

## TRANSMISSION ZONING

### 1. GENERAL

1.01 This section provides information regarding transmission zoning set up in central office areas. It also contains information on the type of station equipment required in each of the transmission zones.

1.02 This section is reissued to include new telephone sets and show the 507, 509, 557, and 559 telephone sets as Manufacture Discontinued (MD). Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

### 2. ZONE IDENTIFICATION

2.01 Transmission zoning designates boundaries within a central office area where specified types of station apparatus should be used. Boundaries are based on the following factors:

- (a) Transmission design and flexibility in meeting variations in the available supply of station apparatus.
- (b) Distance from the central office.
- (c) Cable gauge and length.

2.02 Transmission zone codes, generally shown on plant records, are employed to designate apparatus used in each zone.

2.03 Check that station equipment is proper for the particular transmission zone during installation, service order, and maintenance activity.

*Note:* Replace existing sets if transmission requirements are not met.

### 3. ZONE CODES AND RECOMMENDED EQUIPMENT

3.01 There are in use seven basic types of sets having three different characteristic transmission designs.

3.02 Three zones have been established based on the transmission design of the various sets. They are represented by expanding circles with the central office as the center. As the distance from the central office increases, sets with different transmission design are necessary.



*Use of station equipment of different transmission design than specified for a particular zone may cause poor transmission and result in customer dissatisfaction.*

3.03 Set performance in the three transmission zones is illustrated by Fig. 1.

3.04 The three zones, with their associated sets, are listed in Tables A and B.

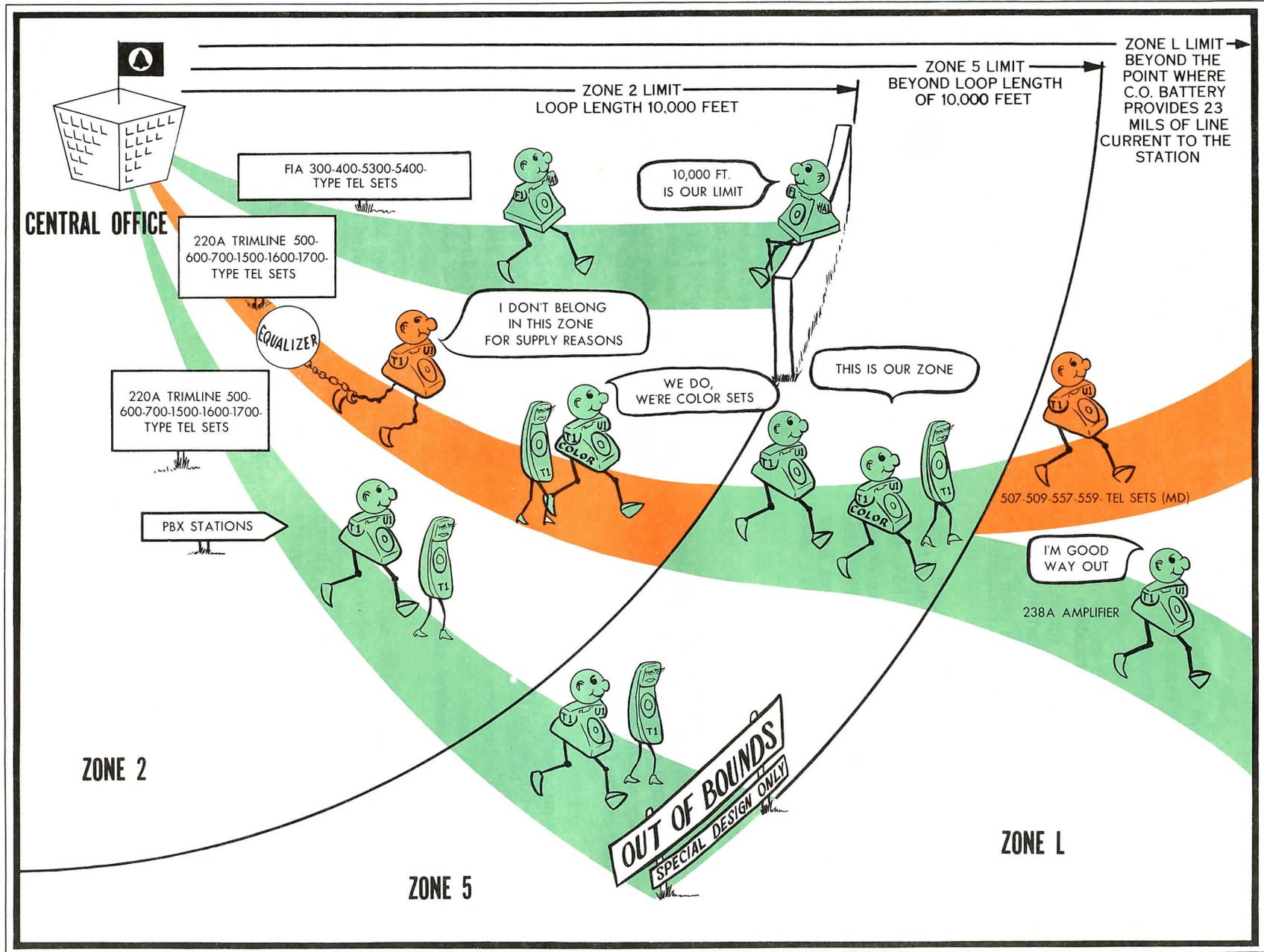


Fig. 1 — Transmission Zoning

**TABLE A**  
**RECOMMENDED EQUIPMENT**

ZONE	TELEPHONE SET	HANDSET	TRMTR	RCVR
2	300, 400, 5300, 5400	F1	F1	HA1
5	TRIMLINE	220A*	T1	LA1
L	500, 600, 700, 1500‡, 1600‡, 1700‡	G type G type†		U1 or U2

\* The 220A Hand Telephone Set is a complete telephone electrically except for the ringer and switch hook functions. It is intended for use with either the AC1 or AD1 Telephone Base.

† Must be equipped with 238A amplifier and can only be used on loops with central office long line equipment circuits.

‡ Because of tone oscillator design TOUCH-TONE sets are limited to 20 ma.

**TABLE B**  
**REASONABLE SUBSTITUTES**

ZONE	TELEPHONE SET	HANDSET	TRMTR	RCVR
2	TRIMLINE	220A*	T1	LA1
	500, 600, 700, 1500, 1600, 1700	G type		U1 or U2
5	None			
L	507, 509, 557, 559 (see note)	G type	T1	U1 or U2

\* See note on 220A under Table A.

*Note:* Can only be used on loops with central office long line equipment circuits. The 507, 509, 557, and 559 types are rated Manufacture Discontinued (MD).

**TABLE C**  
**TYPES OF TELEPHONE SETS FOR SUBSCRIBER PBX APPARATUS**

ZONE	STATION LOCATION	48V PBX OTHER THAN 101 ESS	LOWER VOLTAGE PBX, CENTREX, CO, AND 101 ESS
2	On Premises	*	TRIMLINE 500, 600, 700 1500, 1600, 1700
	Off Premises	TRIMLINE 500, 600, 700 1500, 1600, 1700	
5	On or Off Premise Stations		
L	Zone L station equipment should not be used for PBX stations. Refer to appropriate section for special design of PBX stations used in Zone L.		

\* 500-, 600-, or 700-type telephone sets are preferable and should be used for new installations; however, existing 300-, 400-, or 5300-type telephone sets are acceptable.

*Note:* For further information on transmission aspects of PBX stations, refer to sections on PBX design.

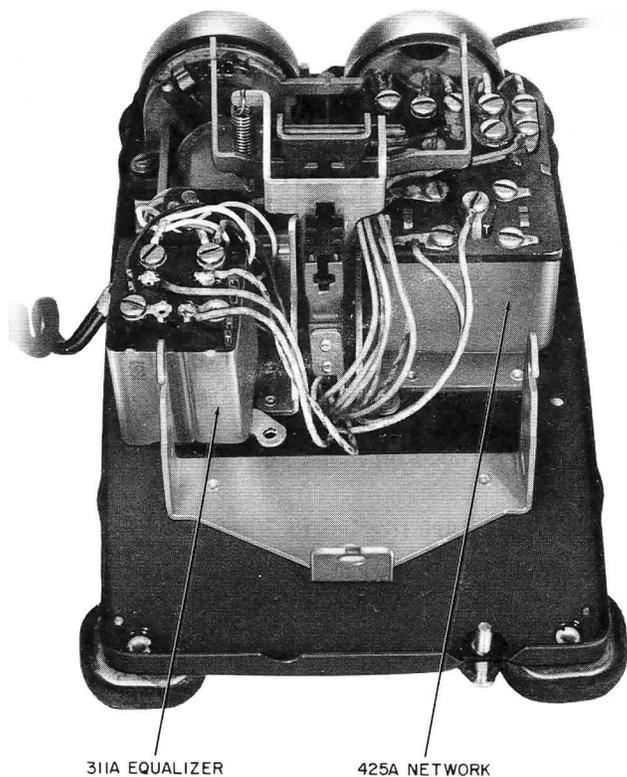


Fig. 2—500J or K Telephone Set with 311A Equalizer

#### 4. APPLICATION OF ZONE CODES

4.01 Zone codes are included in assignment information on service orders.

4.02 If supply conditions prevent use of a set shown in Table A, one in Table B may be substituted. Make every effort to obtain the proper type set (Table A) so that quality of service is not jeopardized.

**Note:** Do not attempt to correct loop transmission deficiencies by installing handsets with amplifiers intended for impaired speech or hearing use.

#### Coin Telephones

4.03 Coin stations installed in the three transmission zones should be equipped with the same type transmitters, receivers, induction coils or networks, and amplifiers as telephone sets shown in Tables A and B.

4.04 Use a 685A or 685B subscriber set when a coin telephone set is equipped with a T1-U1 combination.

4.05 Replace coin telephone sets equipped with 635-type transmitters.

#### PBX Apparatus

4.06 Telephone sets used with PBX apparatus are shown in Table C.

4.07 Provide a 52- or 53-type operator headset at all cord type PBX switchboards. At cordless boards, the attendant set should be a 500-type telephone set.

#### 5. SPECIAL CONSIDERATIONS

5.01 The 500J and K telephone sets without 311A equalizer should not be used in Zone 2 because crosstalk and undesirable sidetone may be produced on short loops. The 500J or K telephone with 311A equalizer is shown in Fig. 2.

5.02 If the 5300-type telephone set with the G-type handset produces crosstalk and sidetone problems, substitute another telephone set suitable for Zone 2.

5.03 Do not use common and local battery sets on the same party line.