

## SUBSCRIBER SETS 685, 686, AND 687 TYPES

### 1. GENERAL

1.01 This section covers the description, use, installation, and maintenance of the 685A, 686A, 687A, and 687B subscriber sets.

1.02 This section is reissued to convert it to letter size and to incorporate material from the addendum in its proper location. In the process of this conversion, marginal arrows have been omitted.

1.03 These sets furnish transmission and ringing performance equivalent to the 500-series telephone sets and may be used with coin collectors and hand telephone sets equipped with G-type handsets or similar handsets. These sets should be used in transmission zone 5 to take advantage of improved transmission.

1.04 Table A gives the types of subscriber sets the 685A, 686A, 687A, and 687B are replacing, or their equivalent.

TABLE A

Subscriber Set	Replaces	Equivalent†
685A*		634CE, 634CF, 684BA
686A*		434AT, 634AT
687A	531A-3	
687B	531C-3	

\*Should be used in transmission zone 5.

†Should be used in transmission zones 1 and 2. If these sets are not available from field stocks, the 685 or 686 type may be substituted.

### 2. DESCRIPTION

2.01 Figs. 1 through 6 illustrate the 685A, 686A, 687A, and 687B subscriber sets.

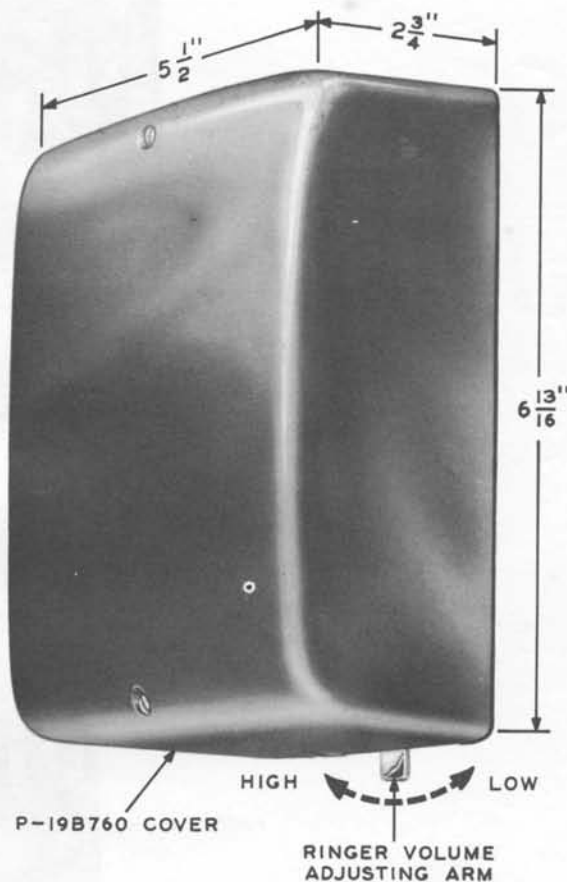


Fig. 1—685-, 686-, and 687-type Subscriber Sets—Exterior View

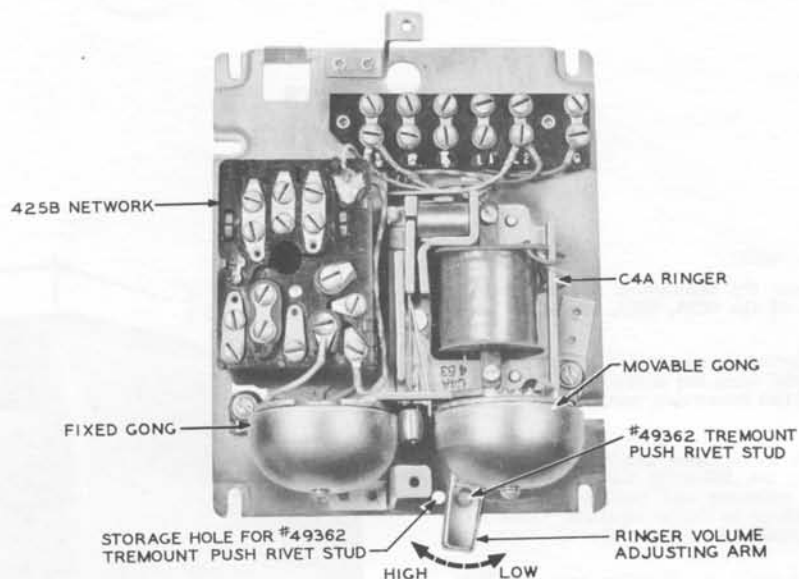


Fig. 2—685A Subscriber Set—Interior View

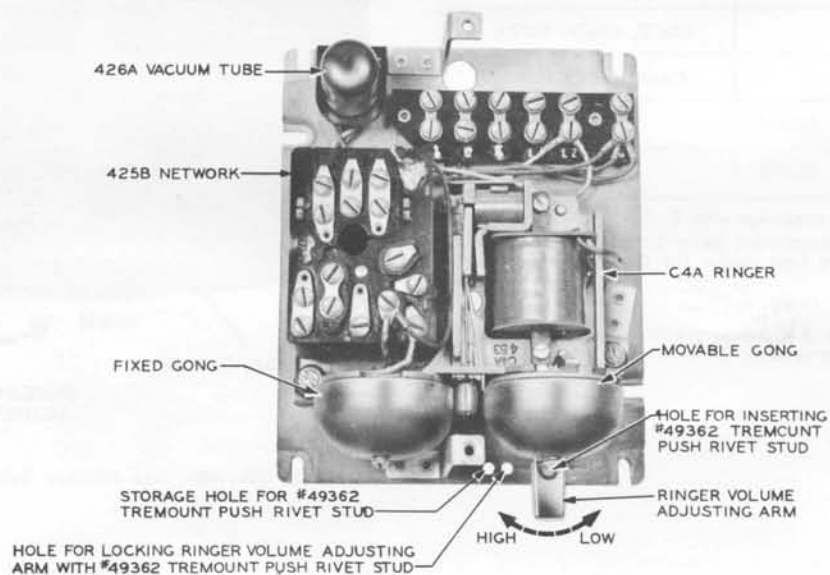


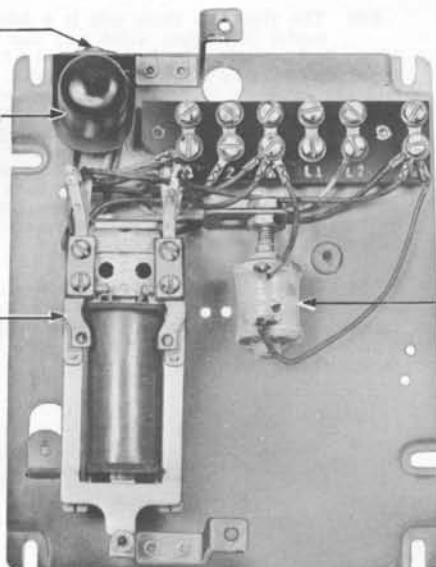
Fig. 3—686A Subscriber Set—Interior View

Fig. 4—687A Subscriber Set—Interior View

P-43A106 HEX.HEAD  
SELF TAPPING SCREW

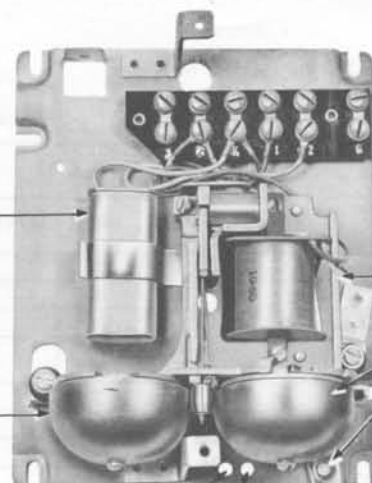
426A VACUUM TUBE

UA-112 RELAY



198C CONDENSER

FIXED GONG

STORAGE HOLE FOR #49362  
TREMOUNT PUSH RIVET STUDHOLE FOR LOCKING RINGER VOLUME  
ARM WITH #49362 TREMOUNT PUSH RIVET STUD

C4A RINGER

MOVABLE GONG

HOLE FOR INSERTING  
#49362 TREMOUNT  
PUSH RIVET STUDRINGER VOLUME  
ADJUSTING ARM  
HIGH LOW

Fig. 5—687B Subscriber Set—Interior View

20A VARISTOR

154A BACKBOARD

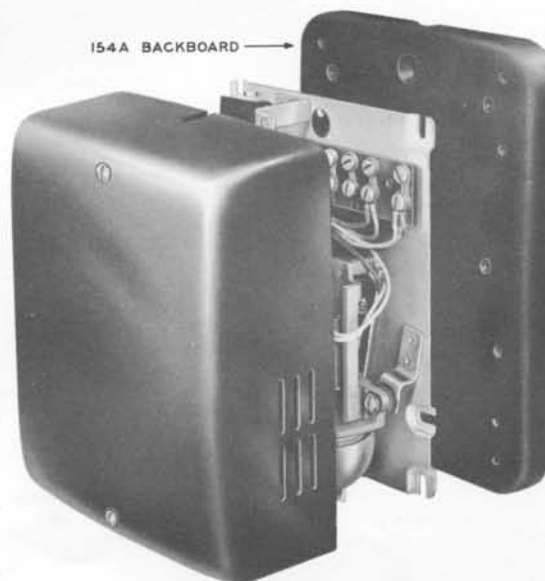


Fig. 6—Subscriber Set and Associated Backboard

**3. USE**

3.01 Table B gives the use by class of service.

**TABLE B**

Class of Service	Subscriber Sets			
	685A	686A	687A*	687B†
Coin Stations	X	X	X	
Individual Lines	X		X	
2-party Selective Flat Rate	X		X	
2-party Selective Message Rate	X		X	
Divided Code Ringing	X		X	
Nonselective Party Lines	X		X	
4-party Semiselective	X		X	
750A PBX Stations (Keyless)	X		X	
755A PBX Stations (Keyless)	X		X	
4-party Selective		X		X
Extension Station		X		
Extension Ringer			X§	X
8-party Semiselective		X		X
Extension Station‡		X		
Extension Ringer‡			X§	X

\*Extension Ringer Service.

†Auxiliary Signal Service.

‡Reference Section C63.252.

§When using the 687A subscriber set as an extension ringer, disconnect the 198C condenser (may be left in place or removed, according to local instructions) and mount the 426A vacuum tube on the associated bracket located at the upper left-hand corner of the base plate, using a P-43A106 hexagonal H self-tapping screw.

**4. INSTALLATION**

4.01 See Section C31.145, Subscriber and Telephone Sets for Indoor Locations, Installation.

4.02 The installer should instruct the subscriber in the use of the ringer volume-adjusting arm.

4.03 At coin-collector installations, the ringer volume-adjusting arm shall be placed in the high position and secured by the #49362 Tremount push rivet stud. At installations other than coin-collector installations, the ringer shall be adjusted to conform with the subscriber's wishes, and the #49362 Tremount push rivet stud shall be retained within its storage hole.

4.04 For ringer cutoff feature, see Section C31.207, C-type Ringers, Maintenance.

**Note:** Ringer cutoff feature should not be provided unless authorized by service order or local regulations.

**5. MAINTENANCE**

5.01 Make a visual inspection of the exterior and interior of the sets for loose, displaced, or broken parts, obstruction of moving parts, or the presence of foreign matter that may interfere with the operation of the set.

5.02 Examine all connections associated with screw terminals for tightness. Examine all terminal screw threads for stripping. When stripped holes are found at the terminals of the network, the regular screws shall be replaced with P-174074 self-tapping screws, or the approved equivalent.

5.03 The ringer in these sets is a later model C4A ringer which may also be used in the 500-type telephone sets. The frames on all C4A ringers manufactured after January 15, 1955 are changed in design so that they will not interfere with the free movement of the volume-adjusting arm as did the earlier model. When ringer trouble is encountered, consult Section C31.207, C-type Ringers, Maintenance, unless the ringer must obviously be replaced. When replacing the ringer, follow the same procedure as when replacing the ringer in the 500-type telephone set. However, the projecting arm on the ringer volume-adjusting arm must be inserted within the hole of the volume-control wheel in order to facilitate ringer volume control.

5.04 The 426A tube, used in the 686A and 687B subscriber sets, is mounted in the sets in a horizontal position. It may be replaced by removing the P-43A106 screw which secures it to the base and disconnecting the tube leads from the network and terminal strip.