TELEPHONE SETS - 565 TYPE

(AMPLIFIER SETS)

1. GENERAL

1.01 This section covers the description, use, installation, maintenance and supplies information pertaining to the 565 type telephone set, for customers with impaired hearing or speech.

2. DESCRIPTION

2.01 The 565 key type telephone amplifier sets are similar in appearance to the other 500 key type telephone sets. The difference in external appearance is a knurled lucite knob used as the volume control, located above the hold button and adjacent to the dial. Internally the ringer is removed and replaced with a modified 44A bracket on which the 151A amplifier and 419A varistor are mounted. A KS-14634-L2 potentiometer is mounted on a special bracket under the left lamp strip mounting screw.

2.02 Through the use of a transistor, the amplifier in the 560 key type telephone sets produces an adequate level of sound without auxiliary batteries.

2.03 Since no ON-OFF switch is provided, the amplifier is in the circuit when the handset is off the mounting.

3. INSTALLATION

3.01 Install the 565 key type telephone amplifier sets in the same manner as other 500 type key telephone sets using standard connecting blocks.

3.02 Explain to the principal user of the amplifier, how to turn the volume up and down by the use of the knurled knob (counterclockwise for lower and clockwise for higher volume). Also inform the customer that the best results are usually obtained with the lowest volume setting which permits satisfactory hearing.

3.03 On some calls, particularly on short loops, the set may howl or the incoming speech may be distorted if the volume is set too high. The howling should stop when the volume is lowered.

3.04 A separately mounted bell is required for installations of the 565 type (Amplifier Set).

4. MAINTENANCE

4.01 General maintenance requirements and procedures common to all 500 key type telephone sets apply. The components peculiar only to the

amplifier sets are covered in this practice. These are the amplifier, varistor and potentiometer for receiver amplification. For transmitter amplification a 266A inductor and a terminal strip are added to these components.

4.02 Following is an explanation of the amplifier circuit, as shown in Fig. 1, of this practice:

For receiver amplification the input to the amplifier is connected in place of the receiver (Network Terminals "R" and "GN") and the receiver is connected across the output of the amplifier (Network Terminal "R", Amplifier Terminal "W"). The operating current for the amplifier is obtained from the central office battery by connecting the amplifier ("L" and "V" terminals) across the transmitter (Network Terminals "R" and "B"). Proper polarity of the central office battery is maintained across the amplifier by the 419A varistor which is connected between the network terminals ("C" and "F" for dial sets and "C" and "RR" for manual sets) and the line contacts of the switch. The volume is controlled by turning the knurled knob of the potentiometer.

For transmitter amplification the input to the amplifier is connected in place of the transmitter (Network Terminals "R" and "B") and the transmitter is connected across the output of the amplifier (Network Terminal "R", Amplifier Terminal "W", 266A Inductor, and Number 4 punching of the H.B. Jones Terminal Strip). All other parts of the transmitter amplifier circuit are the same as the receiver amplifier circuit.

4.03 To test the telephone (receiver amplification) under normal conditions without the amplifier and potentiometer in the circuit, remove the white-receiver wires from the "W" punching of the amplifier and place them on the "GN" terminal of the network. Lift the yellow-brown and red-white amplifier leads from the "GN" and "R" terminals, respectively, of the network. This should remove any amplifier or potentiometer trouble and leave the set as a normal 500 type key set, with the exception of the varistor, thus indicating if the trouble is in the normal or amplified portion of the set.

4.04 To test the telephone (transmitter amplification) remove the black transmitter wire from the Number 4 punching of the H.B. Jones Terminal Strip and place it on the "B" terminal of the network. Lift the amplifier leads from "GN" and "B" terminals of the network. With the exception of the varistor, the amplifier portion of the set is removed.

4.05 The following Table A lists possible trouble indications in the amplifier circuit and the probable cause and corrective measure for each.

TABLE A

TROUBLE	PROBABLE CAUSE	CORRECTIVE MEASURE
SET NOISY	POTENTIOMETER ARM NOT MAKING CONTACT AT TIMES	REPLACE POTENTIOMETER
VOLUME OF ENTIRE SET LOW (BELOW NORMAL SET)	OPEN OR SHORT IN AMPLIFIER	REPLACE AMPLIFIER
DOESN'T AMPLIFY (NORMAL SET)	OPEN POTENTIOMETER OPEN OR SHORT IN AMPLIFIER	REPLACE POTENTIOMETER REPLACE AMPLIFIER
ENTIRE SET DEAD	OPEN VARISTOR	REPLACE VARISTOR
MAXIMUM VOLUME CANNOT BE TURNED DOWN	SHORT IN POTENTIOMETER	REPLACE POTENTIOMETER

5. SUPPLIES

5.01 The amplifier will only be supplied with the 565HB Key Telephone Set. The sets should be ordered as per Drawing GSE-69214, and GSS-69214, using "Z" wiring for receiver amplification or "T" wiring for transmitter amplification. The requisition must specify the type of wiring to be provided.

NOTE: The modified 565HB amplifier set is not to be used as part of a three piece speakerphone installation without the approval of the Equipment Engineer's office.

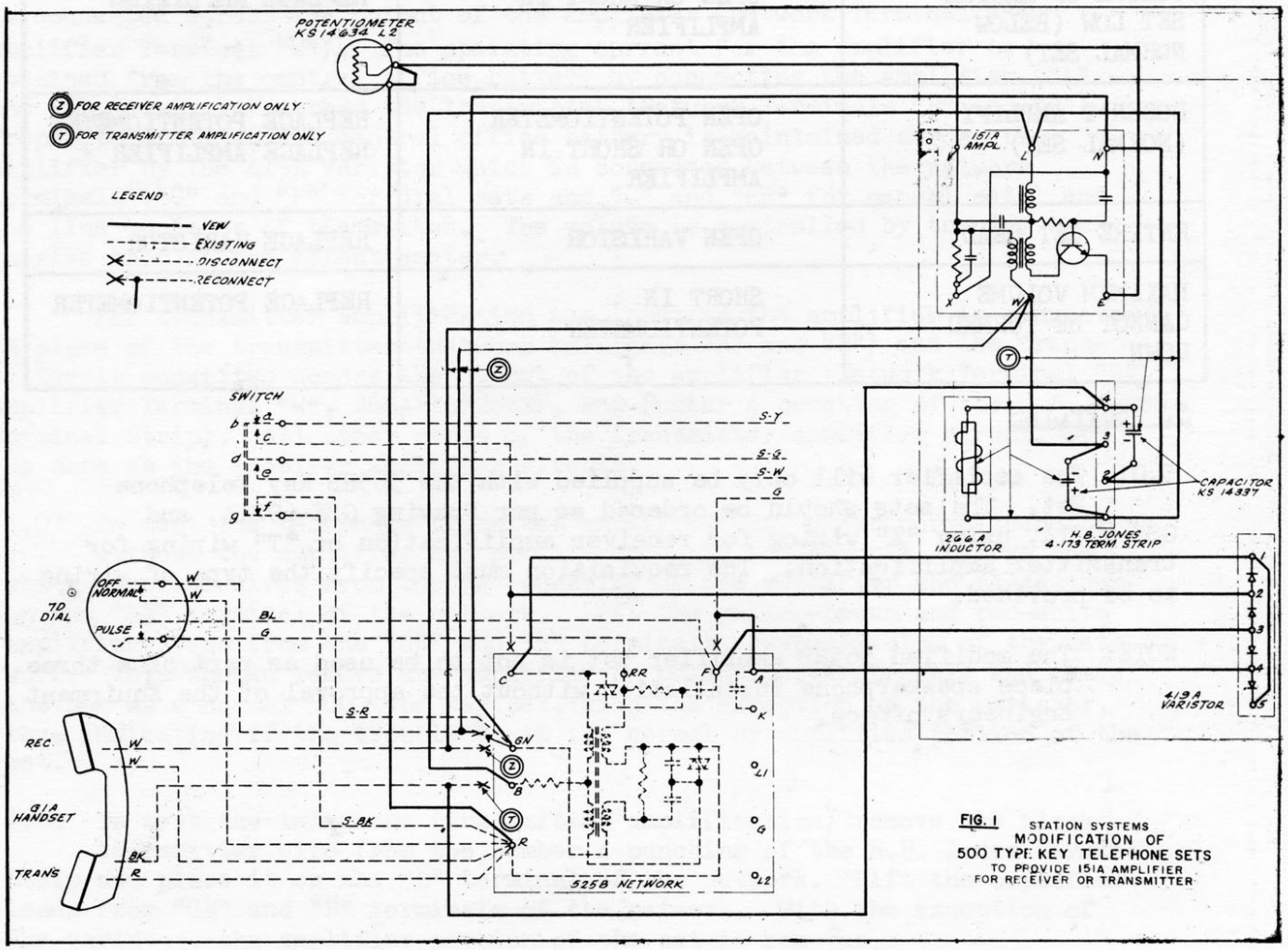

FIG. 1 STATION SYSTEMS
MODIFICATION OF
500 TYPE KEY TELEPHONE SETS
TO PROVIDE 151A AMPLIFIER
FOR RECEIVER OR TRANSMITTER