

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

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TERMINALS

DESCRIPTION OF INSIDE PROTECTED TERMINALS

Contents	Page
General	1
Cross-Connecting Type Terminal	1
L16, L26 and L51 Cable Terminal Sections	1
LA26 and LA51 Cable Terminal Sections	3
M16, M26 and M51 Cable Terminal Sections	3
LA16, LA26 and LA51 Fuse Chambers	5
83 Type and 84 Type Backboards	8
LA Type Cable Terminal	10
Non-Cross-Connecting Type Terminals	11
LB Type Cable Terminal	11
LC Type Cable Terminal	14

1. GENERAL

1.01 This section describes the standard types of protected cable terminals which are available for use within buildings at the junction of exposed and unexposed plant.

1.02 Issue 2 of this section has been prepared to bring the descriptive information into agreement with the design changes and additions that have been made to improve the series of inside protected terminals.

2. CROSS-CONNECTING TYPE TERMINAL

L16, L26 and L51 Cable Terminal Sections

2.01 The L16, L26 and L51 Cable Terminal Sections, of sheet metal composition having an olive green finish, are intermediate sections which can be assembled in any

number of the same size with the associated end sections, described in Paragraph 2.04, to form the housing of a protected cable terminal. The L26 and L51 sections may also be assembled with the LA26 and LA51 sections, described in Paragraph 2.03, where the wider intermediate section is required in the assembly of an LA Type Cable Terminal. The L section consists of an assembly of a back, top and bottom and also a lift-out type of door. To the upper portion of the back are attached two hangers which engage a mounting bracket supplied with the L section. To the lower portion of the back are attached two supports through which anchoring devices are placed. The top and bottom parts each contain three U-shaped knockouts, the center one to accommodate the stub cable of the fuse chamber and the adjacent ones to accommodate the station wires and the ground wire. The latter knockouts are also intended to be used as cable entrance holes when the L section is used to house binding post chambers or connecting blocks instead of a fuse chamber. Two wiring rings are attached to each of these parts and, in addition, the bottom part contains two stops which serve to raise the lift-out door sufficiently to engage the top part. The top and bottom parts are attached to the back part by means of machine screws and nuts in order that these parts may be removed to facilitate placing a fuse chamber or a binding post chamber. The L sections will accommodate one LA Type Fuse Chamber or one 83 Type Backboard of the sizes indicated in the following table:

<u>Sections</u>	<u>Fuse Chambers</u>	<u>Backboards</u>
L16	1-LA16	1-83A
L26	1-LA16 or 1-LA26	1-83B
L51	1-LA26 or 1-LA51	1-83C

2.02 The over-all dimensions of the L16, L26 and L51 Cable Terminal Sections, including the hangers and supports, are given in the following table:

<u>Sections</u>	<u>Height</u>	<u>Over-all Dimensions</u>	
		<u>Width</u>	<u>Depth</u>
L16	1 ft. 9-1/2 in.	1 ft. 1/8 in.	8-7/16 in.
L26	2 ft. 5 in.	1 ft. 1/8 in.	8-7/16 in.
L51	4 ft. 1/2 in.	1 ft. 1/8 in.	8-7/16 in.

LA26 and LA51 Cable Terminal Sections

2.03 The LA26 and LA51 Cable Terminal Sections are intermediate sections which differ from the L26 and L51 Cable Terminal Sections principally in that they are 3 inches wider. The LA26 and LA51 sections, equipped with 84A and 84B Backboards respectively, are intended primarily for housing the unexposed cable terminations in LA Type Cable Terminals. These sections will accommodate a greater number of unexposed cable terminations than the L sections, as will be noted in Paragraph 6.02 of Section G61.130.

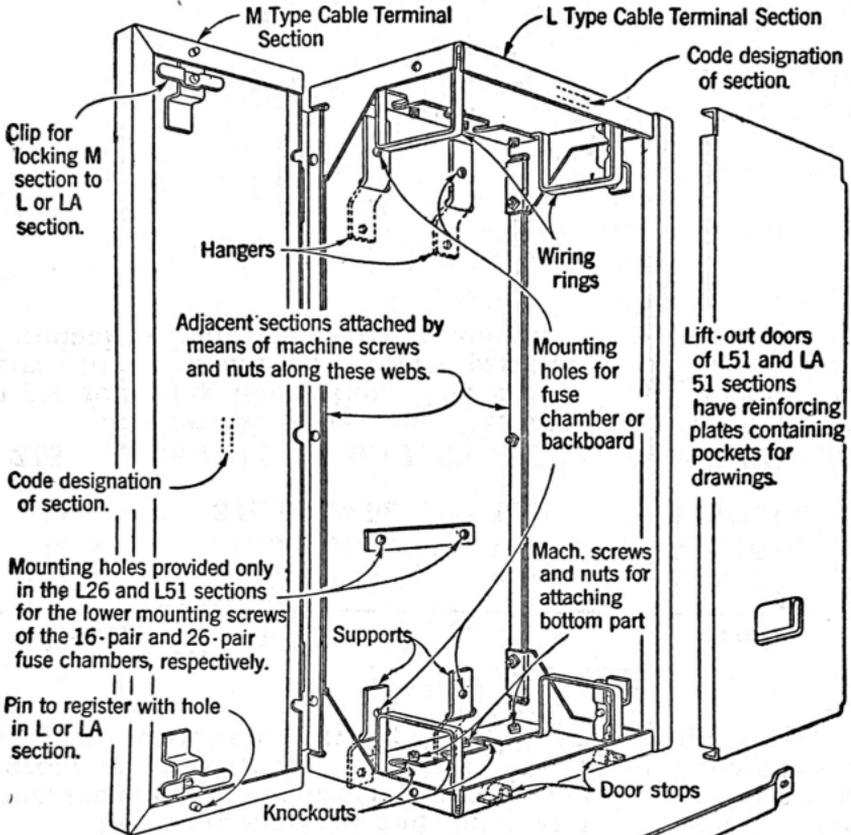
M16, M26 and M51 Cable Terminal Sections

2.04 The M16, M26 and M51 Cable Terminal Sections, of the same material and finish as the L and LA sections, are end sections provided for closing the ends of one or a group of intermediate sections. The over-all dimensions of these end sections are given in the following table:

Sections	Over-all Dimensions		
	Height	Width	Depth
M16	1 ft. 8-1/4 in.	1 in.	7-13/16 in.
M26	2 ft. 3-3/4 in.	1 in.	7-13/16 in.
M51	3 ft. 11-1/4 in.	1 in.	7-13/16 in.

2.05 An assembly of one L Type Cable Terminal Section and two M Type Cable Terminal Sections is shown in the following illustration. The L11 and M11 sections referred to in this illustration form parts of the LC Type Cable Terminal as indicated in Paragraph 3.08.

L TYPE AND M TYPE CABLE TERMINAL SECTION ASSEMBLY



Separate parts furnished with each L and LA section.

Four machine screws for mounting fuse chamber or backboard.

One machine screw and nut with each L11, L16, L26, and LA26 section for joining adjacent L or LA sections.

Two machine screws and nuts with each L51 and LA51 section for joining adjacent L or LA sections.

Mounting Bracket
Lift-out door

5/16 in. 1/2 in. Mounting Bracket

Separate parts furnished with each M section.

Three machine screws and nuts with each M11, M16, and M26 section for attaching to L or LA section.

Four machine screws and nuts with each M51 section for attaching to L51 or LA51 section.

LA16, LA26 and LA51 Fuse Chambers

2.06 The LA16, LA26 and LA51 Fuse Chambers are intended primarily for use in the intermediate sections of the LA and LC types of protected building cable terminals. They are also suitable for use in built-in terminal cabinets which may be provided by building owners to house the protected terminal equipment. The fuse chamber seals the exposed cable terminations and provides mounting facilities for the necessary fuses and protector blocks, which are ordered as separate parts for installation when service is established. The chamber has a wooden back, phenol fibre sides and face plate and sheet metal ends. A 10-foot 26-gauge pulp insulated stub cable enters at one end of the chamber, which shall be considered as the top, and is terminated on soldering lugs located in the sides of the chamber near the back. The outer end of each lug is formed to serve as the rear mounting for a 7A Fuse. A clip is provided at the front of the chamber to engage the other end of the 7A Fuse. Adjacent to this clip is a spring to hold the No. 26 and No. 27 Protector Blocks. From this point the circuit continues through a two-piece clip, joined by means of a P-290225 Connector, to the binding post to which the conductor of the cross-connecting or station wire is connected. When a sneak current fuse (60D) or battery feed fuse (60E) is required, the P-290225 Connector is removed and the part of the two-piece clip toward the center of the chamber is removed and reattached 180 degrees from its original position to form a mounting for the 60D or 60E Fuse.

2.07 Two adjacent fuse mountings comprise a pair, the green conductor of each stub cable pair being associated with the upper mounting when the chamber is viewed from the front with the stub cable at the top. The tracer, or blue-red cable pair, is located at the lower right-hand corner of the chamber with the red conductor associated with the upper fuse mounting. When the chamber is mounted with the stub cable at the bottom, it is necessary that the conductors of this cable be spliced so that the cable terminations appear in the same relative positions on the fuse mountings.

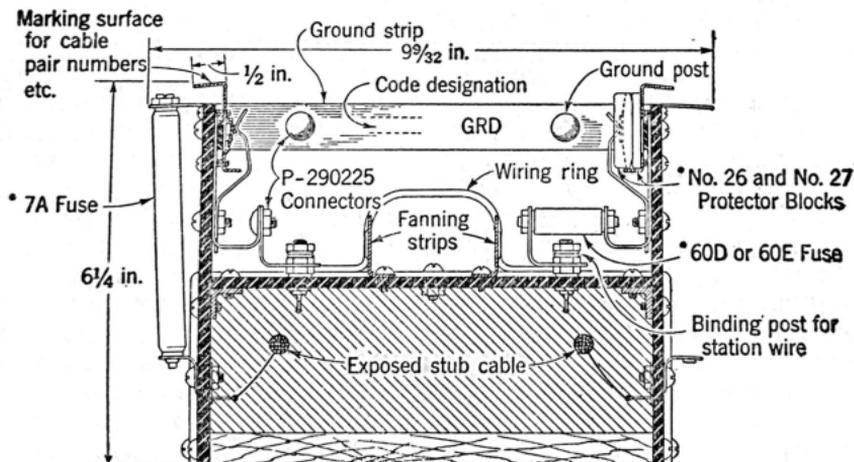
2.08 Between the rows of binding posts in the face plate are two metal fanning strips to accommodate the cross-connecting wires and also those wires run directly to the stations. At each end of the face plate is a ring through which these wires are run to an adjacent section or to the subscribers' stations.

DESCRIPTION
OF INSIDE
PROTECTED
TERMINALS

2.09 The stub cable sheath is bonded to the ground strip through the metal end of the chamber by means of a steel strap, which is attached in such a manner that it can be readily removed where electrolysis conditions make it necessary to keep the exposed cable sheath clear of grounds within the building. It is intended that this bond shall be removed only when so specified on the work order. A porcelain bushing is supplied on the stub cable to insulate this cable from the metal section. A similar bushing is supplied with the fuse chamber to protect the ground wire where it passes through the metal section. A ground post for terminating the protector ground wire and a P-290225 Connector for attaching a 2A Ground Strip, on which signalling ground wires are terminated, are assembled in the ground strip at each end of the chamber. The ground plates along the sides of the chamber serve as guards to prevent the lift-out door from striking the protector blocks when it is removed and also as surfaces for marking cable pair numbers, etc.

2.10 A cross-sectional view of the LA Type Fuse Chamber follows:

LA TYPE FUSE CHAMBER
(Cross - Sectional View)



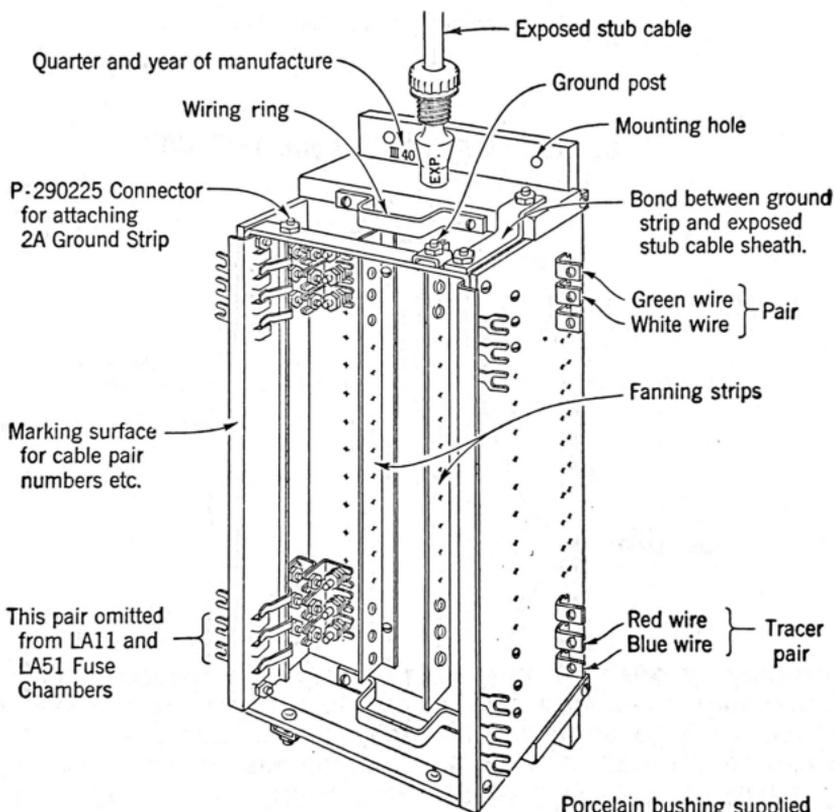
* These parts are not furnished with the fuse chamber

2.11 The over-all dimensions and an illustration of the LA Type Fuse Chamber as supplied without the protective equipment follow:

Over-all Dimensions

Fuse Chambers	Height	Width	Depth
LA16	1 ft. 5-1/8 in.	9-9/32 in.	6-1/4 in.
LA26	2 ft. 5/8 in.	9-9/32 in.	6-1/4 in.
LA51	3 ft. 8-1/8 in.	9-9/32 in.	6-1/4 in.

LA TYPE FUSE CHAMBER



Refer to cross-sectional view for additional details

Porcelain bushing supplied with fuse chamber for ground wire entrance in L Type Cable Terminal Section

DESCRIPTION OF INSIDE PROTECTED TERMINALS

83 Type and 84 Type Backboards

2.12 The 83 Type and 84 Type Backboards, made of wood and equipped with an open type wiring ring at each end, are designed for installation in the L Type and LA Type Cable Terminal Sections, respectively. These backboards serve as the mounting surfaces for the binding post chambers or connecting blocks on which the unexposed cables are terminated in the LA Type Cable Terminal. The 84 Type Backboard differs from the 83 Type only in that it is 3 inches wider to accommodate a greater number of unexposed cable terminations. The various sizes of backboards, the sections in which they are used, the over-all dimensions and an illustration of the 83 Type and 84 Type Backboards follow:



FIG. 1. 83 TYPE AND 84 TYPE BACKBOARDS

TYPE	WIDTH	DEPTH	HEIGHT
83	12 1/2"	12 1/2"	1 1/2"
84	15 1/2"	12 1/2"	1 1/2"

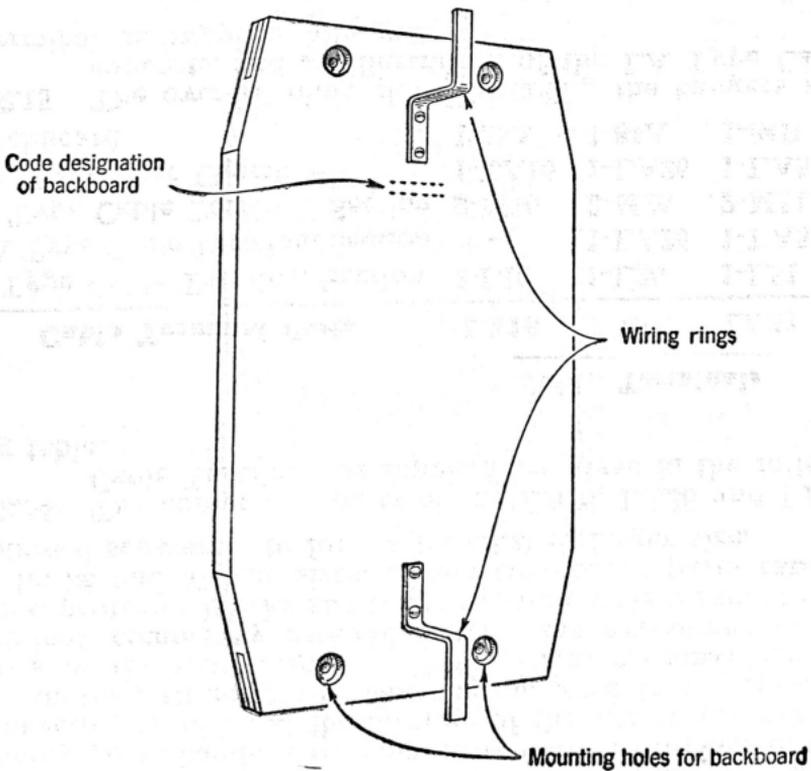
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Over-all Dimensions

Backboards	Sections	Height	Width	*Depth
83A	L16	1 ft. 5-7/8 in.	11-1/4 in.	3/4 in.
83B	L26	2 ft. 1-3/8 in.	11-1/4 in.	3/4 in.
83C	L51	3 ft. 8-7/8 in.	11-1/4 in.	3/4 in.
84A	LA26	2 ft. 1-3/8 in.	14-1/4 in.	3/4 in.
84B	LA51	3 ft. 8-7/8 in.	14-1/4 in.	3/4 in.

* Not including wiring rings.

83 TYPE AND 84 TYPE BACKBOARDS



LA Type Cable Terminal

2.13 The LA Type Cable Terminal is a protected building cable terminal which, when equipped with binding post chambers or connecting blocks, provides cross-connecting facilities at the location of the station protectors. In addition, station wires can be connected to the binding posts of the fuse chamber. This type of terminal can be obtained completely assembled, with the exception of the fuses, protector blocks and the unexposed cable terminations, in 16, 26 and 51-pair sizes, or the component parts can be obtained separately to form a terminal of larger size.

2.14 The component parts of the LA16, LA26 and LA51 Cable Terminals as supplied are given in the following table:

Cable Terminals

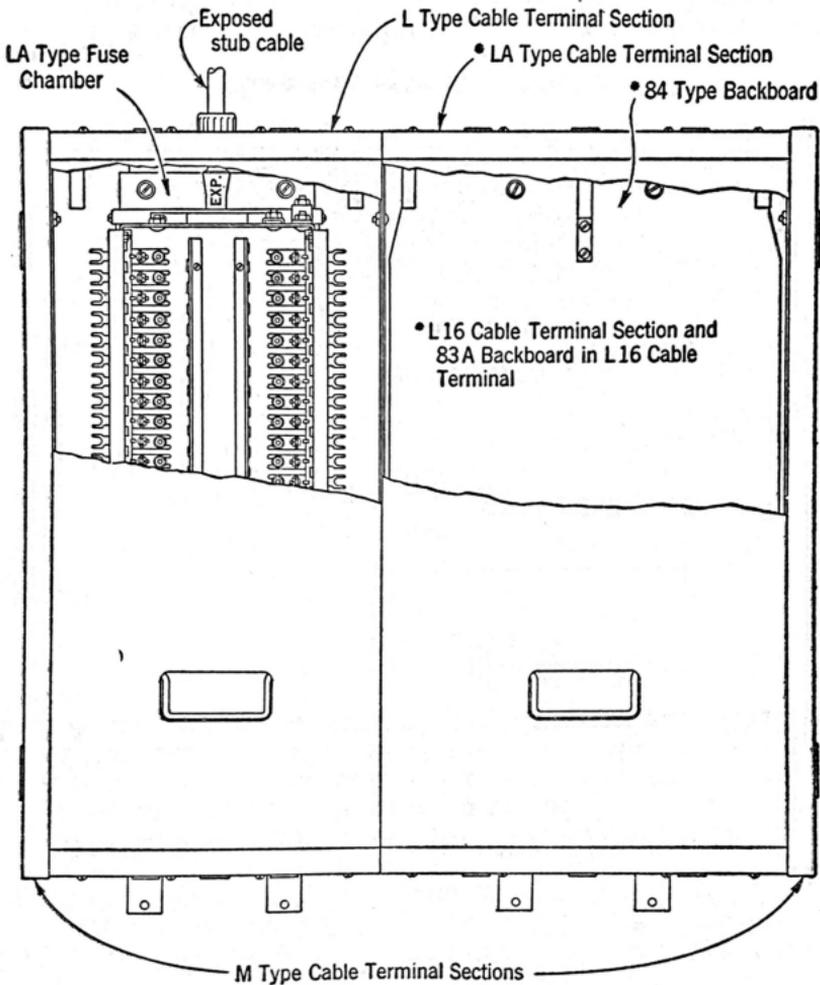
Cable Terminal Parts	LA16	LA26	LA51
L Type Cable Terminal Section	2-L16	1-L26	1-L51
LA Type Cable Terminal Section	—	1-LA26	1-LA51
M Type Cable Terminal Section	2-M16	2-M26	2-M51
LA Type Fuse Chamber	1-LA16	1-LA26	1-LA51
Backboard	1-83A	1-84A	1-84B

2.15 The over-all dimensions, including the hangers and supports, and an illustration of the LA Type Cable Terminal as supplied follow:

Over-all Dimensions

Terminals	Height	Width	Depth
LA16	1 ft. 9-1/2 in.	2 ft. 2-1/4 in.	8-7/16 in.
LA26	2 ft. 5 in.	2 ft. 5-1/4 in.	8-7/16 in.
LA51	4 ft. 1/2 in.	2 ft. 5-1/4 in.	8-7/16 in.

LA TYPE CABLE TERMINAL
(Cross-Connecting Type)



3. NON-CROSS-CONNECTING TYPE TERMINALS

LB Type Cable Terminal

3.01 The LB Type Cable Terminal is a protected building cable terminal in which the exposed and unexposed cable pairs are directly connected by means of fuses and protector blocks. In addition, station wires can be connected to the binding posts of the fuse chamber. This type of terminal can be obtained completely assembled, with the exception of the fuses and protector blocks, in 16, 26 and 51-pair sizes or the component parts can be obtained separately to form a terminal of larger size.

**DESCRIPTION
OF INSIDE
PROTECTED
TERMINALS**

3.02 The component parts of the LB16, LB26 and LB51 Cable Terminals as supplied are given in the following table:

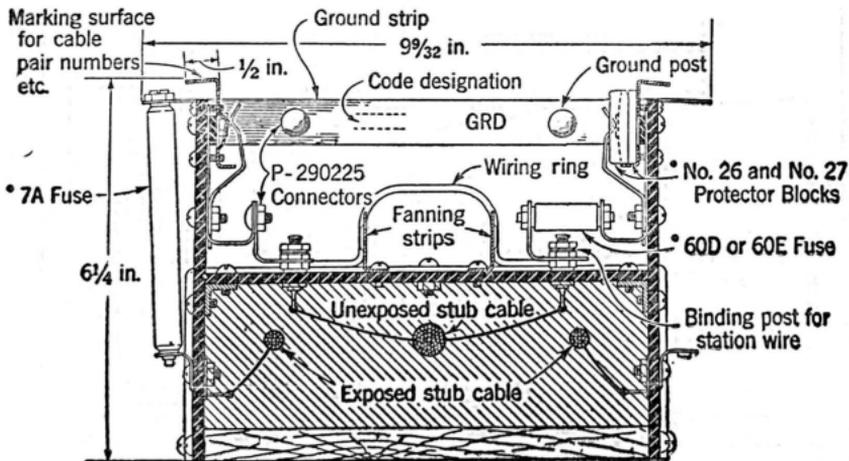
Cable Terminals

Cable Terminal Parts	LB16	LB26	LB51
L Type Cable Terminal Section	1-L16	1-L26	1-L51
M Type Cable Terminal Section	2-M16	2-M26	2-M51
LB Type Fuse Chamber	1-LB16	1-LB26	1-LB51

3.03 The L Type and M Type Cable Terminal Sections employed in the assembly of the LB Type Cable Terminal are described in Paragraphs 2.01 and 2.04, respectively.

3.04 The LB Type Fuse Chamber is of the same general design as the LA Type Fuse Chamber described in Paragraphs 2.06 to 2.11, inclusive, except that in addition to the exposed stub cable it is equipped with an unexposed stub cable which is connected to the soldering lugs of the binding posts located in the face plate of the chamber. The sheath of the unexposed stub cable is bonded to the ground strip of the chamber in the same manner as the exposed stub cable. A cross-sectional view of the LB Type Fuse Chamber follows:

LB TYPE FUSE CHAMBER
(Cross - Sectional View)



* These parts are not furnished with the fuse chamber

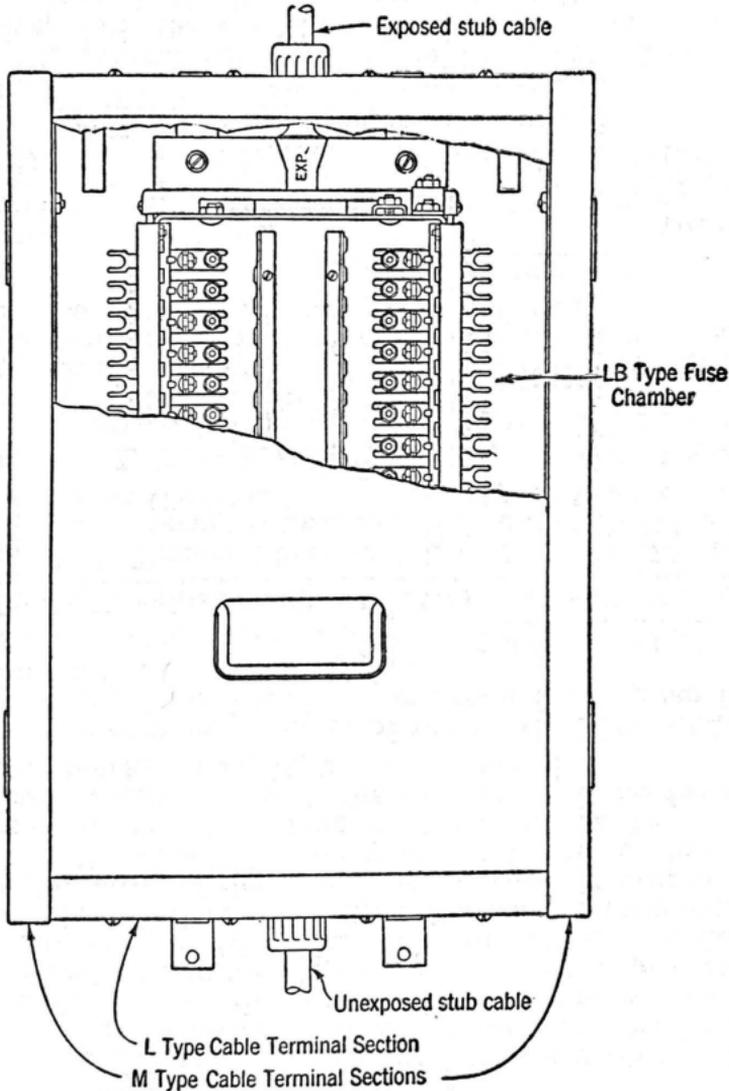
3.05 The over-all dimensions, including the hangers and supports, and an illustration of the LB Type Cable Terminal as supplied follow:

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Over-all Dimensions

Terminals	Height	Width	Depth
LB16	1 ft. 9-1/2 in.	1 ft. 2-1/8 in.	8-7/16 in.
LB26	2 ft. 5 in.	1 ft. 2-1/8 in.	8-7/16 in.
LB51	4 ft. 1/2 in.	1 ft. 2-1/8 in.	8-7/16 in.

LB TYPE CABLE TERMINAL
(Non-Cross-Connecting Type)



**DESCRIPTION
OF INSIDE
PROTECTED
TERMINALS**

LC Type Cable Terminal

3.06 The LC Type Cable Terminal is a protected building cable terminal in which the unexposed circuits are extended beyond the terminal by means of wires instead of cable and conditions do not necessitate the provision of cross-connecting facilities such as are available in the LA Type Cable Terminal. The station wires are terminated on the binding posts of the fuse chamber which in turn are connected to the exposed cable pairs by means of fuses and protector blocks. This type of terminal can be obtained completely assembled, with the exception of the fuses and protector blocks, in 11, 16, 26 and 51-pair sizes.

3.07 The component parts of the LC11, LC16, LC26 and LC51 Cable Terminals as supplied are given in the following table:

Cable Terminal Parts	Cable Terminals			
	LC11	LC16	LC26	LC51
L Type Cable Terminal Section	1-L11	1-L16	1-L26	1-L51
M Type Cable Terminal Section	2-M11	2-M16	2-M26	2-M51
LA Type Fuse Chamber	1-LA11	1-LA16	1-LA26	1-LA51

3.08 The L Type and M Type Cable Terminal Sections employed in the assembly of the LC Type Cable Terminal are described in Paragraphs 2.01 and 2.04, respectively, with the exception of the L11 and M11 sections. These sections are similar in construction to the larger sections and their over-all dimensions are as follows:

Over-all Dimensions

Sections	Height	Width	Depth
L11	*1 ft. 6-1/2 in.	1 ft. 1/8 in.	*8-7/16 in.
M11	1 ft. 5-1/4 in.	1 in.	7-13/16 in.

*Includes the hangers and supports.

3.09 The LA Type Fuse Chambers of the LC Type Cable Terminals are described in Paragraphs 2.06 to 2.11 inclusive, with the exception of the LA11 Fuse Chamber. This chamber is similar in construction to the larger chambers and its over-all dimensions are as follows:

Over-all Dimensions

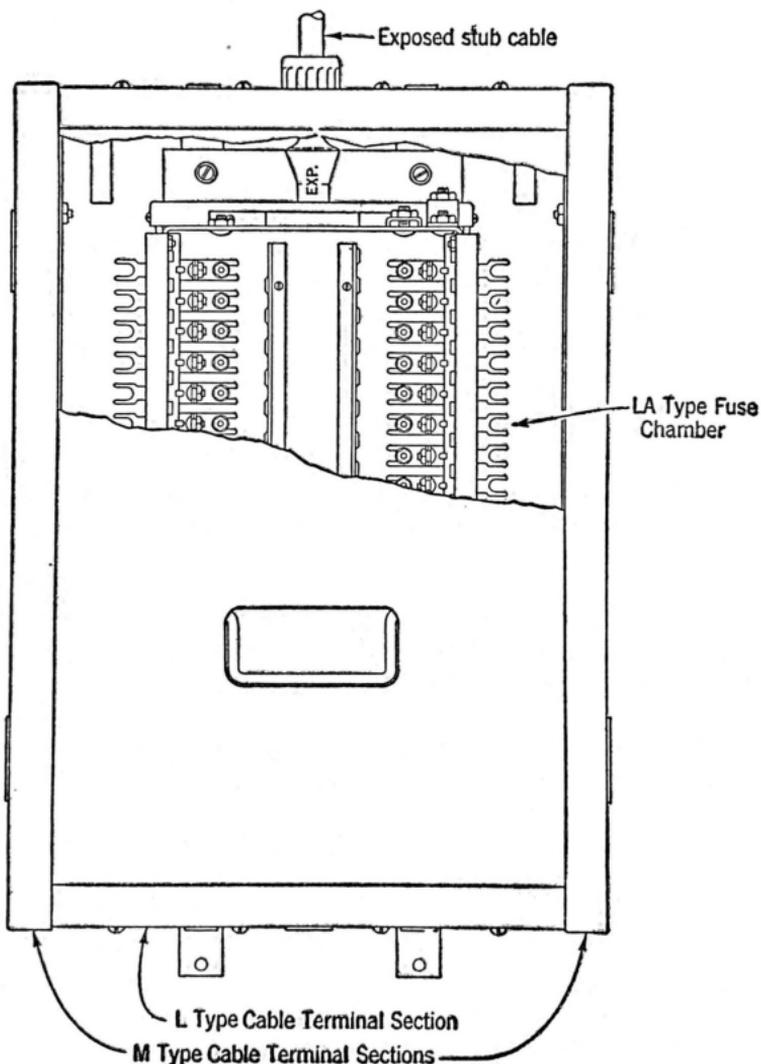
Fuse Chamber	Height	Width	Depth
LA11	1 ft. 2-1/8 in.	9-9/32 in.	6-1/4 in.

3.10 The over-all dimensions, including the hangers and supports, and an illustration of the LC Type Cable Terminal as supplied follow:

Over-all Dimensions

Terminals	Height	Width	Depth
LC11	1 ft. 6-1/2 in.	1 ft. 2-1/8 in.	8-7/16 in.
LC16	1 ft. 9-1/2 in.	1 ft. 2-1/8 in.	8-7/16 in.
LC26	2 ft. 5 in.	1 ft. 2-1/8 in.	8-7/16 in.
LC51	4 ft. 1/2 in.	1 ft. 2-1/8 in.	8-7/16 in.

LC TYPE CABLE TERMINAL (Non-Cross-Connecting Type)



G61.129

Page 15
15 Pages

**DESCRIPTION
OF INSIDE
PROTECTED
TERMINALS**