Modular 1RU Multifunction System
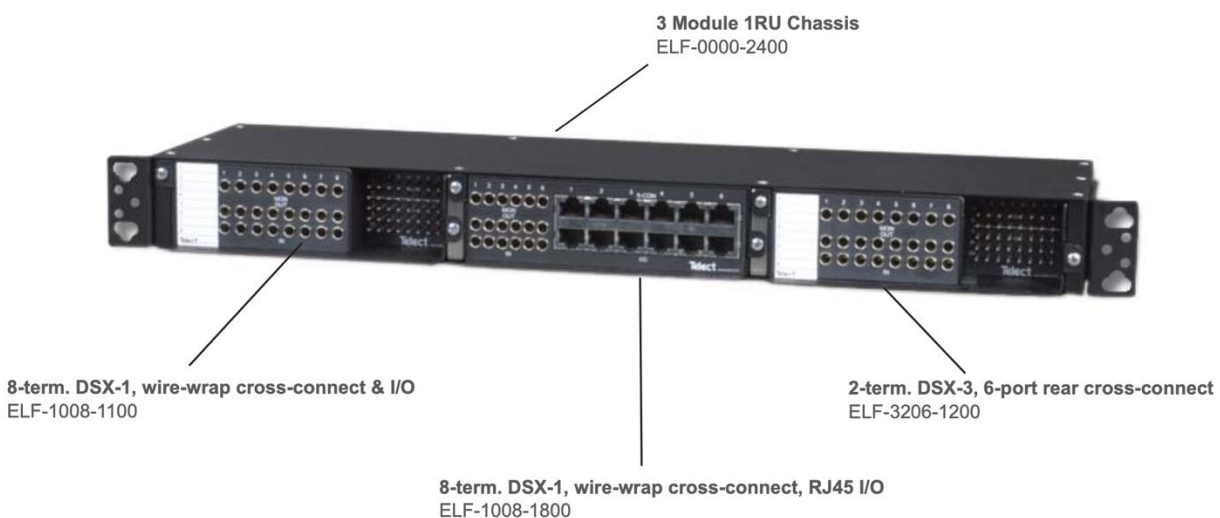## T1/E1 DSX, T3/E3 DSX, Ethernet RJ, Optical Patch and Splice

Overview

As customer demand continues to push advanced capabilities to the edge of wireless and wireline networks, service providers face the challenge of deploying efficient connectivity outward from the central office. The Amphenol Network Solutions 1RU multifunction panel addresses this through a modular design that enables flexible, dynamic connectivity and building efficiency into network applications.

Designed to function in edge locations such as cell towers and remote sites, this modular provides a flexible platform for T1, T3, Ethernet and fiber optic circuit management, all in just 1.75" of vertical rack space.

Since these environments typically offer limited space for hardware, effective circuit access and monitoring can be a challenge. With the 1RU panel, you gain high density, with circuit counts up to:

- 24DSX-1
- 6DSX-3
- 24RJ11
- 48 RJ45 Ethernet
- 48 Fiber optic

Combination connectivity is also possible, as are T1 interconnect and analog capabilities. Choose from a comprehensive line of modules to build the ideal space-saving connectivity platform for your application.

3 Module 1RU Chassis
ELF-0000-2400

8-term. DSX-1, wire-wrap cross-connect & I/O
ELF-1008-1100

2-term. DSX-3, 6-port rear cross-connect
ELF-3206-1200

8-term. DSX-1, wire-wrap cross-connect, RJ45 I/O
ELF-1008-1800

Key Benefits

- Modular design helps you manage overall costs
- Total front access configurations enable simple circuit access
- Designed to ITU G.703 standards
- Chassis and modules include built-in wire management
- Module options include front cross-connect or total front access DSX-1, DSX-3, T1 interconnect, Ethernet, RJ11 and RJ45, optical patch, splice or splitter
- Chassis options include high-density 3-module rack-mount or 1-module wall-mount

Applications

- Wireless base stations
- Demarcation points
- Remote huts
- Ethernet

Build a Panel

Step one: Start with a chassis or bracket – choose rack-mount or wall-mount based on capacity requirements and application considerations.

Step two: Choose modules – select based on signals being managed, connector types preferred, capacity requirements and chassis type (standard or total front access).

Step three: Finish with accessories – choose Amphenol for patch cords and cabling as needed for your panel solution.

Chassis and Brackets

Choose the ideal high-density housing for traditional rackmount or limited-space wall-mount applications.

Standard 1RU/3-Module Rack-Mount Chassis
1RU footprint, three module capacity
Reversible brackets for 19" or 23" mounting
Termination capacities: Up to 24 DSX-1, 6 DSX-3, 48 optical patch
Fully enclosed for robust RF protection at cell tower bases and other environments
Blank faceplate also available (ELF-0000-0001)

ELF-0000-2400

Total Front Access Wall-Mount Chassis
One module capacity
Designed for use with total front access DSX-1 and DSX-3 Modules

ELF-0000-0600

Optical Wall-Mount Enclosure
One module capacity
Optimized for use with optical modules
Includes lockable access door
Ideal for co-locations

ELF-0000-0800

1RU Wall-Mount Bracket
Holds 1RU chassis against a wall or cabinet
Enables chassis to extend with minimum profile
Provides additional mounting versatility for 1RU Chassis

ELF-0000-0900

T1/E1 Modules

Choose from a broad range of options and gain basic T1 connectivity optimized to your specifications. All T1/E1 modules feature Amphenol's Dedicated Digital Jacks for industry-standard Bantam monitoring and a lifetime of reliable connections.

ELF-1008-1200
8-Termination Wire-Wrap/BNC Module
Wire-wrap cross-connect and BNC I/O fields
Front cross-connect design with BNC connectors on rear

ELF-1008-1800
8-Termination Wire-Wrap Module
Wire-wrap cross-connect and I/O fields
Traditional connectivity in a front-cross-connect design

ELF-1008-1100
8-Termination Wire-Wrap Module
Wire-wrap cross-connect and I/O fields
Traditional connectivity in a front-cross-connect design

ELF-3006-1100
6-Termination Total Front Access Wire-Wrap Module
All connections on the front of the module for simple access
Wire-wrap cross-connect and I/O fields

ELF-3006-1800
6-Termination Total Front Access RJ48 Module
All connections on the front of the module for simple access
RJ48 cross-connect and I/O fields provide simple, versatile connectivity

ELF-0005-0001
48-Pin VF Alarm Block module
Designed for voice frequency termination or alarm use

Modular 1RU Multifunction System   4

Recommended Accessories for T1/E1 Modules

Single Bantam Patch Cords	
3 ft.	040-1000-003
5 ft.	040-1000-005
10 ft.	040-1000-010

Dual Bantam Patch Cords	
3 ft.	040-2000-003
5 ft.	040-2000-005
10 ft.	040-2000-010

Single 735A BNC Cables	
3 ft.	043-0911-003
6 ft.	043-0911-006
10 ft.	043-0911-010

Dual 735A BNC Cables	
3 ft.	043-1911-003
6 ft.	043-1911-006
10 ft.	043-1911-010

Cat 5e Ethernet (RJ) Patch Cords	
3 ft.	EPCE-CT5E-BL03
5 ft.	EPCE-CT5E-BL05
7 ft.	EPCE-CT5E-BL07

T1 Cross- Connect Wire	06115RC

DS1 Jack Specifications	
Return Loss	≤26dB at 722 kHz
Insertion loss	<-0.5dB at 1.544 Mbps
Monitor level	-20dB +/- -1.5dB at 1.544 Mbps
Contact resistance	<0.01 Ohms
Characteristic impedance	100/120 Ohms
Adjacent channel crosstalk	≤-60dB at 1.544 Mbps
Interchannel crosstalk	≤-60dB at 1.544 Mbps

Modular 1RU Multifunction System

T3/E3 Modules

Amphenol Network Solutions' patented 6-port DSX-3 design provides access to both sides of the T3 signal to greatly simplify maintenance. Rear cross- connect and total front access options are available.

ELF-3206-1200
2-Termination Rear Cross-Connect DSX-3 Module
BNC I/O field
Mini-WECO Module jacks

ELF-3206-1900
1-Termination Total Front Access DSX-3 Module
All connections on the front of the module for simple access
BNC I/O field and mini-WECO T3 jacks

Recommended Accessories for T1/E1 Modules

Single 735A BNC Cables	
3 ft.	043-0911-003
6 ft.	043-0911-006
10 ft.	043-0911-010
Dual 735A BNC Cables	
3 ft.	043-1911-003
6 ft.	043-1911-006
10 ft.	043-1911-010
Mini-WECO 735A Patch Cords	
3 ft.	043-0922-003
6 ft.	043-0922-006
10 ft.	043-0922-010

DS3 Jack Specifications	
Return Loss	<-26dB at DS3, STS-1 and E3 signal rates
Insertion loss	<1.00dB at DS3 signal rates for modules with one monitor network
Monitor level	21dB +/- 1.5dB signal level
Contact resistance	<0.01 Ohms
Characteristic impedance	75 Ohms

Ethernet Modules

Cat 5e and Cat 6 compatible, these high-density modules feature RJ45 connectors and IDC fields for simple carrier-class connectivity.

ELF-9716-1700
16-Termination Cat 5e Patch Module, RJ45-IDC
RJ45 connectors on the front
IDC field on the rear
Anchor points provide ample cable management

ELF-9716-1900
16-Termination RJ-RJ T1/Ethernet Patch Module
Up to 48 terminations in a 3-module/1RU panel
Jack contacts wired straight through, enabling a wide range of applications
T1, DDS, Ethernet 10/100 circuit access and re-arrangement

ELF-9716-2300
8-Termination Cat 6 Patch Module, RJ45-IDC
RJ45 connectors on the front
IDC field on the rear
Anchor points provide ample cable management

ELF-9716-1100
8-Termination Cat 3 Patch Module, RJ11-IDC
RJ11 connectors on the front
IDC field on the rear
Anchor points provide ample cable management

Recommended Accessories for Ethernet Modules

Cat 5e Ethernet Patch Cords	
3 ft.	EPCE-CT5E-BL03
5 ft.	EPCE-CT5E-BL05
7 ft.	EPCE-CT5E-BL07

Cat 6 Ethernet Patch Cords	
3 ft.	EPCE-CT5E-BL03
5 ft.	EPCE-CT5E-BL05
7 ft.	EPCE-CT5E-BL07

Interconnect Modules

Engineered for applications with limited potential for change, customer premise and demarcation environments, interconnect modules feature hard-wired internal cross-connects to provide long-lasting quality connections between network elements.

ELF-9704-1119
4-Termination RJ48C/Wire-Wrap Module
Wire-Wrap NE-1 (rear) and RJ48C NE-2 (front) jacks
Standard Bantam patch and monitor jacks

ELF-3004-1800
4-Termination RJ45 Total Front Access Module
All connections on the front of the module for simple access
RJ45 ports and Bantam jacks for monitoring

Recommended Accessories for Interconnect Modules

Single Bantam Patch Cords	
3 ft.	040-1000-003
5 ft.	040-1000-005
10 ft.	040-1000-010

Dual Bantam Patch Cords	
3 ft.	040-2000-003
5 ft.	040-2000-005
10 ft.	040-2000-010

T1 Cross Connect-Wire	06115RC

Optical Modules

Gain basic optical connectivity in the smallest footprint available today. Optical modules are engineered for low circuit count applications where space is a premium, with front access to enable simple maintenance. Fit in standard rack-mount chassis or one-module optical enclosure.

Fiber Patch Modules High-density patch capabilities in minimal space
ELF-PC12-SC00 (SC/UPC)
ELF-PC12-SA00 (FC/APC)
ELF-PC12-FC00 (FC/UPC)
ELF-PC12-LC00 (LC/UPC)

Fiber Patch and Splice Modules

Combination capabilities in a single module

ELF-SP12-SCPT (SC/UPC)
ELF-SP12-SAPT (SC/APC)
ELF-SP12-FCPT (SC/UPC)
ELF-SP24-LCPT (LC/UPC)

Loaded Fiber Patch Modules

High-density patch capabilities in minimal space. Custom configurations available, contact Amphenol for details.

ELF-PC12-SCDF100 (SC/UPC, 100 ft. pigtail)
ELF-SP12-SCDF300 (SC/UPC, 300 ft. pigtail)

Optical Module Specifications	
Return Loss	<55dB
Insertion loss	<0.5dB
Mode	Single
Bypass	1310/1550 +/-20 nm

Recommended Accessories for Optical Modules

SC/UPC Patch Cords	
3.6 m	F12-SSG-M003-6
5 m	F12-SSG-M005-0
7 m	F12-SSG-M007-0
FC/UPC Patch Cords	
3.6 m	F12-FFG-M003-6
5 m	F12-FFG-M005-0
7 m	F12-FFG-M007-0
LC/UPC Patch Cords	
3.6 m	F12-LLG-M003-6
5 m	F12-LLG-M005-0
7 m	F12-LLG-M007-0

Physical Specifications

Description	Width	Height	Depth	Weight	Capacity	Circuit Access & I/O	Agency Compliance
Chassis							
Standard 1RU/3-Module Rack-Mount Chassis ELF-0000-2400	19" (483 mm)	1.75" (45 mm)	5" (127 mm)	5 lbs. (2.3 kg)	3 modules		NEBS, ITU-T
Total Front Access Wall-Mount Chassis ELF-0000-0600	6" (152 mm)	1.75" (45 mm)	4" (102 mm)	2 lbs. (.9 kg)	1 module		
Optical Wall-Mount Enclosure ELF-0000-0800	9.3" (236 mm)	2.3" (58 mm)	6.1" (155 mm)	2 lbs. (.9 kg)	1 module		
1RU Chassis Wall-Mount Bracket 400641	19" (483 mm)	2" (51 mm)	8" (203 mm)	4 lbs. (1.8 kg)	1 chassis (3 modules)		
Blank Faceplate	19" (483 mm)	1.75" (45 mm)		2 lbs. (.9 kg)			
T1/E1 Modules							
8-Termination Wire-Wrap/ BNC Module ELF-1008-1200	6" (152 mm)	1.64" (42 mm)	5.5" (140 mm)	2.5 lbs. (1.1 kg)	8 terminations	BNC I/O Wire-wrap XC Front XC	NEBS, ITU-T

Physical Specifications, Cont.

Description	Width	Height	Depth	Weight	Capacity	Circuit Access & I/O	Agency Compliance
T1/E1 Modules Continued							
8-Termination Wire-Wrap/ RJ45 Module ELF-1008-1800	6" (152 mm)	1.64" (42 mm)	5.5" (140 mm)	2 lbs. (.9 kg)	8 terminations	RJ45 I/O Wire-wrap XC Front XC	NEBS, ITU-T
8-Termination Wire-Wrap Module ELF-1008-1100	6" (152 mm)	1.64" (42 mm)	5.5" (140 mm)	2 lbs. (.9 kg)	8 terminations	Wire-wrap I/O Wire-wrap XC Front XC	NEBS, ITU-T
6-Termination Total Front Access Wire-Wrap Module ELF-3006-1100	6" (152 mm)	1.62" (41 mm)	4.25" (108 mm)	2 lbs. (.9 kg)	6 terminations	Wire-wrap I/O Wire-wrap XC TFA	NEBS, ITU-T
6-Termination Total Front Access RJ48 Module ELF-3006-1800	6" (152 mm)	1.63" (41 mm)	3.75" (95 mm)	2 lbs. (.9 kg)	6 terminations	RJ48 I/O RJ48 XC TFA	NEBS, ITU-T
48-Pin VF Alarm Block Module ELF-0005-0001	6" (152 mm)	1.63" (41 mm)	3.75" (95 mm)	2 lbs. (.9 kg)	48 terminations	Wire-wrap Front XC	NEBS, ITU-T
T3/E3 Modules							
2-Termination Rear Cross- Connect DSX-3 Module ELF-3206-1200	6" (152 mm)	1.63" (41 mm)	5" (127 mm)	2 lbs. (.9 kg)	2 terminations	BNC I/O BNC XC Rear XC	NEBS, ITU-T
1-Termination Total Front Access DSX-3 Module ELF-3206-1900	6" (152 mm)	1.63" (41 mm)	5" (127 mm)	2 lbs. (.9 kg)	1 termination	BNC I/O BNC XC TFA	NEBS, ITU-T
Ethernet Modules							
16-Termination Cat 5e Patch Module, RJ45-IDC ELF-9716-1700	5.86" (149 mm)	1.63" (41 mm)	7.13" (181 mm)	1.5 lbs. (.7 kg)	16 terminations	IDC NE-1 RJ45 NE-2	
16-Termination RJ-RJ T1/ Ethernet Patch Module ELF-9716-1900	5.86" (149 mm)	1.63" (41 mm)	5" (127 mm)	2 lbs. (.9 kg)	16 terminations	RJ NE-1 RJ NE-2	
8-Termination Cat 6 Patch Module, RJ45-IDC ELF-9716-2300	5.88" (149 mm)	1.63" (41 mm)	3.56" (90 mm)	1.5 lbs. (.7 kg)	8 terminations	IDC NE-1 RJ45 NE-2	
8-Termination Cat 3 Patch Module, RJ11-IDC ELF-9716-1100	5.88" (149 mm)	1.63" (41 mm)	3.56" (90 mm)	1.5 lbs. (.7 kg)	8 terminations	IDC NE-1 RJ11 NE-2	

Physical Specifications, Cont.

Description	Width	Height	Depth	Weight	Capacity	Circuit Access & I/O	Agency Compliance
Interconnect Modules							
4-Termination RJ48C/Wire- Wrap Module ELF-9704-1119	5.25" (133 mm)	1.65" (42 mm)	5.25" (133 mm)	2 lbs. (.9 kg)	4 terminations	Wire-wrap NE-1 RJ48C NE-2 Front XC	
4-Termination RJ45 Total Front Access Module ELF-3004-1800	6" (152 mm)	1.63" (41 mm)	3.75" (95 mm)	2 lbs. (.9 kg)	4 terminations	RJ45 NE-1 RJ45 NE-2 TFA	
Optical Modules							
12-Fiber ELF Patch Modules	5.25" (133 mm)	1.65" (42 mm)	7.13" (181 mm)	2 lbs. (.9 kg)	12 fibers	TFA	
12-Fiber ELF Patch/Splice Modules	5.91" (150 mm)	1.65" (42 mm)	7.97" (202 mm)	2 lbs. (.9 kg)	12 fibers	TFA	
24-Fiber ELF Patch Modules	5.25" (133 mm)	1.65" (42 mm)	7.13" (181 mm)	2 lbs. (.9 kg)	24 fibers	TFA	
24-Fiber ELF Patch/Splice Modules	5.91" (150 mm)	1.65" (42 mm)	7.97" (202 mm)	2 lbs. (.9 kg)	24 fibers	TFA	