

## **APPARATUS FOR USE AT NOISY LOCATIONS**

### **1.00 INTRODUCTION**

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

**1.02** Due to extensive changes marginal arrows have been omitted.

### **2.00 GENERAL**

**2.01** An effort should be made to avoid installing telephone sets at noisy locations where transmission would be affected. 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 annoyed by room noise that is transmitted along with the speech.

**2.03** The intensity of surrounding noise can be determined by 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, 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. Improvement is so marked that in cases where telephone customers object to booths or other enclosures, it should ordinarily be practicable by use of this set to avoid 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 500-type multibutton telephone sets.

### **4.00 THE 535-TYPE TELEPHONE SET**

**4.01** For extremely noisy locations such as the generator room of a large power plant, loading ramps at airfields, boiler factories, etc, where the customer cannot or will not have booths or other enclosures, the 535-type telephone set may be used. It provides a means for amplifying the receiver signals and reducing transmitter output, thereby improving transmission at both ends of telephone conversation.



Fig. 1 — 535-type Telephone Set

**4.02** External appearance of this set is the same as that of 532-type set except for handset which is equipped with a push-to-listen switch (see Fig. 1). By adjusting volume control and operating 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.

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

**4.04** For connection and maintenance of 535-type telephone set, refer to appropriate section.

#### 5.00 NO. 9797 AND KS-16664, LIST 1 TRANSMITTERS

**5.01** The No. 9797 (confidencer) and KS-16664, List 1 transmitters are noise cancellation

transmitters. While speaking voice enters only at front, the surrounding noise neutralizes itself by entering and striking cancellation transmitter from front and back.

**5.02** The No. 9797 transmitter is designed to fit F-type hand set (see Fig. 2). To install transmitter, simply replace transmitter cap and transmitter unit of F-type hand set with No. 9797 transmitter.

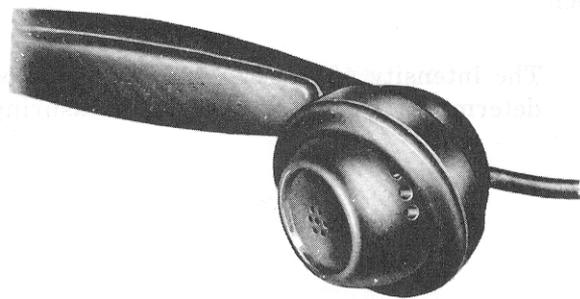


Fig. 2 — No. 9797 Transmitter

**5.03** The KS-16664, List 1 transmitter is designed to fit G-type hand set (see Fig. 3). To install KS-16664, List 1 transmitter:

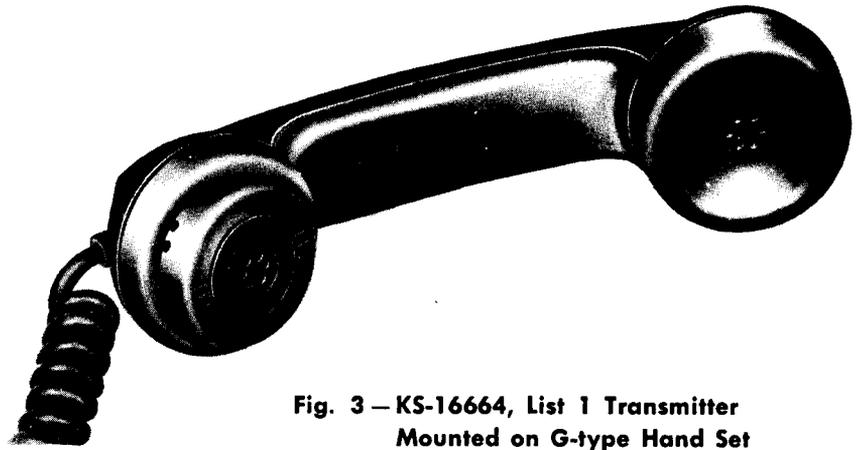
1. Remove transmitter cap, transmitter unit, and lucite transmitter cup from G-type hand set.
2. Insert metal cord stay over cord as shown in Fig. 4. Make sure that cord stay is pressed firmly down into handset molding.
3. Connect cord spade tips to transmitter unit terminals.
4. Locate spade tips so that they will not come in contact with metal cord stay after unit is assembled.
5. Secure transmitter unit to handset handle by means of transmitter cap.

**Note:** Old style G-type hand sets have cord stay yokes molded inside the handle. If difficulty is encountered inserting metal cord stay into handle of old style G-type hand sets, replace handset with later style.

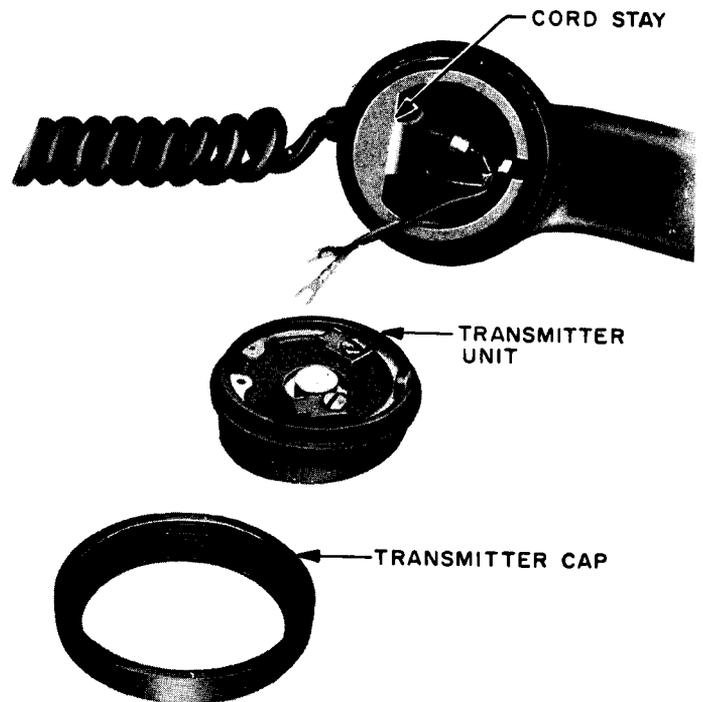
**5.04** The transmission level of No. 9797 or KS-16664, List 1 transmitter is below that of regular telephone transmitters. Therefore, customer should be instructed in proper telephone usage, especially with regard to speaking directly into transmitter.

**5.05** When trouble is encountered on either No. 9797 or KS-16664, List 1 transmitter, replace complete unit.

**5.06** The No. 9797 and KS-16664, List 1 transmitters are manufactured by Roanwell Company, 180 Varick Street, New York City. They are obtainable through normal Western Electric Company channels.



**Fig. 3 — KS-16664, List 1 Transmitter Mounted on G-type Hand Set**



**Fig. 4 — Assembly of KS-16664, List 1 Transmitter**

**5.07** When noise level is higher than average, resulting in customer dissatisfaction because of inadequate ringer volume, refer to tables in sections on B- and C-type ringers.