

### RINGING SYSTEMS

Purpose: This addendum adds Paragraph 5.3 and 8.2 to REA TE & CM-212, Issue No. 3, dated November 1970, to cover several situations which have developed since release of the basic document.

Additions: Add Paragraphs 5.3 through 5.33 and 8.2 through 8.23 to read as follows:

#### 5.3 Bell Tapping During Dialing

5.31 When older type straight line ringers are used in the bridged configuration, or when modern straight line ringers, not listed as "long loop" devices, are used with elevated voltages, bell tapping during dialing may be encountered.

5.32 When the above situation is encountered, older ringers should be replaced with more modern design conforming to PE-47. Ringers used with loops in excess of 2000 ohms should be 20Hz tuned devices, listed as "long loop" ringers in the List of Materials.

5.33 As an interim measure, until the conversion mentioned in Paragraph 5.32 can be accomplished, the problem may be reduced by connecting tapping ringers through the break contacts of the hook switch. This arrangement removes the dialing telephone's ringer from the circuit during the dialing operation. This conversion does not, however, provide any relief for extension sets on the same line.

8.2 When several extension telephones, with ringers connected, are placed on long loops, providing sufficient power to ring all ringers may be a problem.

8.21 At ringing frequencies, modern two gong ringers generally are of higher impedance than miniature, single gong units. As a result more two gong ringers can be operated over a given loop than single gong units.

8.22 When one and two gong ringers are mixed on a long loop, more electrical power will be required to provide an adequate ring than if only two gong ringers were used. As a result, if difficulties of this type are encountered, use of two gong ringers in place of single gong units should be attempted.

8.23 In the event that more extension ringers are desired than can be rung over a given loop, a ring-up relay can be used as described in Paragraph 5.23.