empty chassis	DFX-9T0001
4-pack with jacks	DFX-9T1000

FlexDSX® Family
64-Termination Front Cross-Connect Panels

Features

- All chassis are fully loaded with four-port jack cards
- Circuit identification labels
- Two 4-inch by 5-inch vertical jumper rings
- Tracer LEDs for fast circuit identification
- Chassis color: putty



DFX-100064
(Front View)

Ordering Information

Cross-Connect	Terminations	Designation	Dimensions (HxWxD)	Mounting Options	Catalog Number
Front	64	1-64	152 mm x 483 mm x 152 mm (6" x 19" x 6")	Flush	DFX-100064*

*Accommodates 19" and 23" rack mount.

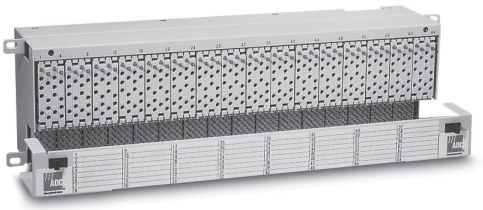
Components of FlexDSX® System	64-Termination Panel
Empty chassis	DFX-9T0003
4-pack with jacks	DFX-9T1000

FlexDSX® Family

56-Termination Front Cross-Connect Panels

Features

- All chassis are fully loaded with four-port jack cards
- Circuit identification labels
- Two 4-inch by 5-inch vertical jumper rings
- Tracer LEDs for fast circuit identification
- Chassis color: putty



DFX-100056
(Front View)

Ordering Information

Cross-Connect	Terminations	Designation	Dimensions (HxWxD)	Mounting Options	Catalog Number
Front	56	1-56	152 mm x 483 mm x 152 mm (6" x 19" x 6")	Flush	DFX-100056*

*Accommodates 19" and 23" rack mount.

Components of FlexDSX® System	56-Termination Panel
Empty chassis	DFX-9T0004
4-pack with jacks	DFX-9T1000

FlexDSX® Family

Front or Rear Cross-Connect Skeleton Bays

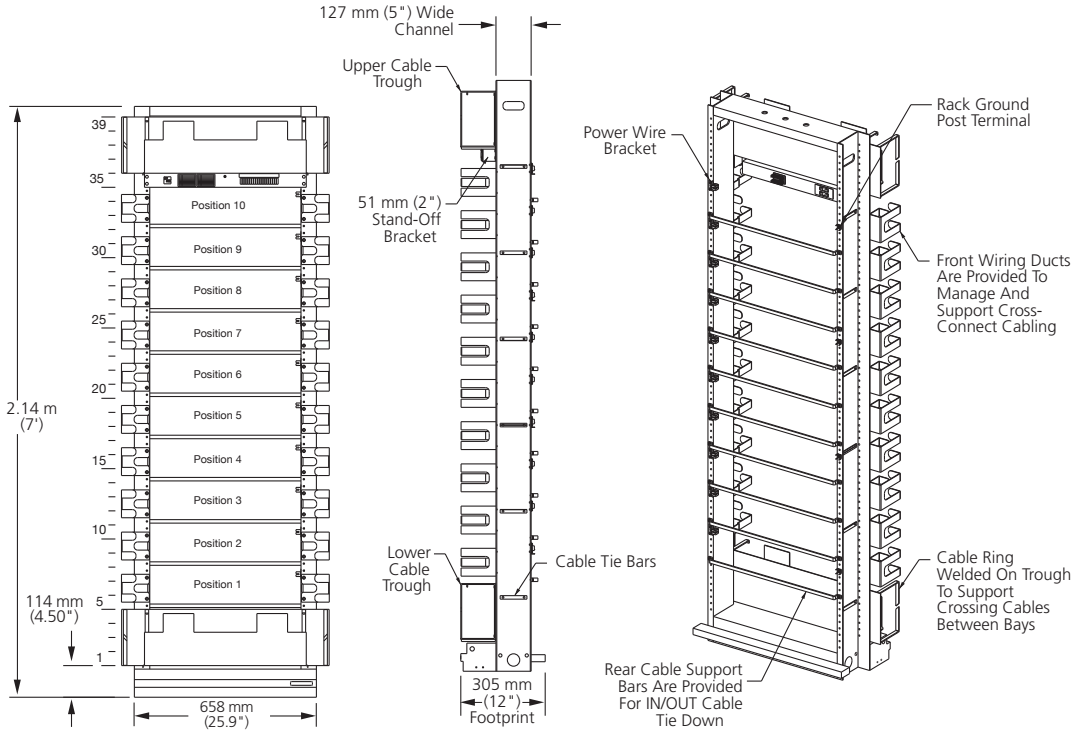
FlexDSX® skeleton bays can be ordered in front or rear cross-connect configurations with all the necessary cable management installed, but with no chassis. This allows DSX equipment to be easily added as needed to customize networks and provide flexible growth. The bays can also be ordered preassembled with chassis for fast and easy installation. Preinstalled cable and jumper management ensures that existing jumpers need never be touched when chassis are added to the bay, and jumper routing is never restricted.

Features

- Accommodates both the front and rear cross-connect style FlexDSX chassis
- 23-inch WECO network-style rack
- Equipped with fuse panel, upper and lower horizontal jumper troughs, and vertical jumper rings
- Bay color: putty

Ordering Information

Description	Dimensions (HxWxD)	Catalog Number
23" bays		
Front cross-connect skeleton bay, empty Acccomodates up to (10) 152 mm (6") high chassis; 840 terminations	2.14 m x 584 mm x 305 mm (7' x 23" x 12")	DFX-B7S001
Front cross-connect bay, fully loaded with 10 DFX-100084 panels	2.14 m x 584 mm x 305 mm (7' x 23" x 12")	DFX-B7C002
Rear cross-connect skeleton bay, empty Accommodates up to (14) 102 mm (4") high, 84-termination panels, 1,176 terminations	2.14 m x 584 mm x 381 mm (7' x 23" x 15")	DMB-77WC01

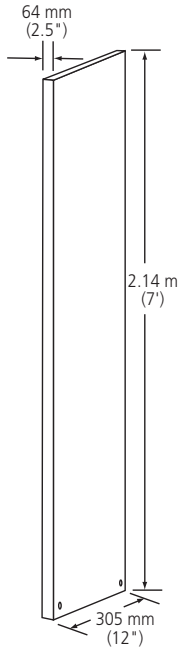


(Front View)

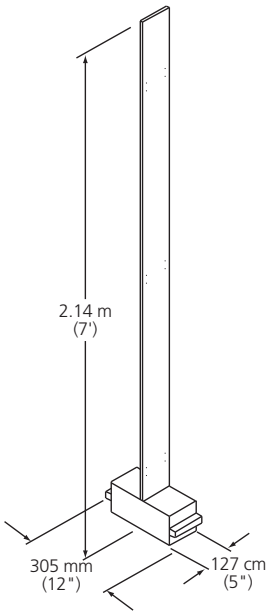
DFX-B7S001
(Side View)

(Rear View)

FlexDSX® Family
Rack Hardware



Universal End Guard Panel
(UEGP-7PW)



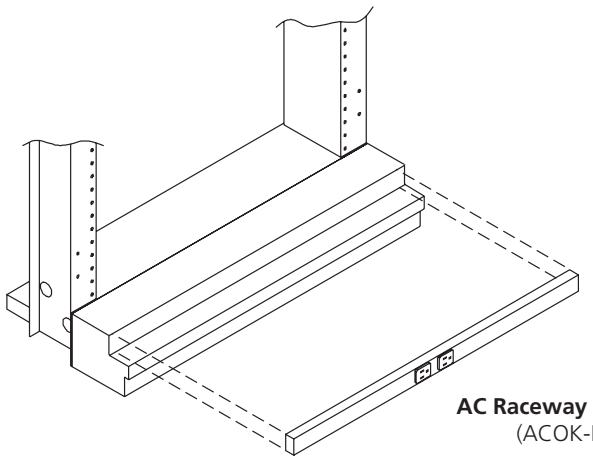
Rack Filler Panel Kit
(7RFP-5NPW)

Ordering Information

Description	Dimensions (HxW)	305 mm (12") Deep System Catalog Number
Rack filler panel		
Closed guard box for concrete floors–equipment cables enter from overhead	2.14 m x 64 mm (7' x 2.5")	7RFP-25NPW
	2.14 m x 120 mm (7' x 5")	7RFP-5NPW
Open guard box for raised floors–equipment cables enter from below	2.14 m x 64 mm (7' x 2.5")	RAC-7C0554
	2.14 m x 120 mm (7' x 5")	RAC-7C0353
Universal end guard panel	2.14 m (7')	UEGP-7PW

Note: color is putty.

FlexDSX® Family
Rack Hardware



AC Raceway with Outlet
(ACOK-PWNB)

Ordering Information

Description	Dimensions (HxW)	Catalog Number
AC raceway		
With outlet (2 per rack where outlets are required)		ACOK-PWNB
Without outlet (2 per rack where outlets are not required)		ACB-PWNB
AC raceway filler		
64 mm (2.5"); (2 per 2.5" filler panel)		AC-PWNB-RS2.5
127 mm (5"); (2 per 5" filler panel)		AC-PWNB-RS5
254 mm (10"); (2 per 10" filler panel)		AC-PWNB-RS10
Blank panels		
WECO	51 mm x 584 mm (2" x 23")	PWBP-2023
	102 mm x 584 mm (4" x 23")	PWBP-4023
	152 mm x 584 mm (6" x 23")	PWBP-6023
	203 mm x 584 mm (8" x 23")	PWBP-8023
EIA	45 mm x 584 mm (1.75" x 23")	PWBP-1723
	89 mm x 584 mm (3.5" x 23")	PWBP-3523
	133 mm x 584 mm (5.25" x 23")	PWBP-5223
	178 mm x 584 mm (7" x 23")	PWBP-7023
Rack installation kits		
Concrete floor rack installation kit; for use ***with*** overhead cable racking 2.14 m (7') network rack kit includes: (1) floor mounting kit (1) top attachment kit for 7' rack (12) rack tie bracket kits (1) rack grounding kit		RINST-DSX7-PW
Raised floor rack installation kit (zone 4 rated); for use ***without*** overhead cable racking 2.14 m (7') network rack kit includes: (1) raised floor mounting kit (12) rack tie bracket kits (1) rack grounding kit		RINST-DSXRFL-PW

Note: color is putty.

FlexDSX® Family

Super High-Density Bay and Rear Cross-Connect System

CommScope's FlexDSX® super high-density bay offers greater termination density as well as built-in, trouble-free cable management for flexible network planning, installation and maintenance.

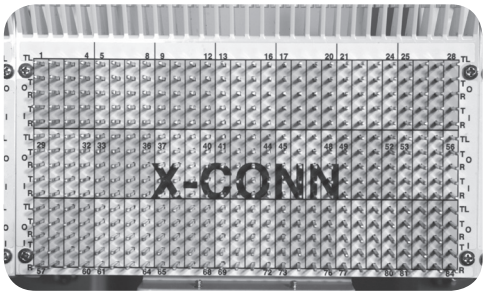
CommScope's FlexDSX super high-density bay design is unmatched in the marketplace. CommScope's vertical IN/OUT terminal blocks with extra cabling space and cable management fanning strips provide 50 percent more cabling space than traditional high-density bays. Simultaneously, it provides increased jumper capacity to simplify cross-connect wire management for easy operation and maintenance. The FlexDSX super high-density design incorporates a recessed vertical wireway for cross-connect cabling and up to seven horizontal cross-connect jumper wireways instead of the standard two wireways. Vertical and horizontal wireways are on separate planes to avoid congestion and pile up at intersections.

The FlexDSX super high-density bay enables service providers to realize additional cost savings by conserving valuable floor space. The bay provides more than 30% floor space savings, while doubling the density and provides dual monitoring with CommScope's reliable FlexDSX jack technology.

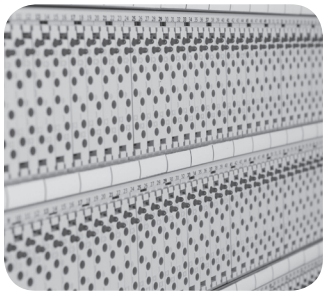
The FlexDSX super high-density bay achieves greater density in a 7' height x 26" width x 18.75" depth, accommodating up to 1512 (7') usable DSX jack terminations. CommScope's flexible ordering guide allows bay designs in 64 or 84 jacks per panel. This eliminates jack waste or complications in circuit management administration.

Features

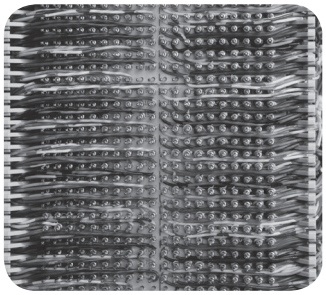
- Quick to install
- Easy to manage and maintain
- Maximizes the termination density of the network
- Simplifies engineering
- Matches service provider applications
- Trouble-free cable management
- CommScope reliable DSX jack technology

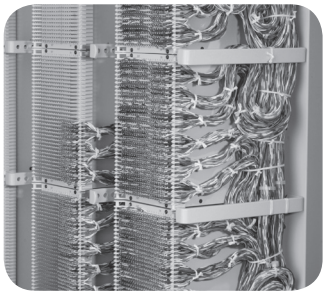


- Cross-connect block design provides clear identification of each circuit by offering expanded labeling space improving network documentation and decreasing potential mistakes while troubleshooting
- Colored cross-connect labels allow for easy determination of circuit terminations



- Flashing LED and dual monitoring





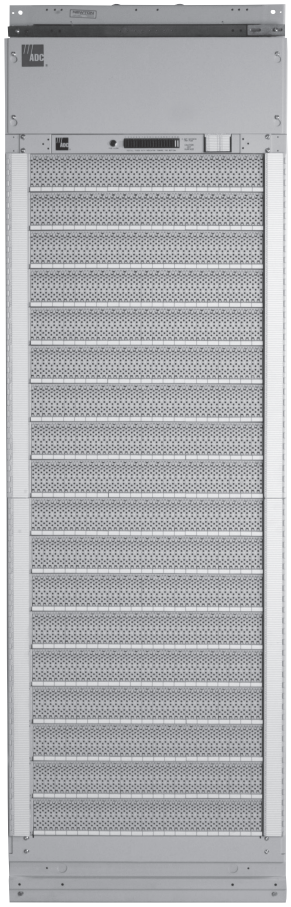
- In/Out block's design provides better cable management and more space for cables
- Cable entry is allowed on both sides of block

FlexDSX® Family

Super High-Density Bay and Rear Cross-Connect System

Features

- 1512 jacks per 7' bay uses an efficient jack count of 84 jacks per panel. Dual monitoring of the out and in ports, panel termination count matches digital switching Broadband equipment for simplified network engineering. Consists of 18 panels of 84 jacks in a single plane.
- More than 30% floor space savings – the industry's highest DSX density improves profitability by conserving valuable floor space. Service providers can realize more revenue and more space for other revenue generating network equipment.
- Incorporating vertical IN/OUT terminal blocks with extra cabling space and cable management strips provide 50% more cabling space than traditional high-density bays. Increased lineup density saves valuable floor space and reduces costs by eliminating the need for bay spacers. Dual hinged doors with designation labels on both sides provide double the designation space. Adhesive backed labels guarantee the identification designations will always be available. The expanded label space minimizes the possibility of mistakes during trouble shooting as all circuits are clearly identified.
- Built-in trouble free cross-connect cable management provides increased jumper capacity. CommScope's cable management system eases operations and maintenance by reducing cross-connect jumper congestion and pileup.
- Each standard bay comes with 160 tie pair terminations (two 80-termination wire-wrap blocks). Built-in cross aisle tie blocks ensure ability to grow new lineups without sacrificing overall termination density.
- The rear cross-connect high density design allows for all jack maintenance activities to remain at an arm's length.
- Guarantees a worry-free maintenance environment with over 40 years of proven jack quality and reliability and a lifetime warranty. All components of the bay are made by CommScope, ensuring quality from beginning to end.



DFX-SHD001
(Front View)

Ordering Information

Description	Jacks Per Panel	# of Terminations	# of Tie Pair Circuits	Catalog Number
Concentration bays, 2.14 m (7')				
Overhead cabling	84	1512	160	DFX-SHD001
Raised floor cabling	84	1512	160	DFX-SHD002
Maintenance bays, 2.14 m (7')				
Overhead cabling	84	1344	160	DFX-SHD003*
Raised floor cabling	84	1344	160	DFX-SHD004*

Overhead cabling denotes the cable enters the top of the bay and the equipment termination blocks are at the top of the bay. Raised floor cabling denotes the cable enters from the raised floor into the bottom of the bay and the equipment blocks are at the bottom of the bay.

*Maintenance bays are equipped with one 56-position interbay panel.

Accessories

Ordering Information

Description	Catalog Number
AC outlet kit; accepts outlet kits in front only, North American	ACOK-PWNB
End guards; 2.14 m (7') height x 298 mm (18.75") width	SHD-HR-85
Installation kits	
Concrete floor, overhead cabling	RINST-FLR
Raised floor	SHD-HR-91
Raised floor (zone 4 rated); for use ***without*** overhead cable racking 2.14 m (7') network rack kit includes: (1) raised floor mounting kit (12) rack tie bracket kits (1) rack grounding kit	RINST-DSXRFL-PW
Rack extender; 2.14 m (7') to 3.5 m (11.5')	SHD-HR-44N

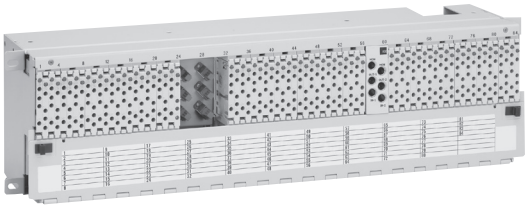
Specialty Panels
FlexDSX® Multifunction Panel

CommScope's FlexDSX® multifunction product solutions provide maximum flexibility while eliminating the need to support multiple DS1, DS3, fiber and Ethernet panels, particularly valuable in a small to medium size application.

Designed to meet your requirements, one FlexDSX® panel is capable of housing all forms of multimedia services, including fiber, coax, and twisted pair connectivity. Ultimate flexibility is provided with the mix and match modularity of FlexDSX modules.

Attain space savings through FlexDSX's compact, high-density design without compromising full test access functionality including the dual monitor feature of the DS1 and DS3 modules.

The FlexDSX multifunction panel offers the convenience of complete M13 mux termination in a single compact 19" W x 5.25" H panel.



FlexDSX Multifunction Panel

Features

- Increased modularity
- Increased efficiency and flexibility
- One panel meets DS1/3, fiber, and Ethernet termination requirements
- Interchangeable modules allow maximum flexibility
  - DS1
  - DS3
  - Fiber terminations
  - Ethernet modules
- Compact size for standard mounting
  - 5.25" high EIA
  - 6" high WECO
- Supports bidirectional testing
- High-density
  - 16 modules in 19" width
  - 21 modules in 23" width

Specialty Panels
FlexDSX® Multifunction Panel

CommScope's FlexDSX® multifunction panel can support a variety of module combinations and DS1/3 or fiber handoffs. The DS1 cross-connect provides four jack cards per module with a dual monitor while two network element terminations with bidirectional circuit access are provided by each DS3 interconnect module. The fiber termination module is equipped with six SC-type adapters. The FlexDSX multifunction panel's modular design easily adapts to meet a variety of customer needs.

Applications

- Wireless cell sites
- OSP cabinets, CEV or hut
- POP
- Collocation
- CPE

DS1 Module

DS3 Module

Fiber Module

RJ Module

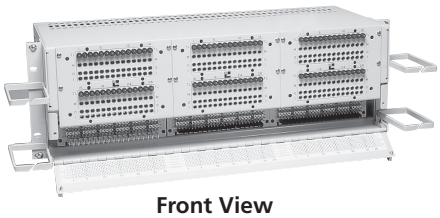
Ordering Information

Description	Dimensions (HxWxD)	Catalog Number
Panels		
19" empty panel; 16 module capacity	133 mm x 483 mm x 127 mm (5.25" x 19" x 5")	DFX-9E0002
23" empty panel; 21 module capacity	152 mm x 584 mm x 152 mm (6" x 23" x 6")	DFX-9T0001
Modules		
DS1 module; includes 4 jack cards with dual monitor	1 module width	DFX-9T1000
DS3 module MPOP interconnect; includes jacks for 2 network elements (IN/OUT)	1 module width	DFX-D3000
Fiber module; includes 6 SC adapters	2 module width	DFX-SC0002
RJ Cat 5e Ethernet module; includes 3 Cat 5e RJ45 coupler adapters	1 module width	DFX-9RJ002
RJ Cat 6 Ethernet module; includes 3 Cat 6 RJ45 coupler adapters	1 module width	DFX-9RJ006

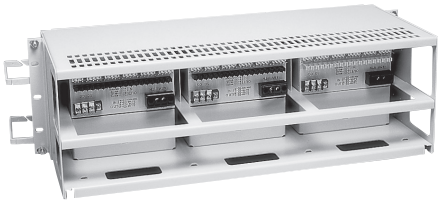
Specialty Panels

Modular DS1/DS3 Combination Panel

The modular DSX-1/3 chassis accommodates three 28-termination DS1 modules, three non-modular 4-termination DS3 modules, a six-position modular DS3 mounting sleeve, or any combination. The chassis is designed for the outside plant environment and can be installed in a cabinet, CEV, or hut. The option to include one DS1 module is available or an empty chassis can be ordered with additional modules as needed.



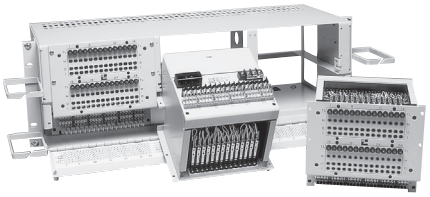
Front View



Rear View

Features

- DS1 module features front wire-wrap cross-connects and rear wire-wrap equipment cable interface
- DS3 module features rear BNC cross-connect and equipment cable interfaces
- Tracer LEDs eliminate manual tracing of cross-connect wires for fast circuit identification
- Chassis and module color: putty



Chassis with DS1 Modules

Ordering Information

Description	Circuit Density	Dimensions (HxWxD)	Catalog Number
Chassis			
Chassis with one module; 51 mm, 76 mm, 102 mm (2", 3", 4") recess; 1-14, 15-28 designation	28	178 mm x 584 mm x 229 mm (7" x 23" x 9")	D1M-1X0012*
Empty chassis 3-position; 51 mm, 76 mm, 102 mm (2", 3", 4") recess	84 DS1 18 DS3	178 mm x 584 mm x 229 mm (7" x 23" x 9")	DIM–1X0027
Modules			
DS1 module; mounts into D1M-1X0012 chassis; 1-14, 15-28 designation	28	–	D1M-1A0042
DS3 module; mounts into D1M-1X0012 chassis; 1-4 designation	4 midsize jacks	–	D3M-XRMC11
DS3 module; mounts into D1M-1X0012 chassis; 1-4 designation	4 standard size jacks	–	D3M-XRSC11
6-port midsize module; mounts into DSX4H-6HDSL	1 DS3	–	DSX-4H-MBRC-BA
Mounting sleeve 6-position; mounts into DIM-1X0027; 1-6 designation	6 DS3	–	DSX4H-6HDSL
DS1/DS3 combo panel; non-modular; 1-28 ABC, 1-3 designation	84 DS1 3 DS3	178 mm x 584 mm x 203 mm (7" x 23" x 8")	D1M-1A0060

* Chassis has three total module positions. One 28-termination module is included. The two additional modules are ordered separately.

Rear Access Interconnect Modular System

Introduction

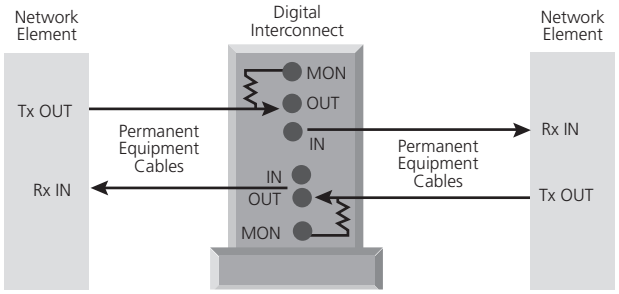
Bantam interconnect panels contain pairs of jacks that are internally cross-connected. These panels utilize the same bantam jacks as the DSX-1 panels, but the internal cross-connection is permanent. The network elements are connected together when equipment cabling is established.

Features

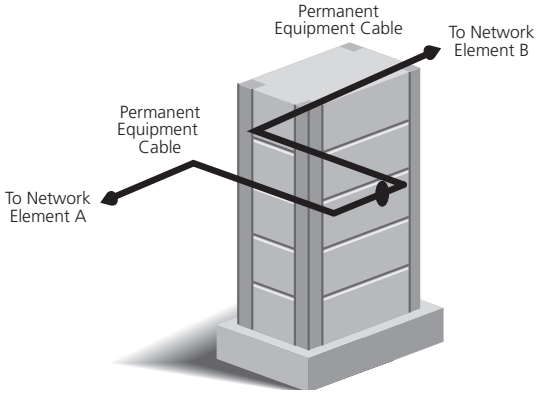
- Cost-effective solution for applications where circuit reconfiguration is infrequent
- Creates permanent, dedicated connection between two network elements to the DSX interface
- Requires a minimum amount of equipment and rack space

Application

Interconnect panels are primarily used in applications where cross-connection is more permanent. Common applications include DCS interface and collocation installations.



Interconnect Signal Flow



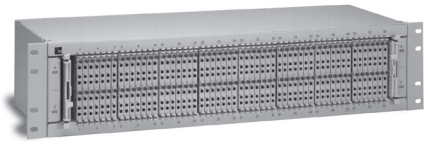
Digital Interconnect Configuration

Rear Access Interconnect Modular System

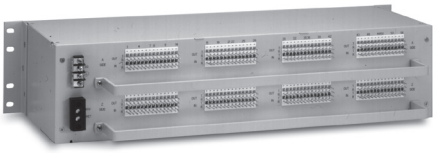
56-Termination Interconnect Panel

Features

- Chassis is preloaded with 56 individual interconnect jack cards
- Rear wire-wrap IN/OUT cabling
- Tracer LEDs eliminate manual tracing of cross-connect wires for fast circuit identification
- Chassis color: putty



D1M-1E1101
(Front View)



D1M-1E1101
(Rear View)

Ordering Information

Circuit Density	Number of Terminations	Designation	Dimensions (HxWxD)	Mounting Options	Catalog Number
56	112	1-56 A 1-56 Z	127 mm x 584 mm x 203 mm (5" x 23" x 8")	Flush	D1M-1E1101

Rear Access Interconnect Modular System

DDP-1 Panels

The digital distribution point (DDP-1) chassis is an interface point placed between a digital cross-connect system (DCS) and digital NEs, providing a flexible alternative to hard wiring NEs directly to the DCS.

A digital distribution point provides cable termination and circuit access to digital circuits at the DS1, DS1C, E1 and VT1.5 signal levels. Software cross-connects between two NEs are provided by the DCS.

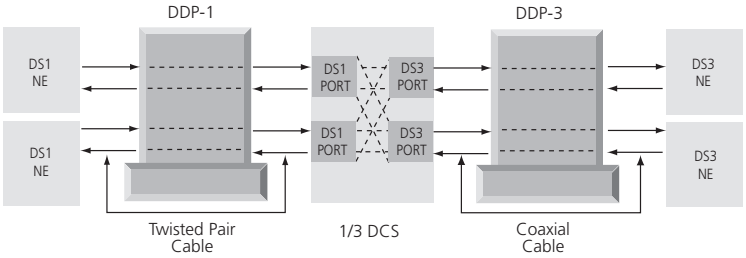
The DDP-1 chassis is available in a single access configuration. Various circuit densities are available to match DCS group quantities; i.e., 56-, 84-circuit. Various wiring connection styles; i.e., wire-wrap, 50-pin or 64-pin connectors and equipment rack styles; i.e., 19-inch, 23-inch mounting are available.

Single-Access Chassis

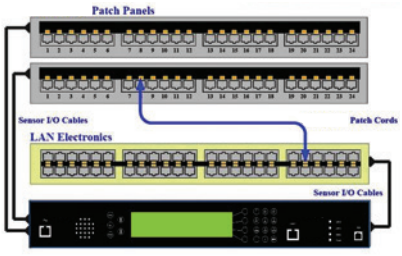
The single-access chassis allows access to the NE side or the DCS side but not simultaneously. An access card is inserted in the normal position (with monitor jack on top) to access the NE. The access card is inserted in the inverted position (monitor jack on bottom) to access the DCS.

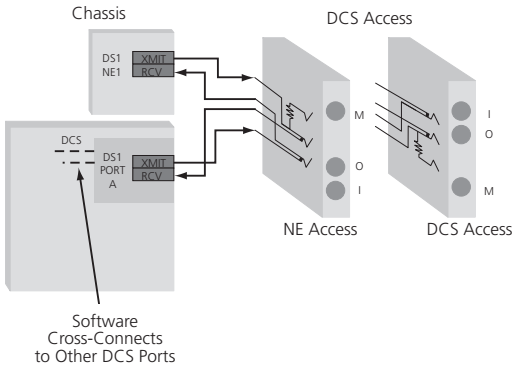
Features

- A cost-effective alternative to hardwiring digital equipment directly to the 1/3 DCS backplane
- Smooth, flexible and economical migration of service to a 1/3 DCS in an office
- In-service or out-of-service cutover options using DDP-1
- Catastrophic access options utilizing the optional jack access card (monitoring in both directions from one location and patching options)
- Ease of adding or removing future network elements
- Superior cable management and additional cabling flexibility as the office grows
- Economical access solution since permanent jacks are not required for each circuit



DDP-1 IN 1/3 Application

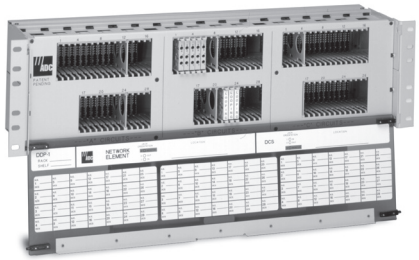




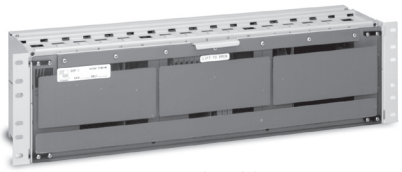
DDP Signal Flow

Rear Access Interconnect Modular System

84-Termination DDP-1 Panel



DD1-351001
(Front View with
Door Open)

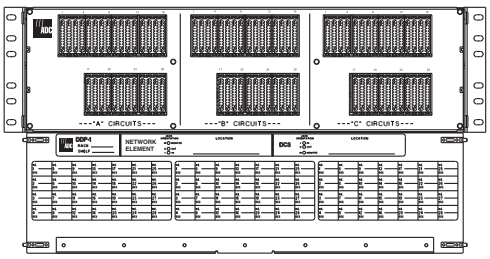


DD1-351001
(Front View with
Door Closed)

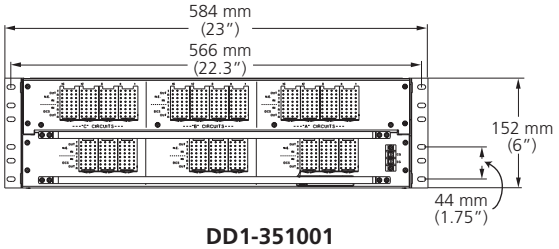
DD1-351001
(Rear View)

Ordering Information

Number of Circuits	Cable Connections DCS IN/OUT	Cable Connections NE IN/OUT	Cable Termination Access	Mounting Options	Dimensions (HxWxD)	Catalog Number
84	Wire-wrap	Wire-wrap	Rear	Flush or 2" recess WECO/EIA	152 mm x 584 mm x 213 mm (6" x 23" x 8.4")	DD1-351001



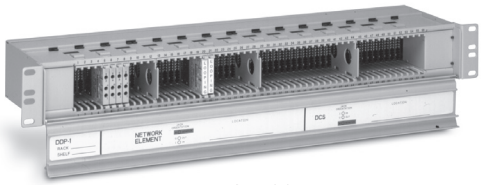
DD1-351001
(Front View with
Door Open)



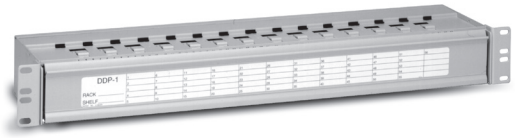
DD1-351001
(Rear View)

Rear Access Interconnect Modular System

56-Termination DDP-1 Panel



DD1-311001
(Front View with Door Open)



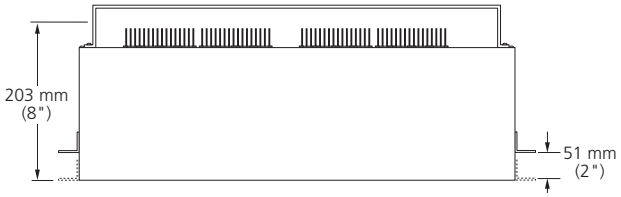
DD1-311001
(Front View with Door Closed)

DD1-311001
(Rear View)

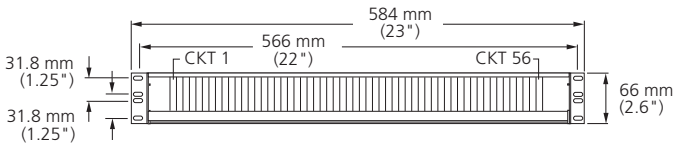
Ordering Information

Number of Circuits	Cable Connections DCS IN/OUT	Cable Connections NE IN/OUT	Cable Termination Access	Mounting Options	Dimensions (HxWxD)	Catalog Number
56	Wire-wrap	Wire-wrap	Rear	Flush or 51 mm (2") recess WECO/EIA	66 mm x 584 mm x 203 mm (2.6" x 23" x 8")	DD1-311001
56	Wire-wrap	Wire-wrap	Rear	121 mm (4.75") recess WECO/EIA	76 mm x 482 mm x 292 mm (3" x 19" x 11.5")	DD1-211001

Note: chassis color is putty.



DD1-311001
(Top View)



DD1-311001
(Front View)

Rear Access Interconnect Modular System

DDP-1 Jack Cards

Cards are inserted into the DDP-1 chassis only when equipment installation or maintenance activities are required. A variety of cards provide many functions during installation and maintenance activities. Each access card has a lock and release device for secure attachment in the chassis. All cards containing jacks use industry-standard bantam jacks.

Ordering Information

Description	Catalog Number
Loopback card; provides loopback of transmit to receive for both the NE and DCS equipment	DD1-100002
Terminating card; provides 135 Ohm termination across tip and ring for transmit and receive of both NE and DCS equipment	DD1-100003
Opening card; provides opening of transmission path between NE and DCS (isolates NE from DCS for continuity testing during installation)	DD1-100004
Jack access card; provides MON, OUT and IN jacks for circuit access to NE equipment and provides MON, OUT and IN jacks for circuit access to DCS equipment	DD1-100005
Drop and insert card; provides MON, OUT and IN jacks for both the NE and DCS equipment for full duplex circuit access. This provides dual access functionality in the single access chassis	DD1-100006
Circuit guard card; provides circuit guard with red label for a single mounting slot within the chassis. This prevents insertion of an access card for high priority circuits	DD1-100008
Monitor only card; provides MON jack for circuit access to the NE equipment transmit and provides MON jack for circuit access to the DCS equipment transmit when the card is inverted	DD1-100012
DSO access card; provides jack access to voice frequency circuits when DDP-1 chassis is used in special analog applications	DD1-100020
Start-up kit; kit consists of: (28) Loopback, (4) Terminating, (4) Opening, (28) Jack access, (4) Monitor only cards	DD1-100025
Module extractor tool; used to extract DDP-1 card from its mounting slot in the chassis	DD1-000001

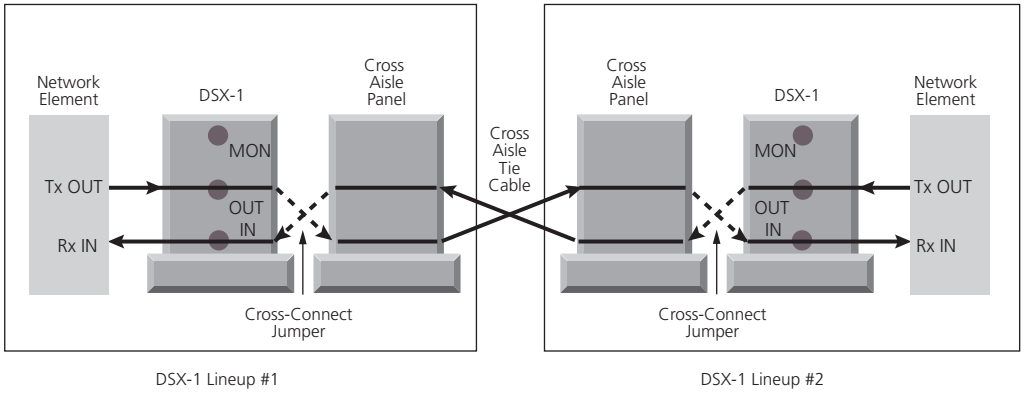
Auxiliary Equipment
Cross Aisle Panels

Cross aisle panels are placed in nonadjacent DSX-1 environments, such as multiple bay lineups, multiple floor locations, customer hand-off interface locations, etc. The cross aisle panels are connected to each other by permanent tie cables. When service is required between the two environments, a semi-permanent cross-connect jumper is run between the DSX-1 module and the cross aisle panel in each environment to complete the circuit path.

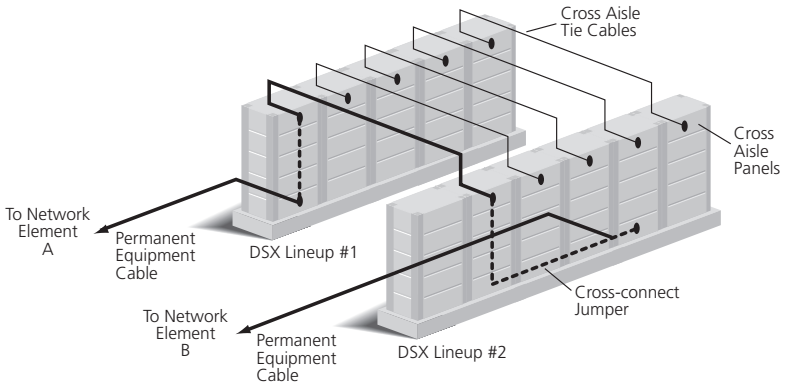
Features

- Termination fields for extending tie cables between bay lineups
- Provide cable termination and cross-connect functions, no jack access
- Eliminate need to run semi-permanent cross-connect jumpers between lineups in the overhead cable rack; prevent semi-permanent jumpers from becoming mixed with permanent equipment cabling
- Keep jumpers accessible for reconfiguration
- Circuits are connected by placing a jumper from each cross aisle panel in each lineup to the appropriate DSX position
- Install in same racks as DSX equipment
- Equipped with cable management hardware compatible with CommScope's full line of DSX-1 cross-connect panels
- Color: putty

Application



Cross Aisle Panel Signal Flow

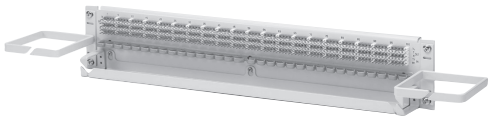


Cross Aisle Panel Application

Auxiliary Equipment
Cross Aisle Panels

Features

- Color-coded wire-wrap terminals
- Wire fanning strips located below terminals
- Flush or 2-inch recess mounting available



DSX-CAP-BEST
(Front View)

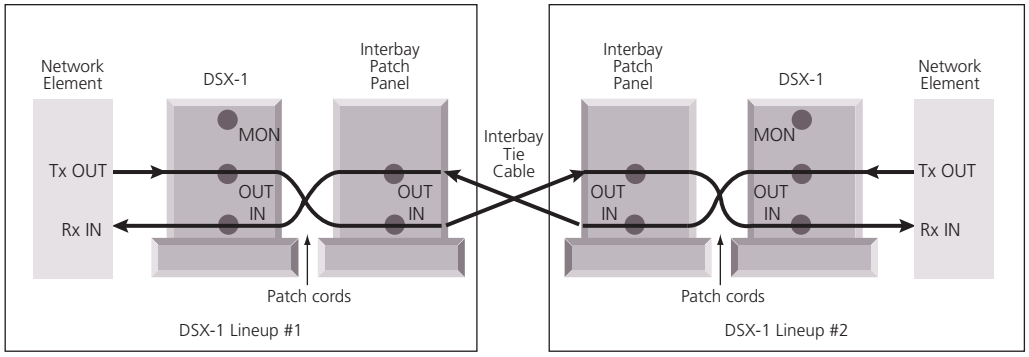
Ordering Information

Circuit Density	Designation	Dimensions (HxW)	Jumper Rings	Color	Catalog Number
100 5-wire terminations, with LED	1-100	102 mm x 584 mm (4" x 23")	102 mm x 102 mm (4" x 4") cable rings	Putty	DSX-CAP-BEST
100 5-wire terminations with rear 50-pin AMP IN/OUT connectors	1-100	102 mm x 584 mm (4" x 23")	102 mm x 102 mm (4" x 4") cable rings	Putty	DSX-CAP-BEST/CONN
200 5-wire terminations	1-50A, 1-50B, 1-50C, 1-50D	102 mm x 584 mm (4" x 23")	102 mm x 102 mm (4" x 4") cable rings	Putty	DSX-CAP-D-PWT-4CR
200 5-wire terminations	1-50A, 1-50B, 1-50C, 1-50D	127 mm x 584 mm (5" x 23")	102 mm x 102 mm (4" x 4") cable rings	Putty	DSX-CAP-D-PWT-5CR
80-circuit, 5-wire terminations	1-80	762 mm x 584 mm (3" x 23")	102 mm x 102 mm (4" x 4") cable rings	Putty	DSX-CAP-BEST/80
240-circuit, 5-wire terminations	1-240	177.8 mm x 584 mm (7" x 23")	102 mm x 102 mm (4" x 4") cable rings	Putty	DSX-CAP-BEST/240

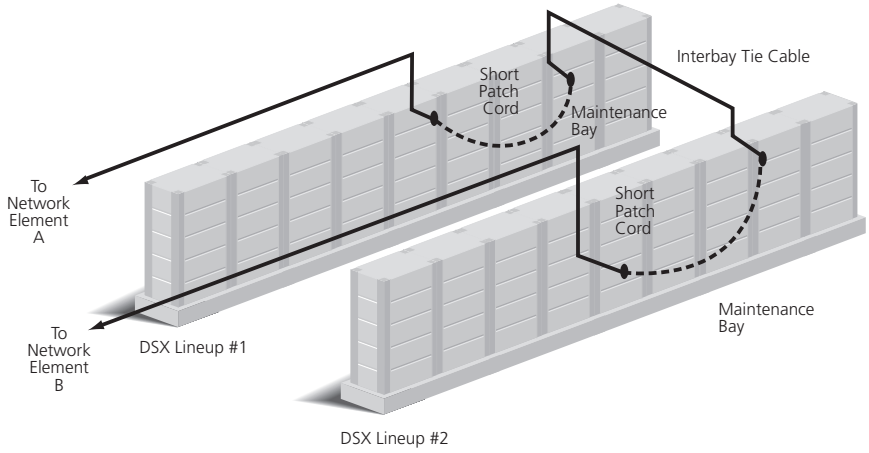
Auxiliary Equipment
Interbay Patch Panels

In lengthy or multiple DSX bay lineups, the interbay patch panel provides a means of extending a standard-length patch cord. The interbay patch panel is hardwired, daisy-chain style, circuit to circuit. Patches are made from the DSX port-of-signal origin to the nearest interbay panel. The signal is then transmitted via hardwire connections, in the interbay panel, to the closest interbay panel at the other end. A second patch is made from this interbay panel to the DSX jack. The LED stays lit when the circuit is in use.

Application



Interbay Patch Panel Signal Flow

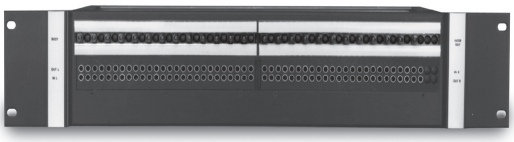


Interbay Patch Panel Application

Auxiliary Equipment
Interbay Patch Panels

Features

- Bantam jack terminations
- Rear wire-wrap terminals
- Red tracer LEDs
- Panel color: black



DSX-IB-23A

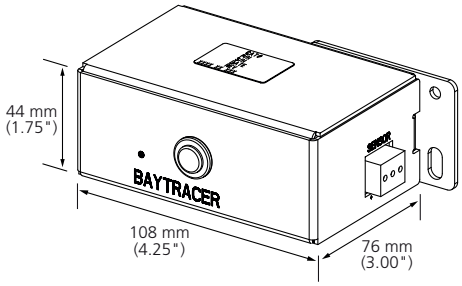
Ordering Information

Circuit Density	Number of Termination	Dimensions (HxWxD)	Mounting Options	Catalog Number
25 Left 25 Right	50	89 mm x 483 mm x 203 mm (3.5" x 19" x 8")	Flush	DSX-IB-19
25 Left 25 Right	50	102 mm x 483 or 584 mm x 203 mm (4" x 19 or 23" x 8")	Flush, 102 mm x 127 mm (4", 5") recess	DSX-IB-23A
28 Left 28 Right	56	89 mm x 584 mm x 203 mm (3.5" x 23" x 8")	Flush	DSX-IB-23B

Auxiliary Equipment

Bay Tracer® Illuminator

CommScope's Bay Tracer® Illuminator product speeds up circuit identification and troubleshooting in large serving offices, while saving both money and valuable technician time.

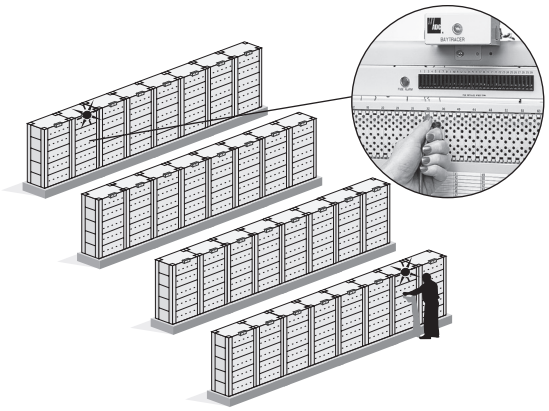


Features

- Big savings for big lineups
  - – Expedites maintenance activities; focus valuable technician time on revenue generating activities
- Immediate savings
  - – Saves money in first year of operation
- Easy to install
  - – Attaches to top of existing DSX-3 bays
- Easy to see
  - – Aids in quick cross-connect identification; large, ultra-bright red flashing illuminator is easy to see in long bay lineups
- 90 second timer
  - – Allows time to scan in even the longest lineups and largest offices
- Reset feature
  - – Enables automatic operation; eliminates need to physically reactivate LEDs

Application

The unit is automatically activated through the DSX fuse panel whenever an individual tracer LED is activated. After a 90-second flashing cycle, the Bay Tracer will turn off until the next tracer event. The DSX jack LED flashes for 30 seconds and then stays lit, as before, until a technician deactivates the LED.



Ordering Information

Description	Catalog Number
Bay Tracer Illuminator	
For LED style DSX panels	AUX-BT0001
For LAMP style DSX panels	AUX-BTLF01
Blank plate with knock-out hole for mounting bay tracer (used on rear cross-connect bays - optional)	PWBP-8023BT
Stand-off brackets (used on front cross-connect bays - optional)	
127 mm (5") upper trough	AUX-0X6671
203 mm (8") upper trough	AUX-0X6672
254 mm (10") upper trough	AUX-0X6673

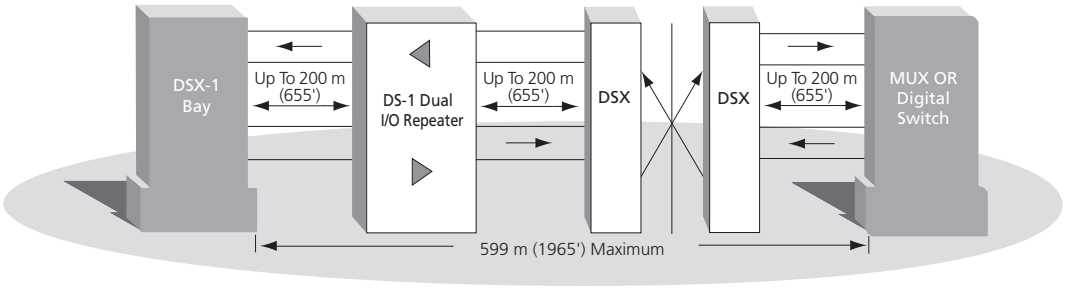
Auxiliary Equipment
DS1 Repeaters

Transport Repeater Products

Transport repeater products are designed to regenerate digital signals when there are long distances between DSX points, such as central office applications where network equipment is located on various floors or buildings. If cross-connect or patching distances exceed 85 feet or DSX bays and NEs are more than 655 feet apart, an intraoffice repeater can ensure proper T1 signal strength.

Maintenance Repeater Products

Maintenance repeater products are designed to support testing, monitoring, and maintenance activities. These repeaters, such as bridging office repeaters, not only regenerate a weakened signal, but also bridge or create test signals for nonintrusive patching and equipment troubleshooting.



DSX-1 Bay to Network Element – One Repeater Chassis

Auxiliary Equipment
DS1 Repeaters

Dual Intraoffice Repeaters – Transport

Features

- Supports up to 28 cards per chassis or 448 dual repeater cards per 9-foot bay
- Integrated power supply and fusing
- Dual and single regenerators available
- Output range up to 200 m (655 feet)
- Signal input range of 0 to -27 dB

T1544-00E

Ordering Information

Description	Dimensions (HxWxD)	Catalog Number
Dual intraoffice repeater card T1 (1.544 Mbps)	94 mm x 257 mm (3.7" x 10.1")	T1544-00E
Rack-mounted chassis 28-position, empty; wire-wrap signal connection, wire-wrap terminal power and alarm connections	102 mm x 584 mm x 292 mm (4" x 23" x 11.5")	IOR-MA4280

Dual Bridging Office Repeaters – Maintenance

Features

- In-service patching from the DSX-1 monitor jacks to other temporary facilities for maintenance
- Dual regenerators enable one two-way or two one-way settings
- Integrated fusing with failure LED
- Flat loss input signal level from -15 to -25 dB

T1544-11B

Ordering Information

Description	Dimensions (HxWxD)	Catalog Number
Dual bridging office repeater card T1 (1.544 Mbps)	94 mm x 257 mm (3.7" x 10.1")	T1544-11B
Rack-mounted chassis 28-position, empty; wire-wrap signal connection, wire-wrap terminal power and alarm connections	102 mm x 584 mm x 292 mm (4" x 23" x 11.5")	IOR-MA4280

Auxiliary Equipment
Communications Panels

The communications panels offer telephone access during bay lineup maintenance. The panels originate and answer telephone calls between locations to coordinate maintenance activities. Microprocessor controlled and designed software creates a flexible, highly reliable unit that is easy to install and operate.

COMP-21
(Front View)

Features

- Touch key access to nine dial lines; lines 8 and/or 9 may be changed to signaling or intercom mode by switch setting
- Any four dial lines or two intercom lines may be conferenced
- Supports either Dual Tone Multifrequency (DTMF) or Dial Pulse (DP) signaling
- Hold, conference, and on-hook key features for use with a 1A2 key telephone system
- Jack access is provided for a 52-type headset or equivalent telephone set
- Yellow LED above each line key designates visual circuit status, a green LED lights when the key is pressed and is extinguished when the key is pressed a second time.

Ordering Information

Description	Dimensions (HxWxD)	Catalog Number
Communications panel Touch key access to 9 dial lines (POTS or 1A2 key telephone) or 7 dial lines and any combination of 2 office intercom and signal lines along with hold, conferencing and on-hook features; access to dial and intercom lines is via jack connected to 52-type headset or equivalent telephone set; comes with reversible mounting ears for 19" or 23" (483 mm or 584 mm) racks.	89 mm x 483 or 584 mm x 127 mm (3.5" x 19 or 23" x 5")	COMP-21
Communications panel Includes all same features as COMP-21. Equipped with remote headset extension jack circuit. 9 touch keys that permit remote headset extension jacks to be connected to any telephone line key position while allowing the panel to be free for use on other telephone or intercom lines; comes with reversible mounting ears for 19" or 23" (483 mm or 584 mm) racks.	89 mm x 483 or 584 mm x 127 mm (3.5" x 19 or 23" x 5")	COMP-11
Vertical mount communications panel Touch key access to 9 dial lines (POTS or 1A2 key telephone) or 7 dial lines and any combination of 2 office intercom and signal lines along with hold; conferencing and on-hook features; access to dial and intercom lines is via jack connected to 52-type headset or equivalent telephone set.	89 mm x 450 mm x 127 mm (3.5" x 17.7" x 5")	COMP-31

Auxiliary Equipment

Communications Panel Accessories and Writing Shelves

Communications Panel Accessories

Ordering Information

Description	Catalog Number
Headsets and Handsets	
Headset for communications panel with 3.66 m (12') coil cord	COMP-HDS
Handset for communications panel with 2.75 m (9') coil cord	COMP-HNDSKIT
Handset/headset holder mounts to equipment rack	COMP-HNR-P
Remote headset jack box	HSE-100001
Cable assembly	
Allows daisy chaining COMP-11, 21, 31 to older 660 style communications panels	COMP-CNVN CORD
Allows daisy chaining COMP-11, 21, 31 to Porta type 925 communications panels	COMP-CNVN PORTA

Writing Shelves

Retractable writing shelves provide a writing surface during maintenance activities. The shelves are usually mounted at arm level on the bay for easily accessible writing space.

RWS23

Ordering Information

Description	Dimensions (HxWxD)	Color	Catalog Number
Retractable writing shelf	44 mm x 584 mm x 290 mm (1.75" x 23" x 11.4")	Gray	RWS23
	44 mm x 483 mm x 290 mm (1.75" x 19" x 11.4")	Gray	RWS19
Retractable writing shelf with small pencil drawer	44 mm x 584 mm x 290 mm (1.75" x 23" x 11.4")	Putty	RWS23-PUT
	44 mm x 584 mm x 290 mm (1.75" x 23" x 11.4")	Black	RWS23-BLK

Auxiliary Equipment
Fuse Panels

Primarily used to power LEDs in DSX modules, fuse panels are also used to power auxiliary equipment such as intraoffice and bridging repeaters and communication panels.

Features

- NEBS Level 3, UL, NEC 1999 and CSA compliant
- Mounting brackets for 19-inch or 23-inch mounting included
- Two-hole compression lug style power input terminals
- Field-replaceable, high-brilliance red LEDs ensure panel uptime
- Enhanced fuse visibility with "upside down" installed GMT fuse holders

20-Position Fuse Panel

Ordering Information

Description	Dimensions (HxW)	Catalog Number
Fuse panel; putty	45 mm x 483/584 mm (1.75" x 19"/23")	PDP-FPCS201PWWXX

Specifications

ELECTRICAL

Input power: -42 to -56 Vdc (no strapping required)
Bus amperage: 60 Amps maximum per bus
Remote alarm contact (resistive load): 125V maximum
Local alarm indicator: LED
GMT Fuses: 3 Amps maximum per fuse

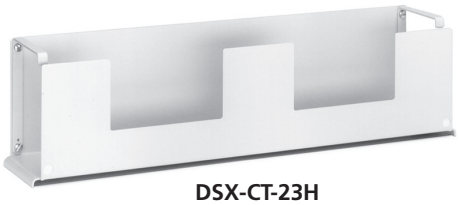
GMT Fuses

Ordering Information

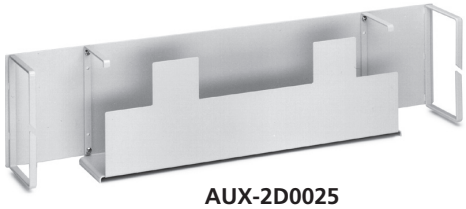
Description	Amperage	Fuse Color	Catalog Number	Catalog Number with Pin Identifier
GMT Fuses	3	Blue	F-3	P-3
	2	Orange	F-2	P-2
	1 - 1/3	White	F-1 1/3	P-1 1/3
	1	Gray	F-1	P-1
	3/4	Brown	F-3/4	P-3/4
	1/2	Red	F-1/2	P-1/2
	1/4	Violet	F-1/4	P-1/4
	Dummy fuse	N/A	GMT-DUMMY	N/A

Auxiliary Equipment

Cable troughs are used for horizontal cable management. Generally two cable troughs are required, one at the top and one at the bottom of each rack.



DSX-CT-23H
(Figure 1)



AUX-2D0025
(Figure 2)

Ordering Information

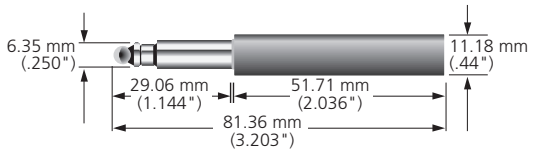
Description	Dimensions (HxWxD)	Catalog Number
Horizontal cable trough Rounded bottom edges ensure proper cable bend radius (see figure 1)	203 mm x 584 mm x 203 mm (8" x 23" x 8")	AUX-2D0010
	127 mm x 584 mm x 203 mm (7" x 23" x 8")	AUX-2D5010
	152 mm x 584 mm x 203 mm (6" x 23" x 8")	AUX-2D0009
	203 mm x 584 mm x 127 mm (8" x 23" x 5")	AUX-2D0006
	178 mm x 584 mm x 127 mm (7" x 23" x 5")	AUX-2D0012
	152 mm x 584 mm x 127 mm (6" x 23" x 5")	DSX-CT-23H
Horizontal cable trough with rings Rings extend into space filler panel area and neatly transition jumpers from horizontal to vertical routing; rounded bottom edges ensure proper cable bend radius (see figure 2)		
23" mounting, use with 254 mm (10") spacing between bays	203 mm x 876 mm x 203 mm (8" x 34.5" x 8")	AUX-2D0026
	203 mm x 876 mm x 127 mm (8" x 34.5" x 5")	AUX-2D0025
23" mounting, use with 127 mm (5") spacing between bays	203 mm x 749 mm x 203 mm (8" x 29.5" x 8")	AUX-2D0028
	178 mm x 749 mm x 203 mm (7" x 29.5" x 8")	AUX-2D0034
	152 mm x 749 mm x 203 mm (6"x 29.5" x 8")	AUX-2D0031
	203 mm x 749 mm x 127 mm (8" x 29.5" x 5")	AUX-2D0027
	178 mm x 749 mm x 127 mm (7" x 29.5" x 5")	AUX-2D0033
	152 mm x 749 mm x 127 mm (6" x 29.5" x 5")	AUX-2D0037

Note: Color is putty

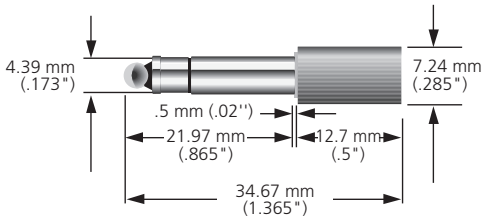
Accessories
Bantam Plugs

Terminating Plugs

The bantam terminating plug is used to terminate a circuit with a specific load. It has an integrated 0.5 watt ± 1 percent resistor. The plug shell is marked with the resistance value. Other resistance values available on special order.



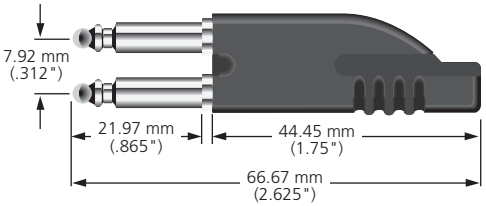
Terminating Plug



Short Profile Terminating Plug

Looping Plugs

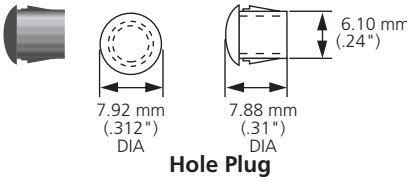
Bantam looping plugs are used to "loop" OUT jacks to IN jacks at the DSX. The plug conductors are strapped internally. The three-conductor plugs are wired tip to tip, ring to ring and sleeve to sleeve.



Looping Plug

Hole Plugs

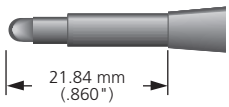
The bantam hole plug is used to fill unused jack positions or to complete a panel when jacks are to be added at a later date.



Hole Plug

Dummy Plugs

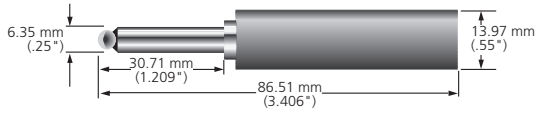
When bantam dummy plugs are inserted into jack circuits, they actuate the circuit contacts and do not carry a signal.



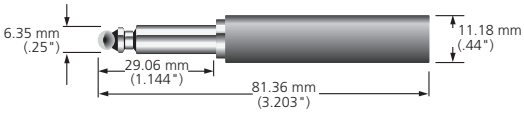
Three-Conductor

Conversion Plugs

Conversion plugs provide a means to interface longframe [310] jacks to bantam jacks. The rear of the longframe plug is modified to accept either two-conductor or three-conductor bantam plugs.



Two-Conductor Conversion Plug



Three-Conductor Conversion Plug

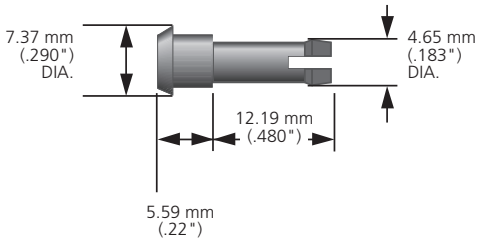
Accessories
Bantam Plugs

Circuit Guard Plugs

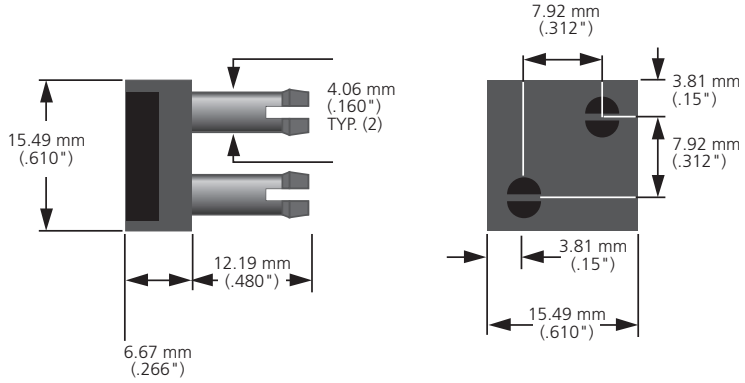
Circuit guard plugs snap-fit into bantam jacks, but do not actuate the circuit.

Features

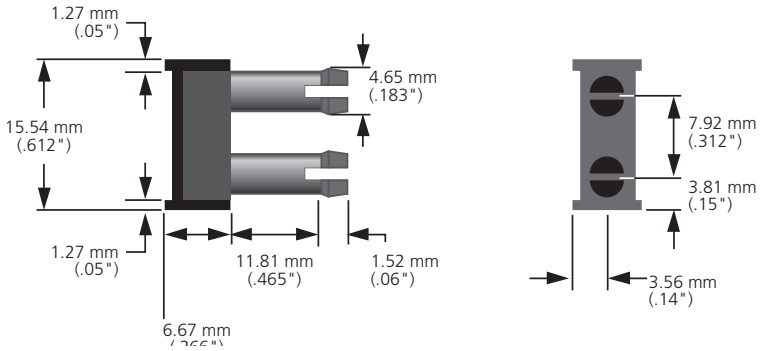
- Single circuit guard plugs identify and block entry to critical circuits.
- Quad circuit guard plugs cover the send and receive sides of a four-wire circuit, yet leave the monitor jacks open. They feature a clear window and white designation card.
- Dual circuit guard plugs cover the IN and OUT jacks. They feature a plastic window and designation card, and are offered in kits of 25.



Single



Quad



Dual

Accessories
Bantam Plugs

Ordering Information

Description	Catalog Number
Terminating plugs	
100 Ohm (actual resistor value: 100 Ohm, 1%)	PJ800
135 Ohm (actual resistor value: 135 Ohm, 1%)	PJ744
600 Ohm (actual resistor value: 604 Ohm, 1%)	PJ743
900 Ohm (actual resistor value: 909 Ohm, 1%)	PJ749
Short profile terminating plugs	
100 Ohm (actual resistor value: 100 Ohm, 1%) Orange	PJ801
120 Ohm (actual resistor value: 120 Ohm, 1%) Orange	PJ802
120 Ohm (actual resistor value: 120 Ohm, 1%) Red	PJ806
Looping plugs	
Two-conductor	PJ745
Three-conductor	PJ746
Hole plugs	
Black	PJ729B
Red	PJ729R
Dummy plugs; three-conductor	PJ748
Conversion plugs – 310 to bantam; three-conductor	AP051
Circuit guard plugs	
Single plugs (each)	
Red	PJ925R
White	PJ925W
Quad plugs (each)	
Red	PJ926R
White	PJ926W
Black	PJ926B
Dual plug (kits of 25)	
Red	PLG-100051
White	PLG-100052
Black	PLG-100050

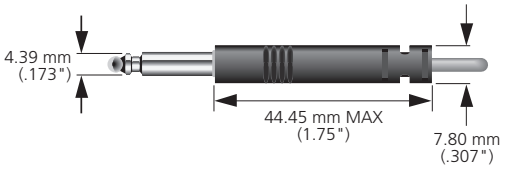
Accessories
Patch Cords

Three-Conductor

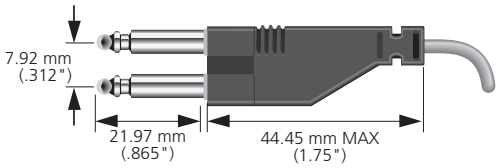
Bantam patch cords are plastic jacketed, shielded cords with molded-on plugs and molded insulation between conductors. The patch cords are available with single and dual three-conductor plugs. A cord strain relief feature is included in the plug construction. Dual twisted pair patch cords are recommended for protection against crosstalk, especially during switch cutovers and when patch cords over 12 feet are used.

Three-Conductor Single Patch Cord
(PJ722)

Three-Conductor Dual Patch Cord
(PJ772)



Single Plug



Dual Plug

Ordering Information

Description	Length	Catalog Number*
Three-conductor single	.3 m (1')	PJ712
	.92 m (3')	PJ716
	1.83 m (6')	PJ722
	3.05 m (10')	PJ1210
	3.66 m (12')	PJ1212
	4.58 m (15')	PJ1415
	6.1 m (20')	PJ1420
	7.63 m (25')	PJ1425
	9.15 m (30')	PJ1430
	15.25 m (50')	PJ1450
Three-conductor dual	.3 m (1')	PJ762
	.92 m (3')	PJ766
	1.83 m (6')	PJ772
	3.05 m (10')	PJ1310
	2.66 m (12')	PJ1312
	6.1 m (20')	PJ1520
	7.63 m (25')	PJ1525
	9.15 m (30')	PJ1530
	15.25 m (50')	PJ1550
Three-conductor dual (twisted pair)	.92 m (3')	PJ1303TP
	4.58 m (15')	PJ1315TP
	6.1 m (20')	PJ1320TP
	7.63 m (25')	PJ1325TP

*For nickel-plated patch cords, add the suffix "N". For plenum-rated fire retardant patch cords, add the suffix "PL".

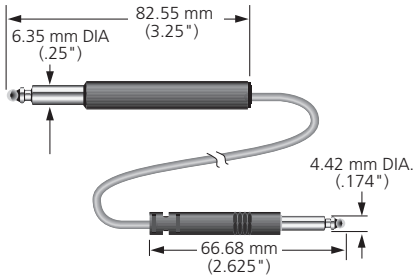
Accessories
Patch Cords

Conversion

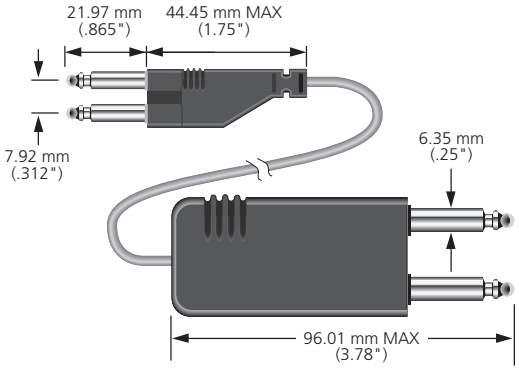
Bantam conversion patch cords are manufactured to interface longframe [310] jacks to bantam jacks when patching and testing circuits.

Ordering Information

Description	Length	Catalog Number
Single conversion	1.83 m (6')	PJ946
	3.66 m (12')	PJ952
	6.10 m (20')	PJ1920
	7.63 m (25')	PJ1925
	9.15 m (30')	PJ1930
Dual conversion	2.44 m (8')	PJ694
	3.66 m (12')	PJ696



Single Conversion Patch Cord



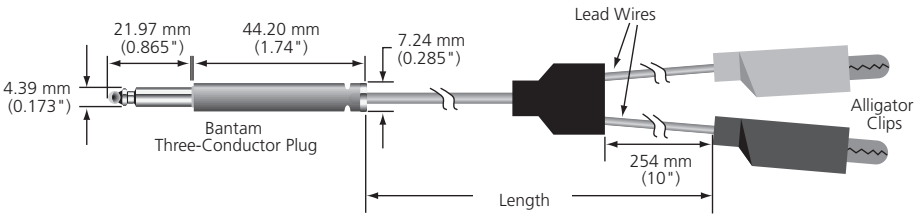
Dual Conversion Patch Cord

Accessories

Patch Cords – Specialty

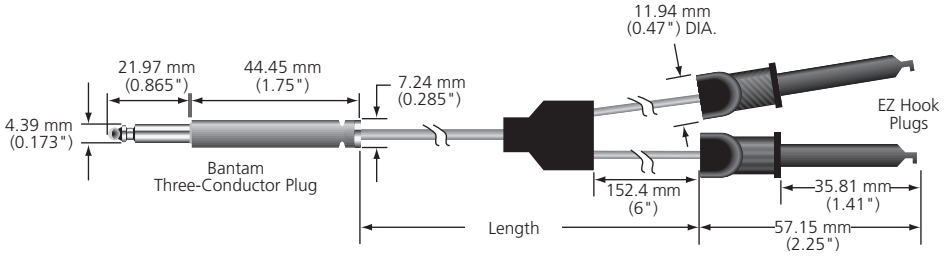
Alligator Patch Cords

Alligator patch cords utilize alligator clips on one end of a patch cord and either a bantam or longframe plug on the other end.



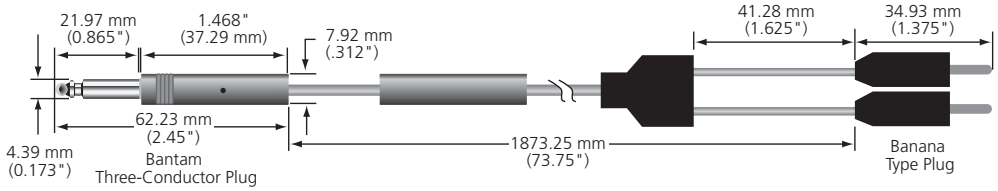
EZ Hook Patch Cords

These patch cords incorporate EZ Hook prongs on one end of a patch cord and either bantam or longframe plugs on the other end.



Banana-Type Patch Cords

These patch cords incorporate a dual banana-type plug on one end of a patch cord and a single bantam plug on the other end.

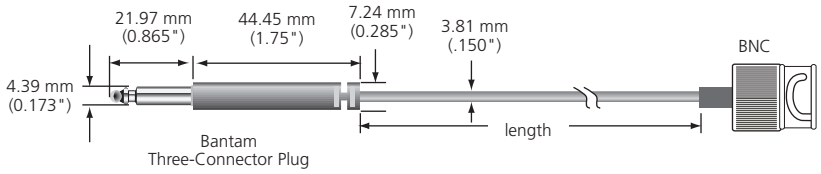


Accessories

Patch Cords – Specialty

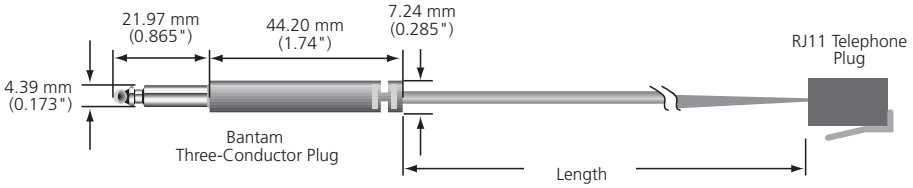
BNC to Bantam Plug Patch Cords

These patch cords incorporate a BNC connector on one end of a patch cord and a bantam plug on the other end.



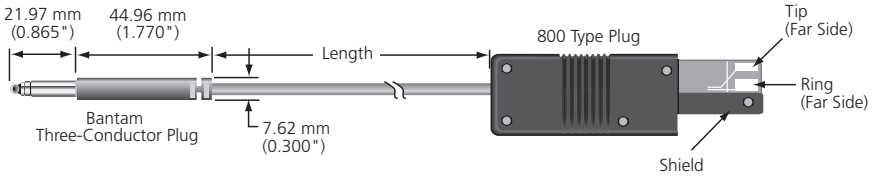
RJ11 Telephone Plug to Bantam Plug Patch Cord

These patch cords incorporate a two-conductor RJ11 telephone plug on one end of a patch cord and a single bantam three-conductor plug on the other end.



Bantam Plug to AT&T 800 Style Plug Patch Cords

These patch cords incorporate a three-conductor bantam plug on one end of a patch cord and a three-conductor AT&T 800 style plug on the other end.



Accessories
Patch Cords – Specialty

Ordering Information

Description	Length	Catalog Number
Alligator patch cord; (2) alligator clips to single three-conductor bantam plug	1.83 m (6')	CCCDSMB02
	2.44 m (8')	CCCDSMB03
	3.05 m (10')	CCCDSMB04
Alligator patch cord; (2) alligator clips to single three-conductor longframe plug	1.83 m (6')	PAT-106630
EZ hook patch cord; (2) EZ hook prongs to single three-conductor bantam plug	1.53 m (5')	PAT-100079
EZ hook patch cord; (2) EZ hook prongs to single three-conductor longframe plug	2.14 m (7')	LPC001
Banana-type patch cord; dual banana-type plug to single three-conductor bantam plug	1.83 m (6')	PAT-100654
BNC to bantam plug patch cord; BNC connector to single bantam three-conductor plug	.915 m (3')	PAT-005
	1.53 m (5')	PAT-006
	2.44 m (8')	PAT-007
RJ11 telephone plug to bantam plug patch cord; two-conductor RJ plug to single bantam three-conductor plug	1.83 m (6')	BJR2M6
Bantam plug to AT&T 800-style plug patch cord; three-conductor single bantam plug to three-conductor single AT&T 800-style plug	.915 m (3')	PAT-100092
	1.83 m (6')	PAT-100093
	3.66 m (12')	PAT-100094
Dual bantam plug to dual AT&T 800-style plug patch cord; three-conductor dual bantam plug to three-conductor dual AT&T 800-style plug	.915 m (3')	PAT-100096
	1.83 m (6')	PAT-100097
	3.66 m (12')	PAT-100098

Accessories
Patch Cords

Accessory Kits

Bantam accessory kits include bantam patch cords, plugs and terminating plugs to simplify ordering.

Ordering Information

Description	Catalog Number
Accessory kit 1 includes: 1 600 Ohm terminating plug (PJ743) 4 135 Ohm terminating plug (PJ744) 1 900 Ohm terminating plug (PJ749) 10 Single red circuit guard (PJ925R) 3 1.2 m (4') single patch cord (PJ718) 3 1.2 m (4') dual patch cord (PJ768) 2 1.8 m (6') single patch cord (PJ722) 2 1.8 m (6') conversion patch cord (PJ946)	ACK-1
Accessory kit 2 includes: 1 600 Ohm terminating plug (PJ743) 4 135 Ohm terminating plug (PJ744) 1 900 Ohm terminating plug (PJ749) 10 Single red circuit guard (PJ925R) 4 Dual looping plug (PJ746) 10 Dummy plug red (PJ748R) 2 1.2 m (4') single patch cord (PJ718) 2 1.2 m (4') dual patch cord (PJ768) 2 1.8 m (6') single patch cord (PJ722) 2 1.8 m (6') dual patch cord (PJ772) 2 2.4 m (8') single patch cord (PJ1208) 2 2.4 m (8') dual patch cord (PJ1308) 2 2.4 m (8') conversion patch cord (PJ948)	ACK-2
Accessory kit 3 includes: 1 600 Ohm terminating plug (PJ743) 4 135 Ohm terminating plug (PJ744) 1 900 Ohm terminating plug (PJ749) 10 Single red circuit guard (PJ925R) 6 Dual looping plug (PJ746) 10 Dummy plug red (PJ748R) 2 1.8 m (6') single patch cord (PJ722) 2 1.8 m (6') dual patch cord (PJ772) 2 2.4 m (8') single patch cord (PJ1208) 2 2.4 m (8') dual patch cord (PJ1308) 2 2.4 m (8') conversion patch cord (PJ948) 2 3.0 m (10') single patch cord (PJ1210) 2 3.0 m (10') dual patch cord (PJ1310)	ACK-3

Patch Cord Accessory Kits

Accessories
Patch Cords

Controlled Environmental Vault Kits

Controlled environmental vault (CEV) kits support ongoing maintenance of various DSX-1 panels. Full duplex (with dual patch cords) and half (with single patch cords) patching can be completed with these kits. Ten-foot conversion patch cords allow flexibility in the type of test equipment used. Terminating plugs, tracer LEDs, looping plugs and circuit guards complete the kit and allow for added flexibility.

Patch Cord Controlled Environmental Vault Kits

Ordering Information

Description	Catalog Number
Standard size kit includes: 28 1.8 m (6') bantam dual patch cords 2 3.0 m (10') bantam single conversion patch cords 10 1.8 m (6') bantam single patch cords 4 100 Ohm bantam terminating plugs 10 Bantam looping plugs 5 Red flashing LEDs 10 Bantam circuit guards 2 0.9 m (3') BNC coaxial cross-connect cords with messenger wire 2 1.8 m (6') BNC coaxial cross-connect cords with messenger wire 4 0.9 m (3') standard size patch cords 2 75 Ohm terminating plugs	ACK-CEV-1
Midsize kit includes: 28 1.8 m (6') bantam dual patch cords 2 3.0 m (10') bantam single conversion patch cords 10 1.8 m (6') bantam single patch cords 4 100 Ohm bantam terminating plugs 10 Bantam looping plugs 5 Red flashing LEDs 10 Bantam circuit guards 2 0.9 m (3') BNC coaxial cross-connect cords with messenger wire 2 1.8 m (6') BNC coaxial cross-connect cords with messenger wire 4 0.9 m (3') midsize patch cords 2 75 Ohm terminating plugs	ACK-CEV-2

Accessories

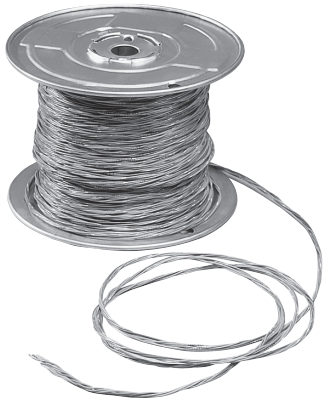
Cross-Connect Wire and Wire-Wrap Tool Kits

Cross-Connect Wire

Cross-connect wire is used to connect DSX jacks together by completing a patch between two cross-connect points. The five-conductor wire is 24 AWG solid tinned copper.

Color-code

- Pair number one is blue paired with a white band marker
- Pair number two is orange paired with a white band marker
- Fifth conductor is green and used for LED tracer identification



Cross-Connect Wire

Ordering Information

Description	Catalog Number
Cross-connect wire	
152 m (500') roll	DSX-CCW/500
305 m (1000') roll	DSX-CCW/1000
610 m (2000') roll	DSX-CCW/2000
Rack-mounted spool holder for cross-connect wire; supports 152 m (500') or 305 m (1000') roll	AUX-0X6667

Note: Order by quantity of rolls required, not by length.

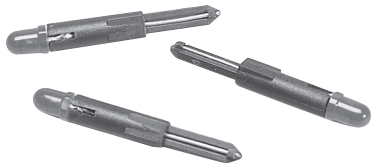
Wire-Wrap Tool Kits

Ordering Information

Description	Catalog Number
Manual wire-wrap tool kit includes: Manual wire-wrap tool 22-24 AWG wire-wrap bit sleeve 24-26 AWG wire-wrap bit sleeve 22-24 AWG wire-wrap bit 26 AWG wire-wrap bit	AUX-0X0165
Electronic wire-wrap tool includes: Electronic wire-wrap tool 22-24 AWG wire-wrap bit sleeve 24-26 AWG wire-wrap bit sleeve 22-24 AWG wire-wrap bit 26 AWG wire-wrap bit	AUX-0X0800

Accessories
Replacement LED Modules

Replacement LED modules are available if needed and are easily inserted into the lamp socket above each circuit. The LEDs flash when the circuit is actuated, allowing easy circuit tracing and saving time during troubleshooting. The unit includes the dropping resistor and blocking diode.



Di-FLEDR

Ordering Information

Description	Catalog Number
Straight leads – 48 Vdc	
Red	FLEDR
Green	FLEDG
Yellow	FLEDY
Orange	FLEDO
Bent leads – 48 Vdc	
Red	FLEDR1
Green	FLEDG1
Yellow	FLEDY1
Orange	FLEDO1
DSX*i*® LEDs, red	Di-FLEDR

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