

## **HANDSETS**

### **DESCRIPTION**

#### **1. GENERAL**

1.01 This section contains general information describing handsets. It is reissued to include information on the G1D, G2CR, and G2D handsets and to list the codes of handsets equipped with retractile cords. Information is also included on colored handsets.

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

1.03 **The addition of the suffix R** to the code number of a handset indicates that the handset is equipped with a retractile cord, as shown on Tables B and D.

1.04 Information covering the use of handsets in the proper transmission zone is covered in Section C30.002, Transmission Zoning of Station Apparatus.

#### **2. DESCRIPTION**

2.01 The following figures are included in this practice: Figs. 1, 2, and 4 showing the three basic types of handsets, E, F, and G, respectively; Figs. 3 and 5 showing push-to-talk handsets, F3 and G2, respectively; and Figs. 6 and 7 showing bushings for explosion-proof handsets, F6A and F6B. Associated with Figs. 1, 2, 3, 4, and 5 are Tables A, B, C, D, and E, respectively, showing the uses of the various handsets.

2.02 **Lightweight F1-type handsets** may be distinguished from the regular handsets by their lighter weight plastic, hollow handle, and an embossed dot following the code number on the handle. Transmitter and receiver caps for lightweight handsets are not interchangeable with regular caps because the threads are different. Caps for the heavier handsets have a number molded in the center of the underside of the grid; lightweight caps do not have such a number.

2.03 **A lightweight handset should not be used to replace a regular handset.** Its lighter weight may not operate reliably a switchhook designed for a regular handset.

2.04 **Push-to-talk Handsets:** F3- and G2-type handsets are equipped with a push-type switch in the center of the handle. (See Figs. 3 and 5.) This switch closes the transmitter circuit, removes a transmitter shunt, or performs some other function depending on the type of equipment associated with the handset.

2.05 **Explosion-proof Handsets:** F6A and F6B handsets are approved by the Underwriters' Laboratories, Inc. for use with telephone sets for hazardous locations. The handset cord is attached to the telephone set by means of a bushing that is designed to confine any possible burning gases to the interior of the telephone set. The F6A and F6B handsets are not interchangeable, as shown in Figs. 6 and 7. At least five threads of the threaded bushing must engage the threads in the housing. Each F6A or F6B handset is a factory assembled unit including the cord and bushing. If any part, except the transmitter cap or receiver cap, requires replacement, **replace the entire handset assembly.**

**Caution: See Section C55.155, Telephone Sets for Explosive Atmospheres, General Requirements, before doing any work involving these handsets.**

**TABLE A**  
**E-TYPE HANDSETS**

Handset	Cord	Used With
E1D	H3AD	300A, B, C, and D outdoor sets. Equipped with a 15-inch water-proof cord.
E1E	H3C	Hand telephone sets. Equipped with fabric cord.



625A TRANSMITTER

557B RECEIVER

Fig. 1—E-Type Handset

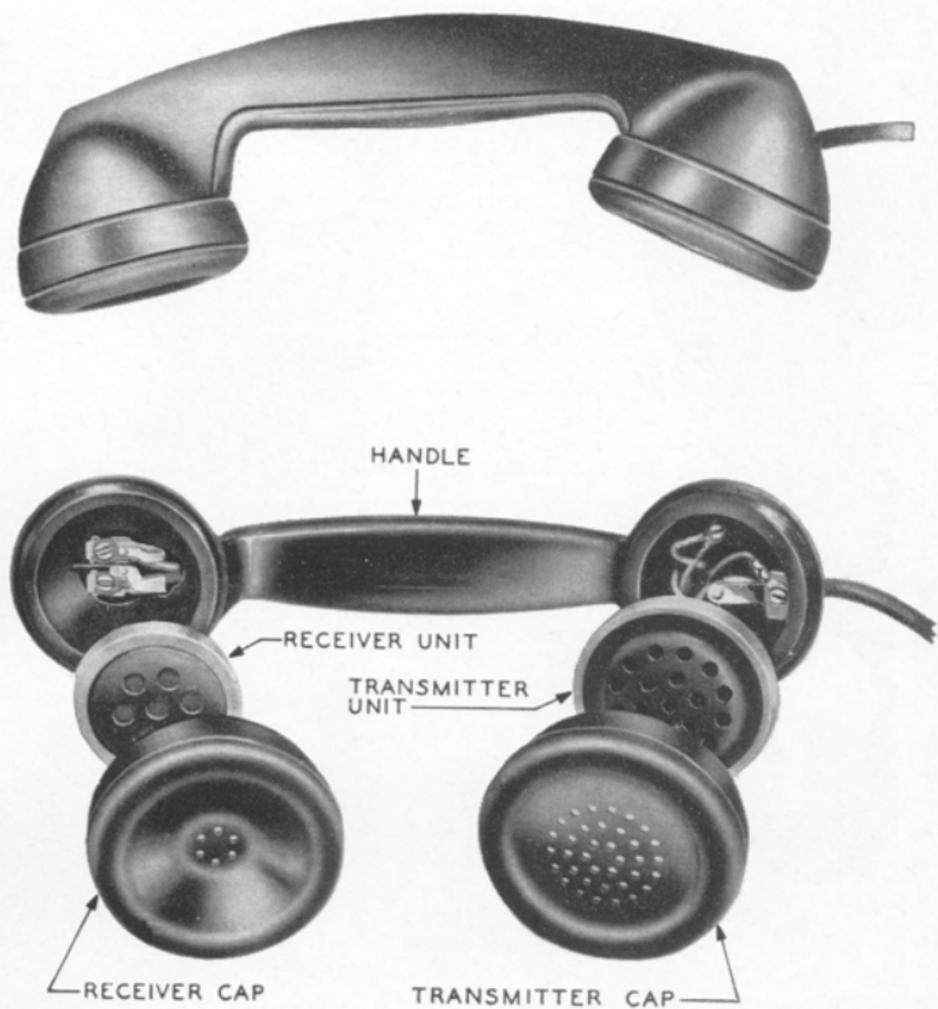


Fig. 2—F-Type Handset

**Table B**  
**F-TYPE HANDSETS**

Handsets	Color	Cord	Trs Unit	Rec Unit	Handle	Trs Cap	Rec Cap	Remarks †	Used With	
F1A-3 F1A-4	Black Ivory	H3C-9 H3C-4	F1 F1	HA1 HA1	F1-3 F1-4	P-456235 P-349014	P-456236 P-349015			
F1A-6 F1A-7	Old Brass Statuary Bronze	H3C-6 H3C-7	F1 F1	HA1 HA1	F1-6 F1-7	*	*	Fabric-covered cords.	Hand telephone sets and 300- and 400-type telephone sets.	
F1A-8 F1A-12	Oxidized Silver Dark Gold	H3C-8 H3C-12	F1 F1	HA1 HA1	F1-8 F1-12	*	*			
F1A-16 F1A-18	Old Rose Dark Blue	H3C-16 H3C-18	F1 F1	HA1 HA1	F1-16 F1-18	P-349659 P-349660	P-349663 P-349664			
F1A-19 F1A-20	Gray Green Pekin Red	H3C-19 H3C-20	F1 F1	HA1 HA1	F1-19 F1-20	P-349661 P-349662	P-349665 P-349666			
F1G-3 F1G-4	Black Ivory	H3AG-3 H3AH-50	F1 F1	HA1 HA1	F1-3 F1-4	P-456235 P-349014	P-456236 P-349015			Waterproof cords.
F1GR-3 F1GR-4	Black Ivory	H3AF-9 H3AJ-50	F1 F1	HA1 HA1	F1-3 F1-4	P-456235 P-349014	P-456236 P-349015			Retractable water- proof cords.
F1B F1C	Black Black	H3AE-9 H3AD-9	F1 F1	HA1 HA1	F1-3 F1-3	P-456235 P-456235	P-456236 P-456236		181-, 183-, 191-, 193-, 195-, 196-, and 197-type coin collectors. 300E, F, G, and H, 325- and 326-type outdoor telephone sets.	
F1E-3 F1E-6	Black Old Brass	H3N-9 H3N-6	F1 F1	HA1 HA1	F1-3 F1-6	P-456235 *	P-456236 *	15-in. fabric-covered cords.	322A and 322C elevator sets.	
F1H F2A	Black Black	H3AC-9 H4U-9	F1 F1	HA5 HA1	F1-3 F2-3	P-456235 P-456235	P-456236 P-456236	Equipped with a 310A plug. Fabric-covered cord and a 289B plug.	85A, 86A, 87A, 87B, and 88A test sets. PBX systems.	
F2B F2C	Black Black	H4T-9 H4T-9	F1 F1	HA1 HA3	F2-3 F2-3	P-456235 P-456235	P-456236 P-456236	Fabric-covered cord. Fabric-covered cord.	307E, F, G, and H telephone sets and SP653BB subsets. Also 309- and 357- type sets when a common local trans- mitter battery is provided. Private toll line stations associated with 102-type key equipment.	
F2D F2E	Black Black	H4AP-9 H4BC-9	F1 F1	HA2 HA1	F2-3 P-349910	P-456235 P-456235	P-456236 P-456236	Equipped with a 289B plug.	L carrier order wire. 74-, 174-, 176-, D178940-, and D178942- type coin collectors.	
F2G F2H	Black Black	H4AP-9 H4AD-9	F1 F1	HA3 HA1	F2-3 P-349910	P-456235 P-456235	P-456236 P-456236	Equipped with a 289B plug. Fabric-covered cord.	Order wire of TD-2 microwave system. 182J mobile-radio coin collectors on railroads.	
F4A F4B	Black Black	H3AG-9 H3AE-9	T1 T1	U1 U1	F4-3 F4-3	P-456235 P-456235	P-456236 P-456236		Replaces F1G where transmission requires. Replaces F1B where transmission requires.	
F5A F6A F6B	Black Black Black	H4BC-9 H3R-9 H4BE-9	T1 K1 K1	U1 HA1 HA1	F5-3 F6A P-19A693	P-456235 P-456235 P-456235	P-456236 P-457594 P-457594	See 2.05. ** See 2.05. **	Replaces F2E where transmission requires. 320-type and some KS-14476 explosion-proof sets. KS-14548 and some KS-14476 explosion-proof sets.	

\* These are painted handsets, and do not have separate transmitter caps or receiver caps.

The entire handset should be replaced as a unit.

\*\* So as not to spoil the explosion-proof characteristics, only the transmitter caps and receiver caps should be replaced in the field.

† Handsets are equipped with waterproof cords unless otherwise stated in the Remarks.

**Table C**  
**F3-TYPE PUSH-TO-TALK HANDSETS**

Handset	Cord	Rec Unit	Contact Spring Assembly	Remarks *	Used With
F3B	H4AM	HA1	P-481188 (2 reqd)	Has a 289A plug and a 4-ft or 12-ft cord.	Telegraph position of toll test board.
F3F	H4AM	HA2	P-481188 (2 reqd)	Has a 289A plug and a 4-ft or 12-ft cord.	102-type key equipment.
F3H	H4AN	HA1	P-481188 (2 reqd)	Has a fabric-covered 4-ft or 12-ft cord	4-wire private line equipment associated with 102A or 109A key equipment.
F3J	H3AG	HA1	P-477721 P-477722	Switch removes a transmitter shunt. Has a 4-ft or 9-ft cord.	102A key equipment.
F3K	H4AL	HA1	P-479960 P-479961 P-477722	Switch has break and make contacts. Has a 9-ft cord.	324A telephone set.
F3L	H4AL	HA1	P-477722 P-477721	Switch has break contact only.	324A telephone set.
F3M	H4AL	HA1	P-481188 (2 reqd)	Switch has make contact only.	324A telephone set.
F3N	H4AM	HA3	P-481188 (2 reqd)	Has a 289A plug and a fabric-covered 4-ft or 9-ft cord.	4-wire private line equipment associated with 102A or 109A key equipment.
F3P	H5C	HA3	P-481188 (2 reqd)	Fabric-covered cord.	CAA equipment.
F3S	H4AM	HA1	P-481188 (2 reqd)	Has a 289A plug and a 4-ft or 12-ft cord.	Type L carrier.
F3U	H4AN	HA1	P-481188 (2 reqd)	Has a 4-ft or 12-ft cord.	Type L carrier.
F3AAW3	H5E	HA6	P-481188 (2 reqd)	Fabric-covered cord has a 347B and a 309A plug.	83A test set for mobile radio telephone.
F3ABW3	H6A	HA6	P-481188 (2 reqd)	Fabric-covered cord has an Amphenol KS-10046, L1 connector and a PM6-11 plug.	Test equipment for RCA and Motorola mobile radio telephone.
F3ADW3	H5K H5L	HA6	P-481188 (3 reqd)	Order cord separately. H5K cord has spade tip ends. H5L cord has MC4M connector.	Motorola private line radio telephone equipment.
F3AEW3	H5H	HA6	P-481188 (2 reqd)	Switch closes an external circuit. Has an MC4M connector.	General Electric mobile radio telephone systems.
F3WW3	H5D	HA6	P-481188 (2 reqd)	Fabric retractile cord.	Mobile radio telephone. Primarily used with the 41A control unit.

\* Handsets are equipped with waterproof cords unless otherwise stated in the Remarks.



CONTACT SPRING ASSEMBLY  
(SEE TABLE C)

F3-3 HANDSET HANDLE

P480393 COIL SPRING

F1 TRANS.  
UNIT

P456235  
CAP

P475624 BUTTON

P477720 LOCK RING

P283105 PLUNGER  
P475629 NUT  
P205066 WASHER (3 REQ.)  
P475628 WASHER  
P475626 RUBBER WASHER  
P475627 RING

REC. UNIT  
(SEE TABLE C)

P456236  
CAP

Fig. 3—F3-Type Handset

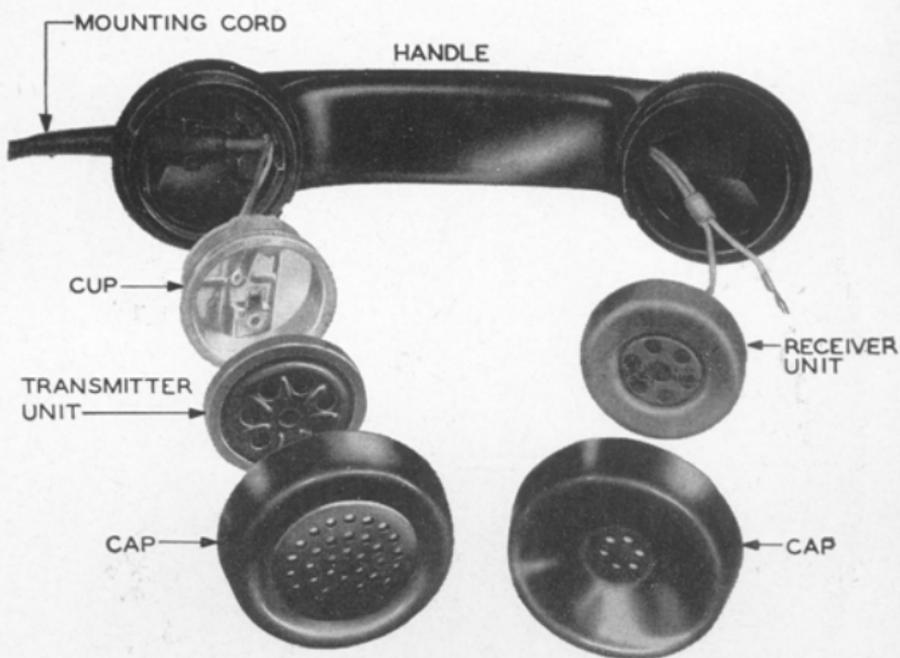


Fig. 4—G-Type Handset

**Table D**  
**G-TYPE HANDSETS**

Handset**	Cord**	Handle	Rec Cap	Trs Cap	Remarks*	Used With	
G1A G1AR	H4BF H4BH	P-339616 P-339616	P-349532 P-349532	P-349533 P-349533	With retractile cord.	500-type telephone sets and 211L or 212L hand telephone set.	
G1B G1D	H4BJ H4BK	P-339616 P-339616	P-349532 P-349532	P-349533 P-349533	With a 289A plug.	Long loop coin collectors, PBX or key systems.	
G3A-50 G3A-51	H4BG-50 H4BG-52	P-13A408 P-13A409	P-19B722 P-19B723	P-19B738 P-19B739		500-type telephone sets in color.	
G3A-52 G3A-53	H4BG-52 H4BG-53	P-13A410 P-13A411	P-19B724 P-19B725	P-19B740 P-19B741			
G3A-54 G3A-55	H4BG-54 H4BG-55	P-13A412 P-13A413	P-19B726 P-19B727	P-19B742 P-19B743			
G3A-56 G3A-57	H4BG-56 H4BG-52	P-13A414 P-13A415	P-19B728 P-19B729	P-19B744 P-19B745			
G3AR-50 G3AR-51	H4BH-50 H4BH-52	P-13A408 P-13A409	P-19B722 P-19B723	P-19B738 P-19B739			
G3AR-52 G3AR-53	H4BH-52 H4BH-53	P-13A410 P-13A411	P-19B724 P-19B725	P-19B740 P-19B741			With retractile cords.
G3AR-54 G3AR-55	H4BH-54 H4BH-55	P-13A412 P-13A413	P-19B726 P-19B727	P-19B742 P-19B743			
G3AR-56 G3AR-57	H4BH-56 H4BH-52	P-13A414 P-13A415	P-19B728 P-19B729	P-19B744 P-19B745			
G4A	H4BF	P-19B929	P-349532	P-349533			See Section C32.204, G4A Handset.

\* All handsets are equipped with waterproof cords.

\*\*Color codes for cords and handsets shown above are: 50—Ivory, 51—Green, 52—Gray, 53—Red, 54—Brown, 55—Beige, 56—Yellow, 57—Blue.

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Fig. 5—G2-Type Handset

**TABLE E**  
**G2-TYPE PUSH-TO-TALK HANDSETS**

Handset	Cord	Remarks*	Used With
G2AR	H5G3	Switch closes an external circuit. Equipped with retractile cord.	Mobile radio with the 47A control unit.
G2B	H6B	Switch closes an external circuit. Equipped with a fabric-covered cord.	Special 4-wire radio-telephone service.
G2CR	H4BL	Equipped with a 289A plug.	CAA and private-line systems.
G2D	H4BF	Switch shunts transmitter.	With 532-type telephone set in noisy locations.
G2E-3	H5N-3	Noise — discriminator switch cuts noise in transmitter, increases gain in receiver.	535-type telephone set in noisy locations.

\* Handsets are equipped with waterproof cords unless otherwise stated in the Remarks.

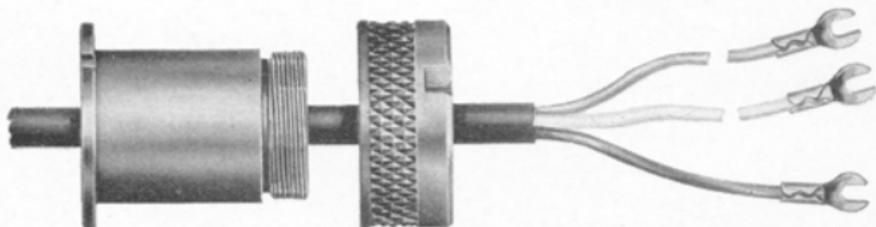


Fig. 6—Sleeve-Type Bushing on F6A Handset

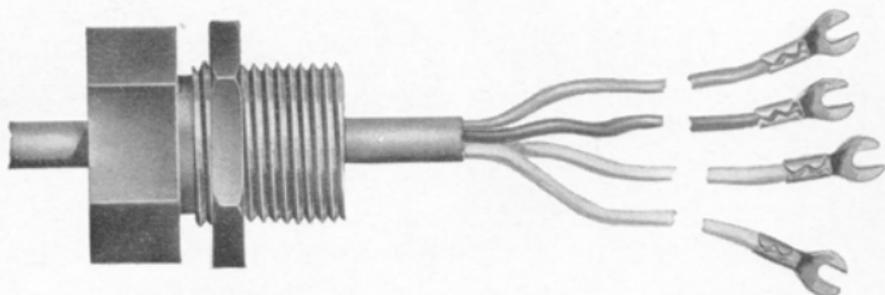


Fig. 7—Threaded-Type Bushing on F6B Handset

**BELL SYSTEM PRACTICES**  
**Station Installation and Maintenance**

**SECTION C32.203**  
**Issue 5, 1-20-44**  
**AT&T Co Standard**

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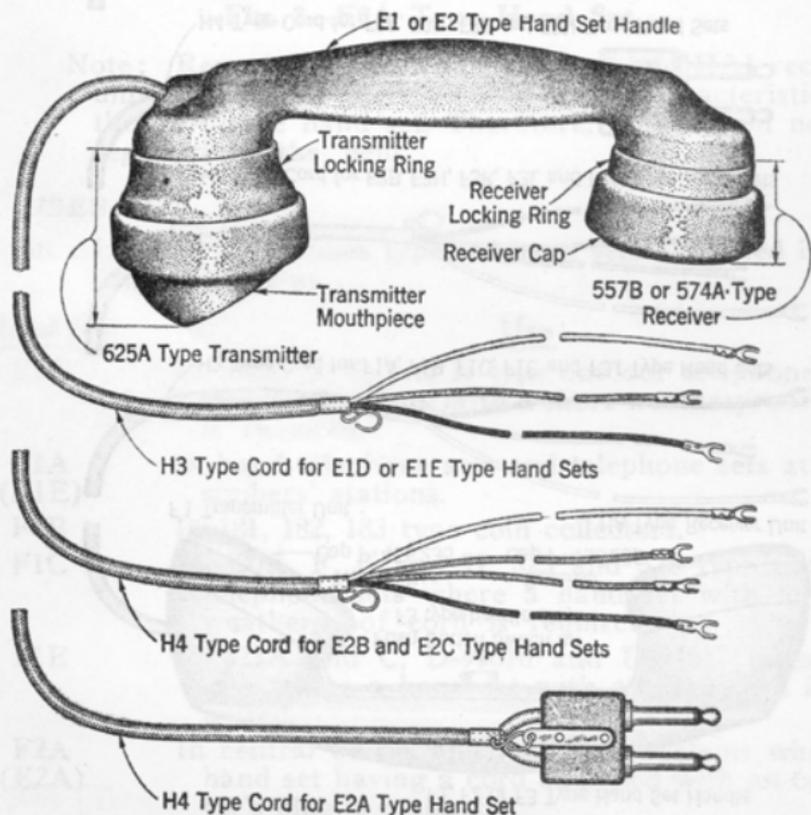
### 1. GENERAL

1.01 This section contains general information pertaining to hand sets such as their description, piece parts, the combination of apparatus that is included in the code number, and their use. It is reissued to include F1B, F1E, F3F, F3H, F3J, F3K, F3L, F3M, F3N and F3P type hand sets.

1.02 Internal connections for the hand sets are covered in Section C63.341.

### 2. DESCRIPTION

2.01 The hand set types referred to herein are shown in the following Figs. 1 to 3 inclusive:



**Fig. 1—E1D, E1E, E2A, E2B and E2C Type Hand Sets**

F1, F2 or F3 Type Hand Set Handle

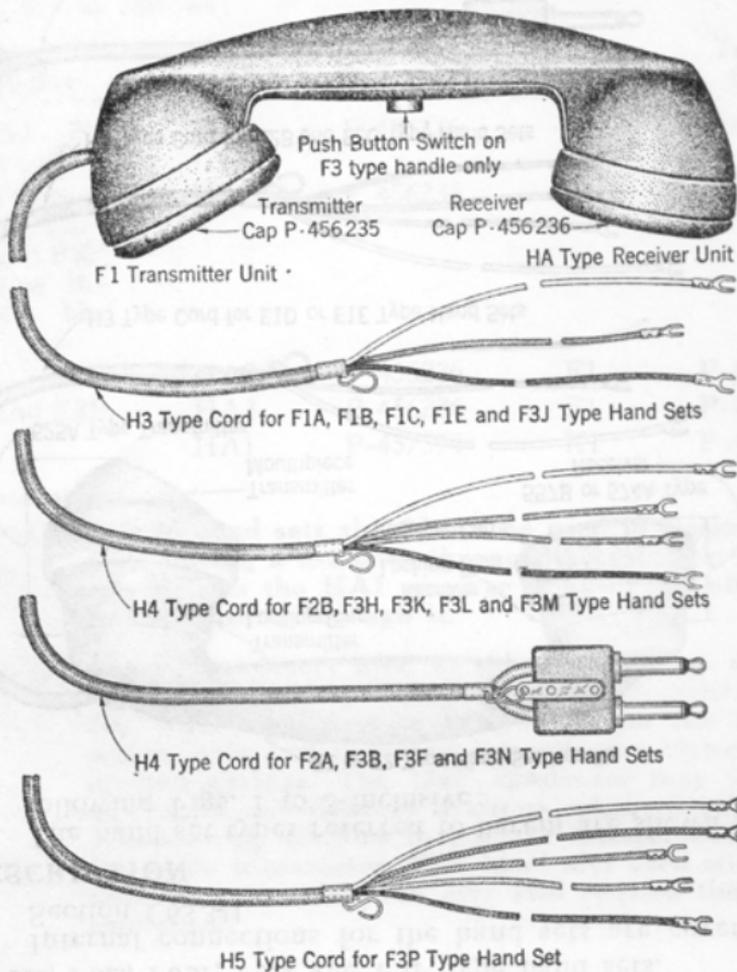
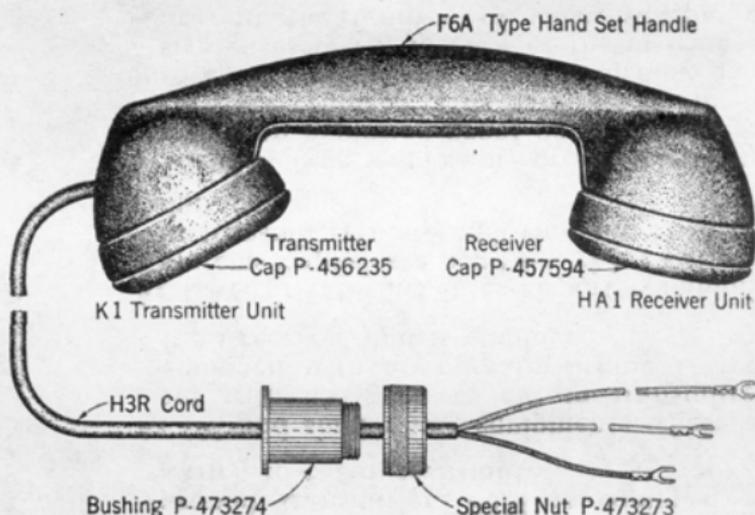


Fig. 2—F1A, F1B, F1C, F1E, F2A, F2B, F3B, F3F, F3H, F3J, F3K, F3L, F3M, F3N and F3P Type Hand Sets

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**Fig. 3—F6A Type Hand Set**

Note: Removal of the K1 transmitter and HA1 receiver units may affect the explosion-proof characteristics of the F6A type hand set. Therefore, they should not be replaced in the field.

### 3. USES

3.01 Uses of the various types of hand sets are listed in the following table:

<u>Hand Set</u>	<u>Use</u>
E1D	In 300A, B, C, and D type outdoor telephone sets where a hand set with a short weatherproof cord is required.
F1A (E1E)	In hand telephone sets and telephone sets at subscribers' stations.
F1B	In 181, 182, 183 type coin collectors. ←
F1C	In 300E, F, G and H, 325 and 326 type outdoor telephone sets where a hand set with a short weatherproof cord is required.
F1E	In 322A and C, D-94616 and D-94617 telephone sets where a hand set with a short cord is required. ←
F2A (E2A)	In central offices and in P.B.X. systems where a hand set having a cord equipped with an operator's plug is required.

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- F2B  
(E2B) In 307E, F, G and H telephone sets and with anti-sidetone local battery talking, common battery signalling subscriber sets, and in key equipments where this type hand set is required.
- F3B At telegraph positions of toll testboards where these positions are arranged for supervision of telegraph service and where a hand set with a switch to cut in the transmitter and equipped with an operator's plug is required.
- F3F At 102A and similar key equipments and where a hand set with a switch to cut in transmitter and equipped with an operator's plug is required. Also equipped with HA2 receiver unit.
- F3H At certain key equipments and where a hand set with a switch to cut in transmitter and equipped with a waterproof cord is required.
- F3J At stations where a hand set with a switch to remove short-circuiting shunt around transmitter and equipped with a waterproof cord is required.
- F3K  
or  
F3L  
or  
F3M With 324A telephone set. Particular hand set used depends upon circuit to which 324A set is connected. Hand sets are equipped with a 9-foot waterproof cord. F3K and F3L are equipped with a switch to remove short-circuiting shunt around transmitter. F3M is equipped with a switch to cut in transmitter.
- F3N At 102 and similar key equipments where a hand set with a switch to cut in transmitter and equipped with an operator's plug is required. HA3 receiver unit is employed.
- F3P At CAA private line inter-airport communicating systems requiring a hand set with a switch to cut in transmitter and employing the HA3 receiver unit.
- F6A With 320 type explosion-proof telephone sets where an explosion-proof hand set and suitable cord are required. This hand set is constructed so as to confine any possible burning of explosive gases to the interior of the instrument and prevent the ignition of gases outside of the instrument.

#### 4. APPARATUS AND PIECE PARTS

4.01 Hand set types and associated apparatus are listed in the following table:

Hand Set	Handle	Trans. Unit	Rec. Unit	Cord	Replaced By
E1D	E1	625A	557B	H3H (1 ft.)	See Note 1
E1E	E1	625A	557B	H3C	F1A
*E2A	E2	625A	557B	H4N	F2A
E2B	E2	625A	574A	H4L	F2B
E2C	E2	625A	557B	H4L	F2B
F1A	F1	F1	HA1	H3C	
F1B	F1	F1	HA1	H3S	
F1C	F1	F1	HA1	H3H (1 ft.)	
F1E	F1	F1	HA1	H3N (1 ft. 2 in.)	See Note 2
*F2A	F2	F1	HA1	H4U	
F2B	F2	F1	HA1	H4T	
*F3B	F3	F1	HA1	H4AA	
*F3F	F3	F1	HA2	H4AA	
F3H	F3	F1	HA1	H4AF	
F3J	F3	F1	HA1	H3H	
F3K	F3	F1	HA1	H4AL (9 ft.)	
F3L	F3	F1	HA1	H4AL (9 ft.)	
F3M	F3	F1	HA1	H4AL (9 ft.)	
*F3N	F3	F1	HA3	H4AA	
F3P	F3	F1	HA3	H5C	
F6A	F6	K1	HA1	H3R	

\*289A plug included as part of assembly code.

Note 1: E1D may be replaced by F1C hand sets providing the switchhook on the 300A, B, C or D type telephone set is replaced by switchhook P-294110.

Note 2: E1E hand set may be used in place of F1E if H3C cord is replaced by H3N cord.

4.02 Receiver and transmitter parts for E1D, E1E, E2A, E2B and E2C type hand sets are as follows:

(a) 557B or 574A Type Receivers:

Receiver Cap (557B) .....	P-235970
Receiver Cap (574A) .....	P-235971
Receiver Diaphragm .....	P-98387
Receiver Locking Ring .....	P-208591

(b) 625A Transmitter:

Phenol Fabric Grid .....	P-247808
Transmitter Case .....	P-249536
Transmitter Unit .....	F1
Transmitter Locking Ring .....	P-213225
Transmitter Mouthpiece .....	P-236253

4.03 Receiver and transmitter parts for F type hand sets are as follows:

Type Hand Set	Rec. Unit	Rec. Cap	Trans. Unit	Trans. Cap
F1 and F2 Types	HA1	P-456236	F1	P-456235
All F3 Types except F3F, F3N and F3P types as indicated below	HA1	P-456236	F1	P-456235
F3F	HA2	P-456236	F1	P-456235
F3N and F3P	HA3	P-456236	F1	P-456235
F6A	HA1	P-457594	K1	P-456235

**Cautions:**

- (1) F type hand sets should not be used in station circuits having a d-c path through the receiver unless specified as the HA1 receiver is adversely affected by d-c flowing through it.
- (2) F type hand sets used at sidetone stations should be equipped with a 129F condenser to prevent packing. This condenser is bridged across the transmitter unit and mounted beneath the transmitter contact springs. The 129F condenser may be required at anti-sidetone stations adjacent to radio broadcasting stations to prevent interference from the radio transmitter. F1A hand sets used with 332 and 334 type telephone sets also require the 129F condenser.