

TELEPHONE SETS — 309A
MAGNETO — CONNECTIONS

1.00 INTRODUCTION

This section covers the combination of apparatus, circuit diagram, and connections for the 309A telephone set when used with a magneto subscriber set.

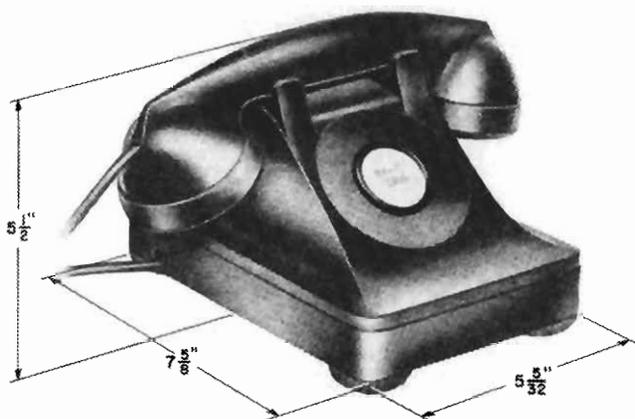


FIG. 1—309 TYPE



FIG. 2—299F OR D-176680 TYPE

TABLE A—COMBINATION OF APPARATUS

| Tel. Set Code | Use | Components | | | | | | |
|---------------|---------|----------------------------|-----------------|----------------|--------|-----------|----------|---------------|
| | | Handset | Apparatus Blank | Induction Coil | Ringer | Capacitor | Inductor | Electron Tube |
| 309A | Magneto | F1 | 82A or 94A | 104A | B3A | 195A | 266A | 405A or 426A |
| 299F | | 5-Bar Generator (48A) | | | | | | |
| D-176680 | | 3-Bar Generator (D-176681) | | | | | | |

2.00 RINGERS

2.01 Set ringer biasing spring on B3A ringer in the notch which gives the most satisfactory rings.

2.02 The ringing bridges in these sets are of the high-impedance type. For information on the number and type of ringing bridges permitted on each line, reference should be made to the section covering ringer limitations.

TABLE B—LINE AND RINGER CONNECTIONS

| Connections | | Negative (—) Parties | | Positive (+) Parties | |
|---|------|------------------------|-----------------------|------------------------|-----------------------|
| | | Ring Positions 1 and 5 | Tip Positions 2 and 6 | Ring Positions 3 and 7 | Tip Positions 4 and 8 |
| Mounting Cord In Tel. Set | R | L2Y | L1 | L2Y | L1 |
| | GN | L1 | L2Y | L1 | L2Y |
| | Y | GND | GND | GND | GND |
| | BK | BK | BK | BK | BK |
| | BL | BL | BL | BL | BL |
| Ringer Lead | R | GND | GND | L2Y | L2Y |
| | BK | K | K | K | K |
| 426A Tube Lead | R | GND | GND | L2Y | L2Y |
| | BK | K | K | K | K |
| | Y | L2Y | L2Y | GND | GND |
| Mounting Cord at 44-type Connecting Block | R | 1 | 1 | 1 | 1 |
| | GN | 2 | 2 | 2 | 2 |
| | Y | 4 | 4 | 4 | 4 |
| | BK | 5 | 5 | 5 | 5 |
| | BL | 6 | 6 | 6 | 6 |
| Local Battery Wiring at 44-type Connecting Block | | 5 | 5 | 5 | 5 |
| | | 6 | 6 | 6 | 6 |
| L1 and L2 Leads from Sub. Set at 44-type Connecting Block | | 1 | 1 | 1 | 1 |
| | | 2 | 2 | 2 | 2 |
| Alternate Connections for Ringer and 405A Tube | | | | | |
| Ringer Lead | R | S | S | S | S |
| | BK | K | K | K | K |
| S-Terminal Lead | SL-R | GND | GND | L2Y | L2Y |
| 405A Tube Lead | R | See Note | | | |
| | BK | K | K | K | K |
| | Y | L2Y | L2Y | GND | GND |

Note: Red tube lead is connected to undesignated end of resistance.

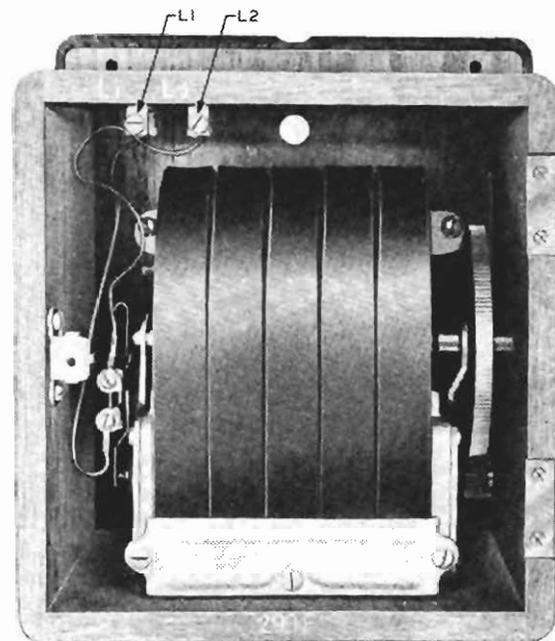


FIG. 3—299F (D-176680 HAS A 3-BAR GENERATOR)

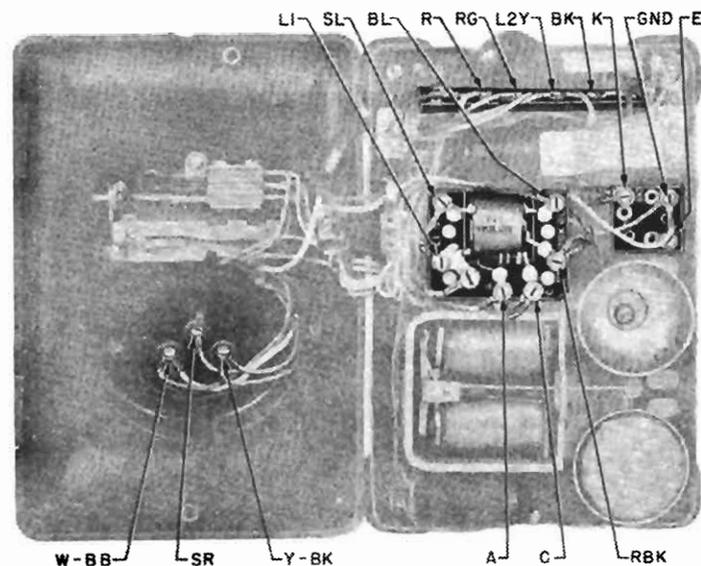


FIG. 4—309A

4.00 INDUCTIVE NOISE

When inductive noise is encountered at the station, one of the following corrective measures may be used, depending upon the severity of the induction:

- Reverse the leads of the 266A inductor.
- Replace 426A tube (3 element) with 425A tube (4 element). See Table C.

TABLE C—INDUCTION

| Wire or Lead | | Average Induction | | | | Severe Induction | | | |
|----------------------------------|----|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|------------------------|-----------------------|
| | | Negative (—) Parties | | Positive (+) Parties | | Negative (—) Parties | | Positive (+) Parties | |
| | | Ring Positions 1 and 5 | Tip Positions 2 and 6 | Ring Positions 3 and 7 | Tip Positions 4 and 8 | Ring Positions 1 and 5 | Tip Positions 2 and 6 | Ring Positions 3 and 7 | Tip Positions 4 and 8 |
| Ringer Lead 426A Tube Lead | R | GND | GND | K | K | K | K | K | K |
| | BK | K | K | GND | GND | L2Y | L2Y | GND | GND |
| | R | L1 | L1 | | | | | | |
| | BK | K | K | | | | | | |
| | Y | L2Y | L2Y | | | | | | |
| 425A Tube Lead | R | | | L2Y | L2Y | L1 | L1 | L2Y | L2Y |
| | GN | | | L1 | L1 | L2Y | L2Y | L1 | L1 |
| | BK | | | L2Y | L2Y | GND | GND | L2Y | L2Y |
| | Y | | | K | K | K | K | K | K |

Note: For additional information concerning induction, see the section covering inductive noise.

5.00 COMMON SOURCE OF BATTERY

5.01 Where the transmitter battery for more than one station is obtained from a common source of supply, such as battery feed from the central office, the following changes in Fig. 5 must be made:

- Replace the F1 handset with an F2 handset.
- Connect the green conductor of the F2 handset to terminal E.
- Remove the red-white lead from terminal R and connect it to terminal E.
- Connect the red, black, and white conductors of the F2 handset the same as shown for the F1 handset in Fig. 5.

5.02 When a common source of battery supply is used, a battery feed filter must be used. For further information, see the section covering battery feed filters.

6.00 BALANCING NETWORKS

6.01 Means are provided in these sets whereby various networks may be connected in the induction coil balancing circuit to obtain satisfactory sidetone balance when the sets are used on the different types of subscriber loops employed in the plant.

6.02 These sets are normally furnished with the type A network as indicated in Fig. 5. Necessary changes in the sets to obtain other networks are as follows:

Network B: Connect a KS-8058, 400-ohm, or KS-13490, List 2, 390-ohm, resistor from A on induction coil to R on terminal strip. Connect slate from capacitor to A on induction coil. The KS-8058 or KS-13490, List 2 resistor is not furnished as part of the set.

Network C: Connect yellow from capacitor to C on induction coil.

Network D: Connect yellow from capacitor to R on terminal strip. Connect red-white strap from C on induction coil to R on terminal strip.