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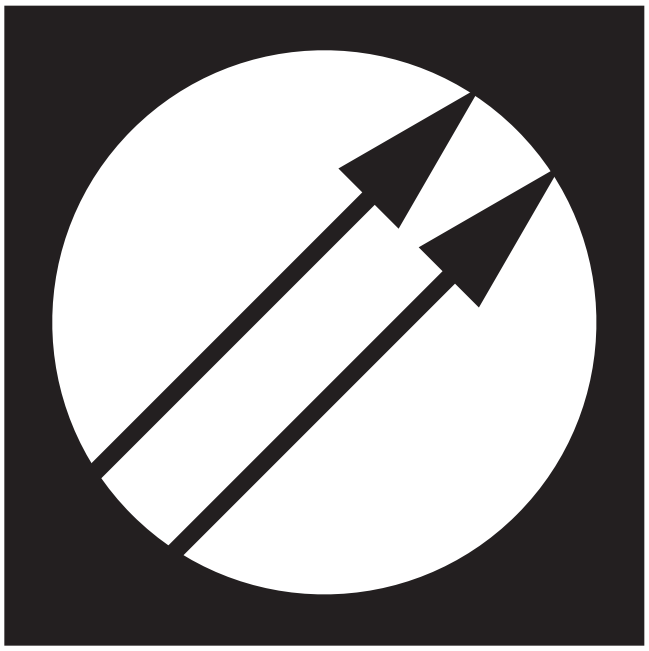
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Fiber Optic Products



About Fiber Optic Products

Telewire Supply has been and remains a pioneer in bringing fiber optic technology to the cable TV marketplace. As the use of fiber optic technology becomes more prevalent in cable TV, the need for construction materials, tools and other specialized products has grown. This section presents a sampling of the fiber optic materials available from **Telewire Supply** . For further information, please contact your local **Telewire Supply** sales representative.

This section is designed as a buyer's guide for fiber optic products and is not intended to be a design or installation guide.

Quality Policy

Telewire Supply is dedicated to meeting the requirements of our customers by providing Quality Products and Services on a timely basis.

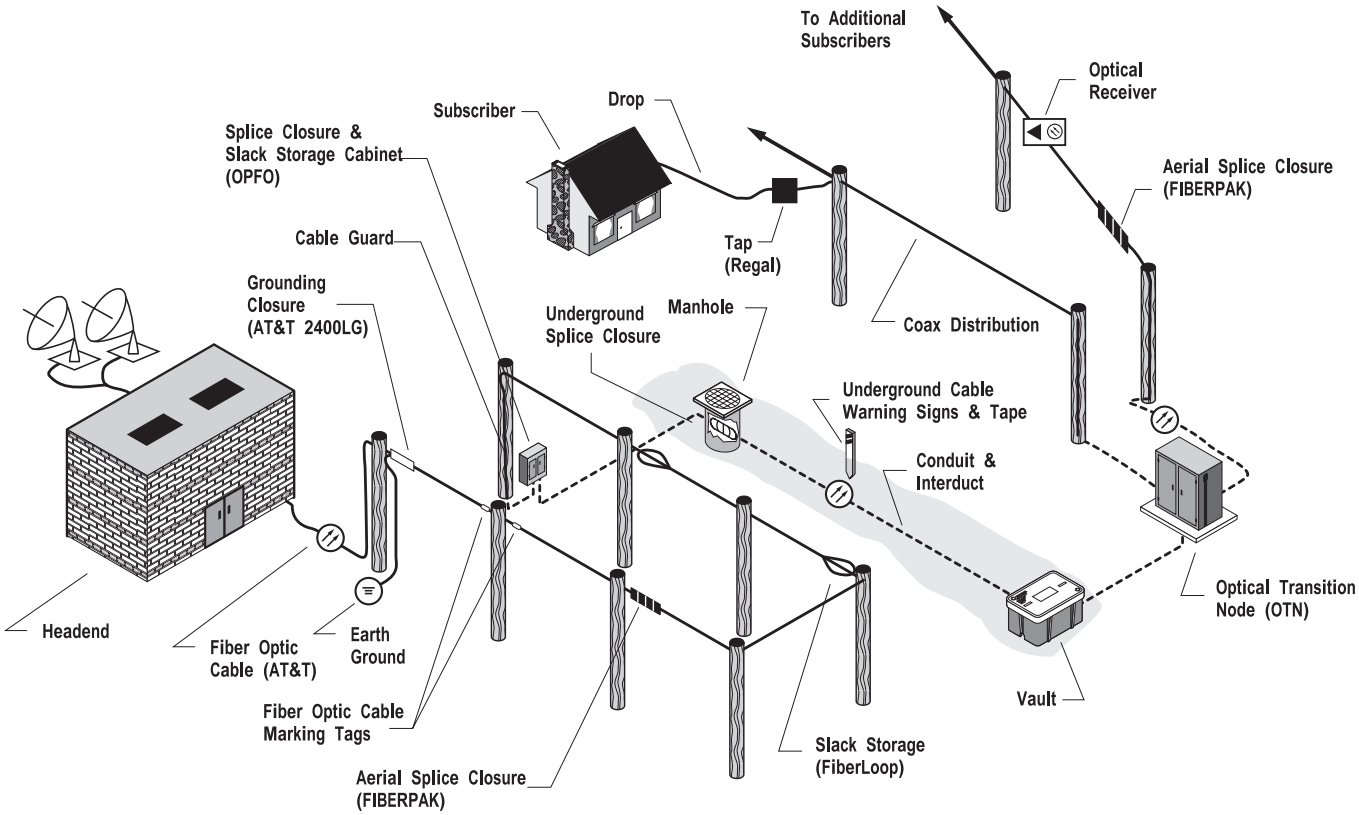
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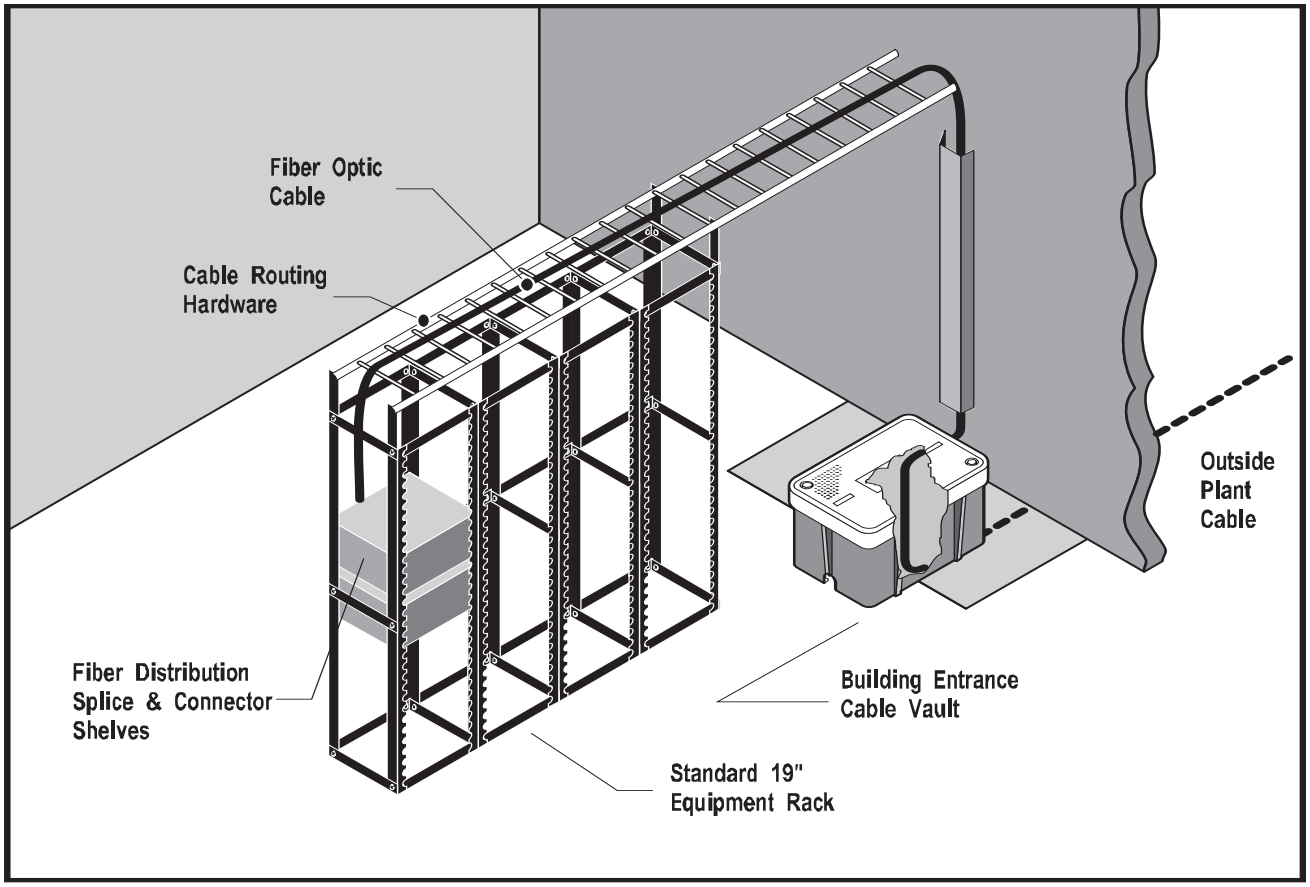
Fiber Optic Path - Typical



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Fiber Optic Path Inside - Typical



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Laser Link II™ Transmission System

ANTEC



Description

The ANTEC Laser Link II™ is the reliability standard in broadband fiber transmission. Beginning in 1988 with the Laser Link I, the industry's first analog video laser transmission system, ANTEC stimulated the development of the HFC architectures prevalent in today's advanced broadband communications networks. ANTEC's subsequent introduction of the Laser Link II™ optical transmission platform provided the bench-mark for continued technical evolution in the industry.

The Laser Link II™ Transmission system offers a family of 750 MHz platform products including forward and reverse path optical transmitters, receivers and amplifiers. All Laser Link II™ forward path transmitters are designed to provide highly linear, 80 channel performance over the entire 50-750 MHz spectrum on a single optical fiber. Alternatively, digitally modulated carriers can be layered or tiered within the downstream bandwidth to facilitate compressed, narrow casted data or telephony. Laser Link II™ transmitters utilize high-performance distributed feedback (DFB) lasers to intensity modulate input signals. The Laser Link II™ design feature ensures versatility and premium performance with reliability and mean time between failure characteristics (MTBF) that are unsurpassed in the industry. Additionally, pre-distortion is applied to enhance performance variables.

ANTEC's laser transmitter offering is tiered to provide consistent carrier to noise distortion performance over varied loss budgets. The Laser Link II™ line includes the following transmitters:

- LLT LP - A7
- LLT LP - B7
- LLT LP - C7
- LLT LP - D7
- LLT LP - E7
- LLT MP - F7
- LLT MP - G7
- LLT MP - H7
- LLT HP - I7

Features

- Capable of transmitting 80 channels of analog video, and compressed digital signals in a 50-750 MHz spectrum
- Compact transmitter, amplifier and receiver modules that fit into the Laser Link II™ shelf system
- Optional redundant powering
- Family of transmitters offers design flexibility and system performance options
- Status LEDs, RF and optical test points, and modulation adjustment on each module

Specifications

Power

Supply Voltage (supplied by LL II shelf)	24 VDC	-48 VDC(Optional)
Current Drain	1.05 max	

Physical

Operating Temperature	0° minimum	50°C maximum
Relative Humidity	15-95% Non-Condensing	
Optical Connector	SC/UPC	
Weight	3-4 lbs	
Mounting	LLII Shelf	
Dimensions (HxWxL)	5.25 x 2.17 x 13.5 inches	

Note: Specifications are subject to change without notice.

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Laser Link II™ Transmission System *continued*

ANTEC

Specifications

	Laser Link II™ LP A	Laser Link II™ LP B	Laser Link II™ LP C	Laser Link II™ LP D	Laser Link II™ LP E	Laser Link II™ MP-F7	Laser Link II™ MP-G7	Laser Link II™ MP-H7	Laser Link II™ HP-I7
Optical									
Optical Power (max.dBm)	5	7	3	5	7	7-9	9.5-11	10.5-12	11-13
Optical connector Return loss	55 dB	55 dB	55 dB	55 dB	55 dB	55 dB	55 dB	55 dB	55 dB
Wavelength +/-10 nm	1310 nm +/-10 nm	1310 nm +/-10 nm	1310 nm +/-10 nm	1310 nm +/-10 nm	1310 nm +/-10 nm	1310 nm +/-10 nm	1310 nm +/-10 nm	1310 nm +/-10 nm	1310 nm
RF Input/Output									
Impedance	75 ohms	75 ohms	75 ohms	75 ohms	75 ohms	75 ohms	75 ohms	75 ohms	75 ohms
Return Loss: 45-550 MHz 55-750 MHz	17dB 15dB	17dB 15dB	17dB 15dB	17dB 15dB	17dB 15dB	17dB 15dB	17dB 15dB	17dB 15dB	17dB 15dB
Input Level	15 dBmV	15 dBmV	15 dBmV	15 dBmV	15 dBmV	15 dBmV	15 dBmV	15 dBmV	15 dBmV
Frequency response	50-750 MHz	50-750 MHz	50-750 MHz	50-750 MHz	50-750 MHz	50-750 MHz	50-750 MHz	50-750 MHz	50-750 MHz
Ripple (peak to valley) 50-750 MHz	+/-.75 dB	+/-.75 dB	+/-.75 dB	+/-.75 dB	+/-.75 dB	+/-.75dB	+/-.75dB	+/-.75dB	+/-.75dB
Test Point Attenuation	30 dB	30 dB	30 dB	30 dB	30 dB	30 dB	30 dB	30 dB	30 dB
Carrier-to-Noise	>50 dB	>52 dB	>54 dB	>54 dB	>54 dB	>51 dB	>52 dB	>52.5 dB	>51.5 dB
Composite second order	>-63 dBc	>-62 dBc	>-63 dBc	>-63 dBc	>-63 dBc	>-62 dBc	>-62 dBc	>-62 dBc	>-62 dBc
Composite Triple Beat	>-67 dBc	>-65 dBc	>-67 dBc	>-67 dBc	>-67 dBc	>-67 dBc	>-67 dBc	>-67 dBc	>-67 dBc
Loss Budget	3 dB	6 dB	2 dB	4 dB	6 dB	8 dB	9 dB	10 dB	12 dB

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Gateway Series II Optical Receiver

ANTEC



Features

- A flexible analog and digital receiver platform
- Integral component to hybrid fiber/coaxial telephone systems
- Multiple RF output options
- Return laser capability
- Network Management capability
- 1 GHz platform with 750 MHz actives
- Power doubling amplifier modules
- Remote 3-position bridge switches for return path diagnostics (optional)

Description

As the latest addition to the Gateway Family of optical receivers, the Gateway Series II is designed to support the flexible evolution of today's emerging Hybrid Fiber/Coaxial networks. It's superior range of RF output configurations is a benchmark of the product family. Innovative return path routing options are available to accommodate evolving return traffic requirements.The Gateway Series II is available in a compact distribution amplifier housing. RF output capabilities range from a single low-level output to three high-level outputs. Flexible upgrade capability allows migration from low-output options to high-output options, thus enhancing the receiver's functionality in mixed applications. Integrated fiber management and connectorization compliment the receiver's ease of deployment and set-up. Network Management will be available as an option.

Ordering Information

Item	Series A	Series B	Series C
Outputs (@ 750 MHz)	1 @ 34 dBmV	1 @ 34 dBmV 2 @ 46 dBmV	3 @ 46 dBmV
Optical Input	-3 to +1 dBm	-3 to +1 dBm	-3 to +1 dBm
Forward Passband	50 to 750 MHz	50 to 750 MHz	50 to 750 MHz
Reverse Passband	5 to 40 MHz	5 to 40 MHz	5 to 40 MHz
Dedicated Data Only			
Port Passband	5 to 200 MHz	5 to 200 MHz	5 to 200 MHz
Frequency Response	1.00 dB	1.00 dB	1.00 dB
Slope Control steps	Plug-in 1.5 dB steps Plug-in 1.5 dB steps		Plug-in 1.5 dB
Return Loss	16 dB	16 dB	16 dB
Minimum Gain	28 dB	28 dB	28 dB
Distortions (77 channels, 10 dB slope, RF only)			
C/N	67	67	67
CTB	77 dBc	77 dBc/65 dBc	77 dBc/65 dBc
CSO	64 dBc	64 dBc/60 dBc	64 dBc/60 dBc
Return Gain	15 dB	15 dB	15 dB
Power Consumption	40 watts	75 watts	75 watts
AC Voltage	48-95 V SQ	48-95 V SQ	48-95 V SQ
AC Frequency	1-60 Hz	1-60 Hz	1-60 Hz
Max AC Current Passing			
RF Ports 1-3	13 Amps	13 Amps	13 Amps
RF Port 4 (Data only)	13 Amps	13 Amps	13 Amps
AC Current at 90 VAC	0.45 Amps	0.85 Amps	0.85 Amps
Hum Modulation	60 dB	60 dB	60 dB
Operating Temp. Range	-40 to 60° C	-40 to 60°C	-40 to 60°C

Note 1: Distortions based on RF performance only.
Must add laser contribution for overall system performance.

Note 2: Return direction and AC power from any RF port is allowable.

Note 3: Specifications subject to change without notice.

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ABL® VT2C Multimedia Processor™



Description

Room/roll-about videoconferencing, remote surveillance, interactive distance learning and tele-medicine are all made easy with the versatile, compact VT2C Multimedia Processor.

The VT2C delivers superior video quality and the state-of-the-art audio subsystem provides unprecedented clear and echo free audio from 3.4 KHz to 7 KHz. The VT2C works with virtually all monitors, cameras, sound systems and audio/video auxiliaries.

VT2CÕs on-screen menus and optional remote touchpad make videoconferencing control easy. For quick integration in custom applications and systems, the VT2C can be controlled from its RS-232 control port. Designed to be fully network independent, the VT2C can be fitted with a wide selection of industry standard ISA based network modules. In addition to the universal V.36 interface, the VT2C supports configurable bandwidth from as low as 112 kbps to as high as 2mbps for the most demanding video applications. You can fully upgrade, so users can migrate to higher bandwidths.

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ABL DVT45 Audio/Video Codec



Description

The ABL DVT45 is the broadcast-quality video/audio codec of choice for leading phone companies, cable operators and TV broadcasters worldwide. The DVT45 is designed for the demanding, mission-critical video transmission over standard DS3, E3, SONET, SDH and ATM digital networks. Applications include multi-channel TV distribution to CATV headends, HFC networks, broadcast TV, distance learning, Remote Surveillance, Business TV and videoconferencing. The DVT45 codec is unique in its ability to digitize the compress up to two video and six audio signals in a single 45 Mbps DS3m while retaining excellent quality. The DVT45 takes advantage of ABLÕs advanced, third generation ABLe-3 video compression VLSI technology. Widely recognized by industry experts worldwide for delivering unparalleled video quality, ABLe-3 is based on a leading-edge, 14 element DPCM prediction algorithm specifically optimized for compression rates ranging from 22 to 44 Mbps. Designed for point-to-point and multipoint video delivery over optical fiber, satellite and microwave networks, ABLe-3 delivers higher video quality at significantly lower costs when compared to alternative compression technologies such as MPEG2.

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NX100 Fibermux



Description

The NX100 Next Generation Fibermux Provides all the features needed to bring fiber access into the next century.

The NX100 can reduce fiber requirements by over 60%, and is the most economical way to deliver voice, HiCap, and business access applications. The NX100 supports from 4 to 28 DS1s per fiber, or a mix of DS1s and full native rate Ethernet service over a single fiber pair.

The NX100 offers fully protected services, and allows traffic grow gracefully with in-service up-gradeability from 4 to 28 DS1s. The NX 100 supports ADM (add drop multiplexing), and offers full support for direct connection to all SONET Transport equipment. Direct connection to SONET eliminates the need for DSX equipment in most applications.

The NX100 is supported by a complete Windows based Network Management system, as well as Graphic or text based Crafts interfaces. SNMP network management connection is also supported. The NX1oo conforms to all requirements for SONET information and features, including in-service software upgrades, and all features are supported over the in-band channel to remote sites.

The NX100 is supported by a full range of cabinets including compact cabinets for Customer Premesis (110Vac or 48Vdc) and Curbside cabinets

The following units are available:

NX100	Enclosures
4DS1	Central Office
8DS1	Customer Premises
14DS1	Remote Cabinets

4DS1 + 2 Ethernet

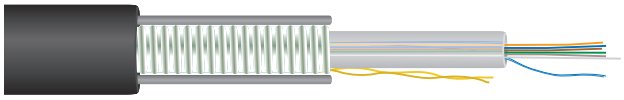
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LightPath Fiber Bundle Cable

ANTEC



Features

- Small diameter
- Up to 96 fibers
- Meets Bellcore & REA standards
- Corrugated Steel Armor
- All-Dielectric cable core
- Dual steel wire strength members
- Dual colored thread binders
- Three ripcords

Description

The ANTEC LightPath fiber bundle cable is a small diameter, lightweight fiber optic cable specially designed for use in direct buried, duct and lashed aerial applications. This cable can contain from 4 to 96 optical fibers, bundled and easily identified by colored thread binders, and housed in a single, central buffer tube.

Designed to resist environmental damage, the central buffer tube is filled with water blocking gel that retards water migration which can adversely affect performance. For added protection, a corrugated steel armor over the central buffer tube guards the cable from rodents.

The LightPath fiber bundle cable's simple sheath construction provides quick, easy cable entry—ideal for mid-span access. This cable is reinforced with two steel wires, longitudinally laid 180° opposed along the steel armor, for tensile strength. Highly visible aramid ripcords, located by each steel wire, make cable entry quick and easy, so no special tools are required. A smooth black medium density polyethylene (MDPE) sheath is extruded over the armor and wires. LightPath fiber bundle cable is available in all-dielectric configuration for lashed aerial or duct installations.

Specifications

Mechanical / Environmental

Property		Specs
Maximum tensile load during installation		600 lbs.
Maximum recommended service load		135 lbs.
Maximum bend radius		10 times cable diameter
Crush		440 N/cm
Impact		25 impacts
Compound flow drip temperature		>80° C
Installation temperature range		-22° to 140° F
Operation temperature range		-40° to 158° F
Storage temperature range		-40° to 167° F
Attenuation	.35dB/km - 1310nm	.25dB/km - 1550nm

Diameters & Weights

No. of Fibers	Cable Diameter	Cable Weight
2-36	0.51 inches	121 lbs. / kft
38-48	0.51 inches	121 lbs. / kft
50-96	0.59 inches	158 lbs. / kft

Fiber Types Available

Singlemode	Matched Clad
	Depressed Clad

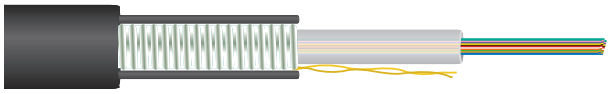
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LightPath Ribbon Fiber Cable

ANTEC



Features

- Small diameter
- 12 fiber ribbons
- Up to 216 fibers
- Meets Bellcore & REA standards
- Corrugated steel armor
- All-dielectric cable core
- Dual steel wire strength members
- Three ripcords

Description

The ANTEC LightPath Ribbon Fiber Cable makes fiber splicing fast and easy. A small diameter cable with high fiber count capacity, this cable houses up to 216 fibers. The fibers are grouped together in 12-fiber flat ribbon matrixes, stacked and stranded within a single central buffer tube.

Designed to resist environmental damage, the central buffer tube is filled with water blocking gel that resists and retards water migration which can adversely affect performance. For added protection, a corrugated steel armor over the central buffer tube guards the cable from rodents.

The LightPath Ribbon Fiber Cable is reinforced with two steel wires, longitudinally laid 180° opposed along the steel armor, for tensile strength. Highly visible aramid ripcords, located by each steel wire, make cable entry quick and easy, so no special tools are required. A smooth black medium density polyethylene (MDPE) sheath is extruded over the armor and wires. LightPath Ribbon Fiber Cable is available in an all-dielectric configuration for lashed aerial or duct installations.

Specifications

Mechanical / Environmental

Property	Specs
Maximum tensile load during installation	600 lbs.
Maximum recommended service load	135 lbs.
Maximum bend radius	10 times cable diameter
Crush	440 N/cm
Impact	25 impacts
Compound flow drip temperature	>80° C
Installation temperature range	-22° to 140° F
Operation temperature range	-40° to 158° F
Storage temperature range	-40° to 167° F
Attenuation	.35dB/km - 1310nm .25dB/km - 1550nm

Diameters & Weights

No. of Fibers	Cable Diameter	Cable Weight
12-96	0.59 inches	158 lbs. / kft
108-216	0.69 inches	198 lbs. / kft

Fiber Types Available

Singlemode Matched Clad
Depressed Clad

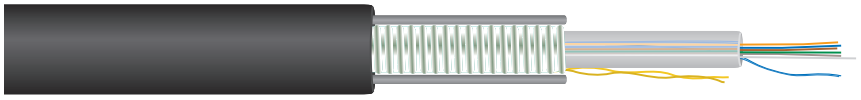
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Mini-LXE Cable

LUCENT TECHNOLOGIES



Applications

Aerial, buried and underground duct installations.
Excellent for CATV feeder architectures.

Features

- Optimized for fiber counts up to 18
- Proven lightpack® core technology
- Individually color-coded fibers in bundles of 6 fibers
- Dependable LXE sheath with protective steel armor
- Small diameter, light weight design provides a 400-lb. tensile load rating
- Rugged polyethylene jacket, with optional colored stripes available
- Fast, easy fiber access
- Available with AT&T depressed clad or AT&T matched clad single mode fibers
- Superior D-LUX 100 fiber coating technology
- Tested to recognized fiber optic industry standards

Description

The Mini-LXE Fiber Optic Cable is an LXE cable design that has been size-optimized for a maximum of 18 fibers. The small size of the mini-LXE cable provides a more efficient package and a more cost effective solution for the smaller fiber counts that will be seen in the last optical link of the network.

The min-LXE cable builds on the proven LXE cable design that has been used successfully in the CATV network. A space efficient Lightpack® core holds bundles of up to six color-coded fibers in a water-blocked unit. The fibers are coated with the superior D-LUX® 100 coating technology and each fiber bundle is identified with a colored binder. A steel armor provides mechanical protection, and when combined with the two steel strength members, provides a 400-lb. tensile load rating, which is suitable for most installation methods. The Mini-LXE design is completed with a polyethylene sheath which offers protection to the cable in the rugged outside plant environment.

The economical Mini-LXE cable can be easily entered for fiber access, and it is completely compatible with AT&T's line of connecting apparatus and fiber organization systems for an end-to-end fiber solution.

Specifications

Fiber Counts	Nominal Cable Diameter	Nominal Cable Weight	Operating Temperatures
2 to 18	0.36 in. (9.1 mm)	62 lb/kft (92 kg/km)	-40F to +158F (-40C to +70C)

Mini-LXE Cable is available in lengths up to 12 km.

Ordering Information

4DVX-NNN-BXC	
Fiber Type	Depressed Clad Single Mode
Attenuation	0.35 dB/km @ 1310nm 0.23 dB/km @ 1550 nm
4DVX-NNN-BXD	
Fiber Type	Depressed Clad Single Mode
Attenuation	0.40 dB/km @ 1310 nm 0.30 dB/km @ 1550 nm
7DVX-NNN-BXC	
Fiber Type	Matched Clad Single Mode
Attenuation	0.35 dB/km @ 1310 nm 0.23 dB/km @ 1550 nm
7DVX-NNN-BXD	
Fiber Type	Matched Clad Single Mode
Attenuation	0.40 dB/km @ 1310 nm 0.30 dB/km @ 1550 nm

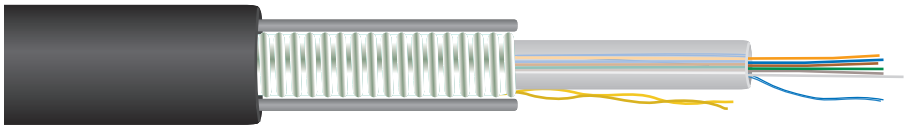
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LXE Fiber Optic Cable

LUCENT TECHNOLOGIES



Applications

Aerial, Buried, Underground Duct Installations

Features

- Easy sheath entry (express and endpoint)
- Proven core technology
- Excellent optical and mechanical performance
- Strength members in cable sheath (not in cable core)
- High density polyethylene (HDPE) outer jacket
- Simple access to all fibers
- AT&Ts depressed cladding single mode fiber with D-LUX® 100 Coating
- Thermal / water blocking tape on metallic sheaths
- AT&T D-LUX® Coating

Advantages

- Improved craft productivity (installation and splicing)
- Protection from environmental hazards and installation abuse
- Network reliability — fibers are isolated from load-bearing members

Description

The AT&T LXE (Lightguide Express Entry) sheath is designed with the loop distribution market in mind, where express entry (accessing fibers in the middle of a cable span) is a common practice.

The LXE sheath system achieves a 600-pound (2670 N) tensile rating through the use of linearly applied strength members placed 180 degrees opposite each other. With this sheath construction, it is impossible to kink the cable during installation. As with all AT&T lightguide cables. high density polyethylene (HDPE) is used for the cable jacket to provide both faster installation (through a lower coefficient of friction), and optimum cable core protection in hostile environments. The small size and light weight make installation easy. In addition, the LXE sheath system passes both the EIA (Electronic Industries Association) standard cable tests and the more stringent AT&T test program.

The sheath options are available: Metallic (LXE-ME), dielectric (LXE-DE), and rodent-lightning (LXE-RL). An REA-listed version of all three sheaths are also available.

For each sheath option, cable entry is extremely easy, even in mid span. The cable core can be accessed with the strength members remaining intact, so cable tensile strength is maintained. In the metallic version, electrical continuity is also maintained. Each one of the sheath types contains a rip cord. In metallic armored versions, a rip cord is included under the armoring, and the armoring is bonded to the cable jacket.

The LXE sheath system can be accommodated in the AT&T Universal Fiber Optic Closure and in the AT&T 2600 Closure.

The LXE sheath system is available with a Lightpack® core (up to 96 single mode fibers) or AccuRibbon® core (up to 216 single mode fibers). Cable weights and diameters are provided in the specifications table.

Specifications

Sheath Type	Lightpack Core (4-48 fibers)		AccuRibbon Core (12-96 fibers) Lightpack Core (50-96 fibers)		AccuRibbon Core (108-216 fibers)	
	O.D in(mm)	Weight lbs/kft (kg/km)	O.D in(mm)	Weight lbs/kft (kg/km)	O.D in(mm)	Weight lbs/kft (kg/km)
Metallic LXE-ME	0.49 (12.4)	115 (171)	0.59 (15.0)	150 (223)	0.69 (17.5)	200 (298)
Dielectric LXE-DE	0.49 (12.4)	90 (134)	0.59 (15.0)	115 (171)	0.69 (17.5)	180 (268)
Rodent / Lightning LXE-RL	0.49 (12.4)	110 (164)	0.59 (15.0)	145 (216)	0.69 (17.5)	195 (290)

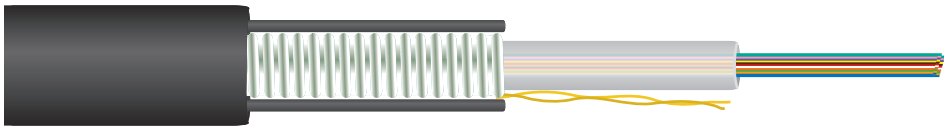
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AccuRibbon® Cable

LUCENT TECHNOLOGIES



Applications

Aerial, Buried, Hostile / Hazardous Environment, Underground

Description

AT&T AccuRibbon® cable is a proven AT&T ribbon cable design. It provides excellent optical, mechanical, and environmental performance in a compact design. In combination with the AT&T LXE (Lightguide Express Entry) sheath family, it facilitates mid-span entry for branching applications such as fiber to the subscriber.

Design

The AccuRibbon Cable core consists of ribbons of 12 fibers bonded together with a UV-curable matrix material. Up to 18 ribbons can be contained in a core tube, for a total of 216 fibers. Each fiber position is guaranteed, allowing optimization of branching plans. The cable core is filled with a water blocking compound.

The ribbon design provides large fiber counts within a small cable diameter. The cable core contains no metallic members or strength members, so the fiber transmission medium is protected from environmental effects and abusive installation techniques.

Installation

As a result of its small diameter, the AccuRibbon Cable design improves installation productivity, especially for longer cable lengths. End preparation for splicing is simplified, since any fiber may be accessed once the sheath is removed. There are no additional mechanical structures to remove.

Ribbon and Fiber Identification

The fibers within each ribbon are uniquely identified with the standard fiber color code. Each ribbon is redundantly identified using both number (1-18), and a two-letter color abbreviation (ex., BL=Blue). The ribbon identification is printed directly on the ribbon structure, and may be used for mid-span or end entry identification.

Sheath Types

The AccuRibbon core may be combined with any AT&T fiber optic cable sheath. The sheath options LXE-Metallic (LXE-ME), LXE-Dielectric (LXE-RL). AccuRibbon is also available in a Dielectric Crossply sheath for riser applications and in an armored Hostile / Hazardous Environment design.

Specifications

Fibers	12-96 Fibers		108-216	
Sheath Type	**Dia**	**Wgt.**	**Dia**	**Wgt.**
Armored Sheaths				
Hostile/Hazardous Environment	0.63	210	0.75	300
LXE-ME	0.61	150	0.71	200
LXE-RL	0.61	145	0.71	195
Dielectric				
Crossply Sheath				
Dielectric PVC Riser	0.49	96	0.59	125
LXE Sheath				
LXE-DE	0.59	115	0.69	180

For ordering information contact your **Telewire Supply** Sales Representative.

TeleWire SUPPLY AN ANTEC COMPANY

SOUTHEAST: Norcross, GA **800-433-3765** | SOUTHWEST: Irving, TX **800-643-2288** | EAST: Rockaway, NJ **800-458-4524** | WEST: Santa Ana, CA **800-227-2869** | MIDWEST: Rolling Meadows, IL **800-428-7596**

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Bonding & Grounding Cable Clamp

LUCENT TECHNOLOGIES



Description

The 12A1 clamp is designed to provide the means of securing and grounding one metallic sheath cable such as: connectorized ribbon cable with sheath termination hardware, outside plant cable without sheath termination hardware, Lightpack® cable, rodent/lightning sheath cable, Lightpack Express Entry (LXE) cable, or inside ribbon riser cable.

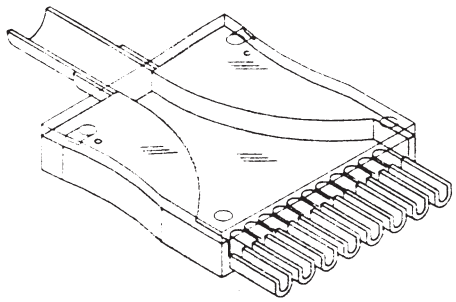
Grounding and bonding hardware is provided to connect metallic members to an approved ground terminal. One clamp required per OSP metallic sheath cable.

Ordering Information

Order No.	Mfg. No.	Description
LUC 135362	12A1	for metallic cable
LUC 154575	12A2	for non-metallic cable

Unit Splitter

LUCENT TECHNOLOGIES



Description

A - This pitchfork-shaped splitter is used for blocking and organizing fibers when prepping Lightpack® cable. Cable diameter: over 0.49". The splitter has one core tube size inlet and eight PVC tube size outlets.

B - This pitchfork-shaped splitter is used for blocking and organizing fibers when prepping Lightpack cable. Cable diameter: over 0.50". The splitter has one core tube size inlet and six PVC tube size outlets.

Ordering Information

Order No.	Mfg. No.	Description
LUC 107902	D-181683	A - comcode 105 277 792
LUC 135366	D-181781	B - comcode 105 342 463

Splitterpak

ANTEC



Description

This kit contains splitters used for blocking and organizing fibers when prepping Lightpack or AccuRibbon® cables. The kit includes splitters and adapters for multiple core tube sizes.

Kit Contents

- 1 splitter housing
- 1 splitter cover
- 1 core collar #1
- 1 core collar #2
- 1 core collar #3
- 1 3cc plastic syringe
- 3 #2-56 x 1/4 lg. cap screws
- 1 allen wrench
- 2 alcohol wipes
- 1 razor blade
- contents & instruction sheet

Ordering Information

Order No.	Mfg. No.
ANT 154425	SP-8V

SOUTHEAST: Norcross, GA **800-433-3765**
SOUTHWEST: Irving, TX **800-643-2288**
EAST: Rockaway, NJ **800-458-4524**
WEST: Santa Ana, CA **800-227-2869**
MIDWEST: Rolling Meadows, IL **800-428-7596**

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Armorcast Structural Material 3M

Description

Armorcast structural material is a flexible fiberglass knit fabric strip that has been saturated with black resin syrup then dried. No heat is required in the installation process, just water. It forms a tough durable covering that cures in just 20 minutes. For use on pressurized, non-pressurized, polyethylene or lead sheathed cable.

Ordering Information

Order No.	Mfg. No.	Size
MMM 202631	4458	21.6 mm x 5.4 m(.8" x 18') rolls
MMM 202632	4458-W	38 mm x 5.5 m (1.5" x 18') rolls

Armorcast 4560 Structural Material Bulk 3M

Description

Available in rolls of 1.5 m (5'), 3 m (10') and 4.6 m (15'), each 100 mm (4") wide. Five pairs of gloves included with each roll.

Ordering Information

Order No.	Mfg. No.
MMM 202633	4560-5
MMM 202634	4560-10
MMM 202635	4560-15

Armorcast 4561 Sheath Repair Kit 3M

Description

Contains all products required to repair damaged Cable Sheath. Kit components are designed for use with Armorcast.

Kit Contains:

- 1 roll Armorcast material, 100 mm x 4.57 m (4" x 15')
- 1 roll Scotch VM Tape, 100 mm x 3 m (4" x 10')
- 1 roll Scotch 50 Tape, 50 mm x 30 m (2" x 100')
- 1 pair gloves

Ordering Information

Order No.	Mfg. No.
MMM 202636	4561

B Sealant

LUCENT TECHNOLOGIES

Description

This moisture sealant material is commonly used for many applications. Most notably, it is used on some closure grommets and unit splitters and to water-block outside plant cable ends.

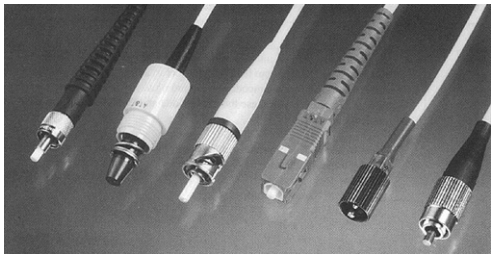
Ordering Information

Order No.	Mfg. No.	Description
LUC 118885	AT-8502	comcode 400 494 811

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Jumpers & Pigtails

ANTEC



Jumpers - Description

3mm single mode jumpers are used to "patch" or "jumper" between front side exposed patch panel ports. They are also used to connect optical electronic equipment to outside plant termination patch panels.

Pigtails - Description

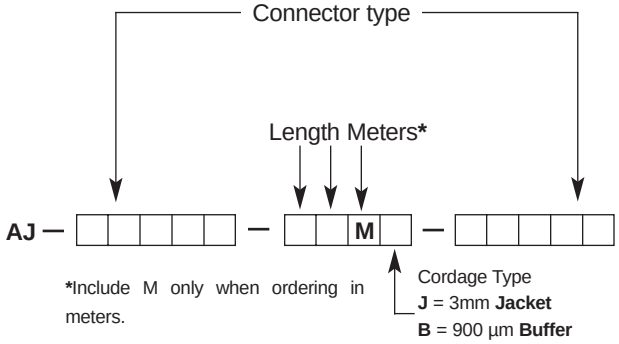
900 micron pigtails are used to terminate any multifiber cable into a fiber optic connector patch panel. Pigtails are spliced onto individual fibers and connected to the back side of connector couplings in a patch panel. Pigtails should seldom, if ever, be handled or disconnected.One pigtail per fiber is required.

The following illustrates how to construct a part number for all your jumper and pigtail needs.

Jumpers - Ordering Example

Customer needs a 30' jumper with an SC/UPC connector on each end and 3 mm Cordage.

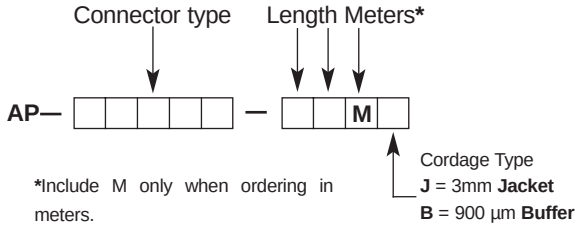
Model Number: AJ-SCUPC-30J-SCUPC



Pigtails - Ordering Example

Customer needs a 5 meter pigtails with an FC/UPC connector and 900 micron buffer.

Model Number: AP-FCUPC-5MB



Specifications

Optical

Maximum Attenuation	@1310nm/1550nm 0.5dB/0.5 dB
Minimum Attenuation	@1310nm/1550nm 0.35dB/0.25 dB
Core Diameter	8.3 +/-.5 Microns
Clad Diameter	125+/-1 microns

Typical UPC Connector Specifications

Insertion Loss	<.25dB
Return Loss	<-55dB
Number of matings	1000 terminations
Tensile load	>50 lb.

Typical APC Connector Specifications

Insertion Loss	<.25 dB
Return Loss	<-68dB
Number of matings	1000 terminations
Tensile load	>50 lb.

Fiber Optic Jumper with 3.0 Cordage Specifications

Mechanical, Environmental & Flame Characteristics

Crush resistance	EIA-FOTP-41
Flexing	EIA-FOTP-104
Flammability Test	Riser (UL910)
UL listed type	OFNR (riser)
Operating temperature	-20°C to =70°C
Storage temperature	-40°C to +70°C
Minimum bend radius at Max. load	5.0 cm / 2.0 in.
Minimum bend radius unloaded	3.0 cm / 1.2 in.

Cable Specifications

Diameter	3.0 mm
Weight	1.2 in.

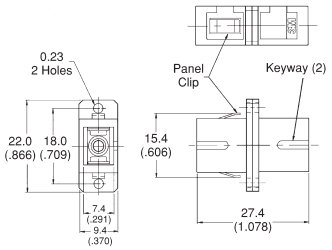
Fiber Optic Pigtail with 900 micron tubing

Mechanical, Environmental & Flame Characteristics

Crush resistance	EIA-FOTP-41
Flexing	EIA-FOTP-104
Flammability test	Riser (UL910)
UL listed type	OFNR (Riser)
Operating temperature	-10°C to -85°
Storage temperature	-10°C to =85°C
Minimum bend at radius at Max. load	1.0 in.
Minimum bend radius unloaded	.8 in.

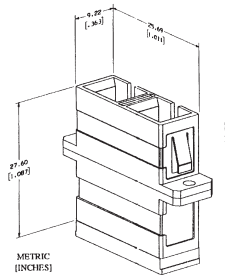
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Specifications for SC Couplings

Product number	8310	8313
Description (single-mode or multimode)	Coupling, standard density	Coupling, duplex standard density
Operating temperature	-40° to 85°C (-40° to 185°F)	-40° to 75°C (-40° to 167°F)
Material		
Housing	Engineering Thermoplastic	Engineering Thermoplastic
Sleeve	Zirconia ceramic	Zirconia ceramic



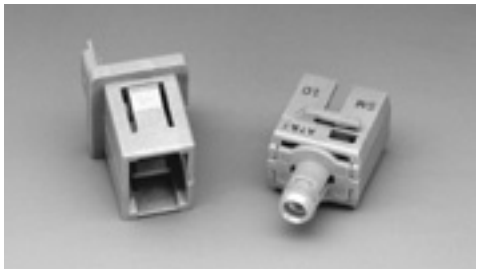
Specifications for SC Clips

Product number	Description	Spacing	Packaging	Min. order
6399 DC	Duplex Clip	Duplex 0.5"	100/pkg.	1 pkg.

Ordering Information

Order No.	Mfg. No.
MMM 202637	8310
MMM 202638	8313
MMM 202639	6399 DC

SC Single Mode Attenuator
3M



Description

Single-mode Attenuators are housed in Buildout Barrels that snap into the Buildout Blocks to form a complete coupling. The attenuator has a lens which reduces reflections, depending on the performance of the connectors.

SC Buildouts can be used with the 8115 ST® Buildout Block, and ST® and FC Buildouts can be used with the 8315 SC Buildout Block. This ability to interchange parts allows the creation of adapters from one connector type to another.

Ordering Information

Order No.	Mfg. No.	Attenuation (dB)	Reflection (dB)	Operating Temp.	Housing Design
MMM 202640	8315	—	-40 typical	-40° to 65°C	Buildout block
MMM 202641	8312	0	-40 typical	-40° to 65°C	Buildout
MMM 202642	8325	5 ± 1	-40 typical	-40° to 65°C	Buildout
MMM 202643	8326	10 ± 1	-40 typical	-40° to 65°C	Buildout
MMM 202644	8327	15 ± 1.5	-40 typical	-40° to 65°C	Buildout
MMM 202645	8328	20 ± 1.5	-40 typical	-40° to 65°C (-40° to 149°F)	Buildout

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FC/PC Couplings

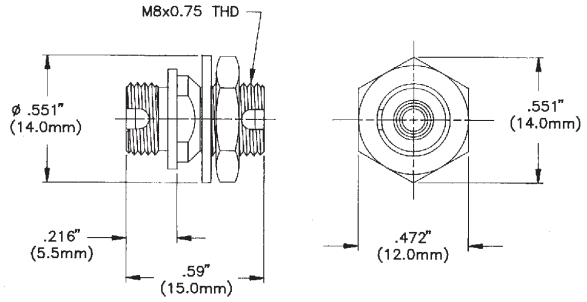


FC/PC Couplings

Product number	Multimode 6210	Single-mode 8210	Single-mode 8211	Single-mode 8211 APC
Housing design	Square Flanged	Square Flanged	D-Mount	D-Mount
Operating temperature	-40° to 85°C (-40° to 185°F)	-40° to 85°C (-40° to 185°F)	-40° to 85°C (-40° to 185°F)	-40° to 85°C (-40° to 185°F)
Material				
Connector ferrule	Zirconia ceramic	Zirconia ceramic	Zirconia ceramic	Zirconia ceramic
Connector housing	Metal	Metal	Metal	Metal

Ordering Information

Order No.	Mfg. No.
MMM 202646	6210
MMM 202647	8210
MMM 202648	8211
MMM 202649	8211APC



FC/PC Single -Mode Attenuators

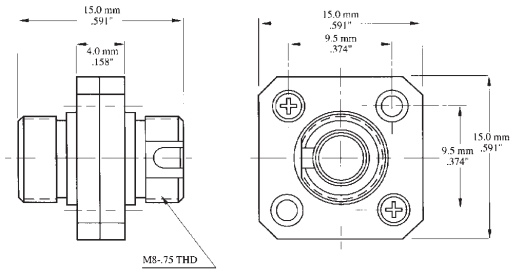


FC/PC Single-Mode Attenuators

Product number	Fixed, buildout 8212-A	8225	8226	8227	8228	Fixed, bulkhead 8221	8222	8223	8224
Housing design	Buildout®					Bulkhead			
Attenuation (dB)	0 dB	5 dB	10 dB	15 dB	20 dB	5 dB	10 dB	15 dB	20 dB
Reflection (dB)	-40 typical					-14			
Operating temperature	-40° to 65°C (-40° to 149°F)					-40° to 80°C (-40° to 176°F)			

Ordering Information

Order No.	Mfg. No.
MMM 202650	8212A
MMM 202651	8225
MMM 202652	8226
MMM 202653	8227
MMM 202654	8228
MMM 202655	8221
MMM 202656	8222
MMM 202657	8223
MMM 202658	8224



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Cable Assembly Specifications

Connector	SC	SC Angled	ST*	ST* Push-Pull	FC/PC3	Biconic	Biconic SPA	FDDI
Attenuation 1300(dB)								
Single-mode	Mean 0.25, sigma 0.1	Mean 0.25, sigma 0.1	Mean 0.25, sigma 0.15	Mean 0.25, sigma 0.15	Mean 0.25, sigma 0.15	Mean 0.35, sigma 0.15	Mean 0.7 sigma 0.1	—
Multimode	Mean 0.15, sigma 0.05	—	Mean 0.15, sigma 0.05	Mean 0.15, sigma 0.05	Mean 0.15, sigma 0.05	Mean 0.5, sigma 0.15	—	0.6 dB max., 0.4 dB typ.
Return Loss (dB)								
Single-mode	50, Mean 54	70,Mean 80	50, Mean 54	50, Mean 54	50, Mean 54	30 typical	38 typical	—
Multimode	Mean 25	—	Mean 24	Mean 24	Mean 27	12 typical	—	—
Connection Durability (dB)								
Single-mode	<0.2 change	<0.1 change	<0.1 change	<0.2 change	<0.2 change	<0.2 change	<0.2 change	—
Multimode	<0.2 change	—	<0.2 change	<0.2 change	<0.2 change	<0.2 change	—	<0.2 change
Number of Matings								
Single-mode	500	500	500	500	500	500	1000	—
Multimode	500	—	500	500	500	1000	—	500
Operational temperature								
Connector only (cable dependent)								
Single-mode	-40°to 85° C	-40°to 85° C	-40°to 85° C	-40°to 85° C	-40°to 85° C	-40°to 85° C	-40°to 85° C	—
Multimode	-40°to 85° C	—	-40°to 85° C	-40°to 85° C	-40°to 85° C	-40°to 85° C	—	-40°to 85° C
Storage temperature								
Single-mode	-40°to 85° C	-40°to 85° C	-40°to 85° C	-40°to 85° C	-40°to 85° C	-40°to 85° C	-40°to 85° C	—
Multimode	-40°to 85° C	—	-40°to 85° C	-40°to 85° C	-40°to 85° C	-40°to 85° C	—	-40°to 85° C
Material								
Connector Plug	—	—	—	—	—	70% Silica filled epoxy	70% Silica filled epoxy	—
Connector housing	Engineering Thermoplastic	Engineering Thermoplastic	Nickel plated zinc	Engineering Thermoplastic	Engineering Thermoplastic	Engineering Thermoplastic	Engineering Thermoplastic	
Connector ferrule	Zirconia ceramic	8° angle Zirconia ceramic	Zirconia ceramic	Zirconia ceramic	Zirconia ceramic	—	—	—
Alignment sleeve								
Single-mode	Zirconia ceramic	Zirconia ceramic	Zirconia ceramic	Zirconia ceramic	Zirconia ceramic	70% Silica filled epoxy	70% Silica filled epoxy	
Multimode	Zirconia ceramic	—	Metal	Metal	Zirconia ceramic	70% Silica filled epoxy		Metal
Boot	Polyester	Polyester	Estane®	Santoprene	Polyester	Estane®	Estane®	
Flame retardant	UL-94 V-O	UL-94 V-O	UL-94 V-O	UL-94 V-O	UL-94 V-O	UL-94 V-O	UL-94 V-O	UL-94 V-O

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Standard Cable Assembly Ordering Chart
Jumpers and Pigtails
(Simplex and Duplex)

Establish 3M part numbers by using the following codes:



Cable Assembly Information
A Single-mode 3M supplied connector and cable
B Multimode 3M supplied connector and cable

Cable Lengths

0001	1 meter
02.5	2.5 meters
0003	3 meters
0005	5 meters
0010	10 meters

Connector End #1 Information

Single-mode

AA	Biconic
AS	Biconic SPA
AM	ST* (Bayonet)
DA	SC, Standard Density
DG	SC, High Density
EP	SC 8 Angle, Standard Density
EJ	Push/Pull ST*
EN	FC/PC3
CD	D4

Multimode (125 µm)

AB	Biconic
AN	ST* (Bayonet)
DB	SC, Standard Density
DH	SC, High Density
AZ	FDDI
EK	Push/Pull ST*
EM	FC/PC3

Multimode (140 µm)

AC	Biconic
AP	ST* (Bayonet)
DC	SC, Standard Density
DI	SC, High Density
EL	Push/Pull ST*

NOTE: All ST*, SC, FC, and D4 connectors have PC finish.

Connector End #2 Information
—Use same codes as End #1
00 Pigtail

Cable Information

Siecor Single-mode Cable/Corning Fiber

AT	Jacketed
AU	Unjacketed
BW	Jacketed duplex

AT&T Single-mode Fiber and Cable

MK	Jacketed
MQ	Unjacketed

Berktek Multimode

GA	62.5/125 Duplex Jacketed FDDI

Siecor Multimode Cable/Corning Fiber

ZJ	50/125 Jacketed
AX	50/125 Jacketed Duplex
AF	62.5/125 Jacketed
AQ	62.5/125 Jacketed Duplex

For additional cables, including duplex, multi-fiber or plenum jacket, please call 800/426 8688. Push #1 for ordering department or push #5 for literature.

NOTE: Jacketed cables are 3 mm OD unless otherwise stated; Pigtails must be ordered in multiples of two.

Example: Single-mode
SC 8 angle to SC 8 angle, Standard density, AT&T jacketed cable, 10 meters

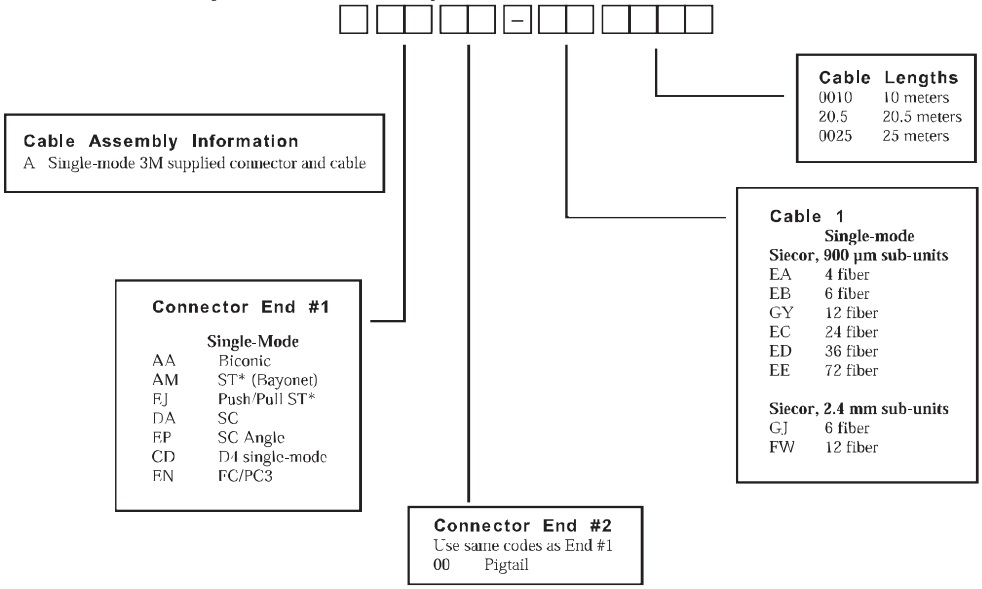


(AEPEP-MK 0010)

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Pre-connectorized, Multi-fiber Cable Assembly Ordering Chart

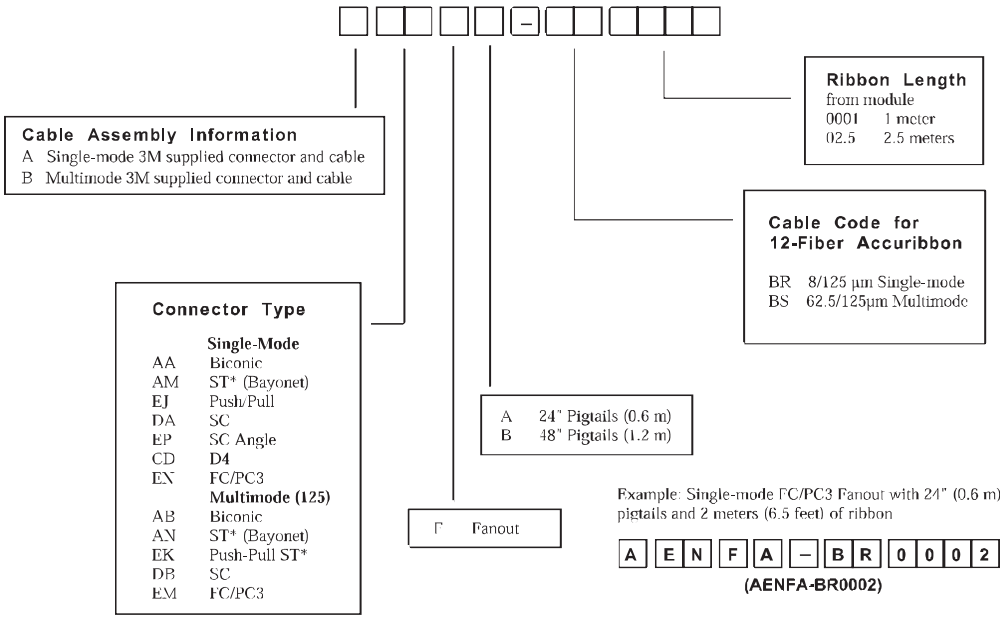
The part number for the Pre-connectorized Multi-fiber Cable is determined using a system similar to the system used for other 3M Cable Assemblies.



All cables listed are OFNR riser-rated. For plenum cable, please call Customer Service. Pre-connectorized Multi-fiber pigtail assemblies must be ordered in multiples of two for the same cable code.

Accuribbon Fan-Out Ordering Chart

The product number for the Accuribbon Fanout is determined using a system similar to the system used for other 3M Cable Assemblies



Example: Single-mode FC/PC3 Fanout with 24" (0.6 m) pigtails and 2 meters (6.5 feet) of ribbon

A E N F A – B R 0 0 0 2

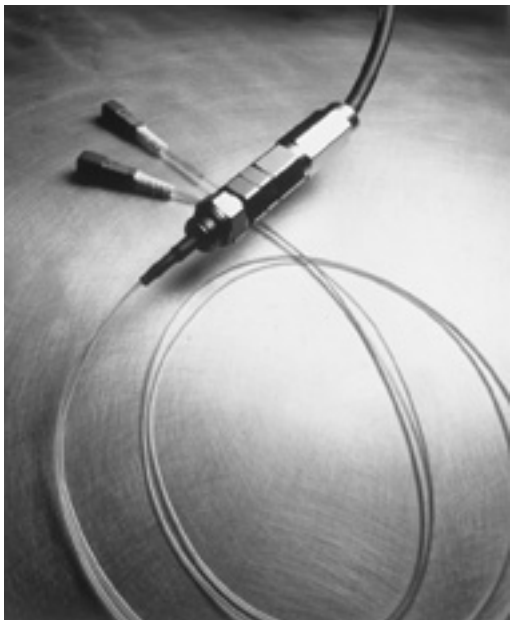
(AENFA-BR0002)

NOTE: Accuribbon Fanouts must be ordered in multiples of two for the same cable code.

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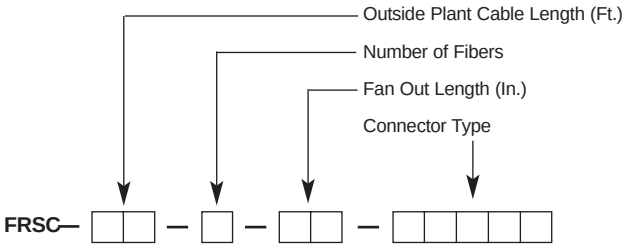
Fiber Receiver Service Cable

ANTEC



Ordering Guide

Receiver fanout lgth.	connector type	Fanout Fiber connector
Gateway 33"	SCUPC	SCUPC
Flamethrower 33"	SCUPC	SCUPC
Harmonic 33"	FCUPC	FCUPC
S-A 33"	SCUPC	FCUPC
C-COR 36"	FCUPC	FCUPC
G.I. mini-node 20"	FC/APC	FCSPC
G.I. lg.-node 40"	FC/APC	FCSPC



Ordering Example

Customer needs 50', 4 fiber receiver service cable with 4 each SCUPC connectors for the Antec Gateway Receiver.

Model No: FRSC - 50 - 4 - 33 - SCUPC

Description

The Fiber Receiver Service Cable is a fiber jumper designed to make splicing into optical receivers fast, easy and reliable. This innovative product significantly reduces splicing time and effort by eliminating the fusion or mechanical splice point.

All ANTEC Fiber Receiver Service Cables are equipped with Mini-LXE type cable. Also, an installed hard-line entry connector secures the two strength members and permits tightening into the receiver 5/8" port without causing the cable or fanouts to turn.

Available in any length, the ANTEC Fiber Receiver Service Cable is custom configured for specific applications with a choice of SC, FC, SC/APC or FC/APC connectors and two through eight fiber counts.

Specifications

Receiver Entry Connector Specifications

Finish	Nickel-Tin plated brass
Cable pullout tensile strength	247 lbs.
Entry threads	5/8" x 24
Size	4.25" long x .875" diameter

Receiver Entry Connector Specifications

Operating temperature	-40° to 70° C
Storage temperature	-50° to 70° C
Crush resistance	1000 lbs.
Impact resistance	25 lbs. @ 2.2 lbs. per ft.
Flexing	25 lbs. @ 5 inches
Fiber core diameter	8.3 microns
Insertion loss	.025 dB
UPC return loss	55 dB
APC return loss	68 dB
Outer jacket material	Riser rated PVC

If you don't see the part you need listed use the ordering matrix.

Ordering Information

Order No.	Mfg. No.
ANT 250113	FRSC-50-4-33-SCUPC
ANT 250114	FRSC-100-4-33-SCUPC
ANT 250115	FRSC-150-4-33-SCUPC
ANT 250116	FRSC-50-6-33-SCUPC
ANT 250117	FRSC-100-6-33-SCUPC
ANT 250118	FRSC-150-6-33-SCUPC
ANT 250119	FRSC-50-8-33-SCUPC
ANT 250120	FRSC-100-8-33-SCUPC
ANT 250121	FRSC-150-8-33-SCUPC
ANT 250155	FRSC-100-4-33-FCUPC

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OI-DS & OI-SS Series Single-Stage & Dual-Stage Fiberoptic Isolator

OPLINK



Features

- Low insertion loss
- High isolation & return loss
- Low polarization dependent loss
- Low polarization mode dispersion
- Highly stable & reliable
- Epoxy-free optical path

Applications

- Fiberoptic Amplifiers
- CATV fiberoptic links
- Coherent trans. system
- Fiberoptic instruments
- Fiber lasers
- Laboratory R&D

Specifications	OI-SS Series Premium	Prime	Grade A	OI-DS Series Premium	Prime	Grade A
Center Wavelength (nm)	1310 or 1550			1310 or 1550		
Operating Temp. (°C)	-10 to +75			-10 to +75		
Storage Temp. (°C) (depends on fiber type)	-40 to +85			-40 to +85		
Peak Isolation Typ. (dB)	43	42	41	60	57	55
Peak Isolation Position (nm) (relative to the center wavelength and at 23°C)	+3	+5	+7	+3	+5	+7
Minimum Isolation (dB) (over the center wavelength ±15nm & at 23°C)	33	32	31	52	50	48
Insertion Loss Typ. (dB) (over the center wavelength ±15nm & at 23°C)	0.3	0.4	0.5	0.4	0.5	0.6
Maximum Insertion Loss (dB) (over the center wavelength ±15nm & -10 to +75°C)	0.5	0.6	0.7	0.6	0.8	0.9
Return Loss (dB), input/output ports	65/65	65/60	60/60	65/65	65/60	60/60
Polarization Sensitivity (dB)	0.05	0.08	0.10	0.08	0.12	0.15
Polarization Mode Dispersion (ps)	0.3			0.07		
Maximum Power Handling (mW)	300			300		
Maximum Tensile Load (N)	5			5		

Reliability Test Specifications

High Temperature Storage Test	85°C for 5000 hours	Max. change: 0.05dB
Low Storage Temperature Test	-40°C for 5000 hours	Max. change: 0.05dB
Temperature Cycling Test	-40°C/85°C, 500 cycles	Max. change: 0.05dB
Impact Test	5 drops, 1.8 meters high, 3 axis	Max. change: 0.05dB

Ordering Information

Standard Oplink Isolators are specified below with appropriate part number options. If you require devices different than these standard devices, please contact your Telewire Supply Sales Representative for ordering and price information

Wavelength	1550 = 5 1310 = 3
Package	8mm x 34mm = 1
Grade	Premium = 1 Prime = 2 Grade A = 3
Fiber Type	900um tight buffer = 1
Fiber length	1 meter = 1
Connector	None = 1

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Optical Receiver Housing Connectors

LRC



Ordering Information

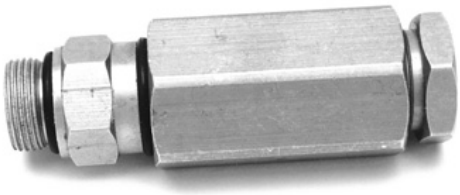
Order No.	Mfg. No.	Description
LRC 159079	51A011	.300 to .400 OD cables
LRC 144192	51A002	.400 to .500 OD cables

Description

Housing connector for fiber cables that terminates cable strength members and performs grounding of sheath within the connector itself.

Optical Receiver Housing Connectors

GILBERT



Ordering Information

Order No.	Mfg. No.	Description
GIL 156430	NS-7270-5	connector military cable
GIL 130118	NS-6335-3	connector .412" feed thru
GIL 126279	NS-6335-1	connector .500" feed thru

Description

Feed thru housing connector for fiber cables. For node housing with internal cable termination facilities.

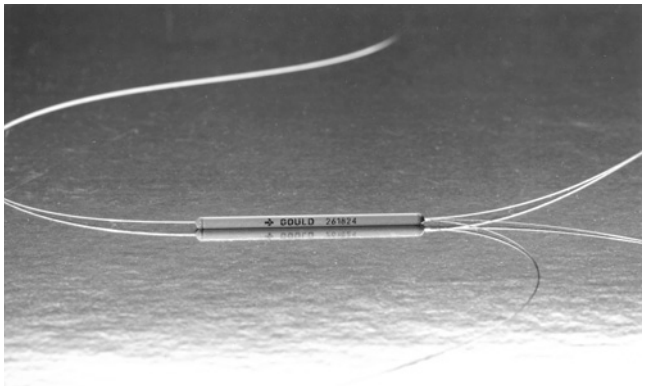
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Wavelength Independent Couplers

GOULD FIBER OPTICS



Description

Wavelength Independent Couplers (WIC™)can be used to split light from one fiber to two, or combine light from two fibers to one, providing high performance across a broad wavelength region (from 1270 nm to 1600 nm). For use in two color OTDRs, full duplex transmission on a single fiber, multicolor sensors, and trunk/loop branching.

Specifications

Insertion loss	3.6 dB	
Bandpass	±40 nm	
Center wavelengths	1310 nm and 1550 nm	
Uniformity	0.8 dB	
Typical thermal stability	±0.1 dB	
Typical polarization stability	±0.1 dB	
Directivity	65 dB for 2 x 2 port configuration 50 dB for 1 x 2 port configuration	
Coupling ratio/insertion loss	desired split ratio	insertion loss
	50/50	3.6
	40/60	4.7/2.7
	30/70	6.0/1.9
	20/80	7.9/1.2
	10/90	11.3/0.6

Ordering Information - 2 Ways

Order No.	Mfg. No.	Description
Non-ruggedized package with 250µ acrylate coated fiber leads. Package will fit in most fusion splice organizer trays.		
GOU 139987	50-10335-50-13000	50/50 split
GOU 139986	50-10335-45-13010	45/55 split
GOU 139985	50-10335-40-13020	40/60 split
GOU 139984	50-10335-35-13030	35/65 split
GOU 139983	50-10335-30-13040	30/70 split
GOU 139982	50-10335-25-13050	25/75 split
GOU 139981	50-10335-20-13060	20/80 split
GOU 139979	50-10335-15-13070	15/85 split
GOU 139975	50-10335-10-13080	10/90 split

Ordering Information - 3 Ways

Order No.	Mfg. No.	Description
GOU 201356	47-40335-13-21201	20/40/40 split
GOU 201355	47-40335-13-31201	30/35/35 split
GOU 201353	47-40335-13-01201	33/33/33 split
GOU 201358	47-40335-13-41201	40/30/30 split
GOU 201357	47-40335-13-51201	50/25/25 split
GOU 201354	47-40335-13-61201	60/20/20 split

Ordering Information - 4 Ways

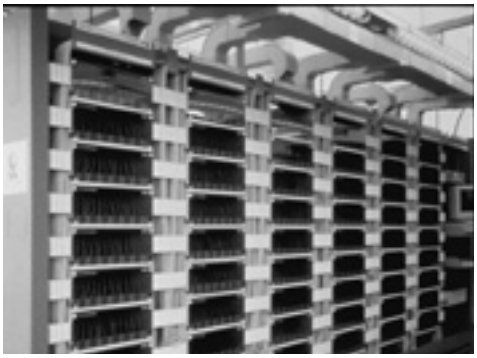
Order No.	Mfg. No.	Description
GOU 150030	23-40331-14-13100	25/25/25/25 split

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LGX® Broadband Fiber Management System

LUCENT TECHNOLOGIES



Features

- Uses Fiber Distribution Bay Frame System — designed for future growth
- LGX CATV Fiber/Equipment Bays — fiber from electronics equipment
- Pre-terminated Shelves — providing fast installation and high performance connections
- Optical Connector Interface — access for optical maintenance/testing
- Jumper Cross Connect — flexible route for equipment rearrangement
- Cable Organization — provides for orderly growth
- Separation of Fiber and Coax — reduced risk of damage to fibers
- Optical Splitter Modules — modules easily accessible for maintenance
- Administrative Database — provides for efficient, centralized network administration

Description

AT&T's LGX® Broadband Fiber Management System is a support system for Cable TV signal distribution, interconnection and management at the headend.

As the number of fibers entering headends continues to increase, greater attention must be given to the management of the fiber terminations and connections to the headend opto-electronic (O/E) equipment. The traditional practice of splicing outside plant (OSP) fiber to fiber pigtails on optical splitters, laser transmitters and receivers is too restrictive when trying to flexibly and reliably manage a variety of services to many optical nodes. Likewise, fiber routing in traditional 19" wide frames is also too confining to accommodate the rapid proliferation of fibers likely to appear at headends in the future.

AT&T's solution to fiber management at the headend and at the optical transition node is the LGX Broadband Fiber MAnagement System. This system consists of modular frames, shelves, cable protection (ducting) and software for terminating, organizing, connecting, splicing, and managing optical fibers. The best hardware is that which allows a service provider to serve customers quickly and economically with high reliability. The system permits rapid and convenient optical connections between O/E equipment. The modularity of the system allows equipment to be installed incrementally and its cable management software improves record keeping and reduces provisioning and service restoration intervals.

Principle Units

- LGX Fiber Distribution Bay
- LGX Electronic Equipment Bay
- LGX OpCenter-2000 Bay
- LGX End Guard

The Fiber Distribution Bay is the focal point of the LGX Broadband Fiber Management System. It provides a flexible interface between outside plant facility cable termination and headend electronic equipment.The fire retardant building cables are routed to the fiber distribution bay either through an overhead cable protection system (duct) or under a raised floor. Mounted on the frame are multiple modular shelves, most of which are used to terminate the incoming cable onto optical connectors. These connectors attach to the rear of a connector panel in the shelves, and thus face the front of the bay. Fiber optic jumper cables plug into these connectors from the front and are routed to optical splitters, lasers and receivers mounted on other shelves in the same frame or in other frames. The bay can be custom configured and pre-assembled to meet specific customer needs, or may be purchased at a component level.

The LGX OpCenter-2000 Bay is the management center of the LGX Broadband Fiber Management System. It provides a platform to house a personal computer and peripheral equipment in a standard bay frame configured as a service management workstation. The bay is ideally arranged for convenient access to the keyboard, mouse, printer and screen. Keyboard and mouse drawers slide out for easy access and slide in when not in use to form a flush profile within the footprint of the frame. A modular console shelf encloses the entire PC. The rear shelf arrangement also provides cable management for all PC connections.

The LGX OpCenter-2000 Bay is typically ordered fully equipped with a PC computer system. AT&T uses an NCR computer with 240 MB hard drive, keyboard and mouse, and a 14" color monitor. It also is pre-programmed with both MS-DOS[1] and Windows[2] software programs that assist in network management and maintenance.

[1] Microsoft
[2] Microsoft

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LGX® Broadband Fiber Management System
Ordering Information
LUCENT TECHNOLOGIES

Ordering Information

Order No.	Item	Comcode	Description
LUC 154552	Network Bay Frame	601 390 271	ED8C501-50 GPI 7 ft. (2.13)H, 23 in. (58.42 cm) W
LUC 154523	LGX FDB Parts	107 136 830	Contains all components necessary to configure a bay frame or fiber cable routing/management. (Network Bay Frame ordered separately)
LUC 154521	LGX EEB Parts	107 136 848	Contains all mounting hardware necessary to configure a bay frame for electronic equipment deployment. (Network Bay Frame ordered separately.)
LUC 154520	LGX End Guard (2 required per lineup)	107 136 897	

For Ordering Information contact your Telewire Supply Sales Representative.

Item	Comcode	Description
LGX OpCenter-2000 Bay	107 136 855	Provides the necessary hardware to adapt a standard 23-inch Network Bay Frame to form an operations bay. This product is a complete operations bay assembly including complete computer system with backup tape and printer, console and monitor shelf, the keyboard and mouse shelf, the utility storage shelf, the upper and lower raceways. (Network Bay Frame ordered separately.)

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Optical Cable Entrance Facility (OCEF)

LUCENT TECHNOLOGIES



Description

The Optical Cable Entrance Facility (OCEF) cabinets are water resistant enclosures intended for storing a large number of fiber splices between Outside Plant and Building type cables in vault locations. The cabinets accommodate AT&T Lightpack, Riser and Building Cable sizes from .236 to 1.025 inch (.599 to 2.064 cm) OD.

The cabinet enclosures are offered in two sizes. The smaller OCEF 1-288/22 is 22 inches (55.88 cm) high and accepts up to 12 Splice Organizers. The larger OCEF 1-720/42 is 42 inches (106.68 cm) high and accepts up to 30 Splice Organizers. Both cabinets measure 30 inches (76.2 cm) wide and 12 inches (30.54 cm) deep. The enclosures are NEMA 4/12/13 Rated - providing a degree of protection against dust, water spray, and hose directed water.

Each cabinet incorporates a hinged, lockable door that is removable. The cabinets accept the standard 26A Work shelf equipped with 136A Brackets.

Removable cable mounting brackets (shingles) are included. Each shingle accepts up to three (3) OSP cables which may be secured with standard 12A type cable clamps. The shingle may be removed for easier, user friendly cable preparation/clamping. The small cabinet contains 48* cable ports (12 in bottom and 18 on each side), while the larger cabinet contains 84 ports (12 in bottom and 36 on each side). Each cabinet has two additional openings in the top for either venting, adding extra shingles or routing fibers to another OCEF.

Features

- NEMA 4, 12, and 13 rated
- Lockable
- Removable door
- Mounting feet for wall mount
- Hardware for installation on Unistrut
- Accommodates any cable size ranging from .236 to 1.025 inches (.599 to 2.604 cm) in outer diameter
- Provisions for mounting the 26A work shelf
- Uses standard 12A cable clamps for strain relief, clamping, and grounding of OSP cables.
- Total cable capacity of 48* cable ports or 84 ports respectively.
- Has two (2) openings in top shelf for venting, stacking, or additional cable entrance capability.

Advantages

- More space efficient
- Reduces cost
- Centralized splicing location
- Contains large number of splices
- Convenient rearrangement capability
- Transition point between OSP cable and fire retardant building cable.
- Fits in most locations.
- Easy administration and identification.
- Quick installation (user friendly).

Applications

- Cable vaults or alternate splice location.
- Local Area Networks
- Manholes (depending on applications)
- Customer premises buildings
- CEVs/Huts

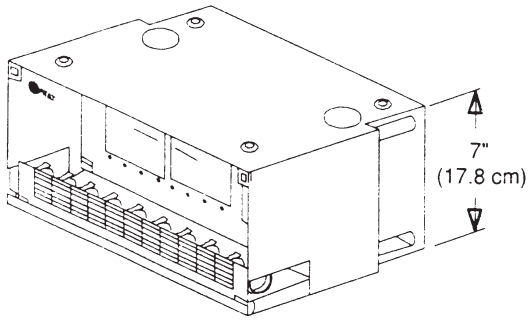
OCEF Dimensions and Capacities

Order No.	Product Code	Size(HxWxD)	Weight	# of Cables	# of Splices
LUC 154567	OCEF 1-288/22	22" x 30" x 12" (55.88 x 76.2 x 30.48cm)	100 lbs (45.5 kg)	48	288(M) 384 (F)
LUC 154564	OCEF 2-288/22	22" x 30" x 12" (55.88 x 76.2 x 30.48 cm)	100 lbs (45.5 kg)	24	288(M) 384(F)
LUC 154560	OCEF 1-720/42	42" x 30" x 12" (106.68 x 76.2 x 30.48 cm)	175 lbs (79.5 kg)	84	720(M) 960(F)
LUC 154559	OCEF 2-720/42	42" x 30" x 12" (106.68 x 76.2 x 30.48 cm)	175 lbs (79.5 kg)	24	720(M) 960(F)

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Lightguide Distribution Shelf

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Description

The Lightguide Shelf Termination (LST) is used for termination of buffered lightguide building cables or direct termination of outside plant fibers. The termination shelf is typically used in combination with splice shelves.

The shelf is equipped with: hinged, smoked transparent, plastic front door and white polycarbonate rear door, universal shelf mounting brackets for frame or wall mount, hinged front mounting panel for fiber terminations, cable clamp brackets for termination of LGB or OSP cables, and blank labels for identifying fiber terminations.

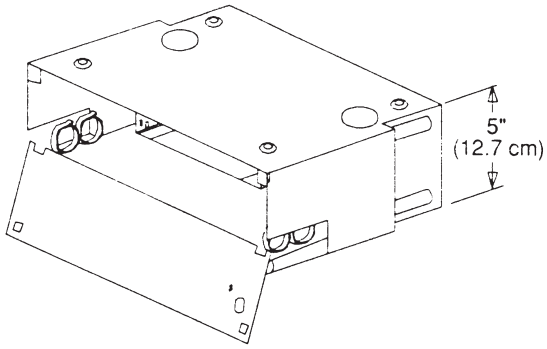
Dimensions: 7" high x 17" wide x 11" deep. OSP cable capacity: 4. Fiber capacity: 72.

Ordering Information

Order No.	Mfg. No.	Description
LUC 141139	LST1U-072/7	Comcode 105 355 871 for direct termination of individual fibers

Lightguide Shelf Splice

LUCENT TECHNOLOGIES



Description A

This Lightguide Shelf Splice is generally used with a termination shelf or in splice-only applications to store individual mechanical or fusion splices. The splice shelf is typically used with the termination shelf.

The shelf is equipped with: hinged front and rear doors constructed of white polycarbonate and equipped with knockouts for optional lock mechanism, universal shelf mounting brackets for frame or wall mount, cable clamp brackets for termination of LGBC or OSP cables, blank labels for identifying fiber splices, and a splice tray housing.

Dimensions: 5" high x 17" wide x 11" deep. OSP cable capacity: 4. Fiber capacity: 72.

Description B

This Lightguide Shelf Splice is generally used with two termination shelves or in splice-only applications to store individual mechanical or fusion splices. The splice shelf is typically used with two termination shelves.

The shelf is equipped with: hinged front and rear doors constructed of white polycarbonate and equipped with knockouts for optional lock mechanism, universal shelf mounting brackets for frame or wall mount, cable clamp brackets for termination of LGBC or OSP cables, blank labels for identifying fiber splices, and a splice tray housing.

Dimensions: 7" high x 17" wide x 11" deep. OSP cable capacity: 4. Fiber capacity: 144.

Ordering Information

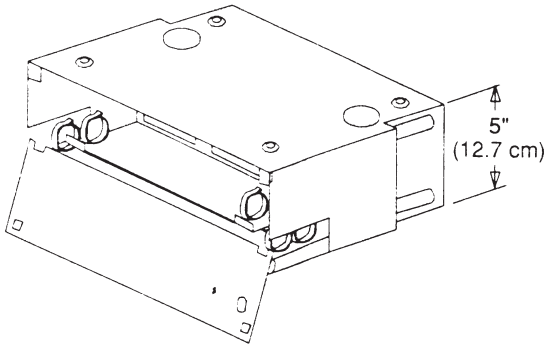
Order No.	Mfg. No.	Description
LUC 135363	LSS1U-072/5	**A** - Comcode 105 355 806 for splicing only of individual fibers
LUC 138022	LSS1U-144/7	**B** - Comcode 105 355 772 for splicing only of individual fibers

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Lightguide Shelf Combination

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Description

This Lightguide Shelf Combination is used for a combination of splicing and termination of outside plant cables or Lightguide Building Cable. The shelf is designed to be used as a termination shelf only (direct connector termination) or used as a splice and termination shelf by using pigtails..

The shelf is equipped with: hinged front and rear doors constructed of white polycarbonate and equipped with knockouts for optional lock mechanism, universal shelf mounting brackets for frame or wall mount, cable clamp brackets for termination of LGBC or OSP cables, blank labels for identifying fiber splices, splice tray housing, and a termination panel that slides out for easy access.

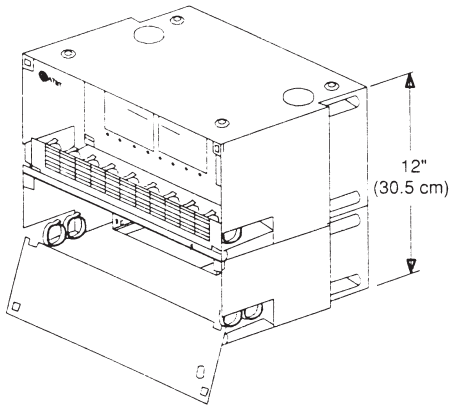
Dimensions: 5" high x 17" wide x 11" deep. OSP cable capacity: 4. Fiber capacity: 24.

Ordering Information

Order No.	Mfg. No.	Description
LUC 135364	LSC2U-024/5	Comcode 106 455 355 for splicing and/or direct termination of individual fibers

Lightguide Distribution Shelf

LUCENT TECHNOLOGIES



Description - A

This Lightguide Shelf Combination is used for a combination of splice and termination of outside plant cables.

The combination shelf is equipped with: splice shelf equipped with hinged front and rear doors constructed of white polycarbonate, termination shelf equipped with hinged smoked transparent plastic front door and white polycarbonate rear door, universal shelf mounting brackets for frame or wall mount, cable clamp brackets for termination of OSP cables, blank labels for identifying fiber splices, splice tray housing, and a hinged front mounting panel for fiber terminations.

Dimensions: 12" high x 17" wide x 11" deep. OSP cable capacity: 8. Fiber capacity: 72.

Description - B

This Lightguide Shelf Combination is used for a combination of splice and termination of outside plant cables.

The combination shelf is equipped with: splice shelf equipped with hinged front and rear doors constructed of white polycarbonate, termination shelf equipped with hinged smoked transparent plastic front door and white polycarbonate rear door, universal shelf mounting brackets for frame or wall mount, cable clamp brackets for termination of OSP cables, blank labels for identifying fiber splices, splice tray housing, and a hinged front mounting panel for fiber terminations.

Dimensions: 21" high x 17" wide x 11" deep. OSP cable capacity: 12. Fiber capacity: 144.

Ordering Information

Order No.	Mfg. No.	Description
LUC 135357	LSC1U-072/12	A - Comcode 105 355 822 for splicing of individual fibers to pigtails and terminating on shelf panel
LUC 148856	LSC1U-144/21	B - Comcode 105 355 798 for splicing of individual fibers to pigtails and terminating on shelf panel

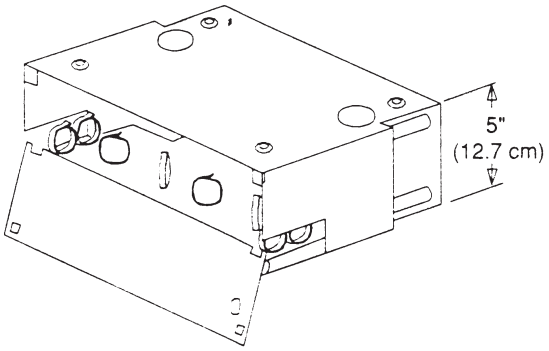
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Lightguide Shelf Jumper Storage

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Ordering Information

Order No.	Mfg. No.	Description
LUC 151940	LSJ1RP-30/7	Comcode 106 587 694 for storage of jumper slack and building cable slack 7" high x 17" wide x 11.5" deep.
LUC 124821	LSJ1U-072/5	Comcode 105 355 780 for storage of jumper cable slack 5" high x 17" wide x 11" deep.

Description - LSJ1RP-30/7

The Lightguide Shelf Jumper Storage is a 7" high shelf assembly that can be mounted into either a 9" or 23" frame. This shelf has a total of six pivoting trays; each will accommodate storage of up to 5 slack storage drums.

Each drum has a maximum capacity of 30 feet of slack jumper length for a total shelf capacity of 900 feet of slack storage. This shelf has the same profile of the LGX® shelves.

Description - LSJ1U-072/5

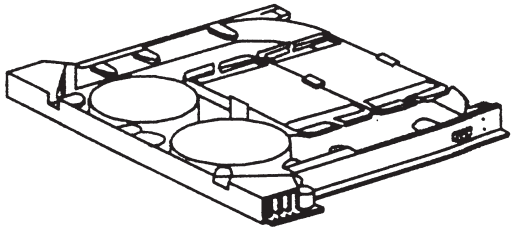
The Lightguide Shelf Jumper Storage is used to store slack in preassembled cross-connect or interconnect jumpers or take up slack in buffered cables routed from equipment or outside plant cables.

The shelf is equipped with: hinged front and rear doors constructed of white polycarbonate and equipped with knockouts for optional lock mechanism, universal shelf mounting brackets for frame or wall mount, and an open interior equipped with slack storage rings.

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Splice Organizer

LUCENT TECHNOLOGIES



Description - A

This splice organizer is used to store mechanical splices; it is perfect for the Rotary Mechanical Splice. Each organizer comes with a roll of tubing and foam strip for routing fibers.

One organizer required per 24 splices.

Description - B

This splice organizer is used to store fusion splices. Fusion splice holders are equipped with magnetic tape and snap-on covers to secure splices in place. Each organizer comes with a roll of tubing and foam strip for routing fibers.

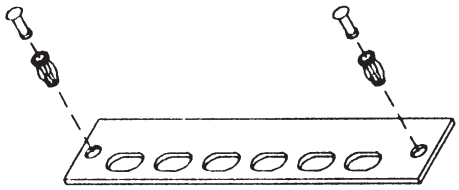
One organizer required per 24 splices.

Ordering Information

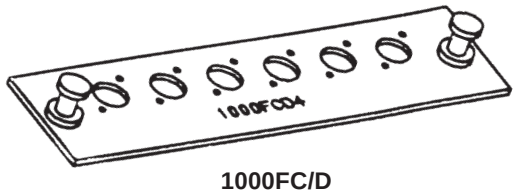
Order No.	Mfg. No.	Description
LUC 135361	LT1A-M/M	**A**-Comcode 105 339 907
LUC 135360	LT1A-F/F	**B**-Comcode 105 339 899

Coupling Panels

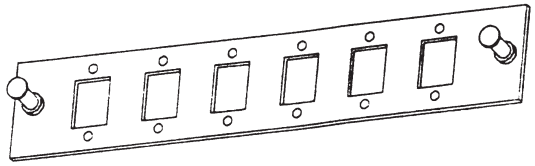
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1000ST



1000FC/D 4



1000 SC1

Description

The **1000ST** is a molded, in-line 6-port panel design which accepts separately ordered ST® couplings. The panel is equipped with snap-in fasteners for quick installation. One panel required per six couplings.

The **1000FC/D4** is an in-line, 6-port panel design which accepts either FC or D4 couplings. It is not for use in 100/200 LIUs. One panel required per six couplings.

The **1000 SC1** panel is used for mounting SC1 couplers in the LGX shelf. It accepts 6 SC1 snap-in or screw-in couplers (couplers to be ordered separately). It is not for use in 100/200 LIUs.

Ordering Information

Order No.	Mfg. No.	Description
LUC 135367	1000ST	Comcode 105 392 005
LUC 145610	1000FC/D4	Comcode 105 428 254
LUC 151546	1000SC1	Comcode 106 372 121

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Passive Optical Component Modules

LUCENT TECHNOLOGIES



Features

- Modules house a variety of passive optical components which offer signal splitting/coupling or multiplexing demulti plexing capability with minimum insertion loss and high device reliability.
- Module design provides a retainer to isolate the optical component from vibration.
- Module ports are pre-connectorized with SC connectors.
- Front access connector ports on modules provide for efficient routing of input and output cabling.
- Vertically oriented modules plug in to standard LGX shelves, enabling incremental application growth and multiple networking options.
- LGX labeling system provided for easy identification of signal sources and output destinations.
- LGX shelf is configurable for both 19" and 23" rack mount capability.

Description

Evolving broadband network architectures will increasingly employ a variety of passive optical components. These components facilitate sharing of a single optical signal among multiple distribution points, or the ability to combine multiple signals for transmission along a single path.

AT&T's passive optical component modules provide LGX® compatible format to reliability and cost-efficiently distribute or combine broadband laser signals within the central office or equipment headend.

AT&T's passive optical component modules consist of plug-in units containing either 1) optical coupler/splitters in 1 x N configurations, with balanced or unbalanced splitting ratios or 2) wavelength division multiplexing (WDM) devices, operating in the 1310/1550 nm region. A module mat house single or multiple passive optical components, with each device port terminated on the front of the module with SC connectors.

Various configurations are available, utilizing different connector types or locations, "double width" modules for devices with >6 ports, and several different types of optical components. The optical components are highly reliable, with low insertion loss performance.

The optical component module shelf design is based on AT&T's proven LGX Distribution Shelf technology. Its mounting panel can accommodate up to 12 single-width (or 6 double-width) modules, thus providing a capacity of 72 ports in each shelf. The shelf also provides a clear, easy to read labeling system for convenient identification of optical input source and output destination. Additionally, the shelf and modules are totally compatible with AT&T's LGX Broadband Network Bay Frame system, thus providing ease in mounting and flexibility in equipment configuration.

Application

- Fiber in the loop (FITL)
- Passive Optical Networks
- Video, voice and data applications in hybrid fiber/coax networks
- Signal splitting or combining
- Capacity upgrade of 1310 nm systems to 1310/1550 nm operation

Single Mode 1 x N Coupler Modules
Optical Performance Specifications -
1 x 2 Single Mode Optical Coupler Modules

Parameter	1 x 2 Wavelength Independent Optical Couplers
Operating Wavelength Window (nm)	1310 and 1550
Bandpass (nm)	1260-1360 and 1480-1580
Operating Temperature Range(°C)	-40 to +85
Coupling Ratios (%)	5-50
Maximum Insertion Loss (dB) for both passbands	3.9
Maximum Uniformity (dB) for both passbands	0.5
Minimum Directivity/Return Loss (dB)	55

NOTE: The specifications listed above do not include the effect of connector loss. Typical connector loss is 0.2 dB. Maximum connector loss is 0.5 dB. The values give above for insertion loss, uniformity and directivity apply to the balanced 1 x 2 device (50/50 split ratio). Specification values for devices with other split ratios is available upon request.

Optical Performance Specifications -
1 x N Single Mode Coupler Modules

Parameter	1 x N Wavelength Independent Single Mode Couplers						
Operating Wavelength Window (nm)	1310 and 1550						
Bandpass (nm)	1260-1360 and 1480-1580						
Operating Temperature Range (°C)	-40 to +85						
Splitting Ratio (%)	Balanced Splitting Ratio						
Configuration	1 x 2	1 x 3	1 x 4	1 x 5	1 x 6	1 x 8	1 x 16
Max. Insertion Loss (dB) for both passbands	3.9	5.9	7.3	8.4	9.3	10.7	14.5
Max. Uniformity (dB) for both passbands	0.5	0.8	1.0	1.1	1.3	1.5	2.0
Minimum Directivity (dB)	55						

NOTE: The specifications listed above do not include the effect of connector loss. Typical connector loss is 0.2 dB. Maximum connector loss is 0.5 dB.

For Ordering Information contact your **Telewire Supply** Sales Representative.

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Fiber Optic Crossconnect

FIBERTRONIX



Applications

- Outside plant grounding and termination
- Cable splicing
- Cable routing
- Interconnect facilities
- Optical coupling for AM distribution systems
- LAN systems

Description

The FiberTronix Fiber Optic Crossconnect (FOX) system is designed to provide an efficient and economical solution for fiber optic cable management and cross-connection. As the number of fibers deployed in Headends, Central Offices, and LAN applications rise, it is increasingly important that cross-connection, splicing and routing of fiber optic cables be done correctly and cost effectively. The FiberTronix solution is to provide a full range of crossconnect and fiber distribution equipment that can accommodate all systems. FiberTronix achieves this with a modular design for future growth. This modularity concept allows for all users to cost effectively "future proof" their system and investment. The FOX line of equipment has taken into consideration the major requirements for deploying thousands of fibers both now and in the future.

To meet the need for flexibility, FiberTronix has designed a modular system comprised of universal mounting shelves that can be equipped with a variety of apparatus for Terminating, Splicing or Coupling applications. FiberTronix system can be either fully equipped initially, or incrementally equipped as required. This provides a full range of choices for the most economical solution to meet the needs for fiber cable distribution and management in all facilities.

FiberTronix FOX system has been developed to meet the environmental requirements of various applications ranging from Central Office fiber distribution systems to Local Area Network (LAN) and other premises distribution systems.

Ordering Information

Order No.	Mfg. No.	Description
FDF and EDF - Fiber Electronic Distribution Frames		
FTX 201580	FDF-7	7' Fiber distribution frame including: upper raceway, lower raceway and vertical management guides
FTX 201579	EDF-7	7' Electronic equipment frame including: upper raceway and lower raceway
OTV - Optical Transition Vault		
FTX 201584	OTV-60-576	Optical transition vault capable of handling up to 576 fusion splices and 60 cable entries
Splice Shelf		
FTX 201605	FOX-7-144-SS	Splice shelf capable of handling up to 144 splices and equipped for terminating and grounding.
Customer Premises Unit (CPU)		
FTX 201609	FOX-CPU-12	Customer or LAN premises unit capable of splicing and terminating up to 12 fibers
FTX 201599	FOX-CPU-24	Customer or LAN premises unit capable of splicing and terminating up to 24 fibers
FTX 201598	FOX-CPU-48	Customer or LAN premises unit capable of splicing and terminating up to 48 fibers.
Accessories		
FTX 201606	FOX-TERM-KIT	Termination kit for mounting and grounding cable for use with CPU's, OTV's and splice shelves
FTX 201608	FOX-SM-ST	Splice tray capable of handling up to 12 single mechanical splices
FTX 201607	FOX-SF-ST201607	Splice tray capable of handling up to 24 single fusion splices
FTX 201600	FOX-MF-ST	Splice tray capable of handling up to 12 mass fusion or ribbon fusion splices.

Pre-termination Shelves	Description
FOX-7-072-XX-XX	72 port pre-termination shelf, with ST, SC, FC and other connectors with 50', 100', or 250' pigtail.
FOX-7-096-XX-XX	96 port pre-termination shelf, with ST, SC, FC and other connectors with 50', 100',150' or 250' pigtail.

See page I-36

Splitter Module	Description
FOX-Specify	Splitter module equipped and ready to be installed in most variations (2-way, 3-way, 4-way, etc.)

See page I 37

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Optical Transition Vault (OTV)

FIBERTRONIX



Features

- 576 splice capacity
- Fusion or mechanical splices
- Modular splice trays
- Outside plant termination
- Water resistant
- Lockable

Description

FiberTronix OTV (Optical Transition Vault) is designed to facilitate cable routing and comply with the National Electric Code, which mandates that all outside plant cables not meeting a plenum or riser rating must be terminated within 50 feet of entering an indoor facility. The FiberTronix OTV provides a cost effective means of making the transition from a non-plenum / riser-rated outside plant cable to an indoor plenum/riser rated cable. The OTV allows for all cables to be properly grounded and strain relieved. The OTV is capable of storing up to 576 fusion splices and 60 entry cables. Cabling and splicing capacity can be easily added by ordering additional splice trays and termination kits. The OTV dimensions are 30"H X 30"D and is shipped complete to be easily wall mounted.

Ordering Information

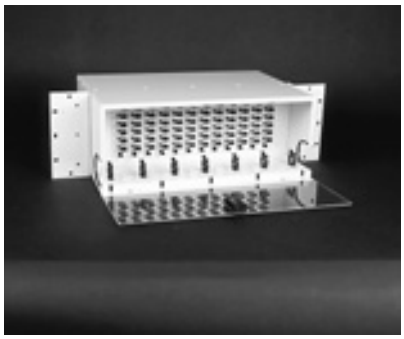
Order No.	Mfg. No.	Description
FTX 201584	OTV-60-720	Optical Transition Vault is capable of handling up to 576 fusion splices and 60 cable entries
FTX 201606	FOX-TERM	Termination kit for cable mounting and grounding compatible with all FiberTronix FOX equipment
FTX 201608	FOX-SM-ST	Splice tray capable of handling up to 12 single mechanical splices
FTX 201607	FOX-SF-ST	Splice tray capable of handling up to 24 single fusion splices.
FTX 201600	FOX-MF-ST	Splice tray capable of handling up to 12 mass fusion or ribbon fusion splices

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Preterm Cabinets

FIBERTRONIX



Ordering Information

FOX - 7 - 072 - SC - 50 - R

- Standard 7" cabinet
- 072 or 96 number of terminations
- Connector type SC, FC, ST (any)
- Pigtail footage 50 ft., 100 ft., 150 ft., 500 ft., (custom length)
- cable type R=Riser, P=Plenum

Call your **Telewire Supply** Sales Representative for pricing and availability.

Features

- LGX® compatible
- 72 and 96 preterm capacity
- Riser or plenum rated cable
- CEV compatible
- Custom cable lengths

Description

FiberTronix provides a variety of cost effective 19/23 inch pre-terminated cabinets. All pre-terminated cabinets are factory installed and tested, reducing timely field installations. FiberTronix cabinets are compatible with LGX® and FOX fiber distribution frames. This allows for interchangeability based on standard EIA patterns. Both 72 and 96 pre-terminated configurations are available for varying fiber distribution needs within a 7 inch EIA panel space.

Plenum and riser rated pigtails are available in 50, 100. 150 and 250 foot lengths. Longer custom length pigtails are available upon request.

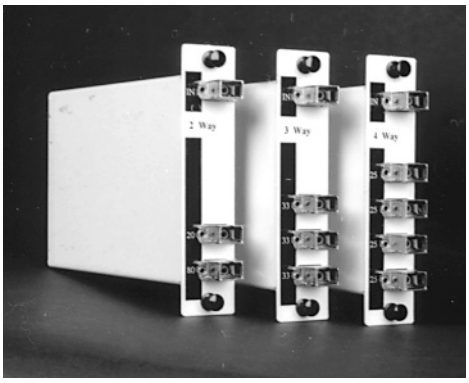
FiberTronix also offers a full selection of standard connector styles, polishes and a partial termination shelf for custom applications. All pre-terminated shelves are ready for immediate field installation. LGX is a registered trademark of AT&T.

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Splitters

FIBERTRONIX



Features

- LGX® compatible
- 1X2, 1X3, 1X4, etc.
- Standard 1310nm and 1550nm
- All connector styles available
- Concatenated designs available
- Full modularity

Description

With laser technology becoming more efficient at deploying signals further into the field, optical couplers are playing a larger role in distributing networks. As a result, fiber management products built around these designs must be flexible and cost effective. Fiber Tronix provides a robust optical splitter module which harnesses quality splitters in an LGX® and FOX compatible package. Each coupling module is fully equipped with bulkhead connectors for immediate installation, reducing timely fusion splicing. In addition, each coupling module clearly identifies input and output along with coupling ratios. By using modular equipment, fragile optical couplers become adequately protected throughout the installation process. FiberTronix modules are easily integrated into the FOX-TERM shelf which can accommodate up to 12 modules. Splitter modules are also easily mounted into all LGX® compatible equipment, reducing conversions and equipment incompatibilities. Also available are custom concatenated designs incorporating two to several optical splitters in one modular package. This allows for a greater utilization of increased laser power, ultimately reducing the usage of costly laser equipment.

Ordering Information

Mfg. No.	Description
2-Way Splitters	
FOX-10/90-XX	module equipped with 10/90 splitter and XX selected adapters and connectors.
FOX-15/85-XX	module equipped with 15/85 splitter and XX selected adapters and connectors.
FOX-20/80-XX	module equipped with 20/80 splitter and XX selected adapters and connectors.
FOX-25/75-XX	module equipped with 25/75 splitter and XX selected adapters and connectors.
FOX-30/70-XX	module equipped with 30/70 splitter and XX selected adapters and connectors.
FOX-35/65-XX	module equipped with 35/65 splitter and XX selected adapters and connectors.
FOX-40/60-XX	module equipped with 40/60 splitter and XX selected adapters and connectors.
FOX-45/55-XX	module equipped with 45/55 splitter and XX selected adapters and connectors.
FOX-50/50-XX	module equipped with 50/50splitter and XX selected adapters and connectors.
3 Way Splitters	
FOX-33/33/33-XX	module equipped with 33/33/33 splitter and XX selected adapters and connectors.
FOX-20/40/40-XX	module equipped with 20/40/40 splitter and XX selected adapters and connectors.
FOX-30/35/35-XX	module equipped with 30/35/35 splitter and XX selected adapters and connectors.
FOX-50/25/25-XX	module equipped with 50/25/25 splitter and XX selected adapters and connectors.
FOX-60/20/20-XX	module equipped with 60/20/20 splitter and XX selected adapters and connectors.
4 Way Splitters	
FOX-25/25/25/25-XX	module equipped with 25/25/25/25 splitter and XX selected adapters and connectors.
FOX TERM SHELF	

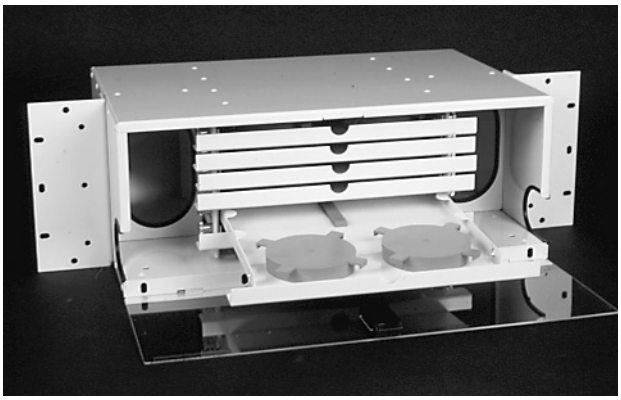
XX selected adapter/connector style SC, FC, ST, D4 etc.

For Order Numbers contact your **Telewire Supply** Sales Representative.

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Splice Shelf

FIBERTRONIX



Features

- 144 Splice capacity
- Fusion or mechanical splices
- Modular splice trays
- LGX® and FOX® compatible
- Outside plant termination and grounding

Description

FiberTronix OTV (Optical Transition Vault) is designed to facilitate cable FiberTronix Splice Shelf is capable of storing up to 144 splices, and is fully equipped to be mounted in either a 19 inch or 23 inch frame. As part of the comprehensive Fiber Optic Crossconnect FOX system, the splice shelf allows outside plant cable to be properly terminated and grounded, and is fully compatible with all other FOX equipment. Each splice shelf is equipped to harness 6 splice trays, handling up to 12 mechanical splices or 24 fusion splices. Splice trays and termination kits are ordered separately, allowing the shelf to be incrementally equipped as required.

Ordering Information

Order No.	Mfg. No.	Description
Splice Shelf		
FTX 201605	FOX-7-144-SS	Splice shelf capable of handling up to 144 splices and terminating/ grounding 4 cables.
FTX 201608	FOX-SM-ST	Splice tray capable of handling up to 12 single mechanical splices.
FTX 201607	FOX-SF-ST	Splice tray capable of handling up to 24 single fusion splices.
FTX 201600	FOX-MF-ST	Splice tray capable of handling up to 12 mass fusion or ribbon fusion splices.
FTX 201606	FOX-TERM-KIT	FOX termination kit for terminating and grounding cable, for use with CPU's OTV's and splice shelves.

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LightLink LL-112 Interconnect Cabinet

KEPTEL



Features

- Dual external bulkheads snap into place on cabinet's sidewall...each bulkhead accepts six adapters
- Single internal bulkhead provides added security... is easily removable and accepts up to 12 fibers
- Optional splicing tray stores 12 fibers on cabinet's sidewall
- Tamper resistant hinged cover with an option of three security styles
- A unique stepped multilevel radius allows for easy storage of fibers

  Lightweight construction permits easy wall mounting
- Keptel's matrix ordering system allows flexible component configuration
- Dimensions 12-1/2"H X 11-1/2"W X 4"D

Description

The Keptel LightLink 112 Interconnect Cabinet provides cross-connect, distribution, splicing, and termination capability for up to 12 fibers. Stacking or side-by-side mounting allows the user to expand to 24, 36, 72, or more fibers. Interconnects up to 24 fibers. It's modular component design accepts all industry standard adapters and connectors. Lightweight durable, flame-retardant engineering thermoplastic alloy construction. Sealed closure design for maximum environmental control.

Ordering Guide

Example:

LightLink 112 - 3 - 6 - 3 - 6 - 3 -12 - H

Basic Unit

1 = None (blank panel)	5 = D4
2 = Biconic	6 = SMA
3 = ST	7 = SC
4 = FC/PC	8 = Other

Number of Adapters / Top Side Bulkhead Panel
Specify number of adapters from 0 to 6;
(example: 6 = six adapters)

Bottom-Side Bulkhead Panel (to accept)

1 = None (blank panel)	5 = D4
2 = Biconic	6 = SMA
3 = ST	7 = SC
4 = FC/PC	8 = Other

Number of Adapters / Bottom-Side Bulkhead Panel
Specify number of adapters from 0 to 6;
(example: 6 = six adapters)

Center Bulkhead Panel (to accept)

1 = None (blank panel)	5 = D4
2 = Biconic	6 = SMA
3 = ST	7 = SC
4 = FC/PC	8 = Other

Number of Adapters / Center Bulkhead Panel
Specify number of adapters from 0 to 12
(example: 12 = twelve adapters)\

Type of Cover Fastener
H = 3/8" Hex Head Screw - Uses 216 Tool
S = Pin-In Hex Socket Security Screw

Jumper / Pigtail Cables and Splice Trays Available

Call your **Telewire Supply** Sales Representative to select the type you require

Hardware Kit Includes

1 — Strain Relief Panel

1 — 3 part Cover Label

12 — Tie Wraps

4 — #8 X 1-14" Mounting Screws

3 — # 10-16 X 5/8" Ground/Strain Relief Screw

3 — # 10 Cup Washer (four prong)

1 — Instruction Sheet

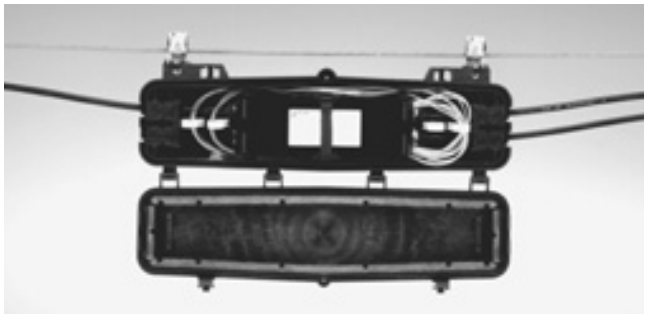
2 — # 10 Bevel Edge Washers

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LightGuard LG-500 Aerial Weather-Tight Breathable Fiber Optic Enclosure

KEPTEL



Features

- Cost effective, lightweight, and flexible
- Routes, stores, and protects up to 72 spliced fibers
- Accepts up to four individual fiber cables (two per end)
- Supports both In-Line and Butt Splice Configurations
- Provides individual cable strain relief and central strength member tie-downs
- Unique back-to-back grommet design and tongue-in-groove seal provide a secure water barrier
- Craft-friendly design requires no special tools or sealants
- No cutting, drilling, or sizing required for cable installation
- Allows installation of additional branch cables without disturbing existing cable entry seals

Description

Keptel's new LightGuard LG-500 72-Fiber Aerial Weather-tight Fiber Optic Closure provides a unique and flexible fiber splicing system for Fiber-In-The-Loop or distribution splicing. Perfect as a transition point for feeding multiple ONU's straight aerial splicing or branch splicing, each LG-500 accommodates excess slack fiber, fusion trays, and routers.

The Keptel LG-500 72 Fiber Aerial Weather-tight Fiber Optic Closure offers a low-cost, lightweight splicing system which provides fiber routing, protection, and security for up to a 72 fiber splice with all ancillary drop cables. The outer case provides self supporting aerial strand hangers and weather protection utilizing Keptel's patented back-to-back sealing grommets. A unique "wick-away" tongue-in-groove case channels water down, out, and away from case joints. The integrated mini frame and tray holder assembly accommodates from one to three fusion splice trays, and provides cable strain relief clamps and central strength member tie downs for up to four cables.

Contents

8 — Cable Grommets
4 — Cable Sheath Clamps
4 — Cable Sheath Clamp Cushions
4 — Central Strength Member Tie-Down Clamps
4 — Slack Fiber Routing Rings
1 — Velcro Fiber Tray Strap
** Fiber Trays (optional)

Accessories

- Metallic Bond Kit
- Additional Organizer Trays
- 1 X 6 Fiber Router
- Spiral Wrap

Specifications

Dimensions	25"L X 5"W X 4"D
Weight	6.4 lbs.
Number of ports	2 each end, 4 total
Accommodated cable diameters	Min. — 3" (7.62mm) Max. — .65" (16.5 mm)

Ordering Information

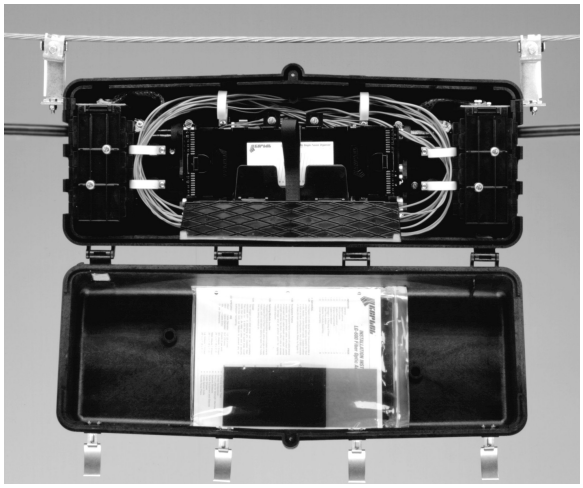
Order No.	Mfg. No.	Description
KEP 250514	LG-500	72=Fiber Aerial Weather Tight Fiber Optic Closure (91846)

For accessories see page **I** 42.

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LightGuard LG-600 Aerial Weather-Tight Breathable Fiber Enclosure

KEPTEL



Features

- Lightweight, Flexible Aerial Fiber Closure
- Accepts up to six individual fiber cables, three per end
- In-Line or Butt splicing capability
- Removable splice tray stacker accommodates one to six trays
- Ability to store up to 144 spliced fibers
- Convenient fold-down splicing table
- Fully integrated frame provides cable strain relief and strength member tie-down
- Unique back-to-back grommet design provides secure water barrier
- Cover is fully removable without disturbing installed cables
- Expandable

Contents

- Covers
- Grommets (12)
- Frame Kit
- Organizer Trays (3)
- Tray Stacker

Accessories

- Metallic Bond Kit
- SPlicing Table
- Spiral Wrap
- Additional Organizer Trays
- Routers

Description

Keptel's new LightGuard LG-600 Aerial Breathable Fiber Closure provides a unique and flexible fiber splicing system for fiber, feeder, trunk or distribution cable. Perfect as a transition point for feeding multiple ONU's or straight aerial splicing, each closure accommodates excess slack fiber, fusion trays and routers.

The LG-600 Aerial Fiber Closure offers a low-cost splicing system made up of three integrated parts; a removable splice tray stacker, a fully self supporting frame and an outer cover assembly. The frame assembly holds from one to six cables, entry/exit port cable sealing grommets and storage for up to a 216 fiber balloon splice with all ancillary drop cables. Cover assembly and additional cables are easily added or removed without disturbing existing cables. The closure is upgradable to splice 216 fibers by adding a larger tray stacker and front cover.

Ordering Information

Order No.	Mfg. No.	Description
KEP 250515	LG-600	216 Fiber Aerial Weather Tight Fiber Optic Closure (91801)

For accessories see page **I** 42.

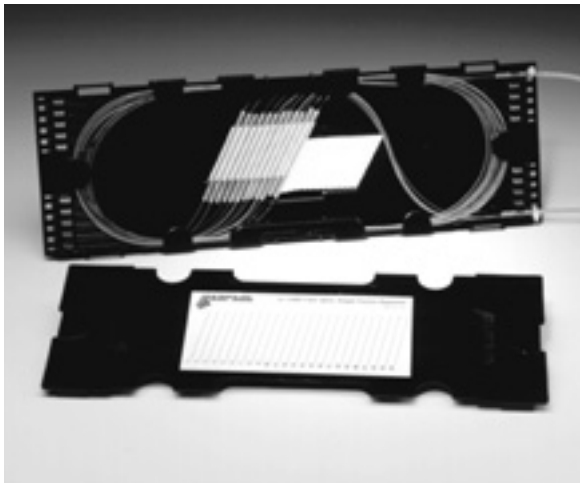
TeleWire SUPPLY AN ANTEC COMPANY

SOUTHEAST: Norcross, GA **800-433-3765** | SOUTHWEST: Irving, TX **800-643-2288** | EAST: Rockaway, NJ **800-458-4524** | WEST: Santa Ana, CA **800-227-2869** | MIDWEST: Rolling Meadows, IL **800-428-7596**

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Universal Fiber Optic Organizer (UFO-O)

KEPTEL



Features

- Interchangeable inserts allow for single fused, mass fusion ribbon or mechanical type splices
- Accommodated up to ten buffer tubes per side
- Pre-molded snaps securely hold buffer tubes while splicing
- In-line or butt splicing capability
- Pre-formed radiuses maintain fiber bend requirements
- Interlocking base and cover provides tray stability without the use of a bolt
- Extended finger guides easily store and route loose fiber or ribbon
- Molded in high visibility black to easily identify individual fibers
- Maintains the low profile of a metal tray
- Fits into existing fiber closure applications

Description

Keptel's Universal Fiber Optic Organizer offers a unique & flexible fiber optic splice and storage system. Molded out of high impact black thermoplastic, each organizer provides the capability to store 24 single-fused, 12 mechanical or 4 mass fusion ribbon with six spare single fused fiber sleeves via a set of interchangeable molded inserts.

Each Universal Fiber Optic Organizer can be field configured to fit specific applications. Available in three industry standard configurations (mechanical, fusion, or ribbon) or as a totally universal kit, the Lightlink Series of Fiber Organizers provides the most flexible and universal fiber storage system available.

Accessories

Universal Adapter Plates

Special adapters allow the UFO-O to be used with most existing outdoor closures including those manufactured by AT&T, 3M, Preformed & ANTEC Fiber Pak Plus. Consult your Telewire Sales Representative for information and Part Numbers.

Ordering Information

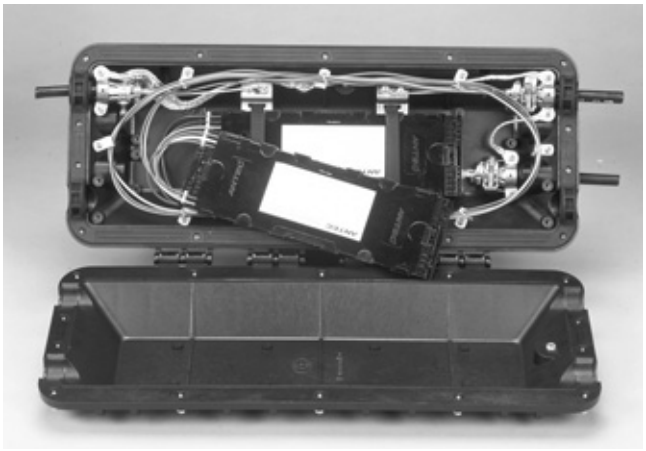
Order No.	Mfg. No.	Model No.	Description
KEP 202698	91712	LL1200	Fiber Optic organizer for 12 mechanical splices
Contents			
1 — Molded Base			1 — Fiber Identification Label
1 — Molded Deep Cover			10 — Tie-wraps
1 — Mechanical Slice Insert			1 — Installation Instruction Sheet
KEP 202699	91710	LL2400	Fiber optic organizer for 24 single-fused fiber sleeves
Contents			
1 — Molded Base			1 — Fiber Identification Label
1 — Molded Shallow Cover			10 — Tie-wraps
1 — Single Fusion Slice Insert			1 — Installation Instruction Sheet
KEP 202700	91711	LL4800	Fiber optic organizer for four mass fusion ribbon fiber sleeves, plus six spare single fusion fiber sleeves
Contents			
1 — Molded Base			1 — Fiber Identification Label
1 — Molded Shallow Cover			10 — Tie-wraps
1 — Single Fusion Slice Insert			1 — Installation Instruction Sheet
KEP 202701	91707	LL8400	Universal fiber optic organizer system provides the flexibility to field configure for 12 mechanical, 24 single fusion, or four ribbon mass fusion fiber sleeves
Contents			
1 — Molded Base			10 — Shallow Fiber Finger Retainers
1 — Molded Deep Cover			10 — Deep Fiber Finger Retainers
1 — Molded Shallow Cover			3 — Fiber Identification Label
1 — Mechanical Slice Insert			8 — Ribbon Fiber Strain Reliefs
1 — Single Fusion Slice Insert			10 — Tie-wraps
1 — Mass Fusion Ribbon Slice Insert			
1 — Installation Instruction Sheet			
KEP 202702	91724		Self-adhering adjustable strap kit. Securely holds down from one to sixteen Fiber OPtic Organizers
Contains			25 — Adjustable Straps
KEP 202703	91751		1 X 6 fiber router provides the ability to split one buffer lube to six independent channels. Each router contains the same built-in snaps that the fiber tray offers.

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FiberPak PLUS
Fiber Splice Enclosure

ANTEC





Features

- 8 central strength anchor posts
- Buffer tubing clips help organize fiber routing paths
- Cable retention bond clamps will withstand up to 150 lbs. of tension
- Maximum 8 cable entry ports
  - Basic model number is equipped for 3 ports
  - Optional port expansion kits provide additional equipped ports
- Velcro straps securely hold tray in place
- Durable, yet lightweight, hinged cover and base add strength without excessive bulk.
- 3/8" stainless steel captive bolts are accessible using a nut driver or can wrench
- Dry, permanent peripheral grommet seal allows easy re-entry by eliminating the need for adhesives
- 24 - fiber count single splice trays can be stacked 12 high
- 48 - ribbon fiber count splice trays can be stacked 9 high
- Grommets seal cable diameters from 0.23" to 1"

Description

The FiberPak PLUS fiber optic splice enclosure was designed for simplicity, flexibility, and durability. FiberPak PLUS allows you to easily install, seal, and protect your fiber splices in either an in-line or butt configuration. To facilitate assembly and accessibility, sealing and re-entry do not require special tools or adhesive processes. Units mount easily during strand, pole, and upright or low profile cabinet installations. FiberPak PLUS is expandable to hold up to 288 single fusion splices or 432 ribbon fiber splices and from 3 to 8 cables.

Testing

The FiberPak PLUS meets or exceeds the 1995 Bellcore GR-77-CORE Generic Requirements for Fiber Optic Splice Enclosures.

FiberPak PLUS includes

Closure with 2 trays for 48 single fusion splices (Model No. 8248), or 2 trays for 96 ribbon fiber splices (Model No. 8269R), grips, ground wire and grommets for 3 cables, ranging in diameter from 0.23" to 1", along with 3 fiber splitters, and 8 feet each of 12 color flexible buffer tubing.

Specifications

Cable Pull Strength	150 lbs.
Dimensions	24.5"L x 10.7"W x 4.7"D
Shipping Weight	Under 8-1/2 lbs.
Splice Capacity	288 with 12 Model No. FP-24 single fusion tray 432 with 9 Model No. FP-48R ribbon fusion splice trays
Butt-type or	8 cable ports (4 on each end) **in-line assembly**
Closure Material	Glass reinforced engineering resin with UV stabilizer

Ordering Information

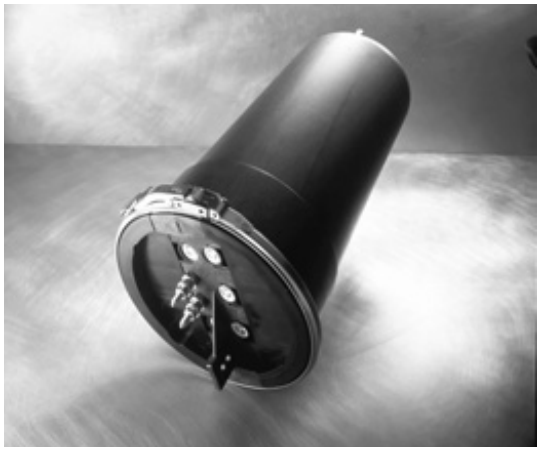
Order No.	Mfg. No.	Description
ANT 154731	8248	Single fusion splice closure
ANT 250095	8296R	Ribbon fusion splice closure
Expansion Options		
ANT 154426	BP-CEK	BufferPak Cable expansion kit
ANT 154456	FP-24	24 single fusion splice tray
ANT 250022	FP-48R	48 ribbon fusion splice tray
ANT 250194	FP-12M	12 mechanical splice tray
Tools		
SAC 048163	SC-50	3/8" to 7/16" can wrench

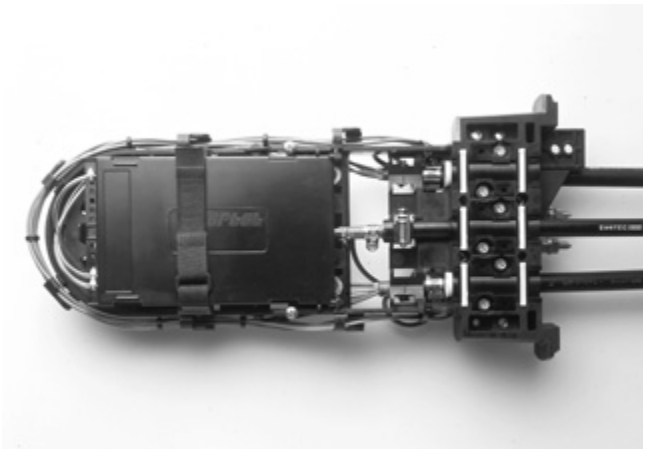
Note 1: Specifications are subject to change without notice.
Note 2: FiberPak PLUS is not recommended for underwater applications.

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MiniPak Fiber Splice Enclosure

ANTEC





Features

- Independent cable ports for individual sealing and retention.
- Common or isolated grounding/bonding.
- Strength member clamps
- Integral splitting and storage compartment
- Loose Tube Application
  - Transition area from stiff to soft buffer tubing
  - Splitting area for more than one splice tray
- Central Tube Application
  - Splitting and transition area of bare fibers to soft buffer tubing
  - Storage area for expressed bare fibers
- Loose tube express routing clips
- Maximum of 5 cable ports
  - Basic model equipped for three ports
  - Optional port expansion kits available
- Single / Ribbon Fusion splice tray (12 single / 48 ribbon)
- Velcro straps to securely hold trays in place

Description

The MiniPak fiber optic splice enclosure is designed to simplify splice management and provide a low cost solution to your tapered down splicing needs. This re-enterable closure eliminates special tools, heat adhesives, drills, power re-entry equipment and complicated instruction manuals. MiniPak is expandable to hold up to 36 single fusion splices or 144 ribbon fiber splices to allow for growth.

Testing

The MiniPak meets or exceeds the current Bellcore Generic Requirements for Fiber Optic Splice Enclosures.

Specifications

Cable Pull Strength	150 lb.
Water Immersion	20 feet deep
Dimensions	19” Long x 8.75” Diameter
Shipping Weight	10.5 lb.
Splice Capacity	36 with 3 - MP-1248 Single Fusion Splice Trays 144 with 3 - MP-1248 Ribbon Fusion Splice Trays Polyester (PBT) Plastic

Ordering Information

Order No.	Mfg. No.	Description
ANT 250871	AC36	MiniPak
ANT 250947	MP-CEK	Cable Expansion Kit
ANT 250948	MP-1448	Additional Mini-Splice Tray

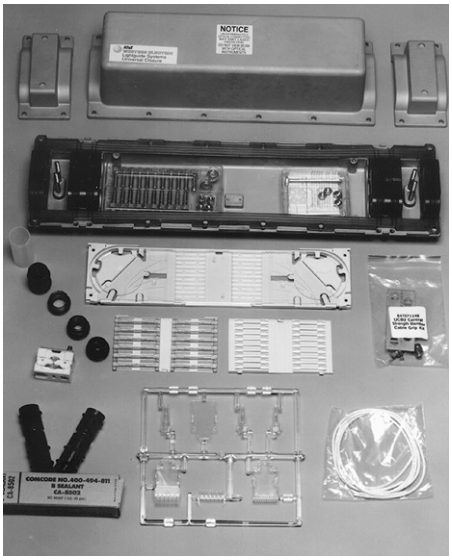
Note 1: Specifications subject to change without notice.

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UCB-1, 2, and 3 Enclosure Kit

LUCENT TECHNOLOGIES



UCB-2 Shown

Description

The Universal Fiber Optic Closure, UCB-1, is a cast-metallic housing which holds a number of components, each of which is designed to meet a specific splicing need. It may be ordered in kit form as a UCB-2 or USB-3 for single fiber splicing, or as sets of components for custom applications. The approximate dimensions of the closure are 23Ó (58 cm) long, 6Ó (15.3 cm) wide, 5Ó (12.7 cm) high and a weight of 7 pound (3.2 kg.)

Applications

The UCB-1 is designed to meet the needs of all fiber optic splicing applications and environments: • Aerial, • Vault, • Building.

The UCB-1, when teamed with the UCB Outer Cover or the 2000LG Series Fiber Optic Closures, provides organization and protection for splices in the more demanding environments: • Buried, • Underground, • Corrosive Aerial, • UCB-2 Closure Kit.

Contains all components necessary to complete a 48 single-fiber splice installation. Fits all outside plant cables from .40"to .96" (11 mm to 24.4 mm) OD.

Contents of Enclosure Kit

Base	1
Cover	1
Clamps	2
Wooden Paddle	1
Racetrack Grommet	1
3 oz. Tube B-Sealant	1
Instruction Book	1
Foam Block	2
Grommet Plug	2
Isolation Kit	1
1/4 - 20 Screws	20
1/4 - 20 Nuts	4
Washers	2
Barrier Card	1
UC-4096 Grip & Grommet Kits	2
UC-SS/FM Organizer	2
Organizer Adapter Kit	1
Central Strength Member Kit	1

Ordering Information

Order No.	Item	Comcode	Description
LUC 089090	UCB-1	103 921 946	Standard UCB-1 Closure
LUC 148618	UCB-2	106 896 699	UCB-2 Closure Kit Includes all necessary components to splice two cables, of any design from .4Ó to .96Ó (11 mm to 24.4 mm) outer diameter. The splice capacity of this kit is 48 single fiber splices.

Item	Comcode	Description
UCB-3	107 163 263	UCB-3 Closure Kit Includes all necessary components to splice two unit cables from .4Ó to .80Ó (11mm to 20.3mm) outer diameter. It will accommodate 72 single fiber fusion splices.
F90AK8522	106 301 542	UCB-1 Single High-rise cover High-hat Capacity: 12 trays - 288 fusion (216 Rotary)
F90AK8537	106 305 881	UCB-1 Closure with High-rise Cover ÒHigh-hatÓ Capacity: 12 trays - 288 fusion (216 Rotary)
F90AK8523	106 301 534	UCB-1 Double High-rise Cover ÒHigh-hatÓ
F91AK8598	106 494 859	Four Cable Expander Includes gasket, long bolts, and grounding clips. Capacity: 8 cable entry ports.

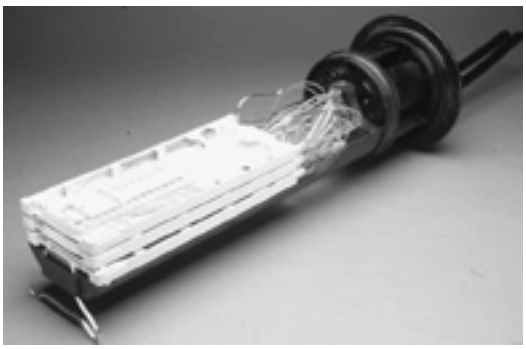
For Ordering Information call your **Telewire Supply** Sales Representative

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2600LG/SC Fiber Optic Enclosure

LUCENT TECHNOLOGIES





Description

The 2600LG Fiber Optic Closure is a general purpose splice closure. It consists of a reinforced thermoplastic stand-alone envelope and an end plate assembly with corrosion resistant hardware. The closure will accept six cables in a butt configuration. The 2600LG has a capacity of 288 individual fiber splices or 576 fiber splices using mass fusion or mass mechanical splices.

Splice organizer trays are available for 24 or 36 individual fiber splices. They will store interchangeable rotary mechanical, fusion, AT&T CAL LightSplice® System and most other commonly used splices. The36 fiber splice tray will accommodate non-polish mechanical or fusion splices only. Organizer trays are also available for mass fusion or mass mechanical splices and ST® connectors.

Multi-range grommet and grip kits are available for a wide range of cable sizes and types. A bonding and grounding kit is available for metallic cables. The approximate dimensions are 30" (76.2 cm) long, 9" (22.86 cm) wide and a weight of 16 pounds (7.2 kgs).

Applications

The 2600LG Closure is designed for aerial, buried, handhole or underground placement. The robust design provides high reliability and protection in all outside plant environments. Kits of parts are available to handle nearly any combination of cables and splices desired. The simple, straightforward design allows easy assembly and re-entry using only common hand tools.

Advantages

- All cable and endplate seals composed of resilient materials — no mastic tapes or cords required
- Easy one bolt closing or re-entry, no expensive tools or consumable kits.
- Efficient, logical design for fiber/ribbon routing, storage, organization, and protection.
- Designed to easily accommodate express fibers or ribbons
- State-of-th-art materials used throughout to assure reliability and performance.

Features

- One closure for all outside plant applications — minimizes inventory requirements.
- Up to six cable entries in an efficient butt design — convenient for splicing in a van or crowded manhole.
- Variable diameter range grommets reduce stocking of parts kits.
- Reliable dual seal design — both cable jacket and core tube(s) sealed.
- Designed and tested to withstand a 30 foot (9.15 meter) water head
- 2-inch fiber bend radius carefully maintained
- Universal bonding and grounding kit for all metallic sheath cables.
- Limited encapsulated (1900 gram kit) between endplates.
- Includes and integrated fiber/ribbon breakout device
- Convenient pressurization ports for flash testing.
- Complete, detailed instructions included — no formal re-training needed.

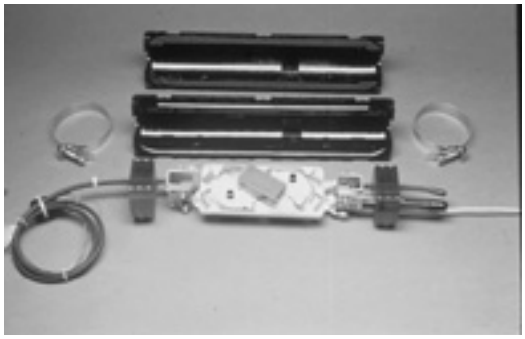
Ordering Information

Order No.	Mfg. No.	Description
LUC 251039	2600LG/SC1	Base Closure
This closure contains the Closure Base and Cover, Grommet Retainer, Seal Kit, Seal Lubricant, Encapsulant Wrap and instructions. Product Code: 2600LG/SC1. Quantity required: one per splice location		
LUC 139610	2600LG/SC2	Closure Kit
The closure kit (1)2600LG/SC1 Base Closure (105 578 595), (1) 0.4-to .85-inch (10 to 20 mm) Grommet and Grip Kit (846 280 683), (2) 24-Splice Trays (846 280 642), (2) D-182212 Bonding Kits (105 694 038), and (1) T-Bolt and Nut (846 579 357). Product Code: 2600LG/SC2		
LUC 202690	2600LG/SC3	Closure Kit
The closure kit contains (1) 2600LG/SC1 Base Closure (105 578 595), (1) 0.4- to .85- inch (10 to 20 mm) Grommet and Grip Kit (846 280 683), (2) 36-Splice Trays (846 633 303), and (2) D-182212 Bonding Kits (105 694 038). Product Code: 2600LG/SC3		

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2418 Fiber Optic Splice Enclosure

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Features

- A stand-alone closure designed for aerial and pedestal applications
- Closure packaged with all necessary components in one box.
- Closure capacity up to 18 fusion splices.
- Small efficient size makes splicing more convenient.
- Can be used for straight or butt splice configurations.
- Simple installation with ordinary hand tools.
- Designed to be used with lower cost small fiber count cables.

Description

The 2418 Fiber Optic Distribution/Drop Closure is a small splice closure designed for use in drop applications. It consists of two reinforced thermoplastic cover halves held together by three stainless steel clamps. It can accept up to cables per end with-in the size range of 0.23 - 0.36 inches (6 - 9 mm) O.D. All materials required for the sealing, attachment, bonding and grounding of the cables are included in the closure kit. Flexible polyurethane grommets are used to seal the cable entry ports. The closure is equipped with splice holders that will accommodate a total of 18 single-fiber fusion splices. The closure's dimensions and weight are 13 inches (33 cm) by 3.75 inches (9.525 cm) and 3 pounds (1.35kg).

Applications

The 2418 Fiber Optic splice closure is designed for distribution system applications. The small size and easy installation of the closure make it suitable for those applications which require small fiber count cables to be placed. It is especially well suited for Fiber to the Subscriber projects in CATV and Telephony applications. The closure is designed and tested for above ground applications such as aerial and pedestal installations.

Advantages

- State-of-the-art materials used throughout to assure high performance and reliability.
- Easy to order and install with no additional parts required
- High splice capacity in small compact design
- Small size allows installation in areas where space is limited
- One closure design can be used in different configurations
- Use of ordinary hand tools limits the capital investment and training needed for installation
- Economical choice for small fiber count cable applications

Ordering Information

Order No.	Item	Comcode	Description
LUC 155575	2418LG	107 190 845	Splice Closure Package

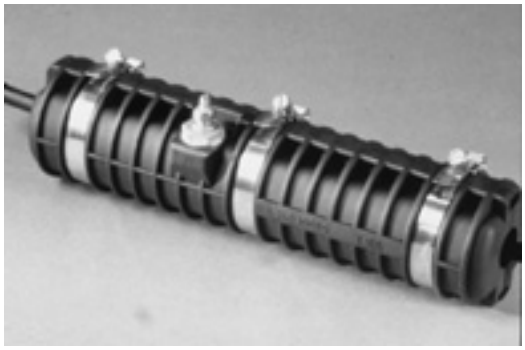
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2400 LG Grounding Enclosure

LUCENT TECHNOLOGIES





Description

The 2400 LG grounding closure is designed to provide lightning and power cross protection for AT&T LXE cable. Even though lightguide fibers do not conduct electrical current, AT&T LXE cable requires grounding because it contains steel armor for rodent and lightning protection. The 2400 LG closure provides a means of terminating the steel armor and steel strength members of LXE cable by connecting it to earth and/or building grounds. The closure is completely sealed to prevent entry of moisture or contaminants.

The 2400 LG grounding closure may be used outside or installed inside the headend or hub location.

For LXE cables with 48 or fewer fibers, order the 2400LG/48 closure which comes complete with grommets and grips. If the LXE cable has 49 or more fibers, order the 2400LG/00 closure and the D-181940 grommet and grip kit.

2400LG/48 FA

This closure contains the complete grounding closure assembly for use in 0.48 or 0.50 inch metallic cables. It is suitable for aerial or building entrance applications. Includes all grommets and grips.

2400LG/00 FA

This closure consists of the bonding and grounding closure two 0.58 inch grip assemblies, two 0.4 to 0.7 inch grommets, two 0.48 inch bonding lugs and two large LXE bonding clips.

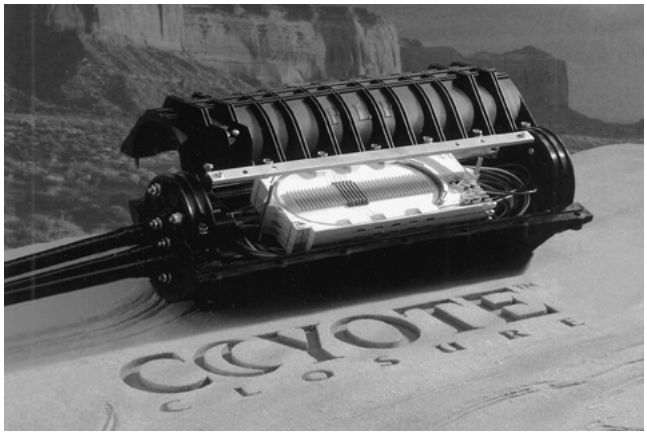
Ordering Information

Order No.	Mfg. No.
LUC 200616	2400LG/48 FA
LUC 200615	2400LG/00 FA
LUC 202691	2400-LG36
This closure contains the complete Grounding Closure assembly for us with 0.36-inch (9 mm) metallic cables.It is suitable for aerial or building entrance applications. Includes all grommets and grips.	
LUC 202692	2400-4070
This closure contains the complete Grounding Closure assembly for use with 0.40-inch to 0.70 inch (10 mm-18 mm) metallic cables. It is suitable for aerial or building entrance applications. Includes all grommets and grips.	
LUC 202693	2400-7010
This closure contains the complete Grounding Closure assembly for use with 0.70-inch to 1.0- inch (18 mm-26 mm) metallic cables. It is suitable for aerial or building entrance applications. Includes all grommets and grips.	

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Coyote Enclosure™

PREFORMED



Description

Designed to set the standard for the next generation of closures, the COYOTE™ Closure is a whole new breed of fiber optic closure. Craft-friendly, affordable, reliable and durable, the product has been tested in accordance with Bellcore Requirement TA-NWT-000771 for voice, video and data traffic applications. Its compact size contradicts its storage capacity. At just 22" long, 6.0" and 8.5" in diameter, it can store up to 288 or 576 fiber splices respectively. Available for both sealed and free-breathing applications, the COYOTE™ Preformed products are packaged to order to meet the customer's specifications.

Ordering Information

When ordering COYOTE™ Closures you may choose from one of the packages shown below, or use FLX-Pack System to accommodate your specific communications application.

Design Features

1. Fiber management system includes splice trays for mass or single fusion mechanical splicing.
2. Three-section End Plate has six cable entry ports, captive hardware, strength member tie-off, isolated grounds and requires no field drilling. Closing and re-entry are simple; closing hardware is captive so there are no loose parts to keep track of, and the torquing sequence is molded into the shell for easy reference.
3. Durable glass-filled high-density thermoplastic shells. Two diameters, 6.0" and 8.5". Built-in shell stabilizers and air valve.
4. Field-proven, permanent neoprene gasket sealing system. No re-entry kits needed. No flame required to break the seal or to install.
5. LOCK-TAPE, Sealing System ensures a tightly, permanently sealed End Plate assembly and maximum shear strength to resist cable pull out.

As part of the FLX-Pack System, accessory kits are available and will be included in your COYOTE™ Closure package when ordered

Ordering Information

Order No.	Mfg. No.	Description
PFB 202589	**8006540**	6.0" x 22.0" Closure Kit (for unitube type fiber applications) Includes one Three-Section End Plate, one Blank End Plate, and Transition Compartment Kit
PFB 202590	**8006541**	8.5" x 22.0" Closure Kit (for unitube type fiber applications) Includes one Three-Section End Plate, one Blank End Plate, and Transition Compartment Kit
PFB 202591	**8006560**	6.0" x 22.0" Closure Kit (for buffer tube fiber applications)Includes one Three-Section End Plate, one Blank End Plate, and Storage Compartment Kit
PFB 202592	**8006561**	8.5" x 22.0" Closure Kit (for buffer tube fiber applications) Includes one Three-Section End Plate, one Blank End Plate, and Storage Compartment Kit
PFB 202593	**80805509**	Tray splice kit - no inserts
PFB 202594	**50505512**	Accessory 2 inserts for blank tray each insert holds 12 fusion splices
PFB 202595	**80805513**	Accessory - 3 inserts for blank tray each insert holds 12 fusion splices
PFB 202596	**80805514**	Blank tray with 3 inserts for fusion splices
PFB 202597	**80805110**	Splice Tray Kit - Single fiber (36 count). Includes one tray, splice count label, tie wraps and felt strips
PFB 202598	**80805146**	Splice Tray Kit - Mass fiber. Includes one tray, splice count label, tie wraps, felt strips and guide wire kit
PFB 202600	**80805112**	6.0" x 22.0" Transition Compartment Kit
PFB 202601	**80805113**	8.5" x 22.0" Transition Compartment Kit
PFB 202602	**8003280**	Transition Tube Kit
PFB 202603	**80805262**	6.0" x 22.0" Loose Buffer Tube Storage Compartment Kit
PFB 202604	**80805263**	8.5" x 22.0" Loose Buffer Tube Storage Compartment Kit
PFB 202605	**80805293**	Transport Tube Kit. Includes six transport tubes
PFB 202606	**80805258**	6.0" x 22.0" COYOTE Shell Kit
PFB 202607	**80805259**	8.5" x 22.0" COYOTE Shell Kit
PFB 202608	**80805105**	Three-Section End Plate Kit Includes four plugs and two strength member terminators
PFB 202609	80805106	Parts bag for 3 section end plate
PFB 202610	8003289	Future cable port kit 1/2" (1.27cm)
PFB 202611	8003254	End Plate Plug Kit - two per kit
PFB 202612	80805260	Blank End Plate Kit
PFB 202613	80803448	Moisture Blocking Sealant Kit
PFB 202614	80805305	Lock tape sealant kit
PFB 202615	80805238	Cement 2 oz. tube
PFB 202616	80805107	Strength Member Bracket Kit - two per kit
PFB 202617	80805431	Ext. strength member kit
PFB 202618	8003360	Bonding Braid kit
PFB 202619	8003281	External Bond Clip Kit - two per person
PFB 202620	80805286	Bracket Adapter Kit for AT&T Bond Connector - four per Kit
PFB 202621	8003325	Aerial hanger bracket kit
PFB 202622	8003279	Manhole Support Bracket Kit

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Prairie Dog™ Enclosure

PREFORMED



Ordering Information

Order No.	Mfg. No.	Description
PFB 202623	8001115	4" x 21.5" 1-18 splices predrilled 2 - 5/8" holes and one future cable entry port 1/2" one 8001096 tray and 3 "L" brackets
PFB 202624	8001116	4" x 21.5" 1-96 splices predrilled 2 - 5/8" holes and one future cable entry port 1/2" one 8001096 tray
PFB 202625	8001096	Splice Tray, Holds 18 fusion splices
PFB 202626	8001098	Splice Tray, For mechanical splices
PFB 202627	8003369	Predrilled end plate two 5/8" holes one future cable entry port 1/2"
PFB 202628	80804994	Aerial hanger bracket for 4.0" x 21.5"

Description

A cost-effective closure for fiber in the Loop and other small fiber count applications. The Prairie Dog™ closure incorporates the existing preformed end plate system and Fiberlign Organizer with a new one piece dome type shell. A re-enterable watertight seal is formed by slipping the neoprene sealing ring over the end plate and tightening the external clamp assembly.

Each Prairie Dog™ Closure comes complete with end plate assembly, shell, organizer assembly, neoprene sealing ring and closing clamp. The Prairie Dog™ may be ordered with or without a Splice Tray. The 4.0” x 21.5” Closure can also be ordered without a mainframe and transition tube kit, for node and end of line splicing applications.

There are two types of Splice Trays offered. The Standard Tray, which is thermal-formed and available for all closures and splicing applications and the new Adobe Splice Tray which is a sturdy lower cost alternative. The Adobe Splice Tray is interchangeable with many of the Standard Trays. The Prairie Dog™ closure is an ideal choice for both mechanical and protected fusion applications handling for capacity counts ranging from 48 discrete up to 96 ribbonized fibers.

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FibrDome Enclosure
3M



Description

3M™ FibrDome Closures protect fiber optic splices from the elements while providing fast and easy no-cost reentry. These closures can be installed in above-ground pedestals, handholes, and mounted on poles and strands. The FibrDome closure utilizes proven sealing technology and over 30 years experience with copper protection.

Fiber splices are enclosed in a polypropylene dome that is clamped together with a stainless steel latch and sealed with an O-ring. Pre-stretched tubing is slipped over the base of the closure and onto a gel sealing collar. Pulling the plastic rip cord shrinks the tubing to an air and water tight seal around the collar. No special tools, power supply or torches are required for assembly. To reenter, simply pull the latch.

Protection Plus Flexible Fiber Management

Available in two sizes, the FibrDome closure accommodates various cable constructions and splice capabilities. Each tray holds two splice inserts. Four types of inserts are available to hold 3M™ Fibrlok™ splices or 3M™ Fiberlok™ Multi-Fiber Optical Splicing System, fusion or mass fusion splices.

For quick installation and field-proven performance specify 3M fiber protection products.

Features	Benefits
Proven 3M sealing technology	High product reliability, minimized maintenance costs
Easy installation	No special tools, torch or power supply required
Ready access	No-cost reentry to splices; craft friendly
Flexible fiber management	Accommodates a variety of cable sizes
Flexible splice capability	1 - 96 fibers in discrete splices; 4 - 432 fibers in ribbon splices
Minimal training	Cost savings
Gel end seal technology	No compounds to mix; air tight seal over multiple cable configurations
100 lb. strain relief with shield bond connector assembly	Long product life; craft friendly - no exposed metal
Rugged and versatile design installed in a variety of environments	One system fits all; inventory cost savings

3M™ FibrDome Enclosure Specifications

Type	FD06	FD08
Dome size	22.5 in. x 5.6 in. x 3.7 in. (57.15 cm x 14.2 cm x 9.4 cm)	23.5 in. x 7.0 in. x 5.4 in. (59.7 cm x 17.8 cm x 13.71 cm)
Number of trays	2	4
Number of cables	6	6
Splicing capacity		
Fiberlok™ Universal Splice	24	48
Fiberlok™ Multi-Fiber	16 (192 fibers)	32 (384 fibers)
Fusion	48	96
Mass fusion	20 (240 fibers)	36 (432 fibers)
Express capacity		
Single tube discrete	90" (228.6 cm) length; 192 fibers stored in trays	90" (228.6 cm) length; 192 fibers stored in trays
Buffer tube	90"(228.6 cm) length; 120 fibers maximum (4 buffer tubes (or 120 fibers stored in trays)	90" (228.6 cm) length; 216 fibers maximum (8 buffer tubes and 120 fibers stored in trays)
Ribbon	68" (172.7 cm) length; 288 fibers maximum (24 ribbons stored in trays)	68" (172.7 cm) length; 288 fibers maximum (24 ribbons stored in trays)
Cable capacity		
Main port (2)	0.35"-0.83" (8.9 mm-21.1 mm)	0.49"-1.30" (12.5 mm-33.0 mm)
Drop port (4)	0.35"-0.69" (8.9 mm-17.5 mm)	0.35"-0.79" (8.9 mm-20.1mm)

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FibrDome Enclosure *continued*
Follow 5 Easy Steps for Ordering
3M

STEP ONE - For complete installation choose one of these

Order No.	Part	Pkg.	Min. Order	Description
MMM 202704	FD06FibrDome Closure	1 kit/cs.	1 each	Contains transition tray and one splice tray; capacity for one more splice tray
MMM 202705	FD 08 FibrDome Closure	1 kit/cs.	1 each	Contains transition tray and one splice tray; capacity for three more splice trays

STEP TWO - Choose one package for each splice tray

Order No.	Part	Pkg.	Min. Order	Description
MMM 202706	2521-FL Fibrlok™ Splice Insert	2/pkg. 12 pkg./cs.	12 pkg.	Holds six single mechanical splices in each insert
MMM 202707	2521-F Fusion Splice Insert	2/pkg. 12 pkg./cs.	12 pkg.	Holds twelve discrete fusion splices in each insert
MMM 202708	2521-RF Ribbon Fusion Splice Insert	2/pkg. 12 pkg./cs.	12 pkg.	Holds five ribbon fusion splices in each insert

STEP THREE - Choose one shield bond connector for each cable

Order No.	Part	Pkg.	Min. Order	Description
MMM 159295	4460-D/FOR Shield Bond	100/pkg. 100/cs.	100 each	Provides grounding and central strength member clamp Connector Assembly
MMM 202709	FD110 Ground Kit	12 kit/cs.	12 each	Includes two Scotchlok? 4460-D/FOR Shield Bond Connector Assemblies and two ground straps

STEP FOUR - Choose additional trays as necessary

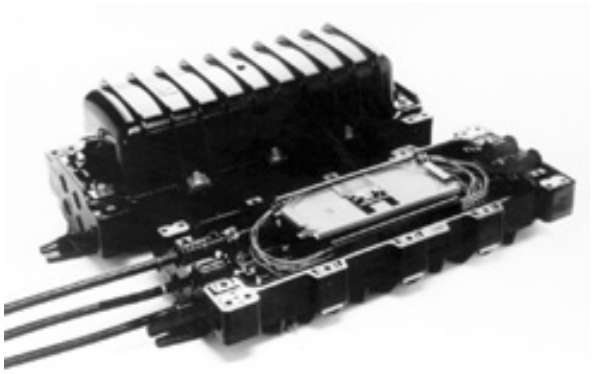
Order No.	Part	Pkg.	Min. Order	Description
MMM 202710	FD100 FibrDome Closure	3 kits/cs.	3 each	Contains splice tray, cover, cable ties and 3M™ FibrTube transition tubing Splice Tray Kit

STEP FIVE - Choose additional accessories as necessary

Order No.	Part	Pkg.	Min. Order	Description
MMM 202711	FD106 Cable Addition Kit	1 kit/cs.	1 each	Contains PST, gel strip, cable ties, sheath scuff, FibrTube transition tubing; for re-entry into FD06 Closure
MMM 202712	FD108 Cable Addition Kit	1 kit/cs.	1 each	Contains PST, gel strips, cable ties, sheath scuff, FibrTube transition tubing for re-entry into FD08 Closure
MMM 202713	2520 FibrTube Transition Tubing	50 ft./cs.	50 each	Protects fibers between trays; accommodates ribbon fibers
MMM 202714	4600-GSS Gel Sealant Strip	50/cs.	50 each	Gel strip seals cables and gel core in FD06 or FD08 FibrDome Closures
MMM 202715	FD120 Mounting Bracket	1 kit/cs.	1 each	Mounting bracket for FD06/FD08 closures
MMM 202716	FD130 Strand Mount Bracket	1 kit/cs.	1 each	Strand mounting bracket for FD06/FD08 closures
MMM 202717	FD06 Pull "N" Shrink Tubing	5/cs.	5 each	
MMM 202718	FD08 Pull "N" Shrink Tubing	5/cs.	5 each	

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2178 Fiber Optic Splice Case and Accessories 3M



Description

The 2178 Fiber Optic Splice Case is expendable to handle up to four cables in a butt configuration. Double stacking the butt adapter increases the capacity to six cables in a butt configuration, or twelve cables total.

Installation is very easy and requires no special tools or complicated training procedures. The case is sealed with standard sealants usually found in "truck stock."

Tough. Affordable. Easy to use. That's a case for better fiber management from the leader in fiber optic connections - 3M.

Features	Benefits
Universal closure	Multiple applications; train craft on one closure; mini mizes inventory of cases and craft retraining costs
Expandable from 2 cable entries/end (2178) to 4 entries /end (2178+2181)	Up to 4 cables butt spliced; add cable to existing splice with minimal disturbance; eliminates splice rebuilding when adding lines; lower potential revenue loss; saves additional material costs
Non-filled closure for easier reentry	No compound required; saves money and allows
Assembled easily; hardware	No special tools; limits parts loss; less chance for captive misapplication; lowers excess construction costs and unprojected costs
Standard sealing materials	Craft familiarity; saves money by minimizing stock; sealants usually found in "truck stock"
Cable entry ports accommodate .4-1.0" diameter cables	Accommodates all known truck and feeder cables; one case meets all needs
Pressurizable	Case will accommodate pressurized cable; flexibility in cable plant
Multiple grounding studs	Sheath bonds may be separated; easier fault, sheath location and identification

Additional Materials Requires

- Splice Trays 2524, 2524-FT, 2116, 2118 or 2120
- Scotch™ 88T 3/4" Vinyl Tape
- 2" Rubber Tape
- 4415 Cable Cleaner
- Scotchlok™ Shield Bond Connectors
- RTV Adhesive / Sealant
- 4435 Sheath Scuff
- 25T Ground Braid or equivalent

Ordering Information

Order No.	Mfg. No.	Product Name	Shipping Unit	Shipping Weight
MMM 125229	2178	Splice Case	1/case	17 lbs. (7.7 kg)
Contains all materials needed for initial installation.				
MMM 125681	2180	Cable Kit	1/case	2 lbs. (0.9 kg)
Contains all materials required for reentry, including plugs, washers and sealing materials. Used when reentering or resealing.				
MMM 201397	2181	Butt Adapter	1/case	8 lbs. (3.6 kg)
Contains all materials for reentering and installing additional cables.				
MMM 128291	2183	Aerial Hanger Brackets	1/case	2 lbs. (0.9 kg)
Includes all material required for aerial installation.				

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Fibrlok™ 2524 Splice Organizer Tray 3M



The 2524 Splice Tray holds 24 Fibrlok Splices (2525, 2590, 2599) and accommodates up to eight buffer tubes holding up to 48 fibers (900 µm or 250 µm). The tubes are secured with channel snaps so that cable ties are not required. The fibers all enter the tray in one corner eliminating the need for figure 8's in the fiber.

An important design feature of these stackable trays is the snap-on hinge cover on each tray. The trays snap together with a hinge along the length of one side and with a latch on the other side. This way, individual trays may be accessed without disassembly of the trays above or below-and without kinking buffer tubes.

The 2524-FT Fusion Splice Organizer Tray holds up to 24 fusion splices and provides the same features as the 2524 Fibrlok Splice Organizer Tray. The 2524 Fibrlok Organizer Tray can be adapted for fusion splice storage using the 2524-F Fusion Insert.

The 2524 and 2524-FT Splice Trays fit and mount in the 2177 Fiber Optic Splice Closure, the 2178 Fiber Optic Splice Case and the 2190 PST Fiber Optic Splice Closure.

Description

The Fibrlok 2524 Splice Organizer Tray houses the proven Fibrlok Optical Fiber Splice. It reduces fiber optic splice tray assembly time by:

- using fewer parts
- offering simpler installation
- better organizing splices and fiber
- stackable
- snap-on tray hinge

Ordering Information

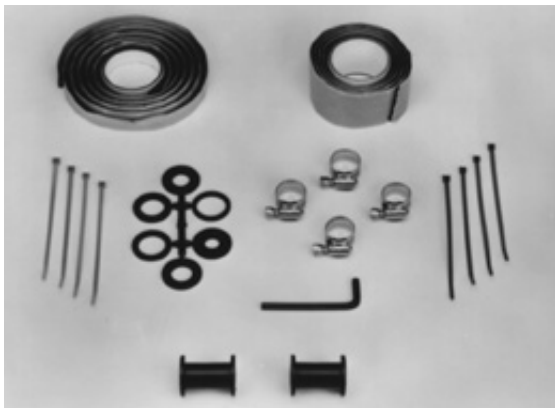
Order No.	Mfg. No.	Description
MMM 202659	2524	Splice Organizer Tray
MMM 202660	2524-FT	Fusion Splice Organizer Tray
MMM 202661	2524F	Fusion Insert
MMM 202662	2524-MF	Multi-Fiber Splice Tray
MMM 202663	2524-A	Mass and Single Fusion
MMM 202664	2672	Muti-Fiber High Density Splice Tray
MMM 202665	2673	Muti-Fiber High Density Splice Tray Pedestal Base
MMM 202666	78-8079-7864-4	Muti-Fiber Splice Holder (for use with 2672 splice tray)

SOUTHEAST: Norcross, GA **800-433-3765** | SOUTHWEST: Irving, TX **800-643-2288** | EAST: Rockaway, NJ **800-458-4524** | WEST: Santa Ana, CA **800-227-2869** | MIDWEST: Rolling Meadows, IL **800-428-7596**

TeleWire SUPPLY AN ANTEC COMPANY

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2180 Cable Kit
3M



Description

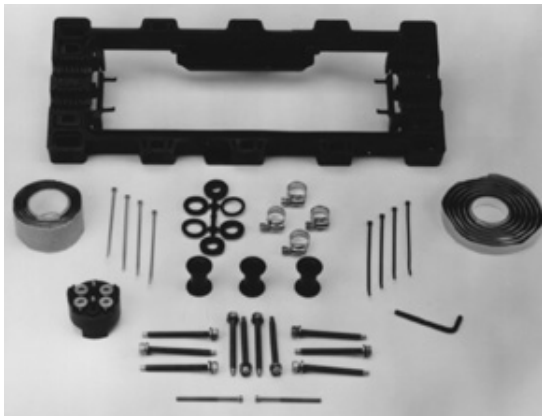
All materials required for reentry into 2178 Splice Case. Includes plugs, washers and sealing materials.

- 2 Plugs
- 2 Hose Clamps
- 4 Green Cable Ties
- 4 Blue Cable Ties
- 1 Hex Key
- 48 Sealing Washers
- 1 box Sealing Cord
- 1 box Sealing Tape

Ordering Information

Order No.	Mfg. No.
MMM 125681	2180

2181 Cable Addition Kit
3M



Description

Permits butt splicing of multiple cables from a single end after initial plant construction. Splice rearranging, branch cables and customer premises drops can be added in butt configuration with minimal disturbance to plant in service.

- 3 Plugs
- 4 Hose Clamps
- 4 Green Cable Ties
- 4 Blue Cable Ties
- 1 Spacer Clamp Assembly
- 1 box Sealing Cord
- 1 box Sealing Tape
- 10 Bolts

Ordering Information

Order No.	Mfg. No.	Description
MMM 201397	2181	
MMM 159300	2181-B	Contains fasteners necessary to assemble the 2178 splice case when two 2181 cable addition kits are used

TeleWire SUPPLY AN ANTEC COMPANY
SOUTHEAST: Norcross, GA **800-433-3765** | SOUTHWEST: Irving, TX **800-643-2288** | EAST: Rockaway, NJ **800-458-4524** | WEST: Santa Ana, CA **800-227-2869** | MIDWEST: Rolling Meadows, IL **800-428-7596**

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Scotch 25T Grounding Braid with Eyelets 3M



Description

Provides low electrical resistance connections, contributes to strain relief across cables. Eyelets fit shield connector studs up to 6 mm (1/4") diameter.

Size: 13 mm x 7.6 m (1/2" x 25'), eyelets spaced 3"

Ordering Information

Order No.	Mfg. No.
MMM 202791	2ST

Scotchlok 4460-D Shield Bond Connector 3M



Description

The 4460-D is a downsized version of the 4460. Its small size makes it an excellent choice for cables of 100-pair or less. Its current-carrying capacity is equal to or better than aluminum-shielded cables of 100-pair or less and can be used on all cable with 20.3 mm (0.8") or smaller O.D.

Ordering Information

Order No.	Mfg. No.
MMM 159295	4460-D

Scotchcast 4413 Filled Cable Cleaning Kit 3M



Description

A specially formulated cleaning solvent for cleaning grease and Flex-Gel filling compound from filled core cable without damaging connectors, cable or individual conductors. One bag will clean both cable ends at splice point. Comes complete with right amount of solvent sealed in the bag. No special tools required. Virtually no personnel contact with the solvent or solvent vapors during cleaning because of unique packaging concept.

Kit Contents:

- Heat-sealed cleaning bag with solvent
- Pair gloves
- Puncture-protection bags (2)

Four different sizes are available to meet a wide range of applications

Ordering Information

Order No.	Mfg. No.
MMM 202667	4413

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Scotchcast 4414 Filled Cable Cleaning Kit
3M



Kit Contents:

- Solvent Saturated Pads (15)
- Scraper Pads (5)
- Towels (10)

Additional Materials Required:

- Scotchcast 4435 Sheath Scuff
- Scotch 88T Vinyl Tape

Description

The Scotchcast 4414 Filled Cable Cleaning Kit provides all the necessary materials for cleaning the filling compound from filled copper and fiber optic cables in an easy-to-transport kit. This kit includes 15 pads saturated in cleaning solvent, 5 scraper pads and 10 towels.

The specially-formulated cleaning solvents are contained in premeasured portions on saturated pads for fast, easy, convenient solvent application to cable core after sheath has been removed. The solvent and wet pads effectively remove cable filling compound from conductors and connectors with no damage to either.

Ordering Information

Order No.	Mfg. No.
MMM 033841	4414

Scotchcast 4415 Service Wire Cleaning Kit
3M



Description

Everything needed to clean troublesome filled service wire is included in the 4415 Kit. Solvent saturated pads individually bagged for convenience. No extra tools are needed, and an instruction sheet is included in each kit.

Ordering Information

Order No.	Mfg. No.
MMM 035888	4415

Scotch™ 88T All Weather Telephone Vinyl Plastic Tape
3M



Description

Taping end caps, wrapping for abrasion protection or temporarily securing-88T will suit your needs for inside or outside plant applications as the handiest tool in your kit. The special formula adhesive and extra tough backing offer you superior adhesion and excellent conformability over extended temperature ranges, thus reducing your inventory needs to one vinyl tape.

Available in craftsman size rolls to fit your specific in-the-field use, this 0.22 mm (8-1/2 mil) tape releases smoothly from the roll in zero weather and will not ooze adhesive in hot climates. The 38 mm x 13.5 m (1-1/2" x 44') roll is especially suited as the Splicer's roll, for outside plant usage.

88T resists: water, acids, alkalies, and is flame retardant. It is weather resistant and not affected by sunlight.

Ordering Information

Order No.	Mfg. No.
MMM 009638	88T

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2170 Optical Fiber Heat Shrink Protective Sleeves
3M



Description

Transparent plastic tube and stainless steel rod designed to prevent stress and protect fusion fiber optic splices in field and factory operations. Sleeves are made of ethylene vinyl acetate (EVA) with heat-activated memory which causes them to shrink under heat. Sleeves shrink tightly to exclude air and hold the rod firmly, preventing abrasion of delicate glass fibers.

Ordering Information

Order No.	Mfg. No.
MMM 126506	2170

Fiber Splice Protection Sleeves
CANUSA

Description

The Canusa CFSP fiber optic splice sleeve provides excellent protection and support for fiber optic heat fusion splices. The heat shrinkable tubing is made from a specially formulated, cross-linked polyolefin. This tough, versatile tubing is assembled with a stainless steel backbone and a meltable inner liner. When installed over a heat fusion splice it provides critical mechanical support and restores the optical integrity of the fiber while creating an impervious barrier around the splice region.

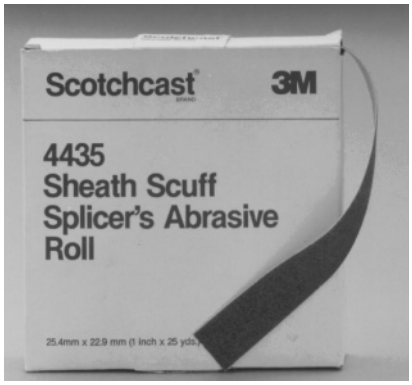
Ordering Information

Order No.	Mfg. No.	Inner Liner Inside Dia. Minimum	Nominal Sleeve Length	Nominal Steel Rod Diameter	Recovered Diameter
CUS 202694	CFSP-12-61	0.06" (1.5mm)	2.4" (61mm)	0.05" (1.2mm)	0.10" (2.5mm)
CUS 202695	CFSP-12-45	0.06" (1.5mm)	1.77" (45mm)	0.05" (1.2mm)	0.10" (2.5mm)
CUS 202696	CFSP-12-23	0.06" (1.5mm)	0.9" (23mm)	0.05" (1.2mm)	0.10" (2.5mm)

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Scotchcast™ 4435 Sheath Scuff 3M



Description

This flexible 80 grit, non-conductive, aluminum oxide strip is used to clean and rough up cable sheath. The clean, scuffed sheath greatly enhances the bond between the compound and sheath. Since the strip is 25.4 mm (1") wide, it encourages the craft person to scuff around the sheath rather than along it, thus eliminating moisture paths along the sheath, and also makes it easy to get into tight places.

Ordering Information

Order No.	Mfg. No.	Size
MMM 202668	4435	25.4 mm x 21 m (1" x 75') roll

Scotchcast™ 4458, 4458-W Pair Saver 3M



Description

Protect cable pairs from the sharp edges of the shield and template, while permitting standard bond connector installations.

Ordering Information

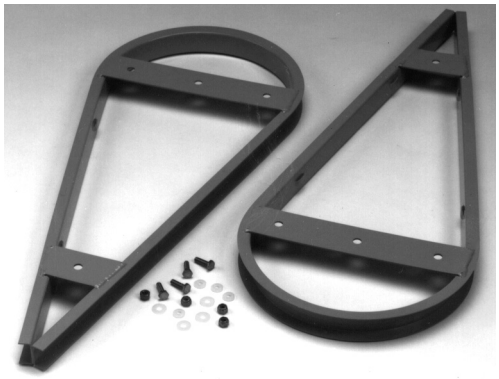
Order No.	Mfg. No.	Size
MMM 202669	4458	21.6 mm x 5.4 m(.8" x 18') rolls
MMM 202670	4458-W	38 mm x 5.5 m (1.5" x 18') rolls

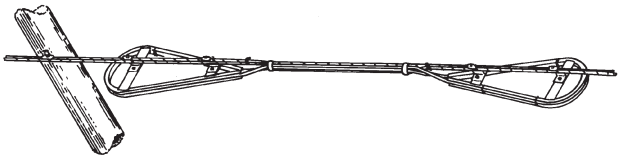
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FiberLoop™ Fiber Optic Strand Storage

ANTEC





Reserve Cable Length Strand Storage Application

This illustration shows how an extra length of fiber cable is stored on the support strand of aerial plant. Extra lengths of fiber can also be stored inside a headend equipment building by mounting FiberLoop units on the ceiling or equipment rack.

Description

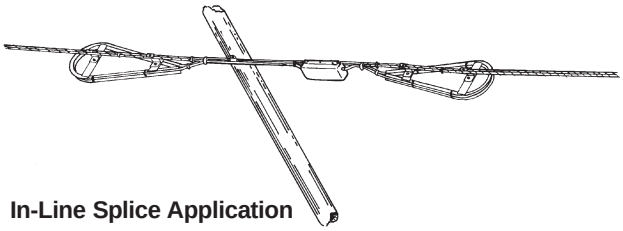
In today's aerial fiber optic installations, storage of an extra length of fiber cable for future use is not only desirable, it is essential. This extra length of fiber cable would be utilized for road widenings, at key road crossings where accidents frequently occur, and locations for which fiber route splices are planned.

The FiberLoop fiber optic strand storage unit not only stores, but protects this fiber by keeping it at a safe distance from other materials located at the pole, with a neat and orderly appearance.

Use of the FiberLoop system offers standardization to fiber storage practices, simplifying installation and minimizing supervision requirements.

All FiberLoop units may be mounted in a horizontal position using two standard tap bracket assemblies per unit (not included). FOSS-1 and FOSS-2 may also be mounted in a vertical position using two standard tap bracket assemblies per unit. FiberLoop units may be stacked for the greater cable counts typically used when butt splice closures are utilized.

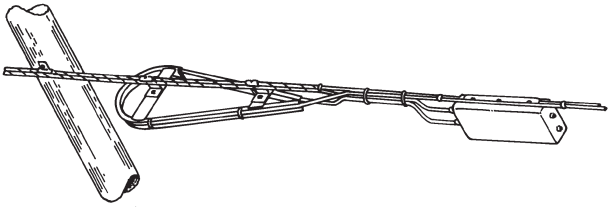
Each FiberLoop carton contains one pair of FiberLoop fiber optic cable storage units and a hardware kit for the attachment of four tap support brackets (brackets not included).



In-Line Splice Application

Ordering Information

Order No.	Mfg. No.	Description
ANT 128556	FOSS-1	For a single cable loop AT&T LXE type cable of 4-48 fiber counts (10 inch minimum bend diameter).
ANT 128557	FOSS-2	For a double cable loop AT&T LXE type cable of 4-48 fiber counts (12 inch minimum bend diameter).
ANT 140869	FOSS-3	For single cable loop of either AT&T LXE cable of 49-96 fiber counts or Siecor-Corning armored type cable with 2-120 fiber counts (16 inch minimum bend diameter).
ANT 250019	FOSS-5	For high fiber count cables 18" minimum bend diameter.



Butt Splice Application

Extra lengths of fiber are conveniently and protectively stored during in-line and butt splice applications.

(Tap brackets - page B22)

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CSL Lightsplice® Mechanical Splices

LUCENT TECHNOLOGIES



Description

The D-182152 kit contains six CSL Lightsplice splices and a condensed version of the splicing instructions.

Specifications

Average loss	0.20 dB single mode and multimode
Average return loss	-60 dB
Installation time	10 minutes per fiber ribbon
Operating temperature range	-40°F to +170°F (-40°C to +77°C)
Fiber size acceptance	125µn nominal OD fibers
Coating/buffering	fiber ribbons with between 1 and 12 fibers size acceptance
Type	fiber ribbons are captured between a bottom substrate with multiple V grooves and a cap with compliant membrane; bottom and cap are held together with two spring clips
Expected lifetime	permanent

Ordering Information

Order No.	Mfg. No.	Description
LUC 132464	D-182152	Comcode 106 189 442
Re-entry Tool LUC 138793	1046B	Comcode 106 524 648

Reentry Tool

The 1046B reentry tool comes with an instruction sheet.
One tool required per splicer to reenter and reuse CSL splice.

CSL LightSplice Tool Kits

LUCENT TECHNOLOGIES



Description

The 1048A CSL LightSplice tool kit contains the tools necessary to assemble a CSL splice. This kit is the table model workstation version. One kit required per splicing crew. Precision fiber cleaver not included.

This tool kit includes

- 1041A workstation (table model) (1)
- 1046B reentry tool (1)
- 1504B buffer retention tool (1)
- wire stripper (1)
- micro stripper 0.006" (1)
- alcohol bottle (1)
- 5X eye loupe (1)
- spudger (1)
- tweezers (1)
- brush (1)
- safety glasses (1)
- workstation light (1)
- instruction manual (1)
- instructional video (1)
- tool case (1)

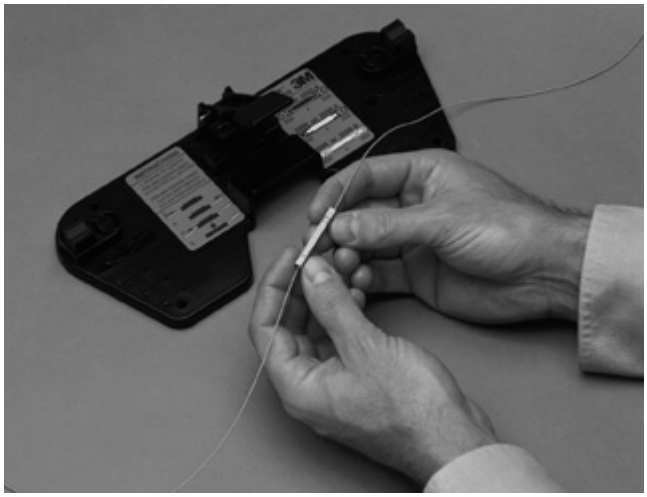
Ordering Information

Order No.	Mfg. No.	Description
LUC 135365	1048A	Comcode 106 186 687
LUC 132465	1041A	Comcode 106 186 935 1041A workstation

The 1041A workstation can be ordered separately and contains the table model workstation, workstation light, instruction manual and instructional video.

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Fibrlok™ II 2529 Universal Optical Fiber Splice 3M



Description

The Fibrlok II 2529 Universal Optical Fiber Splice was designed for splicing any combination of 250 to 900 micron coated fibers. Utilizing field-proven Fibrlok technology, the 2529 Universal Splice provides a single-splice size, as well as all the advantages and benefits of the original Fibrlok II Optical Fiber Splice.

The Universal Optical Fiber Splice is fully compatible with the original Fibrlok and Fibrlok II Optical Fiber Splices, splice trays and organizers. The Fibrlok Universal Splice utilizes the same Assembly Tool and easy strip, clean, cleave and splice procedure as the original splices, minimizing the need for additional product training.

The 2529 Universal Splice provides a single cleave length for 250 and 900 micron coated fibers; the ability to "reposition" fibers for improved splicing yield: and a new compact splice package which provides individually sealed compartments for the enclosed splices. The ideal solution for both permanent and restoration splicing applications.

The Fibrlok II Universal Optical Fiber Splice utilizes a metallic splicing element held inside a molded plastic body and cap. The 2529 Splice insertion loss averages less than 0.10 dB. Fiber retention is greater than one pound minimum. The splice displays superior thermal stability, delivering stable performance from -40° to 80° C (-40° to 176° F)

The Fibrlok II Universal Optical Fiber Splice can be used with either single-mode or multimode fibers with a (nominal) glass cladding diameter of 125 microns.

Whether your application is aerial, buried, underground or pedestal; outside plant or inside building; the Fibrlok II 2529 Universal Optical Fiber Splice is the ideal solution for all your splicing needs.

Ordering Information

Product No.	Description
Splices and Splice Kits	
2529	Universal Optical Fiber Splice 250 to 900
2529-K	Universal Optical Fiber Splice Kit (60 Splices, one 2501 Assembly Tool)
2525-A	Optical Fiber Splice 250 x250
2590-A	Optical Fiber Splice 250 x 900
2599-A	Optical Fiber Splice 900 x 900
2525-AK	Optical Fiber Splice 250 x 250 Kit (60 Splices, one 2501 Assembly Tool)
2590-AK	Optical Fiber Splice 250 X 900 Kit (60 Splices, one 2501 Assembly Tool)
2599-AK	Optical Fiber Splice 900 x 900 Kit (60 Splices, one 2501 Assembly Tool)
Tools and Preparation Kits	
2501	Assembly Tool
2505	Assembly Tool Mounting Adapter
2530	Fiber Splice Preparation Kit (includes 2501 Assembly Tool and Thomas & Betts Cleaving Tool)
2531	Fiber Splice Preparation Kit (without Cleaving Tool)
2533	Fiber Splice Preparation Kit (without 2501 Assembly Tool; without Cleaving Tool)
2650-ACK	Angled Cleaver Adapter
Trays	
2524	Optical Fiber Splice Organizer Tray
2524-F	Fusion Insert for 2524 Optical Fiber Splice Organizer Tray
2524-FT	Optical Splice Organizer Tray for Fusion Splices

For ordering information contact your **Telewire Supply** Sales Representative.

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Fibrlok™Multi-Fiber Optical Splice 3M



Description

The Fibrlok™ Multi-Fiber Optical Splice uses field proven Fibrlok splice technology to provide fast, efficient and permanent splicing of multiple optical fibers. Designed to minimize the need for lengthy training, specialized skills or experience, the Fibrlok Multi-Fiber Optical Splicing System has been designed with the idea that "simpler is better."

The Fibrlok Multi-Fiber Splicing System consists of a consumable splice "module" and associated fiber preparation and splicing tools. Splices are available in 4-, 6-, 8-, 10- and 12-fiber versions.

The Fibrlok Multi-Fiber Splice uses the same easy strip, clean, cleave and splice procedure used in the assembly of the Fibrlok II Optical Fiber Splice. A complete splice can be assembled in less than five minutes, making the Fibrlok Multi-Fiber Splice ideal for both new construction and cable restoration applications.

The Fibrlok 2600 Series Multi-Fiber Optical Splice will accommodate single-mode or multimode fibers with a nominal cladding diameter of 125 microns. Splices accommodate both ribbon cable construction and individual 250 micron plastic-coated fibers. Five color-coded versions of the Fibrlok Multi-Fiber Optical Fiber Splice are available:

- Fibrlok 2604 Multi-Fiber Optical Fiber Splice (4 fiber)
- Fibrlok 2606 Multi-Fiber Optical Fiber Splice (6 fiber)
- Fibrlok 2608 Multi-Fiber Optical Fiber Splice (8 fiber)
- Fibrlok 2610 Multi-Fiber Optical Fiber Splice (10 fiber)
- Fibrlok 2612 Multi-Fiber Optical Fiber Splice (12 fiber)

The Fibrlok 2600 Splice Preparation Kit provides the components required to assemble the Multi-Fiber Splice. The Fibrlok 2670 Ribbon Construction Tool provides organization and "ribbonizing" of individual 250- micron coated fibers prior to splicing. Fibrlok Multi-Fiber Splice assembly tooling was designed to minimize the required tooling investment. These lightweight and portable tools are perfect for splicing in buried, underground, aerial, vault or pedestal splice locations.

After preparation, the fibers are inserted into the Fibrlok Multi-Fiber Splice element. The assembly tool is then used to actuate the splice, forcing the clamping and locating surfaces against the fibers and aligning the fibers precisely and permanently in place.

Ordering Information

Order No.	Mfg. No.
MMM 202671	2604
MMM 202672	2606
MMM 202673	2608
MMM 202674	2610
MMM 202675	2612

2670 Ribbon Construction Tool Kit 3M



Description

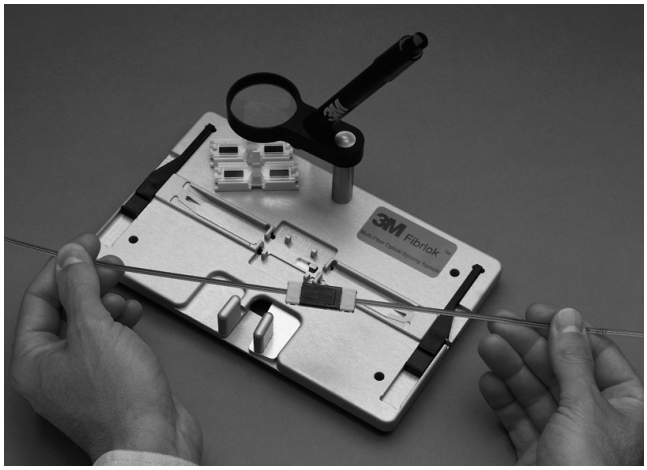
The Fibrlok 2670 Multi-Fiber Ribbon Construction Tool Kit contains the components required to construct ("ribbonize") individually coated 250- micron fibers.

Ordering Information

Order No.	Mfg. No.
MMM 202676	2607

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Fibrlok™ Fiber Optic Splice Preparation Kit 3M



Ordering Information

Order No.	Mfg. No.	Description
MMM 202677	2530	Fiber Splice Preparation Kit
MMM 202678	2531	Fiber Splice Preparation Kit contains all of the components of the 2530 Fiber Splice Preparation Kit except the Thomas & Betts Universal Fiber Optic Cleaving Tool.
MMM 202679	2533	Fiber Splice Preparation Kit contains all of the components of the 2530 Fiber Splice Preparation Kit except the Thomas & Betts Universal Fiber Optic Cleaving Tool and the 2501 Fibrlok Assembly Tool.

Description

Fibrlok Splice Preparation Kits provide all the tools necessary for the assembly of the Fibrlok and

Fibrlok™ II Optical Fiber Splices. The termination of a Fibrlok Splice requires only a few necessary tools to easily complete cable preparation, followed by removal of the fiber coating, cleaning and cleaving, prior to completing the splice.

Fiber Splice Preparation Kits are available in a variety of combinations with or without the Fibrlok Assembly Tool and/or the Cleaving Tool. These kits offer cost effective options to avoid duplication of tools previously purchased.

The 2530 Fiber Splice Preparation Kit contains the following components:

- Fibrlok 2501 Assembly Tool
- Thomas & Betts Universal Fiber Optic Cleaving Tool
- No-Nik Fiber Stripper (175 µm)
- Micro-Strip Precision Stripper (.006)
- Miller Model 100 Cable Stripper
- Ideal Coaxial Cable Stripper
- Clauss No. 925 Telecommunication Snips (Scissors)
- 20X Magnifier, Cleaved Fiber
- Bottle (empty) - Isopropyl Alcohol
- Lint Free Cloth (100 each)
- Carrying Case
- Manual

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Fiberstrip™ Kit

ANTEC



Description

The FIBERSTRIP kit provides a systematic, in-line stripping procedure for fiber optic jumper and pigtail cordage, preventing nicks and damage to the glass. The kit includes everything a technician needs: three tools with pre-installed blades, scissors for cutting Kevlar® yarn, a brush for blade cleaning and instructions, all in one convenient case.

Three-step graduated stripping process provides strain relief by retaining structural integrity within the stripped area. Tool 1 removes the 2.5mm to 3.0mm jacket. Tool 2 removes the 900 micron tight or loose buffer. Tool 3 removes the 250 miron acrylate coating, without nicking or damaging the 125 micron glass. Prominent identification on each tool ensures that they are used in the proper sequence.

Every technician should have a FIBERSTRIP kit. Its compact design also facilitates storage wherever stripping is likely to occur: headend sites, receive sites, signal sites and service vehicles.

Ordering Information

Order No.	Mfg. No.	Description
ANT 144520	MS-TK-3	Fiber Strip Kit
Replacement parts:		
ANT 149292	MS-6-13	Tool #3 with installed blade insert (0.006" diameter)
ANT 149423	MS-8-13	Tool #3 with installed blade insert (0.008" diameter)
ANT 148666	MS1RB-.06N	Blade insert (0.006" diameter)
ANT 148664	MS1RB-.008N	Blade insert (0.008" diameter)

2600 Multi-Fiber Splice Preparation Kit

3M



Description

The Fibrlok™ 2600 Multi-Fiber Optical Splice Preparation Kit contains the Actuator Tool and accessories required for assembly of Fibrlok 6 and 12-fiber Multi-Fiber Splices. Additional Holder Assemblies and Stripper Tube Guides are required for splicing 4-, 8-, or 10-fiber splices and are ordered separately.

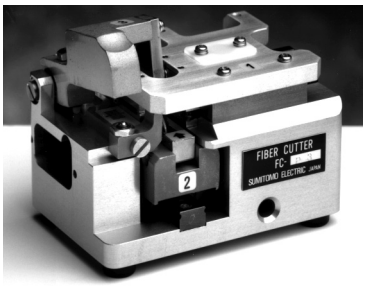
Ordering Information

Order No.	Mfg. No.
MMM 202680	2600

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High Precision Fiber Cleaver

SUMITOMO ELECTRIC



Specifications

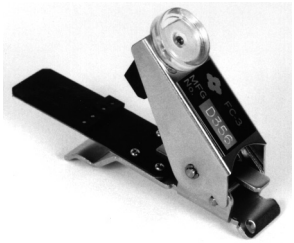
Applicable fiber	Bare fiber diameter Nominal coated fiber diameter	80 ~150 µ 0.25 and 0.9 mm
Cleave length	9 ~20	
Typical cleaved angle	0.5°	
Blade life	36,000 or more (1,000 cleaves or more x 12 positions x 3 blade heights)	
Size (W x D x H)	85mm x 55mm x 61mm	

Ordering Information

Order No.	Mfg. No.
SMO 139953	FCP-3

Hand Held Fiber Cleaver

SUMITOMO ELECTRIC



Specifications

Applicable fiber	Bare fiber diameter Coated fiber diameter	80 ~150 µm not more than 1.5 mm
Size (W x L x H)	20mm x 100mm x 50mm	

Ordering Information

Order No.	Mfg. No.
SMO 127537	FC-3

Hand Held Cleaving Tool

T&B



Description

This tool eliminates time consuming polishing of optical fibers. The palm-sized cleaving tool incorporates a simple two-stroke design, eliminating subjective operator skills while producing the end angle required for singlemode splicing without chips, lips or hackle.

The tool is designed for single and multimode fiber with nominal diameters (OD) of 125 micron without operator adjustments of any kind. Tool package includes bench mounting clamp, hand carrying strap and protective case. Calibrated to 125 micro inches.

Ordering Information

Order No.	Mfg. No.
T&B 145618	92208

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Type 35-SE Fusion Splicer

SUMITOMO ELECTRIC



Features

- Automatic splice loss estimation for single mode and multimode fiber
- High resolution LCD screen displays fibers before, during and after splicing
- Advanced software monitors electrodes and compensates for wear
- Simple, accessible controls
- Programmable high speed heater shrinks sleeve around splice joint in 90 seconds or less
- Microprocessor-controlled self-test, calibration and diagnostics
- 100 splice memory stores date and time stamped loss estimates

Ordering Information

Order No.	Mfg. No.
SMO 143118	Type-35SE-SPH

Specifications

Program	
No. of fusion condition settings	3 fiber profiles with 7 programs each
Parameters	5 parameters for each program
Fiber alignment	core (sm) or cladding (sm and mm)
Fiber diameter	similar or dissimilar
Display message	language selectable
Fiber requirements	
Material	silica glass
Type	single mode or multi mode
Cladding diameter	80-150 mm
Fiber coating diameter	1.5 mm maximum
Cleave length	16 mm, 12 mm (4 mm, 9 mm optional)
Core size	4-to-14 µm single mode, 50/125 µm, 62.5/125 µm, 100/140 µm multi-mode
Typical performance	
Typical splice loss	0.03 dB (when using homogeneous SM fiber) 0.02 dB (when using homogeneous SM fiber)
Typical splice cycle time	45 seconds ("set"-to-loss estimate)
Data memory	100 estimated splice loss measurements
Battery life (BU-03SE)	60 splices per full charge (includes heat cycle)
Battery charging time (BC-03SE)	8 hours for 1 battery, 14 hours for 2 batteries
External terminals	
Data communications	D-sub 9 pin jack (RS232C)
12 VDC input terminal	for remote power source (BU-05SE)
12 VDC output terminal	for SPL-1
Video output	BNC type jack (for NTSC video signal)
Physical characteristics	
Input	85-265 VAC (50-60 Hz, 34 W), 11-145 VDC (29W)
Operation temperature	14°F to 122°F (-10°C to 50°C)
Operation humidity	95% RH non-condensing
Size	8.7"W x 8.3"H x 9.3"D
Weight	22 lbs.
LCD monitor size	3 inches diagonal

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2XT Optical Mini-Source
3M



Description

The Photodyne 2XT Optical Mini-Source is a pocket-sized, low cost light source that can be combined with the Photodyne 3XT Optical Mini-Meter to provide complete optical power measurement capabilities.

The 2XT is available in two models, both of which feature surface-mount circuit integration. The only difference between the two models is the wavelengths at which they operate-either 850 nm/1300 nm or 1300 nm/1550 nm.

Ordering Information

Order No.	Mfg. No.
MMM 202681	2XT

3XT Optical Mini-Meter
3M



Description

The Photodyne 3XT Optical Mini-Meter is a pocket-sized, low cost power meter that can be combined with the Photodyne 2XT Optical Mini-Source to provide complete optical power measurements capabilities. The 3XT features state-of-the-art surface mount circuit integration and a large-area Ge detector that is calibrated to provide measurement capabilities at 850 nm, 1300 nm and 1550 nm. A universal adapter interface allows the user to easily change connectors as needed.

Ordering Information

Order No.	Mfg. No.
MMM 202682	3XT

23XT Fiber Optic Test Kit
3M



Description

The Photodyne 23XT Fiber Optic Test Kit combines the Photodyne 2XT Optical Mini-Source and 3XT Optical Mini-Meter to provide a low cost test set. Using the latest in cost-effective design technology, the units perform a variety of measurements including:

- Attenuation testing
- Return loss measurement
- Link conformance testing
- Fiber identification

The 23XT test kits are complete loss test kits configured for either single-mode or multimode loss testing. Each kit consists of a Photodyne 2XT, 3XT, adapter caps, batteries, quick instruction card and the appropriate jumper cable. All components are housed in a compact rugged case for transportation to and from the job site.

Ordering Information

Order No.	Mfg. No.
MMM 202683	23XT

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7XT Light Source
3M



Description

The Photodyne 7XT Light Source is used as a stand alone single-mode light source, or in conjunction with the Photodyne 17XTG/I Power Meter, to perform a variety of measurements on fiber optic cables, splices and connectors. Applications include:

- Attenuation testing
- Return loss measurement
- Link conformance testing
- Fiber identification

Rugged design for maximum durability. The Photodyne 7XT light source is housed in a sturdy metal frame covered in polyurethane that can easily handle the punishment of typical field use. Membrane switches on the control panel keep contaminants out of the unit, assuring greater long-term reliability.

The 7XT Light Source includes:

- Light Source
- AC adapter
- Instruction manual
- 9V NEDA alkaline battery
- Carrying case

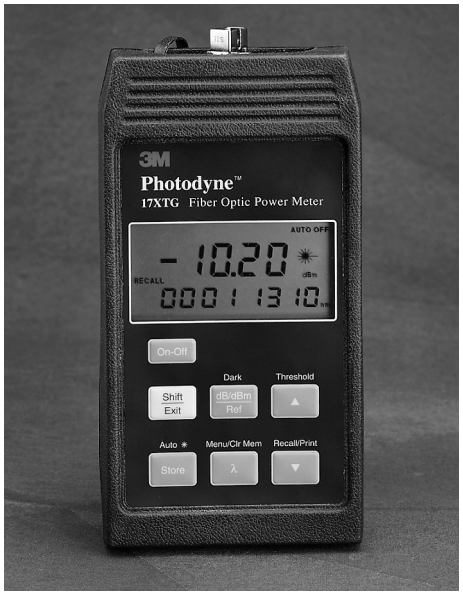
Ordering Information

Order No.	Mfg. No.
MMM 202684	7XT

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17XTG/I Hand-Held Power Meter
3M



Specifications for Photodyne Power Meters

Product number	17XTG	17XTI
Size H x W x D cm (inches)	18.6 x 9.5 x 4.6 (7.7 x 3.75 x 1.8)	18.6 x 9.5 x 4.6 (7.7 x 3.75 x 1.8)
Net weight kg	0.5 (1.1 lbs.)	0.5 (1.1 lbs.)
Shipping weight kg	1.41 (3.1 lbs.)	1.41 (3.1 lbs.)
Operating temperature	-5° to 50°C (23° to 122°F)	-5° to 50°C (23° to 122°F)
Storage temperature	-40° to 70°C (-40° to 158°F)	-40° to 70°C (-40° to 158°F)
Relative humidity (non-condensing)	5% to 95%	5% to 95%
Power	9V NEDA 1604 alkaline battery or external AC power supply	9V NEDA 1604 alkaline battery or external AC power supply
Battery life	20 hours alkaline	20 hours alkaline
AC power	External AC power supply	External AC power supply
Optical interface	2000 series adapter caps	2000 series adapter caps
Sensor type	Large area Ge	Large area InGaAs
Wavelengths (nm)	780, 820, 850, 980, 1300, 1480, 1550	780, 820, 850, 980, 1300, 1480, 1550
Measurement accuracy (@ -20 dBm) dB	±0.25	±0.25
Dynamic range (dBm)		
1300 nm	+21 to -64	+5 to -73
1550 nm	+20 to -64	+5 to -73
Measurement resolution (dBm)	0.01	0.01
Display type	LCD	LCD
Printer interface	RS232C, RJ-11 connector	RS232C, RJ-11 connector
Printer port speed (bits/second)	300, 600, 1200, 2400, 4800, 9600	300, 600, 1200, 2400, 4800, 9600

Description

The most powerful, full-featured optical power meters on the market. The Photodyne 17XTG and 17XTI Hand-Held Fiber Optic Power Meters represent the cutting edge in fiber optic testing technology. Extremely powerful and flexible, the Photodyne 17XTG/I power meters boast a wider dynamic range and higher accuracy than previous units.

The units are designed for:

- Single-mode and multimode use
- LAN applications
- Link commissioning
- Maintenance and restoration
- Engineering and testing

The Photodyne 17XTG/I power meters work in conjunction with the Photodyne 7XT Light Source. Designed for a variety of applications. The extended dynamic range of the power meters allows the units to provide testing capabilities for a wide spectrum of applications.High-performance applications such as analog cable TV systems and erbium-doped amplifiers are accommodated with the upper end of the Photodyne 17XTG power meter's dynamic range (+20 dBm). More basic applications, such as today's SONET and ATM digital systems, are handled easily.

As today's communications industry continues to evolve, the Photodyne 17XT family will provide total testing capabilities for current and future applications.

The 17XTG/I Hand-Held Power Meters include:

- 17XT Power Meter
- AC adapter
- 9V NEDA alkaline battery
- Instruction manual
- Carrying case

Ordering Information

Order No.	Mfg. No.
MMM 202685	17XTG
MMM 202686	17XTI

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21XTL Fiber Optic Test Set/Talk Set 3M



Ordering Information

Order No.	Mfg. No.
MMM 202687	21XTL

Description

The Photodyne 21XTL Fiber Optic Test Set/Talk Set is for use in the installation and maintenance of fiber cables. This instrument functions as a power meter and as a test set, as well as a talk set. For maintenance purposes, the user may establish voice communication over the same fiber pair which is being measured. Rugged case protects the instrument from adverse environments and rough handling.

The 21XTL as a power meter covers an exceptionally wide dynamic range (-67 dBm to +3 dBm). The receiver type includes a InGaAs photodiode. The user can perform measurements and voice communication at short and long wavelengths.

The 21XTL Test Kit includes:

- 3018 trimmer screwdriver
- Instruction manual
- Handset
- Power supply/charger
- Carrying case

Optional accessories:

- 21XTL-1000 Headset

19XT Optical Attenuator 3M



Ordering Information

Order No.	Mfg. No.
MMM 202688	19XT

Description

The Photodyne 19XT Optical Attenuator is a state-of-the-art, hand-held and automatic optical attenuator. The calibrated wavelengths are 850 nm/1300 nm multimode, or 1300 nm/1550 nm single-mode. An attenuation range of 70 dB is offered with a 0.1 dB resolution and an accuracy of ±0.2 dB typical (±0.5 dB maximum). The 19XT allows simple front panel operation or external control of attenuation through the provided analog input and output.

Includes:

- 19XT Optical Attenuator
- AC adapter
- Internal NiCad batteries
- Instruction manual
- Carrying case

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Photodyne™ 8000XGT Fiber Identifier 3M



Features

- Greater than -50 dBm sensitivity @ 1550 nm
- Low insertion loss at 1550 nm on all fiber types
- Can be used on 250µm, 900µm, ribbon, and 3 mm jacketed cable
- 1 kHz and 2 kHz tone detection
- Field rugged injection molded case

Photodyne 8000XGT fiber identifier for effective operation on 250µm, 900µm, ribbon, fibers aand even on 3 mm loose tube jacketed cable.

Ordering Information

Order No.	Mfg. No.
MMM 202689	8000XGT

Specifications

Body (H x W x L)	61 mm x 29.2 mm x 224.3 mm; 2.40" x 1.15" x 8.83"
Test head (H x W x L)	20.3 mm x 29.2 mm x 38.1 mm; 0.80" x 1.15" x 1.50"
Carrying case (H x W x L)	49 mm x 225 mm x 265 mm; 1.93" x 8.85" x 10.43"
Shipping box (H x W x L)	53.6 mm x 230.2 mm x 266.7 mm 2.11" x 9.06" x 10.50"
Shipping weight	0.9 kg; (2 lbs.)

Environmental Specifications

Operating temperature	0° To 40° C(32? To 104?F)
Storage temperature	-20° To +65°C(-4° To +149°F)
Humidity	5% to 95%, non-condensing

Performance

Spectral operating range 800 nm to 1600 nm

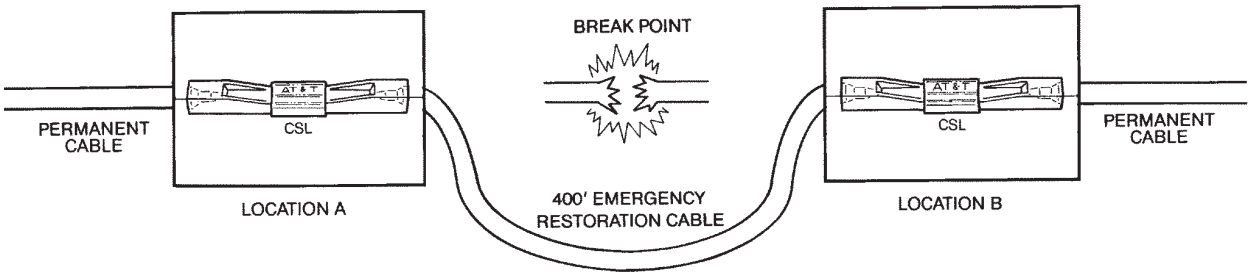
Fiber* Size & type	Wavelength nm	Sensitivity** Fiber Core Power, dBm Min.	Typical	Bend Loss** dB Typical	Max.
250 µm O.D., SMF	1550	-48	-52	1.2	1.5
250 µm O.D., SMF	1300	-40	-43	0.2	0.5
900 µm O.D., SMF	1550	-42	-45	1.8	2.5
900 µm O.D., SMF	1300	-37	-40	0.5	0.8
3 mm O.D., SMF	1550	-30	-33	2.7	3.5
3 mm O.D., SMF	1300	-27	-30	0.6	1.0
Tone	1 kHz ± 5% sq. wave and 2 kHz ±5% sq. wave				
Power	Battery	Single 9V Alkaline			
	Battery Life	> 8 hours (typical operation)			

Note: *All specifications are defined with Corning/Siecor SMF-28 type single-mode fiber
**Sensitivity and bend loss specifications are defined with Corning 250 µm O.D. clear coated fiber, Siecor 900 µm O.D. white coated fiber and Siecor 3 mm O.D. yellow jacketed patch cable with internal 900 µm O.D. white coated fiber.

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Restorpak™

ANTEC



Description

Breaks in aerial or underground fiber can occur during almost any type of emergency, interrupting cable service instantly. RESTORPAK is a fiber restoration system containing all the cable, components and tools necessary for fast effective emergency restoration of continuity to fibers with a minimum of training. RESTORPAK utilizes AT&T's CSL mechanical splicing method and LXE outdoor cable, which can be spliced to cable from any manufacturer, singlemode or multimode.

When fiber breaks, the glass shatters away from the break point in both directions. At the emergency scene, restoration splicing is performed away from the break point (locations A and B in diagram), to ensure reaching viable fiber. RESTORPAK includes everything necessary so technicians can work simultaneously on both sides of the damaged cable, away from other personnel at the site.

Choose the RESTORPAK system most applicable to your fiber plant, taking into consideration active fiber counts, available technicians, future expansion, and the minimum acceptable signal restoration time.

All Restorpak Systems Include:

- Two or more lockable cases (designated A and B) which store all restoration equipment and protect spliced fibers until a permanent repair can be completed.
- 400' of rugged AT&T LXE fiber optic cable which has been tested to ensure proper performance. Both ends are pre pared for splicing, with fibers at one end placed into an AT&T organizer tray.
- All tools and components necessary for emergency fiber restoration
- Large, stable work surface
- Method of procedure
- Inventory checklist

Ordering Information

Order No.	Mfg. No.	Description
ANT 136482	RESTORPAK 12-1	Restoration of up to 12 fibers by a sin gle technician (up to 24 fibers with Option A-12). Mainly applicable to a low active fiber count. Includes: 400' of 12 fiber LXE cable, 24 AT&T CSL mechanical splices, tool kit, cleaver and work station.
ANT 136051	RESTORPAK 24-1	Restoration of up to 24 fibers by a sin gle technician. Mainly applicable to a low active fiber count. Includes: 400' of 24 fiber LXE cable, 48 AT&T CSL mechanical splices, tool kit, cleaver and work station.
ANT 136052	RESTORPAK 24-2	Fast restoration of up to 24 fibers by two technicians splicing simultaneously (up to 48 fibers with Option B-24).Includes: 400' of 24 fiber LXE cable, 48 AT&T CSL mechanical splices, two sets of tool kits, cleavers and work stations.
ANT 136054	RESTORPAK 48-4	Fast restoration of up to 48 fibers by four technicians splicing simultaneously (up to 96 fibers with two Option B-24 kits). Includes: two 400' lengths of 24 fiber LXE cable, 96 AT&T CSL mechani--cal splices, four cases, tool kits, cleavers and work stations.
ANT 136481	Option A-12	400' of 12 fiber LXE cable with both ends prepared for mechanical splices, 24 AT&T CSL mechanical splices, and splice organizer tray.
ANT 136053	Option B-24	400' of 24 fiber LXE cable with both ends prepared for mechanical splices, 48 AT&T CSL mechanical splices, and two splice organizer trays.

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LFD-100 Fiber Detector

EXFO



Description

Insightful Instrument

The LFD-100 is the ultimate instrument for gaining a complete knowledge of your singlemode and multimode fibers without needing to disconnect them or to access their termination point. Perform continuity tests, verify cable labeling, confirm signal presence or absence before re-routing or maintenance. The LFD-100 uses field-proven technology to provide the exact information you need, in the most reliable way.

Ordering Information

Order No.	Mfg. No.
EFO 202697	LFD-100

Fast, Simple and Complete Diagnosis

A safe macrobending technique, known for not damaging or over stressing the fiber, is used to sample the signal without disrupting traffic. At power up, you may initiate a self-test. Now you are ready to test. Clip on to a fiber and the LFD-100 will display a complete status report. Almost immediately, a beep sounds and a high contrast, multi-function liquid crystal display indicates:

- signal presence or absence (dark fiber)
- signal type (customer traffic, continuous or modulated test signal at 270 Hz, 1 kHz or 2 kHz)
- direction
- absolute core power within 2 dBm.*
- detects traffic, optical tones & continuous signal
- indicates power & direction
- displays absolute or relative power
- uses macrobend technique, safe for fiber
- universal head adapts to 3 fiber sizes
- low insertion loss prevents disruption

Unique Relative Reading Capability

Get the most out of your live fiber detector by using its accurate relative measurement capability. Offering a display resolution of 0.1 dB, it is perfect for optimizing connector and rotary splice alignment as well as fiber placement in a tray, on the spot, without a power meter. The LFD-100 can also handle numerous situations where you need to monitor the core power while you make adjustments nearby.

Universal Adjustable Head

EXFO designed a revolutionary adjustable clamping mechanism for the LFD-100. This unique, non-removable head can adapt to almost every fiber size and type, including color coating fibers or yellow patch cords*. You can even clip safely on to 12 fiber ribbon cables!** Simply set the selector to 250µm, 900µm, or 3 mm and clip. This design uses no interchangeable parts so you never risk losing test head adapters.

* Some restrictions apply.

** Signal detection is limited to 6 middle fibers.

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TOP 140 and TOP 150 Optical Laser Sources

TEKTRONIX



Features

- Stabilized calibrated output
- Hermetically sealed laser diode for longevity
- Selectable modulation frequencies (270Hz, 1kHz, 2kHz)
- Universal (UCI) Connector Interface
- >80 hours battery life

Description

The TOP 140 and TOP 150 Optical Laser Sources answer the requests from the industry for small, rugged and truly versatile laser sources for use in the installation, maintenance and testing of fiber optic systems. These two laser source models cover the most used singlemode transmission windows; 1310nm and 1550nm. The TOP140 and TOP 150 feature both CW and modulated output modes. In CW mode these instruments feature extremely stabilized output power (-10dBm). In the modulated mode the frequency may be set to 270Hz, 1kHz or 2kHz by the user.

All laser sources feature the Universal Connector Interface which adapts to all standard fiber optic connectors via a complete line of simple, screw-on/screw-off UCI adapters.

Ordering Information

Order No.	Mfg. No.
TKX 251023	TOP140
TKX 251024	TOP150

TOP200 Optical Power Meter

TEKTRONIX



Features:

- Relative dB mode for direct attenuation and insertion loss measurements
- 0.01dB resolution
- Set reference for different wavelengths
- Saves references for each wavelength
- Universal (SOC) Interface
- >100 hours battery life

Description

The TOP200 hand held optical power meter covers the full range of optical fiber application. This instrument is quality engineered for field and lab personnel requiring a high performance, cost effective, compact and rugged optical power meter.

The TOP200 utilizes the Snap-On Connector (SOC) interface. Most industry standard fiber optic connectors can be accommodated, including FC, ST and SC.

The extraordinary design combines a state-of-the-art signal processor and microcomputer electronics to provide superb performance as well as simple and elegant operation with just three controls: ON/OFF, dBm/dB and λ A reference value can be set and also saved for each wavelength.

Ordering Information

Order No.	Mfg. No.
TKX 251025	TOP200

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Top300 Visual Fault Finder

TEKTRONIX



Features

- High brightness
- Universal (UCI) Connector Interface
- Fiber tracing
- Fault location to millimeter accuracy
- Long battery life
- Solid state substitute for HeNe lase

Description

The TOP300 Visual Fault Finder is specifically designed for field personnel who need an efficient and economical tool to visually check continuity and integrity of fiber installations, during and after an installation. The highly efficient laser diode operates at short wavelengths which makes the emitted light even more visible to the human eye.

Difficult-to-locate fiber breaks are easily detected when using the TOP300 visual fault finder. Whenever the fiber is interrupted, the light escapes the fiber and becomes visible to the operator. Precise pinpointing of problems is immediate and intuitive to the user.

The optical connection is via the precision Universal Connector Interface (UCI) which offers superior repeatability, longevity, and ease of maintenance.

Ordering Information

Order No.	Mfg. No.
TKX 250876	TOP300

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FOT-12X/22X Power Meters

EXFO



Features

- Full digital technology
- Long lasting calibration
- Excellent linearity and temperature stability
- AC adapter and 9V battery included

Description

The FOT12/22X power meters are low cost, rugged, basic power meters that meet the daily needs of a fiber optic technician. Easy operation and extended high end measurement range make it ideal for everyday use.

Specifications

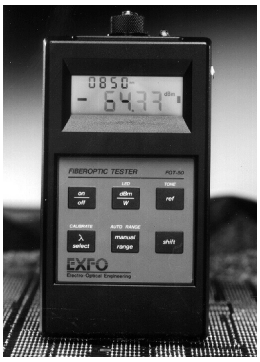
Detector type	Ge, 3mm
Calibrated wavelengths	850, 1300, 1500 nm
Dynamic range	+16 to -45 dBm
Resolution	0.1 dB
Absolute accuracy	±0.25 dB
Relative accuracy	±0.05 dB
Size	5-3/4" x 3-1/8" x 1-3/8"
Weight	12 oz. net
Power	AC adapter for continuous operation standard 9V alkaline battery, battery life: 40 hours
Operating temperature	+15°F to 104°F

Ordering Information

Order No.	Mfg. No.	Description
EFO 136700	FOT12X-68	-40 to +16 dBm. Measurement range reads in dBm.Includes field case, battery AC adapter and rotary mechanical adapter. Other adapters available.
EFO 136701	FOT22X-68	-40 to +16 dBm. Measurement range reads in dBm, watts and dB. Includes field case, battery AC adapter and rotary mechanical adapter. Other adapters available.

FOT-52X Power Meters

EXFO



Features

- Stores reference and wavelength
- Early Low Battery warning
- Analog out, audio transducer
- Singlemode and multimode fibers

Description

The FOT-52X is a more advanced power meter offering non-volatile memory, Ni-Cad battery power and 20 pre-calibrated wavelengths to support almost any communications application.

Specifications

Sensor type	Ge (3mm)
Measuring range	+16 to -60 dBm, 40 mW to 1 nW
Spectral range	800 to 1800 µm
Accuracy	±0.2 dB (5%)
Resolution	±0.01 dB
Linearity (full-range)	±0.05 dB
Size	7" x 4" x 1-3/4"
Weight	1.5 lbs.
Powering	10 hours (typ.), 14 hours (typ.) charging
Operating temperature	+15°F to +104°F

Ordering Information

Order No.	Mfg. No.	Description
EFO 139369	FOT52X-22	-60 to +16 dBm. Measurement range reads in dBm, watts and dB. Non-volatile memory. 20 calibrated wavelengths 800 to 1800 nm. Ni-Cad/AC adapter powered. Includes field case, battery charger, FC/PC adapter. Other adapters available.

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FOT-902X Power Meters

EXFO



Features

- Storage and printout of readings
- Access to complete test results from both fiber ends
- Transmits and detects 2 kHz for fiber identification
- Bi-directional RS-232 interface

Description

The FOT-902X is ideal for high volume test applications where productivity and accuracy are important. These capabilities are achieved through software-driven automated test procedures.

Specifications

Sensor type	Germanium
Measuring range	+18 to -60 dBm
Accuracy	±0.2 dBm (5%)
Resolution/linearity	0.01 dB ±0.02 dB
Spectral range	800 to 1800 nm
Size	8-3/4" x 4-1/2" x 2"
Weight	1.5 lbs.
Power	built-in ni-cad batteries
Operation	16 hours (typ.) for power meter, 8 hours (typ.) for power meter and light source and power meter, 9V battery back-up supply
Operating temperature	+15°F to +104°F

Ordering Information

Order No.	Mfg. No.	Description
EFO 152055	FOT902X-22	-55 to +23 dBm measurement range. Reads in dBm, watts and dB. Nonvolatile memory, calibrated for 20 wavelengths 800 to 180 nm. Ni-Cad/AC adapter, 9V battery powered. 1024 internal memory locations, backlit display. Applications software. Includes field case, batteries and charger, RS-232 cable, FC connector adapter. Other adapters available.

Power Meter Adapters

EXFO



Description

All EXFO adapters are precision machined and finished in low gloss black or unmatched repeatability (<0.03 dB) and durability. For use with EXFO power meters.

Ordering Information

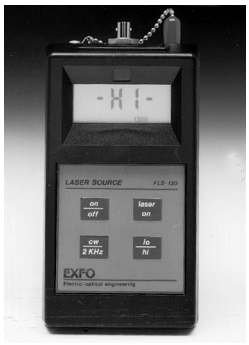
Order No.	Mfg. No.	Description
EFO 137246	FOA-12	for connector type: biconic
EFO 137244	FOA-22	for connector type: NTT-FC/NEC-D3
EFO 137245	FOA-32	for connector type: AT&T-ST,
EFO 141149	FOA-54	for connector type: NTT-type SC
EFO 139426	FOA-68	for connector type: AT&T rotary mechanical splice

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FLS-130 Series Laser Sources

EXFO



Features

- Continuous and 2 kHz modulation
- LCD displays power and wavelength
- LO/HI output power levels

Description

The FLS-130 Series laser source has been designed for fiber-in-the-loop (FITL), fiber-to-the-curb (FTTC), restoration, cable acceptance, etc. Available in 1300 nm and 1550 nm versions, this laser source will perform at its best in singlemode applications.

Specifications

Emitter type	laser
Wavelength	FLS-132: 1300 nm FLS-133: 1550 nm
Accuracy	FLS-132: ±20 FLS-133: ±30
FWHM	5 nm
Launched power1	9/125 µm: -8 dBm typ. 50/125 µm: -7 dBm typ. 62.5/125 µm: -7 dBm typ.
Stability 2	±0.06
Size	5-3/4" x 3-1/8" x 1-3/8"
Weight	12 oz.
Powering	9V alkaline battery; 10 hours of operation on low power mode AC adapter: continuous use from line voltage
Operating temperature	+15°F to +104°F

1 Typical power launched using the HIGH power mode, value is approx. 5 dB lower. FOS-130s are only tested with 9/125 µm fibers.

2 Typical after a 5 minute warmup and a 10 minute warmup (in a 9/125 µm fiber).

Ordering Information

Order No.	Mfg. No.	Description
1300 nm Laser Sources		
EFO 152056	FLS-132-22	with connector type: NTT-FC
EFO 152057	FLS-132-32	with connector type: AT&T-ST
EFO 152058	FLS-132-54	with connector type: NTT-SC
1550 nm Laser Sources		
EFO 152059	FLS-133-22	with connector type: NTT-FC
EFO 152060	FLS-133-32	with connector type: AT&T-ST
EFO 152061	FLS-133-54	with connector type: NTT-SC
1300/1550 nm Laser Sources (two output ports)		
EFO 152062	FLS-135-22	with connector type: NTT-FC
EFO 152064	FLS-135-32	with connector type: AT&T-ST
EFO 152065	FLS-135-54	with connector type: NTT-SC

All models include field case, AC adapter and 9V battery.

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FLS-210A Fiber Optic Light Source

EXFO



Features

- Variable output power
- Dual wavelength selection
- LED or laser configuration
- External and internal modulation

Specifications

Wavelength (nm)	-02B: 1300 ± 30 -02BL: 1300 ± 15 -03B: 1550 ± 30 -03BL: 1550 ± 15 -12C: 850 ± 15; 1300 ± 30 -23B: 1300 ± 30; 1550 ± 30 -23BL: 1300 ± 15; 1550 ± 15
Spectral width (FWHM) (NM)	-02B: 80 -02BL: 5 -03B: 100 -03BL: 5 -12C: 40; 80 -23B: 80; 100 -23BL: 5; 5
Emitter type	-02B, -03B, -12C, -23BL: LED -02BL, -03BL, -23BL: laser
Power output (9/125 µm) (dB)	-02B:-26 -02BL: -7 -03B: -31 -03BL: -2 -12C: N/A -23B: -26/-31 -23BL: -11/-7
Stability (1 hr./8 hrs.) (dB)	-02B:±0.08/±.15 -02BL: ±.05/±.15 -03B: ±.05/±.15 -03BL: ±.05/±.15 -12C: ±.02/±.06; ±.04/±.12 -23B: ±.05/±.15; ±.05/±.15 -23BL: ±.05/±.15; ±.05/±.15
Temperature stability	-02B, -02BL, -03B, -03BL: ±.30 -12C: ±.10/±.15 -23B -023BL: ±.20/±.20

All models include 3-way power (Ni-Cad/AC adapter/9V battery), field case, AC adapter, 9V alkaline battery, protective holster, strap and manual.

Switchable 1300 and 1550 nm LED source (9/125µm).

Ordering Information

Mfg. No.	Description
FLS-210A-02B-50	1300 nm, singlemode pigtailed LED, FC connector
FLS-210A-02B-32	1300 nm, singlemode pigtailed LED, ST connector
FLS-210A-02B-54	1300 nm, singlemode pigtailed LED, SC connector
FLS-210A-02BL-50	1300 nm, singlemode pigtailed, non-cooled laser, FC connector
FLS-210A-02BL-32	1300 nm, singlemode pigtailed, non-cooled laser, ST connector
FLS-210A-02BL-54	1300 nm, singlemode pigtailed, non-cooled laser, SC connector
FLS-210A-02BLC-22	1300 nm, singlemode pigtailed, TE-cooled laser, FC connector
FLS-210A-02BLC-32	1300 nm, singlemode pigtailed, TE-cooled laser, ST connector
FLS-210A-02BLC-54	1550 nm, singlemode pigtailed, TE-cooled laser, SC connector
FLS-210A-03B-50	1550 nm, singlemode pigtailed LED, FC connector
FLS-210A-03B-32	1550 nm, singlemode pigtailed LED, ST connector
FLS-210A-03B-54	1550 nm, singlemode pigtailed LED, SC connector
FLS-210A-03BL-50	1550 nm, singlemode pigtailed, non-cooled laser, FC connector
FLS-210A-03BL-32	1550 nm, singlemode pigtailed, non-cooled laser, ST connector
FLS-210A-03BL-54	1550 nm, singlemode pigtailed, non-cooled laser, SC connector
FLS-210A-03BLC-50	1550 nm, singlemode pigtailed, TE-cooled laser, FC connector
FLS-210A-03BLC-32	1550 nm, singlemode pigtailed, TE-cooled laser, ST connector
FLS-210A-03BLC-54	1550 nm, singlemode pigtailed, TE-cooled laser, SC connector
FLS-210A-23B-50	Switchable 1300 and 1550 nm LED source (9/125µm), FC connector
FLS-210A-23B-32	Switchable 1300 and 1550 nm LED source (9/125µm), ST connector
FLS-210A-23B-54	SC connector
FLS-210A-23BL-50	Switchable 1300 and 1550 nm laser source, non-cooled, FC connector
FLS-210A-23BL-32	Switchable 1300 and 1550 nm laser source, non-cooled, ST connector
FLS-210A-23BL-54	Switchable 1300 and 1550 nm laser source, non-cooled, SC connector
FLS-210A-23BLC-50	Switchable 1300 and 1550 nm laser source, TE-cooled, FC connector
FLS-210A-23BLC-32	Switchable 1300 and 1550 nm laser source, TE-cooled, ST connector
FLS-210A-23BLC-54	Switchable 1300 and 1550 nm laser source, TE-cooled, SC connector

For ordering information contact your **Telewire Supply** Sales Representative.

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FLS-230A Visual Fault Locator

EXFO



Features

- Locates breaks/bends even through jacketed fibers
- Troubleshoots faults within OTDR dead zone
- Mechanical/fusion splice optimization
- End-to-end fiber identification
- Finds bad connectors and splices
- Connector end-face polish inspection
- Loss measurements at 650 nm

Specifications

Emission wavelength	650 nm ±10 nm (red)	
Range	up to 5 km	
Power output	CW operation mode	high (typ./max.): 0.90/.95 mW low (typ./max.): 0.45/0.50 mW
	Modulated mode	high (typ./max.): 0.45/.50 m low (typ./max.): 0.20/0.25 mW
Power stability	CW operation mode: ±4% modulated mode: ±6%	
Size	8-3/4" x 4" x 1-3/4"	
Weight	1.5 lbs.	
Powering	built-in Ni-Cad batteries: 13 hours (1 Hz); 7 hours (CW) 2 x 9 VDC alkalines: 7 extra hours (CW mode) 12 VDC charger: continuous use	
Operating temperature	+15°F to +104°F	

Ordering Information

Order No.	Mfg. No.	Description
EFO 136975	FLS-230A-22	visual fault locator at 650 nm for SM and MM fibers. Includes field carrying case, AC adapter, Ni-Cad batteries, 9V battery, protective holster, shoulder strap and manual.

Variable Optical Attenuators

EXFO



Features

- Bit Error Rate (BER) testing
- Power meter calibration
- Optical margin analysis
- System loss simulation

Specifications

Fiber type	9/125 µm
Calibration wavelengths	1300, 1550 nm
Maximum attenuation	-65 dB
Insertion loss	-3.0 dB max.; -2.5 dB typical
Optical resolution	±0.05 dB
Linearity	±0.20 dB
Repeatability	±0.10 dB max.; ±0.03 dB typical
Back reflection (at 1300 nm)	-26 dB max.; -29 dB typical
Size	8-3/4" x 4-1/2" x 2"
Weight	1.5 lbs.
Speed	0 to 60 dB in 15 seconds at maximum scan rate
Operating temperature	+15°F to +104°F
Relative humidity	0 to 90% non-condensing
Power	AC charger: continuous operation Ni-Cad: 4 to 12 hours depending on operation 9 VDC alkaline batteries: 4 to 12 hours

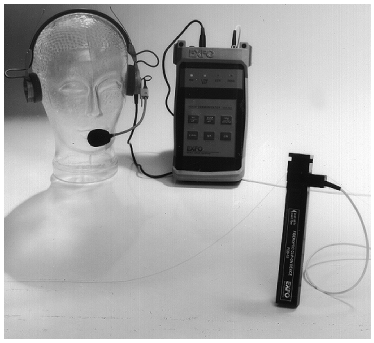
Ordering Information

Order No.	Mfg. No.	Description
EFO 152092	FVA-60A-B50	hand-held variable attenuator calibrated at 1300/1550 nm. Comes with carrying case soft protective holster, Ni-Cad battery, operation manual, AC adapter, RS-232 cable and application software. FC/PC connector.
EFO 153881	FVA-60A-B32	hand-held variable attenuator calibrated at 1300/1550 nm. Comes with carrying case, soft protective holster, Ni-Cad battery, operation manual, AC adapter, RS-232 cable and application software. ST connector.
EFO 153882	FVA-60A-B54	hand-held variable attenuator calibrated at 1300/1550 nm. Comes with carrying case, soft protective holster, Ni-Cad battery, operation manual, AC adapter, RS-232 cable and application software. SC connector.

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VCS-20A Multi-Party Talk Set

EXFO



Features

- Full-duplex talk set over one fiber
- Stable light source for attenuation testing
- 2 kHz active fiber generator / optical tone generator
- Full digital voice communication

Ordering Information

Order No.	Mfg. No.	Description
EFO 136703	VCS-20A-02B	operating at 1300 nm, on one singlemode fiber.
EFO 152094	VCS-20A-02BL-50	operating at 1300 nm, on one singlemode fiber. FC-PC connector
EFO 152095	VCS-20A-03BL-50	operating at 1550 nm on one single mode fiber. FC-PC connector

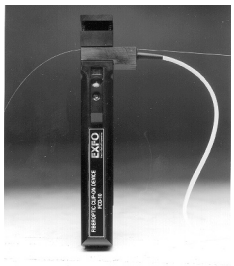
All models include head set (GP-90), carrying case, AC adapter, holster, shoulder strap and instruction manual.

Specifications

Wavelength	-02B: 1300 nm ±30 -02BL: 1300 nm ±15 -03BL: 1550 nm ±15	
Spectral width	-02B: 80 nm -02BL/-03BL: 5 nm	
Emitter type	-02B: LED -02BL/-03BL: laser	
Optimum fiber type	9/125 µm	
Distance range (approx.)	-02B: 50 km -02BL: 75 km -03BL: 120 km	
Dynamic range (typical)	-02B:	9/125 µm: 26 dB 50/125 µm: 11 dB 62/125 µm: 9 dB
	-02BL/-03BL:	9/125 µm: 38 dB 50/125 µm: 23 dB 62/125 µm: 21 dB
Power output (typical)	-02B: 17 dB -02BL/-03BL: -5 dB	
Stability (typical)	-02B: 1 hour: ±0.10 dB 24 hours: ±0.20 dB -02BL/-03BL: 1 hour: ±0.05 dB 24 hours: ±0.15 dB	
Size	8" x 4" x 1-3/4"	
Weight	1-3/4 lbs.	
Operating temperature	+15°F to +104°F	
Humidity	0-95% non-condensing	
Powering	built-in Ni-Cads: 10 hours typical from full charge 9 VDC alkalines: 8 hours of operation, automatic transfer to alkalines when Ni-Cads are running low 12 VDC charger: continuous operation	

Fiber Optic Clip-On Device

EXFO



Description

When used with the VCS-20A talk set, the FCD-10 allows a technician to clip on to a primary coated singlemode fiber (250 µm) and establish communication without accessing a fiber end.

Ordering Information

Order No.	Mfg. No.
EFO 152093	FCD-10-22

Specifications

Wavelength range	1300 and 1550 nm
Coupling efficiency	-17 to -25 dB
Insertion loss	<3 dB (1300 and 1550 nm)
Back reflection	<-60 dB on tapped fiber (for Corning SMF-28 fiber)
Fiber type	singlemode, 250 µm, acrylate, high refractive index; clear coated fibers provide best performance, all colors do not attenuate infrared signals equally.
Size	7" x 1" x 1"
Weight	7 oz.
Operating temperature	+59°F to +104°F

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