

APPARATUS FOR USE AT NOISY LOCATIONS

1.00 INTRODUCTION

This section furnishes information on the description and use of apparatus which may be used to provide more satisfactory transmission and increased ringer volume for telephones located in noisy surroundings.

2.00 THE GENERAL PROBLEM OF NOISE

2.01 An effort should be made to avoid installing telephone sets at noisy locations, where transmission would be affected, and to select a quiet location that is satisfactory to the customer and the telephone company.

2.02 Experience has shown that of the two persons involved in a telephone conversation, the person at the noisy location is usually the first to have trouble because he cannot understand the incoming speech. The principal offending noise is picked up by the transmitter and reproduced by the receiver via the sidetone path. The person at the distant end of the connection is also offended with the room noise that is transmitted along with the speech.

2.03 The intensity of surrounding noise can be determined by the use of various measuring devices. Noise level is usually expressed in decibels (db) of relative acoustical pressure.

3.00 EQUALIZED 500-TYPE TELEPHONE SETS

In moderately noisy surroundings such as an average factory, noisy office, department store, stenographic room, etc., the performance of the 500-type

equalized telephone set is much better than that of earlier sets. Its improved receiver and better sidetone balance allow this set to be used in noisy locations with relatively small effect on its receiving efficiency. The improvement is so marked that in cases where telephone subscribers object to booths or other enclosures, it should ordinarily be practicable to avoid the use of special arrangements such as push-to-talk telephone sets with or without receiving amplifiers, or special devices like the confidencer. This also holds true for the 500-type multibutton telephone sets.

4.00 EQUALIZED 500-TYPE TELEPHONE SET WITH SHUNT

4.01 For extremely noisy locations, such as the generator room of a large power plant, loading ramps at air fields, boiler factories, etc., where the subscriber cannot or will not have booths or other enclosures; the 500-type equalized telephone set equipped with a KS-13491, List 1, 1-watt, 39-ohm resistor connected across the transmitter circuit should be used. The shunt reduces the transmitted and sidetone speech levels. Because the telephone user naturally tends to raise his voice in a noisy location, the transmitting output for this set approaches that of an equalized 500-type telephone set without the shunt when it is used in the less noisy surroundings. However, the user must be cautioned that he may also need to raise his voice during periods of quiet to compensate for the shunt. This may be necessary more frequently on toll calls and extended calling areas.

4.02 To shunt the transmitter of a 500-type telephone set, connect the KS-13491, List 1 resistor as shown in Table A.

TABLE A

Type	Connections
500A/B	Between B and RW terminals on the equalizer.
500C/D 500E/F 500H 500L/M 500P 500R/S 500U 500-type Key Sets	Between R and B terminals on the network.

4.03 Other than placing the shunt, the 500-type sets are installed, connected, and maintained in accordance with standard procedure.

5.00 THE 535-TYPE TELEPHONE SET

5.01 This telephone set is designed for use at noisy locations where the equalized 500-type with shunted transmitter is not adequate. It provides a means for amplifying the receiver signals and reduc-

ing the transmitter output, thereby improving transmission at both ends of the telephone conversation.

5.02 The external appearance of this set is the same as that of the 532-type set except for the handset which is equipped with a push-to-listen switch (see Fig. 3). By adjusting the volume control and operating the push-to-listen switch, the customer can adapt this set to a particular noise level permitting maximum receiver gain with practically no sidetone. No local battery is required to operate this set.

5.03 With the push-to-listen switch operated and receiver volume at maximum, the 535-type telephone set offers a performance gain of approximately 25 db over the 500-type set with a surrounding noise level of 100 to 110 db.

5.04 For connection and maintenance of the 535-type telephone set, refer to the appropriate C section.

6.00 THE CONFIDENCER

6.01 The No. 9797 confidencer shown in Fig. 4 is a noise cancellation transmitter. While the speaking voice enters only at the front, the surrounding noise neutralizes itself by entering and striking the cancellation transmitter from the front and back.

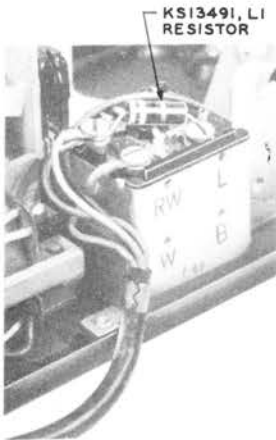


FIG. 1—311A—EQUALIZER WITH RESISTOR

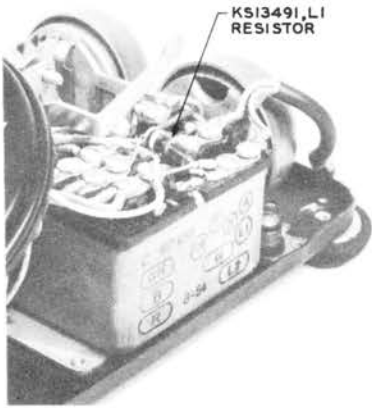


FIG. 2 — 425B NETWORK WITH RESISTOR

6.02 The No. 9797 confidencer is designed to fit the F-type handset only. To install the confidencer, simply replace the transmitter cap and transmitter unit of the F-type handset with the No. 9797 confidencer.

6.03 When maintenance trouble is encountered, replace the complete confidencer.

6.04 Where noise level is higher than average, resulting in subscriber dissatisfaction because of inadequate ringer volume, refer to the tables in C sections on B- and C-type ringers.



FIG. 3 — 535-TYPE TELEPHONE SET



FIG. 4 — No. 9797 CONFIDENCER