

## 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:

- (a) Eliminate Zone 5-2 in Fig. 1.
- (b) Add 500-type telephone set with 238A amplifier and 507 and 509 long-loop telephone sets for use in Zone L.
- (c) Eliminate reference to F4- and F5-type hand sets.
- (d) Revise information on PBX station sets.
- (e) Eliminate substitutes formerly considered reasonable for 500-type telephone sets in Zone 5.

### 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 efficiency and flexibility in meeting variations in the available supply of station apparatus.
- (b) Distance from the central office with equipment of greater efficiency required as distance from the central office increases.
- (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 adequate 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** Concerning transmission, there are in use five basic types of sets having three different transmission levels.

**3.02** Three zones have been established based on the efficiency of these sets. They are shown as expanding circles with the central office as the center. As the distance from the central office increases, a set with better transmission qualities is necessary. (See Fig. 1.)

Note: Use of station apparatus of lower transmission efficiency than specified for a particular zone will cause inadequate transmission and give customer dissatisfaction.

**3.03** The three zones, with their associated sets, are as follows:

- (a) Zone 2 - 300-, 400-, 5300-, or 5400-type telephone with F1 hand set.
- (b) Zone 5 - 500-, 600-, or 700-type telephone.
- (c) Zone L - 500-, 600-, or 700-type telephone with 238A amplifier.

**3.04** Set performance in the three transmission zones is shown in Fig. 1.

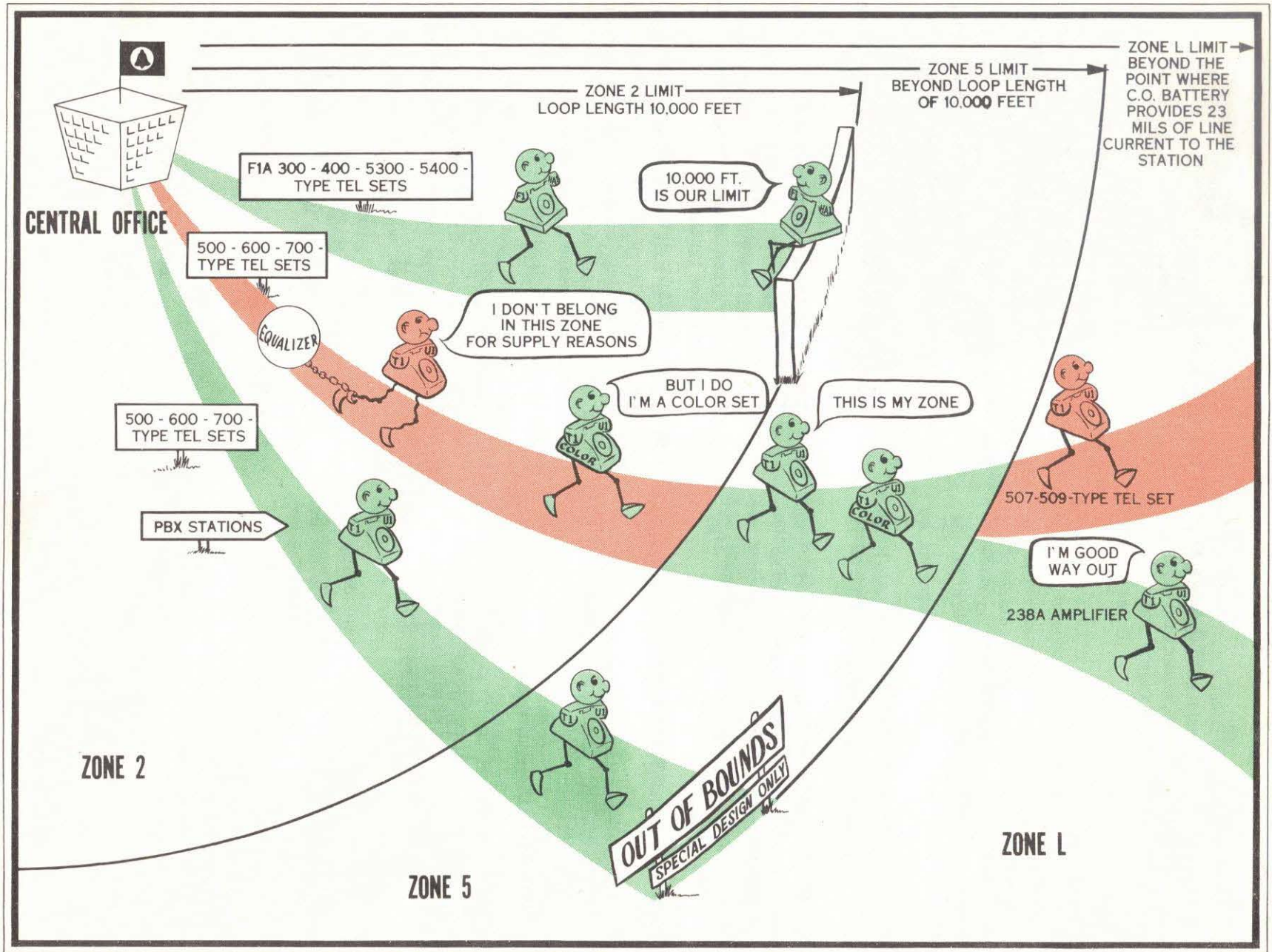


Fig. 1 - Transmission Zoning

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

Zone	Telephone Set	Hand Set	Xmtr	Rcvr
2	300, 400, 5300, 5400	F1	F1	HA1
5	500, 600, 700	G1	T1	U1
L		G*		

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

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

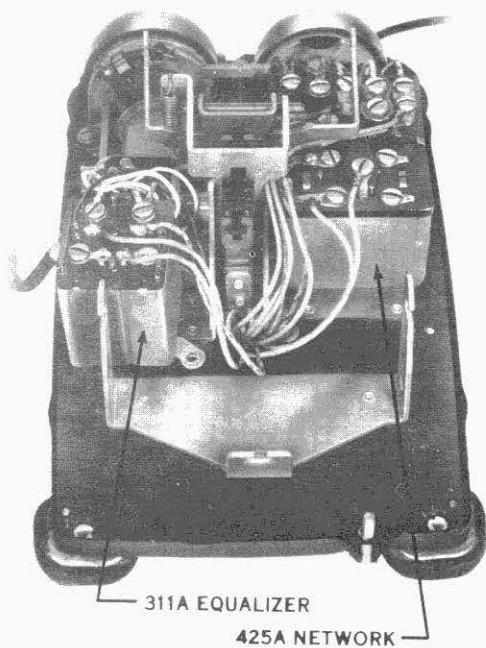
Zone	Telephone Set	Hand Set	Xmtr	Rcvr
2	500, 600, 700	G1	T1	U1
5	None			
L	507, 509	G1	T1	U1

**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	*	500, 600, 700
	Off Premises	500, 600, 700	
5	On or Off Premise Stations		
L	Zone L station equipment should not be used for PBX stations. Refer to appropriate group for special design of PBX stations used in Zone L.		

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

\* 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.



**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: When correcting loop transmission deficiency, do not install handsets with amplifiers used for impaired speech or hearing.

#### Coin Telephones

- 4.03** Coin stations installed in the various transmission zones should be equipped with the same type transmitter, receiver, amplifier, induction coil, and network 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 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 hand set 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.