134-TYPE PROTECTORS
DESCRIPTION AND USE

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1. GENERAL

1.01 This section covers the description of the 134-type protectors used as station protectors in buildings served by exposed cable.

1.02 This section is reissued to correct grounding and add Table B of approved grounds.

1.03 Procedures for installing these protectors are outlined in Sections 631-460-201 and 631-470-201.

2. DESCRIPTION

2.01 The 134-type protector consists of a fire resistant cast resin block, 2A1A nominal 500-volt protectors, a 26-gauge stub cable which serves as a fusible link, a 24-gauge terminating stub cable and two ground lugs. The 134A1A protector is not gastight. If a plug is required, place the plug in the entrance cable and not in either stub cable.

2.02 These protectors are available in 16-, 25-, 50- and 100-pair sizes. Characteristics of these protectors are listed in Table A.

2.03 Following is a brief description of the component parts of the 134-type protector:

(a) **Stub Cables:** Each protector has two stub cables, one entering each end of the cast resin block. One stub cable consists of 26-gauge, PVC-insulated conductors with a black PVC jacket over the aluminum shield. This stub is to be spliced to the exposed central office feeder cable to provide fusing characteristics and thus eliminate the need for splicing a fusible link into the entrance cable. When these stubs are spliced into an exposed cable containing 400 pairs or less, a metallic splice closure must be used. This requirement is to provide a safer closure around the cable pairs that could be carrying excessive current under power cross conditions.

   **Note:** The MC10/48 cable closure is equipped with a metallic splicing chamber which eliminates the requirement for an additional metallic splice closure for exterior wall installations.

A plastic closure may be used when the exposed cable is larger than 400 pairs. Those cables are judged to contain sufficient copper to act as a "heat sink" under power fault conditions. The other stub consists of 24-gauge, PVC-insulated conductors with a gray PVC jacket over the aluminum shield. This stub is to be terminated on connecting blocks spliced to building cables or terminal blocks.

(b) The **2A1A protector unit** consists of an assembly of a 32A and a 33B protector block which provides nominal 500-volt protection for subscriber stations.

   **Note:** The 134A1A protectors do not have binding posts to mount a 60-type fuse for sneak current protection. Therefore, it is recommended that when sneak current protection is required in a building protected with a 134A1A protector that a 57A2-10 or 16 connecting block be used for mounting the 60 type fuses and 14A fuse holder. The 57A2 connecting block should be placed in a convenient location. At a riser terminal the 57A2 connecting blocks equipped with 60-type fuses would be mounted on the 185A1 backboard (yellow).

(c) **Ground lugs** are provided on each end of the block for terminating No. 6 ground

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**TABLE A**

CHARACTERISTICS OF 134-TYPE PROTECTOR

<table>
<thead>
<tr>
<th>PROTECTOR CODE</th>
<th>NO. OF 2A1A PROTECTOR UNITS</th>
<th>CAST RESIN BLOCK (INCHES)</th>
<th>STUB CABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LENGTH</td>
<td>WIDTH</td>
</tr>
<tr>
<td>134A1A-16</td>
<td>32</td>
<td>12-5/8</td>
<td>3-3/8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24</td>
<td>16</td>
</tr>
<tr>
<td>134A1A-25</td>
<td>50</td>
<td>14-3/4</td>
<td>3-3/8</td>
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<td>24</td>
<td>25</td>
</tr>
<tr>
<td>134A1A-50</td>
<td>100</td>
<td>17-3/4</td>
<td>3-3/8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24</td>
<td>50</td>
</tr>
<tr>
<td>134A1A-100</td>
<td>200</td>
<td>30-1/2</td>
<td>3-3/8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24</td>
<td>100</td>
</tr>
</tbody>
</table>

**Note 1:** Splice 26-gauge black PVC jacket to exposed entrance cable. Splice 24-gauge grey PVC jacket to building equipment cable.

**Note 2:** Specify length in order.

wire to provide the station protection ground connection.

3. **USE**

3.01 Terminal arrangements using the 134-type protectors are illustrated in Fig. 1 through 8.

4. **GROUNDING**

4.01 Ground lugs are provided on each end of the block for strapping blocks together, and for running a No. 6 ground wire to an approved ground as listed in Table B.

4.02 The block is not equipped with a removable ground linkage for establishing an insulating joint. Where an insulating joint is required it must be provided external to protector.

5. **STENCILING**

5.01 For large installations of several 134-type protectors mounted at one location, stencil the central office count on the face of the protector with the transfer stenciling kit described in Section 081-860-105.
Fig. 1—134A1A-50 Protector

- 241A Protector
- Cast Resin Block
- Mounting Hole
- Ground Lug Tab Lug-1T 35501
- 50 Pair Gray PVC Jacket Stub Cable (24 Gauge) Splice To Exposed Entrance Cable
- 50 Pair Black PVC Jacket Stub Cable (26 Gauge)
Fig. 2—134A1A-100 Protector
Fig. 3—Garden Apartment Terminal 134A1A-16
Fig. 4—Protected Building in Hi02 Cable Terminal Section
24 GAUGE GRAY 
STUB CABLE 
TERMINATED 
ON 66M1-50 
CONNECTING 
BLOCKS

GROUND LUG 
TB-1 LUG-1T 
38301

NO. 10-32 X 2 
SCREW SECURING 
PROTECTOR TO 
CLOSURE

134A1A TYPE 
PROTECTOR

26 GAUGE 
STUB CABLE 
TO EXPOSED 
CO. FEEDER 
CABLE

NO. 6 GROUND WIRE 
TO APPROVED GROUND 
(SEE TABLE B)

BONDING STRAP 
RUNNING BETWEEN 
STUB CABLE AND 
GROUND BAR

25 PAIR STUB 
CABLE AND 50 PAIR 
 DISTRIBUTION CABLE 
BRIDGED TO 200 PAIR 
THROUGH CABLE

66M1-50 CONNECTING 
BLOCK MOUNTED ON 
BB BRACKET

Fig. 5—134A1A-25 Protector and 66M1-50 Connecting Block
Fig. 6—50-Pair Protected Building Terminal Mounted in H102 Cable Terminal Section
NO. 6 GROUND WIRE TO APPROVED GROUND
(SEE TABLE 8)

FRAMING CHANNEL

NO. 6 GROUND WIRE

5A1-900 TERMINAL BLOCK

B CABLE TERMINAL FRAME

Fig. 7—134A1A-100 Protectors and 5A1-900 Terminal Mounted on B Cable Terminal Racks
24 GAUGE STUB CABLE - CONNECT TO 66MI-50 CONNECTING BLOCK ON GREEN BACKBOARD

NO. 6 GROUND WIRE

134A1A-100 PROTECTOR

NO. 6 GROUND WIRE TO APPROVED GROUND (SEE TABLE B)

SPLICE 26 GAUGE STUB CABLE TO EXPOSED ENTRANCE CABLE

DISTRIBUTING RING

TWO H303 CABLE TERMINAL SECTIONS EACH E/W 826 BACKBOARDS

183A2 BACKBOARD (GREEN) EQUIPPED WITH FOUR 66MI-50 CONNECTING BLOCKS FOR TERMINATING FEEDER CABLE

TWO 183AI BACKBOARDS (BLUE) EQUIPPED WITH EIGHT 66MI-50 CONNECTING BLOCKS FOR TERMINATING BUILDING CABLE PAIRS

O BOND CLAMP

BUILDING CABLE

Fig. 8—200 Pair Protected Building Terminal Mounted in Two H303 Cable Terminal Sections
TABLE B
GUIDE FOR SELECTING APPROVED GROUNDS

[1] SELECTION OF BUILDING TERMINAL GROUNDS

[2] IS POWER ON PREMISES
  NO → [3] GROUND BUILDING TERMINAL TO:
    (1) METALLIC WATERPIPE SYSTEM
    (2) OR GROUNDED BUILDING STEEL
    (3) OR GROUNDED ROD (NOTE 2)
    IF (3) INSTALL BOND (NO. 6 GROUND WIRE) BETWEEN INTERIOR METALLIC COLD WATERPIPE AND GROUNDING ELECTRODE

YES → [4] IS POWER GROUNDED
  NO → [5] IS POWER GROUND ACCESSIBLE
    NO → [6] IS POWER GROUNDED ON METALLIC WATERPIPE
      NO → [7] GROUND BUILDING TERMINAL TO:
        (1) POWER GROUND WIRE (SEE WARNING AND NOTE 1)
        (2) OR POWER SERVICE ENTRANCE CONDUIT [NOTE 1]
        (3) OR METALLIC WATERPIPE SYSTEM, WHICHER RESULTS IN THE SHORTEST GROUND WIRE RUN
      YES → [8] IS POWER GROUNDED TO:
        (1) GROUNDED BUILDING STEEL
        (2) OR COPPER WIRE OR REBAR ENCASED IN BUILDING FOOTING
    YES → [9] GROUND BUILDING TERMINAL TO:
      (1) POWER GROUND WIRE (SEE WARNING AND NOTE 1)
      (2) OR POWER SERVICE ENTRANCE CONDUIT [NOTE 1]
      (3) OR METALLIC WATERPIPE SYSTEM, WHICHER RESULTS IN THE SHORTEST GROUND WIRE RUN

[10] POWER IS ON GROUND ROD
  NO → [11] IS POWER GROUNDED
    NO → [12] GROUND BUILDING TERMINAL TO:
      (1) POWER GROUND WIRE (SEE WARNING AND NOTE 1)
      (2) OR POWER SERVICE GROUND ROD. SEE WARNING
      (3) OR METALLIC WATERPIPE SYSTEM, WHICHER RESULTS IN THE SHORTEST GROUND WIRE RUN
    YES → [13] DRIVE SEPARATE TELEPHONE GROUND ROD. BOND TELEPHONE AND POWER GROUND RODS. SEE WARNING. CHECK TO VERIFY THAT BOND IS INSTALLED BETWEEN INTERIOR, METALLIC, COLD WATERPIPE AND GROUNDING ELECTRODE. BOND (WITH NO. 6 GROUND WIRE) IF NOT ALREADY BONDED.

NOTES:
1. DO NOT CONNECT TO ALUMINUM CONDUCTORS OR CONDUIT.
2. GROUNDING ELECTRODES ARE LISTED IN ORDER OF PREFERENCES.

WARNING
DO NOT IN ANY WAY LOOSEN OR DISCONNECT THE POWER COMPANY GROUND CLAMP.