

TRANSMISSION ZONING

1.00 INTRODUCTION

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.

2.00 GENERAL

Transmission zoning designates boundaries within a central office area where specified types of station apparatus should be used.

- Boundaries are based on considerations of transmission efficiency. They are engineered to be flexible enough to meet variations in the available supply of station apparatus.
- The area of a particular transmission zone depends upon the cable gauge and length.
- As the distance from the central office increases, equipment of greater efficiency is required.
- Use of station apparatus of lower transmission efficiency than specified for a particular zone will provide inadequate transmission and cause customer dissatisfaction.
- Transmission zone codes, generally shown on plant records, are employed to designate apparatus to be used in each zone.
- Zoning procedures apply primarily to telephone installations in connection with inward station movement.
- Replacement of existing sets may be required in connection with inward station movement.
- The term F1A set as used in Fig. 1 refers to 200-, 300-, 400-, 5300-, and 5400-type telephone sets equipped with F1 handsets.

3.00 ZONE CODES AND RECOMMENDED EQUIPMENT

3.01 Transmission-wise, there are in use today three basic types of sets having three different efficiencies. Three zones have been established based on the efficiency of these sets. These zones are located concentrically around the central office. Each one is intended for use of a more efficient type set as the distance from the central office increases. The three zones are listed below with their associated type set.

Zone 2 — 200-, 300-, 400-, 5300- or 5400-type telephone sets equipped with F1 handsets.

Zone 5 — 500-type telephone sets.

Zone L — Local battery telephone sets.

3.02 In addition to these three standard zones, zone 5-2 may be established temporarily where coarse gauge cable exists and the supply of 500-type sets is inadequate. Sets to be used in this zone are shown in Tables A and B.

3.03 Fig. 1 illustrates how sets perform in various zones.

3.04 There is only one basic type of telephone set for use in magneto central offices.

4.00 APPLICATION OF ZONE CODES

4.01 If supply conditions prevent use of a set shown in Table A, one shown in Table B may be substituted. By so doing, however, the quality of service may be jeopardized; therefore every effort should be made to obtain the proper type set as shown in Table A.

4.02 Zone codes are given as part of the assignment information on service orders.

**TRANSMISSION ZONING OF
SUBSCRIBER STATION APPARATUS**


**TABLE A
RECOMMENDED EQUIPMENT**



Zone	Type Tel Set	Handle	Xmtr	Rcvr
2	200, 300, 400, 5300	F1	F1	HA1
5-2	500, 211*, 212*	G1	T1	U1
5	500, 211*, 212*	G1	T1	U1
L	507, 509	G1	T1	U1

* Must be associated with 685A or 686A subscriber set.

**TABLE B
REASONABLE SUBSTITUTES**



Zone	Type Tel Set	Handle	Xmtr	Rcvr
2	500, 211*, 212*	G1	T1	U1
5-2	5300	G1	T1	U1
	200, 300, 400	F4	T1	U1
	200, 300, 400, 5300	F1	F1	HA1
5	200, 300, 400	F4	T1	U1
	5300	G1	T1	U1
L	200, 300	F4	T1	U1

* Must be associated with 685A or 686A subscriber set.

Note: 4- or 5-type dials shall not be used in zones 5 and L.

COIN STATIONS

Coin stations installed in the various transmission zones should be equipped with the same type transmitter, receiver, induction coil, or network as the telephone sets shown in Tables A and B.

When a coin collector is equipped with a T1-U1 combination, a 685A- or 685B subscriber set must be used.



4.03 Special services, such as off-premise extensions, private lines, etc, require special handling. The type of equipment required, rather than zone codes, will be shown on these service orders.

5.00 MAINTENANCE ACTIVITIES

5.01 Each subscriber line card shows its own transmission zone code and the type of station equipment. This information is for maintenance purposes and the study of transmission complaints.

5.02 Zone requirements and supply conditions will govern the replacement of existing equipment at the time of the maintenance visit. Unless otherwise specified by local instructions, the following rules apply:

- When the subscriber set or complete set is being moved or replaced, make the equipment conform with the zone requirements in Table A.
- When the work being done does not require replacement of the subscriber set, replace handsets, transmitters, receivers, and dials to conform with the zone requirements to the extent permitted by local supply conditions.
- To keep the subscriber line card up to date, report the type of equipment in place including handset, transmitter, and receiver unit.

6.00 SPECIAL CONSIDERATIONS

6.01 The following telephone sets should not be used in Zone 2 because crosstalk and undesirable sidetone may be produced when used on short loops.

- 500-type telephone sets without equalizing networks.

- 200-type telephone sets and coin collectors equipped with F4, F5, and G1 handsets when connected to other than equalized network-type subscriber sets.
- 300- and 400-type telephone sets equipped with F4 and F5 handsets and 5300- and 5400-type telephone sets equipped with G1 handsets.

6.02 If transmission complaints due to high sidetone are received when either the F4 or F5, or 5300-G1 handset is used in Zone 5 or 5-2, replace the telephone set with the 500 type.



Local battery sets normally require two dry cells of battery. If additional transmitting gain is needed, three dry cells may be used with F1 transmitter units, but not with T1 units.

6.03 When an H-type receiver unit is used in local battery talking and magneto sets, the receiver circuit must be connected in series with a capacitor.

6.04 Local battery sets are provided with four network connections, A to D, at the induction coil, so that the best compromise on sidetone balance may be obtained for different loop make-ups. These sets may be ordered with any of the network connections. Unless otherwise specified, the A network connection will be furnished and is the preferred choice. For further instructions, refer to the sections covering the various local battery telephone sets, connections.

6.05 Local battery and common battery telephone sets should not be used on the same line.

6.06 PBX Stations

- For on-premise stations, take the same zone code as that in which the PBX is located.
- Off-premise stations may require 500 sets even though the PBX is located in Zone 2. If there is any question, off-premise stations should be handled similarly to special services as outlined in 4.03.