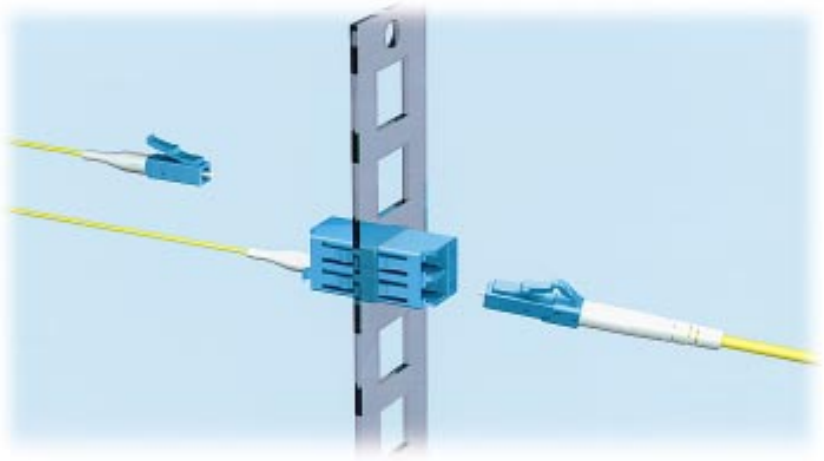
Lucent Technologies
Bell Labs Innovations

LC Connector Family

A High Density Fiber Optic Solution for SYSTIMAX® SCS and ExchangeMAX® SCS



Single-mode LC Connector, Adapter and LGX panel. Multimode LC (beige) not pictured.

Lucent Technologies listened to our customers, and responded by delivering the next generation fiber optic LC Connector Solution for SYSTIMAX private network and ExchangeMAX public networks. The LC Connector Solution was developed in response to customer needs for smaller and easier-to-use fiber optic connectivity. Bell Laboratories created a solution that reduces the space required on panels, outlets, and in closets by 50% throughout the network. It simplifies moves, adds, and changes and saves you money. The LC Connector uses an improved version of the familiar, user-friendly telephone plug, which provides a reassuring, audible click when engaged. The unique combination of small size and the click of connectivity makes the LC Connector the right choice for your network. Designed to work together, the LC Solution is a complete family of products designed to offer the optimal, high-density solution for private and public networks. The LC Solution is Bellcore, ANSI/EIA/TIA and IEC compliant and SYSTIMAX SCS approved.

LC Fiber Optic Family Consists of:

- Field Mountable Connectors
- Simplex Patchcords
- Duplex Patchcords
- Hybrid Patchcords
- Pigtails
- Duplex Adapters
- LIU and LGX Panels
- Collar with adapters for MULTIMAX Panel and Outlets
- Tool and Consumable Kits

Features	Benefits
Half the size of the standard connectors	Doubles fiber density in shelves and outlets – lowering system costs
RJ45 push-pull style housing	Allows easy disengagement in dense spaces
Polarized	Assures high repeatability, maintains transmit/receive direction
Pull-proof	Maintains optical contact under loads, and helps prevent accidental disconnects
PC finish	Helps minimize transmission problems. Optimizes optical contact
Anti-snag latch	Improves durability and reduces crossconnect rearrangement effort
Minimal polish	Reduces installation time for field mountable connectors

Applications

- SYSTIMAX Approved
- Telecommunications Networks
- Local Area Networks
- Data Processing Networks
- Device Terminations
- Premises Distribution
- Cable Television
- Fiber-to-the-Home
- Fiber-to-the-Desktop

Field Mountable LC Connector

The LC Connector is easily field mountable. It is designed to mount on 0.9 mm buffered fiber in "behind the wall" applications. A finger catch and extended latch beam make the LC field mountable connector easy to engage and disengage. It plugs into the adapter in only one orientation. This enhances optical performance and maintains transmit and receive polarity. All of the tools necessary for mounting the LC Connector are contained in the 1032 upgrade kit. The kit contains a microscope adapter, polishing tool and connector holders.

Field Mountable Multimode LC Simplex Connector.

Consumable kits, containing enough material to mount approximately 200 connectors (not included) are available for both the multimode and single-mode connectors.

Order a D182095 upgrade kit and a D182738 consumable epoxy kit for multimode connectors. Substitute the D182739 consumable epoxy kit when using single-mode connectors.

LC Field Mountable Connectors—
Specifications and Ordering Information

Connector*	P1001 A-Z-125	P1101A-Z-125*
Fiber Type	Multimode	Single-mode
Comcode	107 764 292	107 764 300
Nominal Fiber OD	125 µm	125 µm
Cable OD	0.9 mm	0.9 mm
Insertion Loss[1] µ, σ	0.10, 0.10 dB	0.20, 0.10 dB
Return Loss[2] Minimum	20 dB	40 dB
Cable Retention[3]	2 lbs./8.9N	2 lbs./8.9N
Mating Durability for 500 Reconnects Insertion Loss Change	<0.2 dB	<0.2 dB
Temperature Stability (–40°C to +75° C) Insertion Loss Change	<0.3 dB	<0.3 dB
Tip Material	Ceramic	Ceramic

1 Complete connection concatenated statistics 8.3/125 fiber, 62.5/125 fiber. Dry connection.

2 The data was obtained through laboratory testing and simulated field environments for buffered fiber (0.9 mm) only.

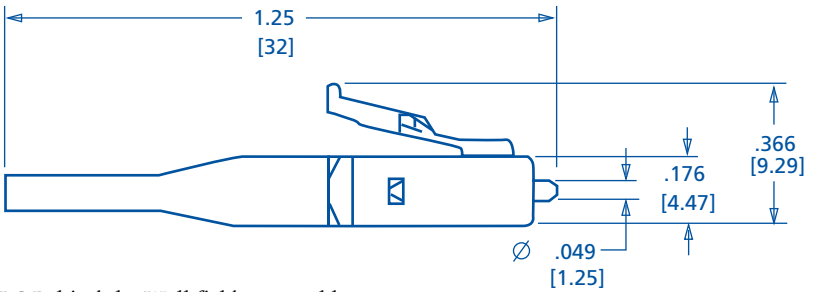
3 Cable dependent to cause permanent light transmission failure. Figure representative of use with Lucent buffered fiber or equivalent.

The performance of the P1001A-Z-125 and P1101 A-Z-125 is representative of all multimode and single-mode LC Connectors mounted on buffered fiber .

** Connector for field mounting on cordage will be available 3Q97.*

LC Tools and Consumable Kits

Product Code	Description	Comcode
D182905	Upgrade Kit	107 852 139
P2000A	LC Polishing Fixture	107 766 776
	LC Microscope w/adapter	107 863 946
	LC Connector Holder	107 852 493
D182738	Multimode Epoxy Consumable Kit (epoxy for 200 connectors)	106 919 236
D182739	Single-Mode Epoxy Consumable Kit (epoxy for 200 connectors)	106 919 244
1032B5	Tool Kit with oven for epoxy	106 705 213
1032F1	EZ Tool Kit	107 149 320
D182804	Multimode EZ Consumable Kit (for 1000 EZ installations)	106 148 942
D182720	Single-Mode EZ Consumable Kit (for 200 EZ installations)	106 834 039



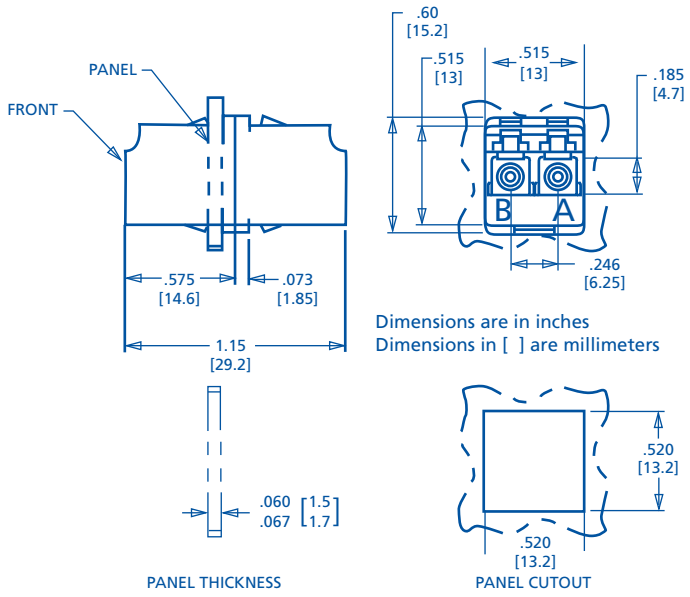
LC Behind the Wall field mountable connector

Multimode LC adapter.
Single-Mode LC adapter (blue) not pictured.

LC Adapter

The LC adapter features a self-adjusting mechanism designed to accommodate panel thickness variations from 1.55 to 1.75 mm (0.60 to 0.067 inches). The LC duplex adapter occupies approximately the same space as a SC simplex adapter. The adapter is symmetrical and can be rotated to any of four positions in the panel. It is available in both single-mode and multimode.

The M81LC collar allows the LC adapter to be installed in most of the M-Series faceplates, boxes, and the MULTIMAX modular jack panel.



LC Adapters, Panels and Collars—Ordering Information

Product Code	Application	Adapter Capacity Per Panel	Comcode
Duplex Adapters			
C1000A-2	Snap-in, multimode		107 764 250
C1100A-2	Snap-in, single-mode		107 764 276
Crossconnect Panels			
10LC1	100A3 and 200A LIU panel	6	107 783 755
1000LC1	LGX 5 and 7 in. and 400A panel	6	107 783 763
1200LC1	LGX 9 in. panel	9	107 783 771
M1000P4	MULTIMAX panel	24	107 618 043
1200LC DPLX	600A shelf panel	24	107 880 478
1200LC1DPLX	600B shelf panel	24	107 880 486
LC Adapter Mounting Module			
M81LC-029	One multimode Adapter with clear collar		107 782 641

LC Patchcords

The LC Connector used on the LC Patchcords has a trigger mechanism that allows the connector to be easily engaged and disengaged. This trigger also prevents the plug from snagging when jumper cables are being routed. On the multimode duplex patchcords, the trigger also allows the two plugs to be simultaneously disengaged.

The LC Patchcords utilize the smaller 1.6 mm cordage, one of the smallest in the industry. With this smaller cordage at least twice as many fibers can be installed in a cabinet.

The duplex cordage is 1.6 by 3.6 mm in a figure-8 design that has two single fiber cords joined together with a web. When using LC Patchcords, congestion is greatly reduced in the shelves. This will help you save space and time when making rearrangements. Additionally, the pull-proof design helps to prevent accidental disconnects and helps to assure optimal performance of your system. Custom hybrid patchcords make it easy to migrate your system to the LC Connector.

Multimode Duplex LC Patchcord.
Single-Mode Duplex LC Patchcord (blue) not pictured.

LC Factory Made Patchcords—Specifications

Fiber Type	Single-Mode*	Multimode*
Loss[1]: μ, σ	0.1, .07 dB	0.1, 0.1 dB
Return Loss Minimum	50 dB	20 dB
Cable OD	1.6mm	1.6mm
Cable Retention[2] (cordage)	20 lbs./88.9N	20 lbs./88.9N
Mating Durability for 500 Reconnects Insertion Loss Change	<0.2 dB	<0.2 dB
Temperature Stability (–40° C to +75° C) Insertion Loss Change	<0.3 dB	<0.3 dB
Tip Material	Ceramic	Ceramic

1 Complete connection concatenated statistics 8.3/125 fiber, 62.5/125 fiber. Dry connection.
2 Cable dependent to cause permanent light transmission failure. Figures representative of use with Lucent jumper cordage or equivalent.
** The performance is representative of all LC factory patchcords herein.*

Example 1:

Customer desires a quantity of one (1) multimode patchcord with LC Connectors on each end, and a length of 23 feet

Ordering Format—

ML1LC-LC 107 736 878 e/w 23 ft., 107 132 714

Example 2:

Customer desires a quantity of 10 of example 1.

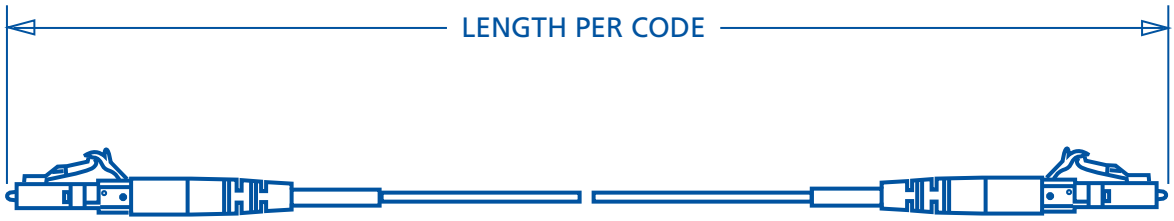
Ordering Format—

10 ML1LC-LC 107 736 878 e/w 230 ft., 107 132 714

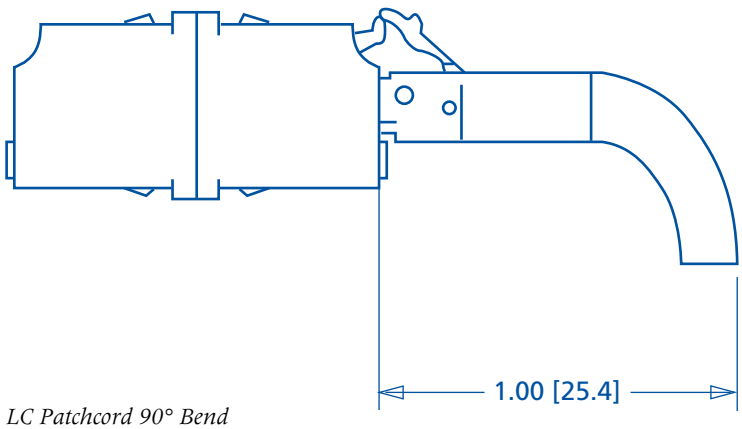
LC Patchcords – Multimode (62.5 μm)— Ordering Information

Simplex		Length		Duplex without clip	
Comcode	Code	Ft.	Meters	Comcode	Code
107 736 712	ML1LC-LC	4	1.2	107 736 894	ML2LC-LC
107 736 720	ML1LC-LC	5	1.5	107 736 910	ML2LC-LC
107 736 738	ML1LC-LC	6	1.8	107 736 928	ML2LC-LC
107 736 746	ML1LC-LC	8	2.4	107 736 936	ML2LC-LC
107 736 753	ML1LC-LC	10	3.1	107 736 944	ML2LC-LC
107 736 761	ML1LC-LC	15	4.6	107 736 951	ML2LC-LC
107 736 779	ML1LC-LC	20	6.1	107 736 969	ML2LC-LC
107 736 787	ML1LC-LC	25	7.6	107 736 977	ML2LC-LC
107 736 795	ML1LC-LC	30	9.2	107 736 985	ML2LC-LC
107 736 811	ML1LC-LC	35	10.7	107 736 993	ML2LC-LC
107 736 829	ML1LC-LC	40	12.2	107 737 009	ML2LC-LC
107 736 837	ML1LC-LC	50	15.2	107 737 017	ML2LC-LC
107 736 845	ML1LC-LC	75	22.9	107 737 025	ML2LC-LC
107 736 852	ML1LC-LC	100	30.5	107 737 033	ML2LC-LC
LC–LC Custom Length Patchcords					
107 736 878	ML1LC-LC	E/W*	E/W	107 737 041	ML2LC-LC
LC-SC, LC-ST+ II Hybrid Custom Length Patchcords					
107 815 995	ML1LC-SC	E/W	E/W	107 816 001	ML2LC-SC
107 815 979	ML1LC-ST	E/W	E/W	107 815 987	ML2LC-ST

**E/W— Customer Specified Length*



LC Patchcord Simplex



Dimensions are in inches
Dimensions in [ ] are millimeters

LC Patchcord 90° Bend

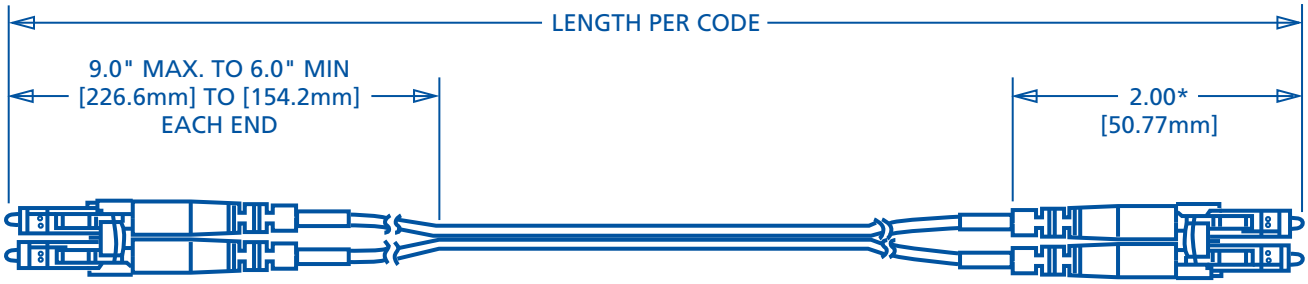
LC Patchcords – Single-Mode (8.3 µm)— Ordering Information

Simplex		Length		Duplex	
Comcode	Code	Ft.	Meters	Comcode	Code
107 735 177	MS1LC-LC	4	1.2	107 735 367	MS2LC-LC
107 735 185	MS1LC-LC	5	1.5	107 735 375	MS2LC-LC
107 735 227	MS1LC-LC	6	1.8	107 735 383	MS2LC-LC
107 735 235	MS1LC-LC	8	2.4	107 735 391	MS2LC-LC
107 735 243	MS1LC-LC	10	3.1	107 735 409	MS2LC-LC
107 735 250	MS1LC-LC	15	4.6	107 735 417	MS2LC-LC
107 735 268	MS1LC-LC	20	6.1	107 735 425	MS2LC-LC
107 735 276	MS1LC-LC	25	7.6	107 735 433	MS2LC-LC
107 735 284	MS1LC-LC	30	9.2	107 735 441	MS2LC-LC
107 735 292	MS1LC-LC	35	10.7	107 735 458	MS2LC-LC
107 735 300	MS1LC-LC	40	12.2	107 735 466	MS2LC-LC
107 735 318	MS1LC-LC	50	15.2	107 735 474	MS2LC-LC
107 735 326	MS1LC-LC	75	22.9	107 735 482	MS2LC-LC
107 735 334	MS1LC-LC	100	30.5	107 735 490	MS2LC-LC
LC-LC Custom Length Patchcords					
107 735 342	MS1LC-LC	E/W*	E/W	107 735 508	MS2LC-LC
LC-SC, LC-ST II+ Hybrid Custom Length Patchcords					
107 815 912	MS1LC-SC	E/W	E/W	107 815 920	MS2LC-SC
107 815 896	MS1LC-ST	E/W	E/W	107 815 904	MS2LC-ST

** E/W— Customer Specified Length*

LC Patchcords

Length Tolerance	Feet	Meters
2–14	+0.5	+0.15
15–100	+1	+0.3
Greater than 100	+2	+0.6



LC Multimode Patchcord Duplex

Single-mode duplex patchcords utilize 2 simplex connectors per end instead of 1 duplex connector per end shown here.

LC Cordage—Ordering Information

Comcode	Code	Fiber Type	Configuration
107 132 698	LGMC-001B-SRX	8.3µm	Simplex
107 132 672	LGMC-002B-SRX	8.3µm	Duplex
107 132 714	LGMC-001B-LRX	62.5µm	Simplex
107 132 706	LGMC-002B-LRX	62.5µm	Duplex

LC Pigtail—Specifications

Fiber Type	Single-Mode	Multimode
Loss µ, σ	0.1, .07dB	0.1, 0.1
Return Loss (min)	50dB	20dB
Retention	2 lbs./8.9N	2 lbs./8.9N
Tip Material	Ceramic	Ceramic

LC Pigtails*—Ordering Information

			Length	
Comcode	Code	Fiber Type	Ft.	Meters
107 753 097	1LC-1	Single-mode/8.3µm	1	0.3
107 753 105	1LC-5	Single-mode/8.3µm	5	1.5
107 753 113	1LC-7	Single-mode/8.3µm	7	2.1
107 753 121	1LC-10	Single-mode/8.3µm	10	3.1
107 753 139	1LC-20	Single-mode/8.3µm	20	6.1
107 753 147	1LC-35	Single-mode/8.3µm	35	10.7
107 753 196	3LC-1	Multimode/62.5µm	1	0.3
107 753 204	3LC-5	Multimode/62.5µm	5	1.5
107 753 212	3LC-20	Multimode/62.5µm	20	6.1
107 753 220	3LC-35	Multimode/62.5µm	35	10.7

* *Pigtails consist of a multimode or single-mode connector terminated on one end of a 0.9mm strengthened buffer jacket single fiber cable. Pigtails are compatible with fusion and mechanical splices.*

For additional information about the LC Fiber Optic Products, please contact your Lucent Technologies Sales Representative.

For Fiber Optic Products technical assistance, please call 1-888-342-3743.

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