

## 60-TYPE HEAD TELEPHONE SETS

### PIECE-PART DATA AND REPLACEMENT PROCEDURES

#### 1. GENERAL

**1.01** This section covers information necessary for ordering parts to be used in the repair of 60-type head telephone sets. It also covers approved procedures for repairing and cleaning these sets.

**1.02** This section is reissued to:

- Specify the headsets are available in ivory color only.
- Add the 464A plug and delete the 396A and 464B plug.
- Add the KS-20778 L55 tool.
- Revise Fig. 1 through 8.

**1.03** These headsets can be used in any application approved for the 52-type headset.

**1.04** Part 2 of this section covers part numbers and the corresponding names of the parts which it is practicable to replace in the field in the maintenance of these sets. No attempt should be made to replace parts not designated. Part 2 also contains explanatory figures showing the different parts.

**1.05** Part 3 of this section covers the approved procedures for the replacement of parts covered in Part 2.

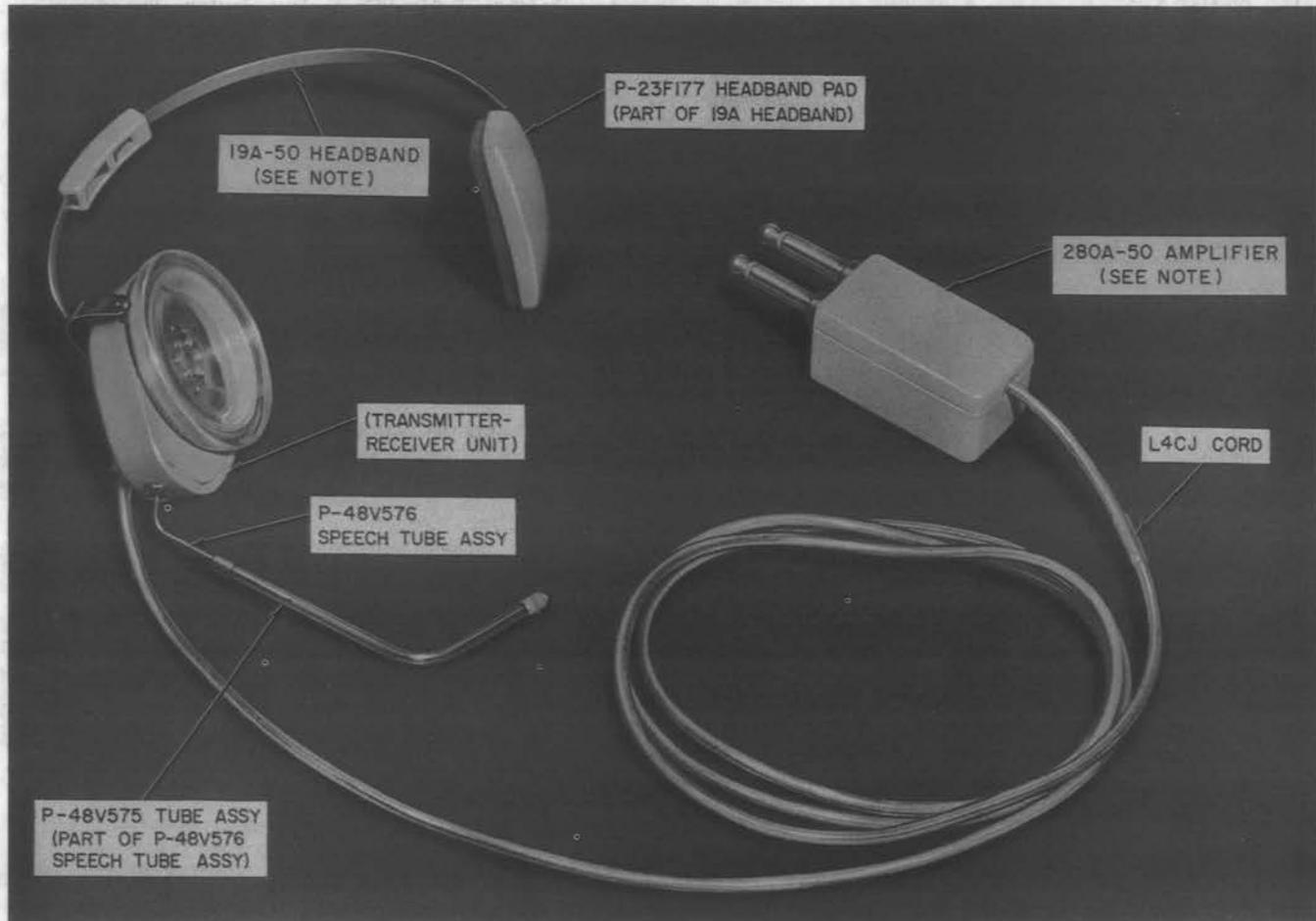
#### 2. PIECE-PART DATA

**2.01** Fig. 1 through 6 show the relationship of the various parts of the head telephone sets. The piece-part numbers of these parts are given together with the names as listed by the Western Electric Company Merchandise Department.

**2.02** When ordering replacement parts, give both the piece-part number and the name, for example: P-23F210 Screw. Do not refer to the BSP number.

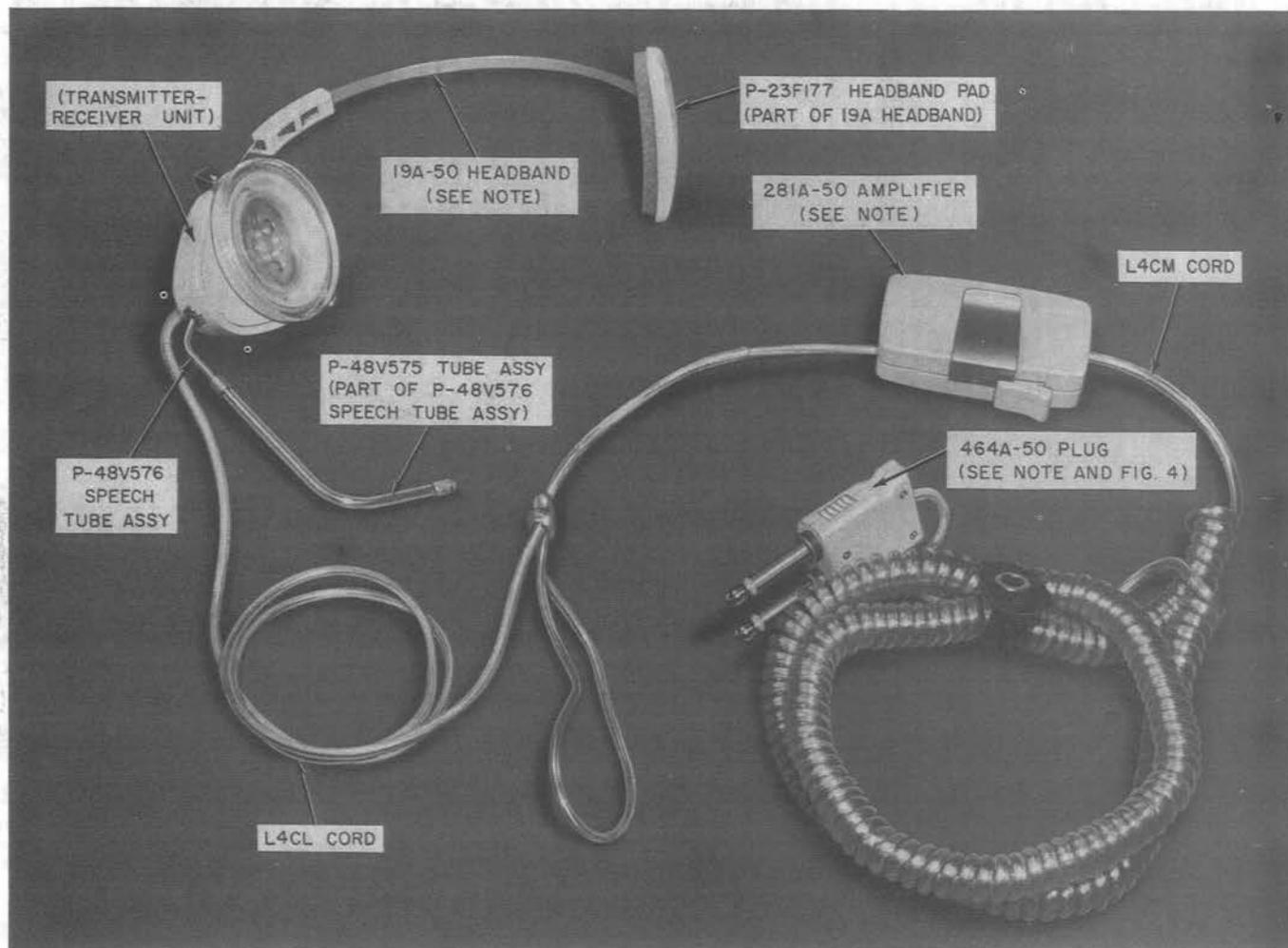
**2.03** Information enclosed by parentheses ( ) is not ordering information. This information may be references to notes, parts referred to in other portions of the section and not considered replaceable, or part names in general use in the field if these names differ from those assigned by the manufacturer.

**2.04** †The 60-type head telephone sets are available in ivory color only.‡



NOTE:  
THE SUFFIX -50 INDICATES IVORY COLOR.

Fig. 1—60A Head Telephone Set



NOTE:  
THE SUFFIX -50 INDICATES IVORY COLOR.

Fig. 2—60B Head Telephone Set

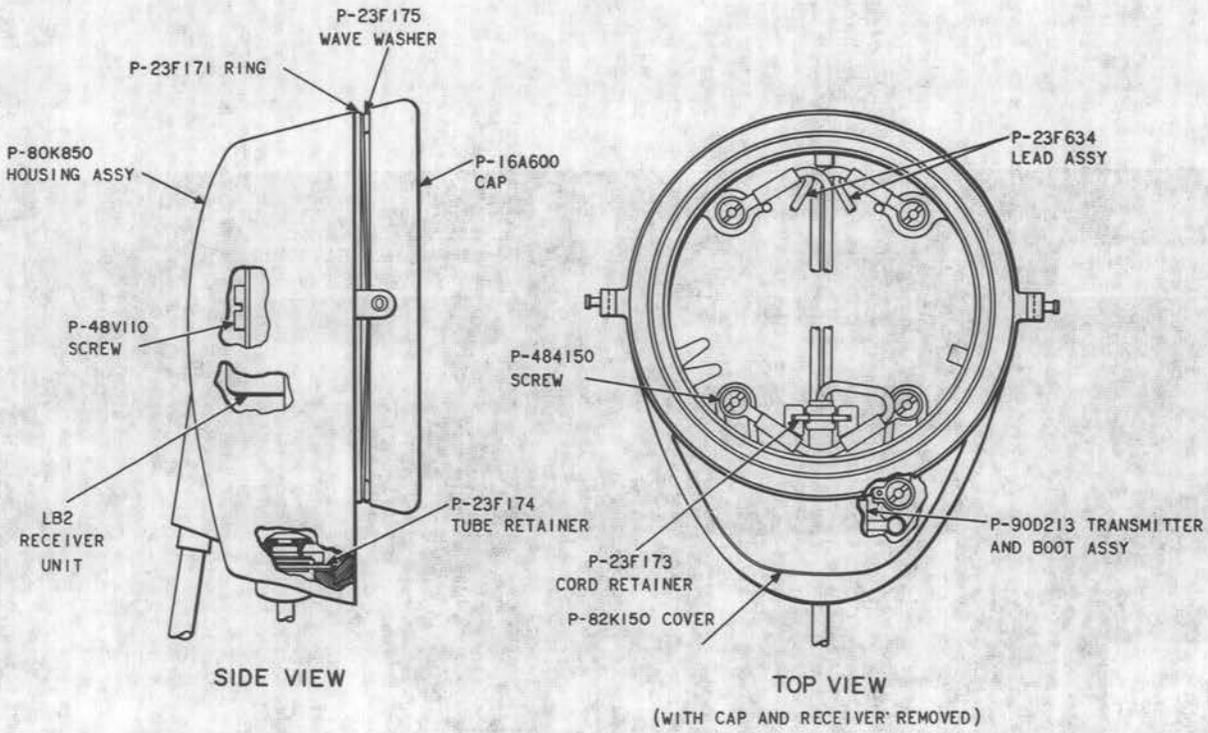


Fig. 3—Receiver-Transmitter Unit

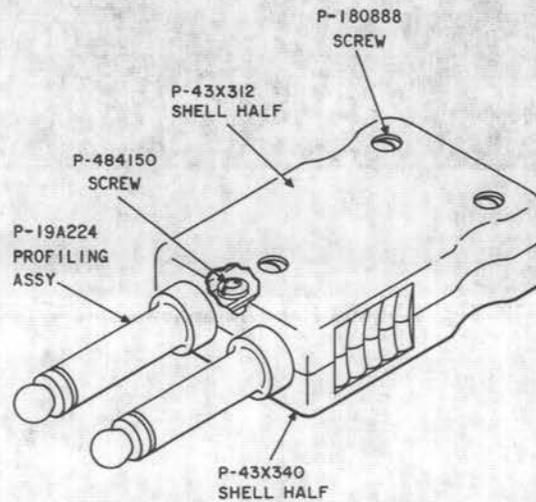
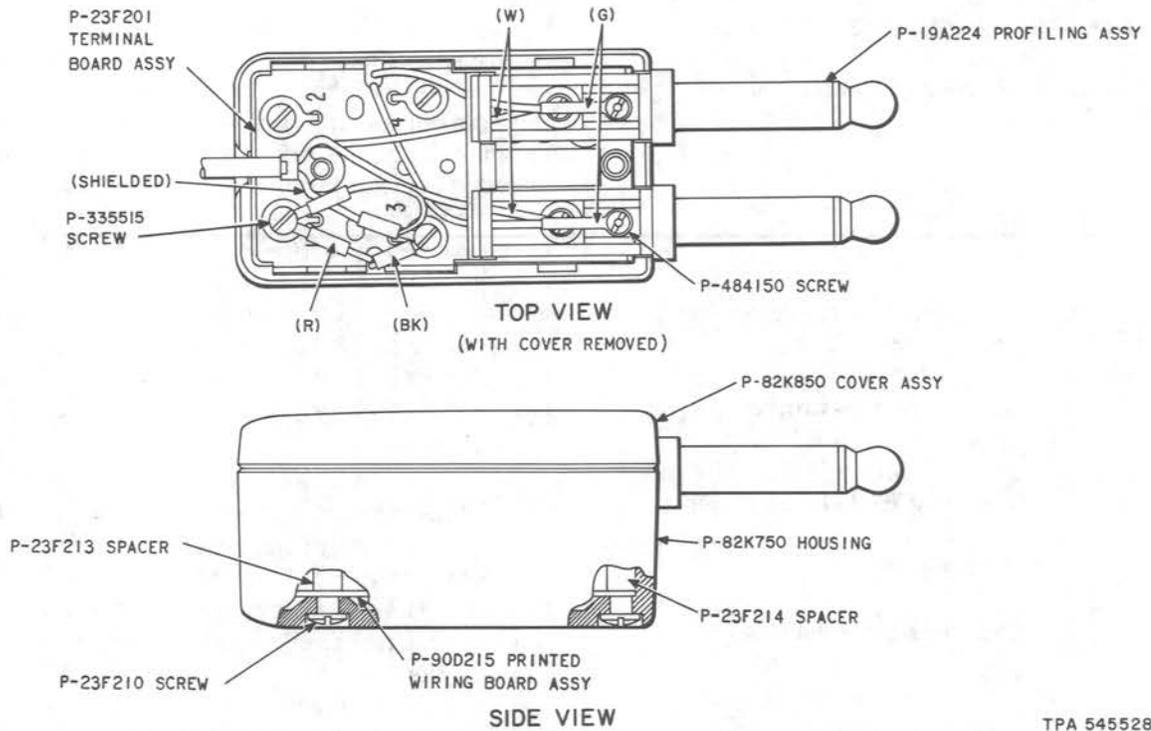
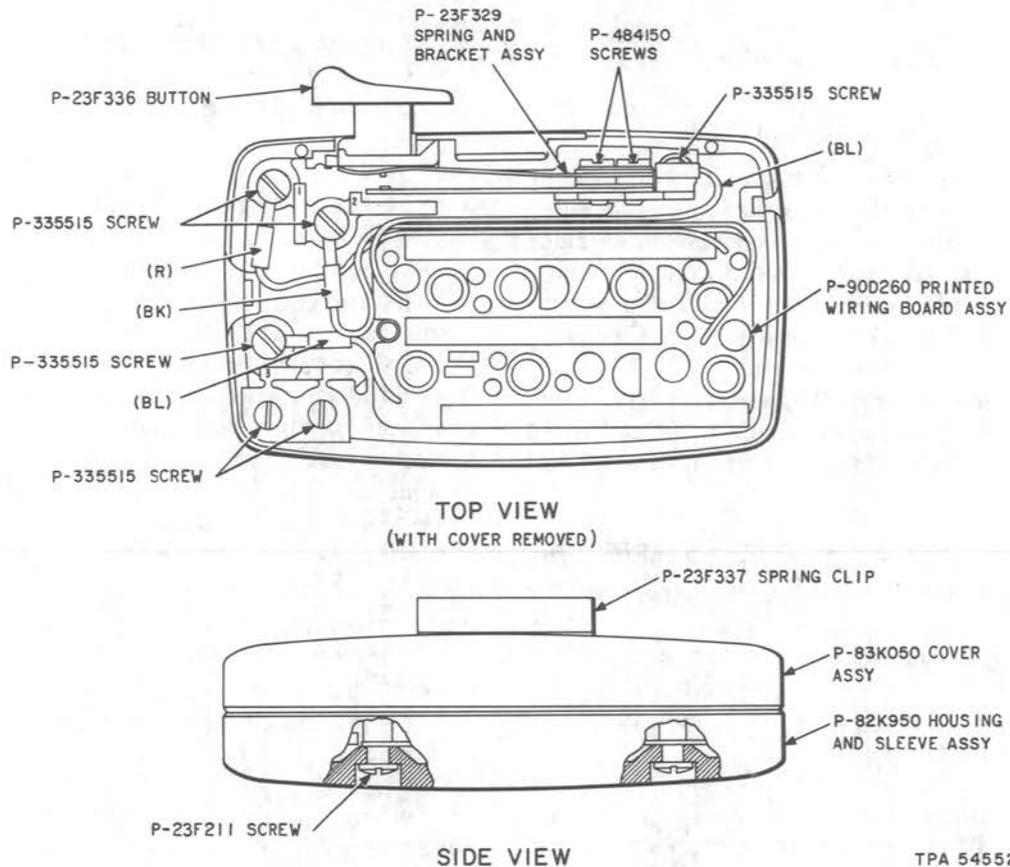


Fig. 4—464A Plug



**Fig. 5—280A Amplifier**



**Fig. 6—281A Amplifier**

## 3. REPLACEMENT PROCEDURES

3.01 *List of Tools and Materials*

## CODE OR

## SPEC NO. DESCRIPTION

## TOOLS

KS-2348	Cord Repair Screwdriver (equipped with P-484700 bit)
KS-6854	3-1/2 Inch Screwdriver
KS-20778 L55	◆Test Fixture (for convenient servicing of 280A amplifier)◆
R-8950	Syringe
—	P Long-Nose Pliers
—	3-Inch C Screwdriver

## MATERIALS

KS-2423	Cloth
—	Bell System Powdered Soap
—	Mild Detergent

**3.02** No attempt shall be made to repair either the printed wiring board, speech tube assembly, or transmitter and boot assembly since these components are replaceable as complete units. These items should be returned in accordance with local instructions to the Western Electric Company.

**3.03** After making replacement of parts which affect transmission, check the headset to see that it meets the tests specified in Section 028-362-501.

**3.04 Receiver Unit:** Fig. 3—To replace the receiver unit, unscrew the cap from the housing assembly. Using the KS-6854 screwdriver remove the receiver terminal screws and remove the old unit. Substitute the new unit and connect the lead terminals. Dress leads not to pinch. Replace the receiver cap.

**3.05 Transmitter Unit:** Fig. 3—To replace the transmitter unit, unscrew the receiver cap from the housing assembly and remove the transmitter

cover. ◆Remove speech tube ball assembly as covered in 3.06.◆ Using the KS-2348 screwdriver remove the transmitter terminal screws and remove the transmitter unit and boot assembly. Substitute the new unit and boot assembly and connect the transmitter lead terminals. Dress leads away from housing walls. Boot and transmitter assembly shall be positioned in a floating manner not bearing on any housing wall. ◆Replace speech tube ball assembly and make sure the assembly is sealed to transmitter boot. Replace tube retainer.◆ Replace the transmitter cover wave washer, headband receiver ring, and receiver cap.

**3.06 Speech Tube Assembly:** Fig. 1 and 2—To replace only the tube part of the assembly, pull the old tube off the ball assembly and substitute the new tube. To replace the ball assembly, remove the transmitter cover as covered in 3.05. Remove the tube retainer and lift the ball assembly out. Substitute the new ball assembly and replace the tube retainer. Replace the transmitter cover as covered in 3.05.

**Caution:** *Do not bend the speech tube assembly since it has been shaped by the manufacturer for best results.*

**3.07 ◆464A Plug:** ◆ Fig. 4—Remove the plug clamp screws with the KS-6854 screwdriver. Note the color of the cord conductor connections to the terminals. Remove the cord terminal screws using the KS-2348 cord repair tool and remove the cord from the profiling assembly and plug shell. Insert the new cord terminals through the hole in one half of the plug shell and connect to cord terminals as shown in Fig. 8. Place profiling assemblies in shell half and reassemble the parts in the reverse order of removal.

**3.08 280A Amplifier:** To replace the amplifier, remove the housing screws using the 3-inch C screwdriver and remove the cover. Using the KS-2348 screwdriver, remove the terminal screws and remove the L4CJ cord from the amplifier. Substitute the new amplifier, connect the cord as shown in Fig. 7 and assemble the parts in the reverse order of removal. Dress the leads as originally positioned.

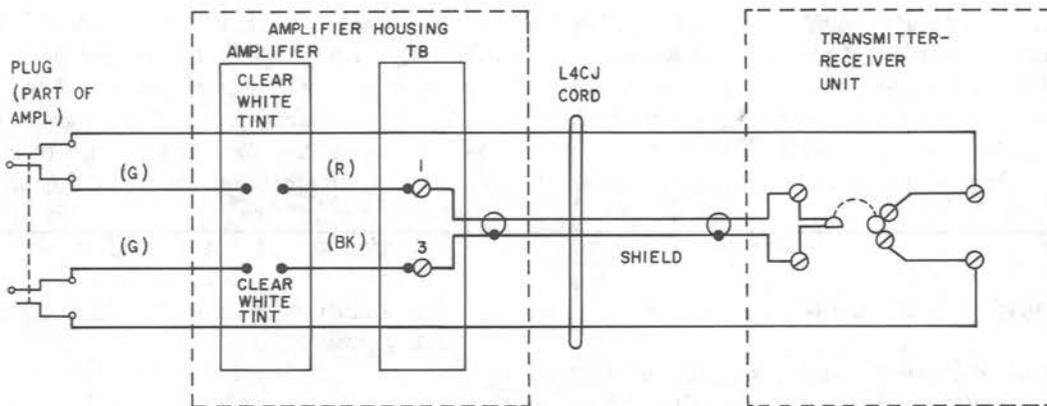


Fig. 7—280A Amplifier Connecting Diagram

**Note:** Test fixture KS-20778 L55 is available to assist in the disassembly and assembly of the 280A amplifier. The test fixture traps all loose parts and provides electrical test points for trouble shooting.

### 3.09 Profiling Assembly Associated with 280A

**Amplifier:** Remove the housing screws using the 3-inch screwdriver and remove the cover. Remove the lead and cord terminals connected to the profiling assembly using the KS-2348 screwdriver and remove the profiling assembly. Place the new profiling assembly in the shell half and reassemble the parts in reverse order of removal, connecting the cord terminals as shown in Fig. 7. Dress the leads as originally positioned.

### 3.10 Printed Wiring Board Associated with 280A Amplifier:

Remove the housing screws

using the 3-inch C screwdriver and remove the cover. Note the dress of the leads. Using the KS-2348 screwdriver remove the screws securing the four printed wiring board leads. Remove the terminal board assembly and the printed wiring board. Substitute the new printed wiring board, connect the leads as shown in Fig. 7 and assemble the parts in the reverse order of removal. Dress the leads as originally positioned.

**3.11 281A Amplifier:** To replace the amplifier, remove the housing screws using the 3-inch C screwdriver. Open the housing and remove the spring clip. Using the KS-2348 screwdriver, remove the terminal screws and remove the L4CM and L4CL cords from the amplifier. Substitute the new amplifier, connect the cords to the switch as shown in Fig. 8 and assemble the parts in the reverse order of removal. Dress the leads as originally positioned.

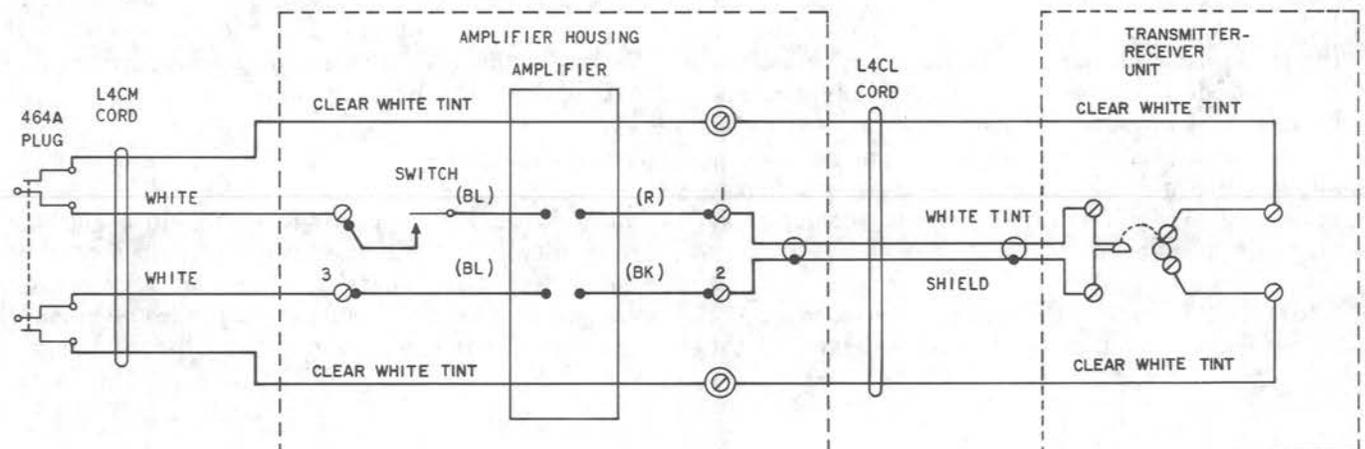


Fig. 8—Amplifier Connecting Diagram

**3.12 Switch Associated with 281A Amplifier:**

Remove the housing screws using the 3-inch C screwdriver. Open the housing and remove the spring clip. Using the KS-2348 screwdriver remove the terminal screws on the switch. Using the same screwdriver remove the switch mounting screw and lift the switch out. Substitute the new switch and reassemble in the reverse order of removal, connecting the leads as shown in Fig. 8. Dress the leads as originally positioned.

**3.13 Printed Wiring Board Associated with 281A Amplifier:**

Remove the housing screws using the 3-inch C screwdriver. Open the housing and remove the spring clip. Note the dress of the leads. Using the KS-2348 screwdriver remove the terminal screws holding the printed wiring board terminals and remove the board. Substitute the new board and reassemble in reverse order of removal, connecting the terminal leads as shown in Fig. 8. Dress the leads as originally positioned.

**3.14 LACM Cord:** Disconnect the cord at the plug end as covered in 3.07. At the 281A amplifier end, disconnect the cord as covered in 3.11. Substitute the new cord and connect it to the plug and amplifier making sure the conductors are connected to the terminals in the plug and handle as shown in Fig. 8. Reassemble the parts in the reverse order of removal. Dress the leads as originally positioned.

**3.15 LACL Cord:** Disconnect the cord at the 281A amplifier end as covered in 3.11. At the headset end, remove the receiver unit as covered in 3.04. Note the color of the cord conductor connections to the terminals and then, using the KS-2348 screwdriver, remove the screws holding the cord terminals and remove the cord. Substitute the new cord and connect it to the amplifier and headset making sure the conductors are connected to the terminals in the amplifier and headset as shown in Fig. 8. Reassemble the parts in the reverse order of removal. Dress the leads as originally positioned.

**3.16 LACJ Cord:** Disconnect the cord at the 280A amplifier as covered in 3.08. At the

headset end remove the receiver unit as covered in 3.04. Note the color of the cord conductor connections to the terminals and then, using the KS-2348 screwdriver, remove the screws holding the cord terminals and remove the cord. Substitute the new cord and connect it to the amplifier and headset making sure the conductors are connected to the terminals in the amplifier and headset as shown in Fig. 7. Reassemble the parts in the reverse order of removal. Dress the leads as originally positioned.

**3.17 Headband Pad:** To replace the headband pad, remove the old pad from the headband. Remove the paper from the pressure sensitive backing of the new pad and substitute for the old pad.

#### 4. CLEANING PROCEDURES

##### PLUGS

**4.01** Clean plugs in accordance with Section 069-380-811 or 069-380-812.

##### CASES AND RECEIVER CAPS

**4.02** Shake or blow dirt and dust out of the amplifier and transmitter-receiver cases with the R-8950 syringe and wipe the exteriors with a cloth slightly dampened with water.

**Caution:** *Do not use alcohol base cleaner as this will attack the case and cap material and may render the set flammable.*

**4.03** Remove caps which are dirty and wash in a solution of soap and lukewarm water. If the caps cannot be released for washing, wipe them with a clean, dry KS-2423 cloth.

##### HEADBAND PAD

**4.04** Wipe with a clean KS-2423 cloth slightly dampened with a solution of mild detergent and water. Care should be exercised when wiping the pad so water will not get on the inside surface of the pad at the end. Allow to dry before using.