

BELL SYSTEM PRACTICES  
Station Installation  
and Maintenance

ADDENDUM C32.203  
Issue A, 9-17-46-C

HAND SETS  
DESCRIPTION

1. GENERAL

1.01 This addendum, which supplements Section C32.203, Issue 5, is issued to cover a description of the newly designed F1 type cored handle which is being furnished on F1 type hand sets. Hand sets with solid handles and those with a hole through the handle may be used interchangeably in all cases.

1.02 Part 2 of this addendum supplements Part 2 of the section.

2. DESCRIPTION

2.02 The F1 cored handle has a small round tapered hole extending longitudinally through the handle connecting the transmitter and receiver cavities. Two free conductors of insulated stranded wire equipped with solderless cord tips are being used through this duct in place of the solid conductors previously molded in the handle. The insulation on one conductor is colored white and the other red.

2.03 The white conductor (P-286704) is connected between the "W" terminal in the transmitter cavity and the ring terminal contact spring in the receiver cavity and the red conductor (P-286703) between the "R" terminal and the center receiver contact spring. The hand set conductor cord tips are placed above the free conductor cord tips, white on "W" and red on "R" where both cord tips are clamped securely by the terminal screw.

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**Station Installation and Maintenance**

**SECTION C32.203**  
**Issue 7, Oct., 1954**  
**AT&T Co Standard**

## **HANDSETS**

### **DESCRIPTION**

#### **1. GENERAL**

- 1.01 This section contains general information pertaining to the description of handsets.
- 1.02 It is reissued to include a reference to G1B and G3-type handsets, to add information on F6 types, and to bring handset cord listings and other details up to date.
- 1.03 Significant changes or additions are denoted by marginal arrows.

#### **2. DESCRIPTION**

- 2.01 The three basic types of handsets are the E, F, and G types shown in Figs. 1, 2, and 3, respectively.

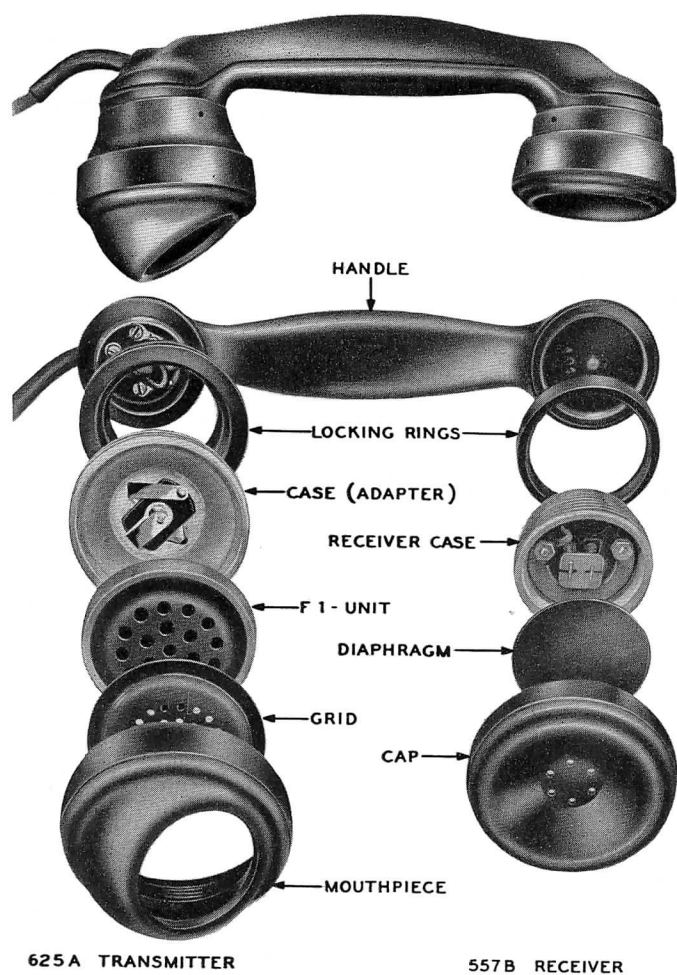


Fig. 1—E-Type Handset

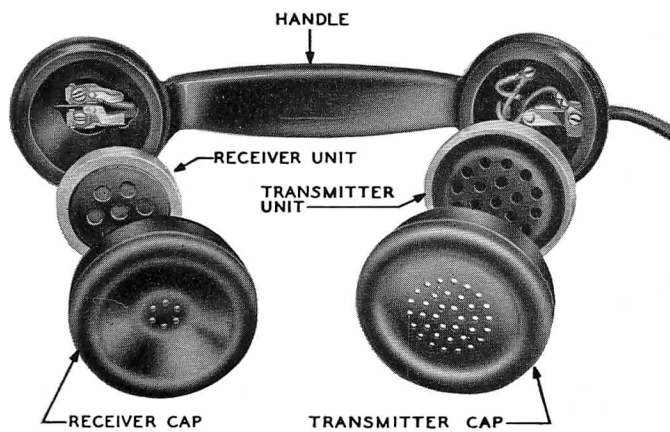


Fig. 2—F-Type Handset



**Fig. 3—G-Type Handset**

2.02 **Lightweight Handsets, F1 Type:** This thermoplastic handset may be distinguished from the regular (phenol-plastic) handset by its lighter weight, hollow handle, and an embossed dot following the code number on the handle. A lightweight handset may not be used to replace a regular handset. Its lighter weight will not reliably operate a line switch (switch-hook) designed for the regular handset. The transmitter and receiver caps of lightweight handsets are not interchangeable with regular caps because the threads are different. Regular caps have a number molded in the center of the undersurface of the grid: lightweight caps do not have such a number.

2.03 **Push-to-talk Handsets:** F3- and G2-type handsets are equipped with a push button and a pushbar, respectively, located in the underside of the handle. When the user desires to

speak, the button or bar is depressed. This operates a switch that closes the transmitter circuit, removes a transmitter shunt, or controls an external circuit which, in turn, completes the talking path. Which function is used depends on the type of equipment associated with the handset, the type of handset, and its wiring. Standard wiring is covered in Section C63.341, Handset, Connections. For possible modifications, consult the circuit drawings for the station or position where the handset is used.

**2.04 Explosion-proof Handsets:** F6A and F6B handsets are listed 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 handset is equipped with a sleeve-type bushing and the F6B with a threaded type. At least five threads of the threaded type must engage the threads of the housing. These two types of bushings, shown in Figs. 4 and 5, are not interchangeable. If any part of an F6A or F6B handset, except the transmitter cap or receiver cap, requires replacement, replace the entire handset assembly.

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

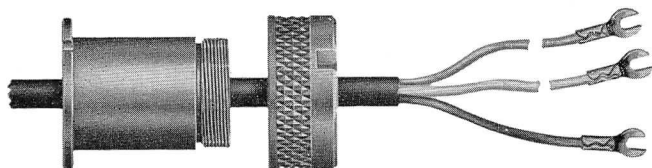


Fig. 4—Sleeve-type Bushing

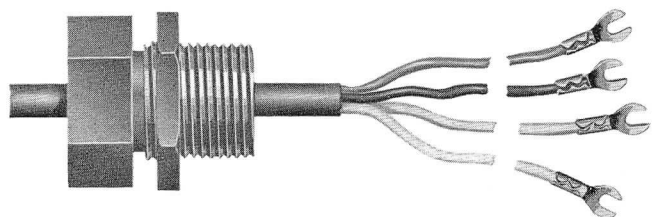


Fig. 5—Threaded-type Bushing

### 3. USES

3.01 The various types of handsets and their principal uses are listed below. Information covering the use of handsets in the proper transmission zone is covered in Section C30.002 (C63.002), Transmission Zoning, of Station Apparatus. Special handsets for use with order wires, telegraph testboard position, etc., are not listed.

<u>Handset</u>	<u>Use</u>
E1D	With 300A, B, C, and D outdoor telephone sets. Has a short waterproof cord.
E1E or F1A	With hand telephone sets and earlier combined-type telephone sets. In addition to black (-3) with a brown (-9) textile cord, these handsets are also available in colors as covered in Section C30.011, Colored Station Sets.
F1B	With 181-, 183-, 191-, 193-, 195-, 196-, and 197-type coin collectors. Coin collector end of cord has a stay-cord instead of a stay-hook. Cord is waterproof jacketed.
F1C	With 300E, F, G, and H, 325- and 326-type outdoor telephone sets. Has a short waterproof cord.
F1E	With 322A- and 322C-type elevator or corridor telephone sets. Has a short textile cord. This handset available in black (-3) or old brass (-6).
F1G	Same as F1A. Equipped with waterproof cord. Available in black (-3) only.
F1H	With Nos. 85A, 86A, 87A, 87B, and 88A test sets. Cord is equipped with a 310A plug.
F2A	With PBX systems where a plug-in handset is required. Normally furnished with a brown (-9) textile cord and a 289B plug.
F2B	With 307E, F, G, and H telephone sets and SP 653BB subscriber sets. Also, with 309 and 357 types where a common source of local transmitter battery is provided. Has a textile covered cord.
F2C	(Special.) At stations on private toll lines associated with 102 key equipment. Not intended for use with regular exchange service. Has textile covered cord.



<u>Handset</u>	<u>Use</u>
F2E	With 74C, E, or G; 174C, E, G, CL, EL, GL; 176C, E, G, CL, EL, GL; D-178940 and D-178942 coil collectors (coin collectors converted from nonhandset to handset type). Cord has a waterproof jacket.
F2H	With 182J coin collectors in mobile radio telephone systems on railroad trains. Cord is textile covered, retractile type.
F3F	Primarily at positions associated with 102-type key equipment. Push-to-talk switch closes transmitter circuit. A 4-foot cord with a waterproof jacket and a 289B plug are furnished. A 12-foot cord may be specified.
F3H	At stations on 4-wire private lines, such as are associated with 102A and 109A key equipment. Push-to-talk switch closes transmitter circuit. Cord has textile covering.
F3J	Primarily at stations associated with 102A key equipment. Wiring is arranged so that a transmitter short-circuiting shunt is opened when the push-to-talk button is depressed. Equipped with 4-foot, 3-conductor waterproof cord that is also available in a 9-foot length.
F3K or F3L or F3M	With 324A telephone set. Particular handset used depends on type of circuit to which telephone set is connected. In the F3K and F3L operation of the push-to-talk switch opens a transmitter short-circuiting shunt, and in the F3M it closes the transmitter circuit. All three handsets are equipped with 9-foot waterproof cords.
F3N	At positions where 4-wire private lines appear, such as are associated with 102A and 109A key equipments. The push-to-talk switch closes the transmitter circuit. The waterproof jacketed, 4-foot cord (also available in 12-foot length) is equipped with a 289B plug.
F3P	At stations or positions where 4-wire private lines appear, such as are associated with 102A, 109A, and 111A key equipments. Push-to-talk switch may be used to close transmitter circuit or control an external circuit, as required. Handset is equipped with a textile covered, 5-conductor cord.

<u>Handset</u>	<u>Use</u>
F3WW	With the 41A control unit and similar mobile radio telephone equipment. Push-to-talk switch closes an external circuit. Textile covered, 5-conductor retractile cord is furnished.
F3AAW	With 83A test set for mobile radio telephone equipment. Push-to-talk switch closes an external circuit. Textile covered, 5-conductor cord is divided 12 inches from the plug end. The 2-conductor end is equipped with a 347B plug and the 3-conductor end with a 309 plug.
F3ABW	With apparatus for testing RCA and Galvin mobile telephone equipment. Push-to-talk switch closes an external circuit. Cord is 6-conductor, textile covered, and is divided at the plug end. The 4-conductor end (6 inches long) is equipped with an Amphenol KS-10046, List 1A connector. The 2-conductor end (36 inches long) is equipped with a PM6-11 plug which contains a 1000-ohm resistor connected in series with the blue lead.
F3ADW	With Motorola private line radio telephone equipment. Push-to-talk switch shunts receiver and also closes an external circuit when operated. Cord must be ordered as separate item to fit the type of control unit used. The H5K cord has spade tips on the control unit end and the H5L cord has an Amphenol MC4M connector (less cable grip). Both cords are retractile type with waterproof jackets.
F3AEW	With General Electric radio telephone systems. Push-to-talk switch closes an external circuit. Waterproof, retractile type, 5-conductor cord is equipped with an Amphenol MC4M connector (less cable grip).
F4A	In place of F1G handset where the transmission characteristics of a UI receiver unit are required.
F4B	In place of F1B handset for transmission purposes given above.
F5A	In place of F2E handset for transmission purposes given above.

<u>Handset</u>	<u>Use</u>
F6A	With 320 and some KS-14476 type explosion-proof telephone sets (see 2.04).
F6B	With KS-14548 and later KS-14476 types explosion-proof telephone sets (see 2.04).
G1A	With 500-series telephone sets. Also, as temporary expedient with G-type and M-type handset mountings as covered in Section C32.524, Handset Mountings. With G1A Handset. Cord has waterproof jacket.
G1B	With coin collectors on long loops as covered in Section C32.275, Handsets, Maintenance. Cord has waterproof jacket.
G2A	With 47A control unit in mobile telephone radio systems. Push-to-talk switch closes an external circuit. Cord is waterproof jacketed, retractile type.
G2B	With special 4-wire radio-telephone service. Push-to-talk switch controls an external circuit. Equipped with a 6-conductor, textile covered cord.
G3A	With colored 500-series telephone sets. See Section C30.011, Colored Station Sets.
G4A	This handset is equipped with a shoulder rest and is described in Section C32.204, G4A Handset.
BA-760726	In place of the F1G where the transmission characteristics of a T1 transmitter and HC5 receiver unit are required.
BA-761728	In place of F2E for transmission purposes given above.
BA-767447	In place of F1B for transmission purposes given above.

**4. APPARATUS**

4.01 Handsets and their major components are listed in Table A.

**TABLE A**

<b>Handset</b>	<b>Handle</b>	<b>Transmitter Unit</b>	<b>Receiver Unit</b>	<b>Cord</b>
E1D	E1-3	625A-3	557B-3	H3AD
E1E	E1-3	625A-3	557B-3	H3C-9
E2A	E2-3	625A-3	557B-3	H4N
E2C	E2-3	625A-3	557B-3	H4L-9
F1A	F1-3	F1	HA1	H3C-9
F1B	F1-3	F1	HA1	H3AE
F1C	F1-3	F1	HA1	H3AD
F1E	F1-3	F1	HA1	H3N-9
F1G	F1-3	F1	HA1	H3AG
F1H	F1-3	F1	HC5	H3AC
F2A	F2-3	F1	HA1	H4U
F2B	F2-3	F1	HA1	H4T-9
F2C	F2-3	F1	HA3	H4T-9
F2E	*P-349910	F1	HA1	H4BC
F2H	*P-349910	F1	HA1	H4AD-9
F3F	F3-3	F1	HA2	H4AM
F3H	F3-3	F1	HA1	H4AF
F3J	F3-3	F1	HA1	H3AG
F3K	F3-3	F1	HA1	H4AL
F3L	F3-3	F1	HA1	H4AL
F3M	F3-3	F1	HA1	H4AL
F3N	F3-3	F1	HA3	H4AM
F3P	F3-3	F1	HA3	H5C
F3WW	F3-3	F1	HA6	H5D
F3AAW	F3-3	F1	HA6	H5E
F3ABW	F3-3	F1	HA6	H6A
F3ADW	F3-3	F1	HA6	(See 3.01)
F3AEW	F3-3	F1	HA6	H5H
F4A	F4-3	F1	U1	H3AG
F4B	F4-3	F1	U1	H3AE

F5A	F5-3	F1	U1	H4BC	
F6A	**F6-3	**K1	**HA1	**H3R	
F6B	**P-19A693	**K1	**HA3	**H4BE	
G1A	P-339616	T1	U1	H4BF	↑
G1B	P-339616	T1	U1	H4BJ	↑
G2A	P-339885	T1	U1	H5G	↑
G2B	P-339885	T1	U1	H6B	↑
G3A	—	T1	U1	(See 3.01)	
G4A	See Section C32.204, G4A Handset				↑
BA-760726	F1-3	T1	HC5	*H3AG	↑
BA-761728	*P-349910	T1	HC5	*H4BC	
BA-767447	F1-3	T1	HC5	*H3AE	

\* A P-349910 handle does not have a 129F condenser bridged across the transmitter. Otherwise it is the same as an F2 handle, including the embossed code number, F2.

\*\* These parts may not be replaced in the field. The entire handset assembly must be replaced.

4.02 Transmitter and receiver parts of E-type handsets are as follows :

(a) Transmitter, 625A

*Case (adapter)	P-249536 Transmitter Case
Grid	P-247808 Phenol Fabric Grid
Mouthpiece	P-236253 Mouthpiece
*Ring	P-213225 Locking Ring
Transmitter Unit	F1

(b) Receiver, 557B

*Cap	P-208590 Receiver Cap
Diaphragm	P-98387 Diaphragm
Ring	P-208591 Locking Ring

\* These parts are available from existing stocks only, as manufacture has been discontinued.

4.03 Other piece parts for F- and G-type handsets are as follows:

- Cap, Transmitter — P-456235 transmitter cap for F1, F2, F3, F4, F5, F6, and BA handsets.  
P-349533 transmitter cap for G1, G2, and G4 handsets.
- Cap, Receiver — P-456236 receiver cap for F1, F2, F3, F4, F5, and BA handsets.  
P-457594 receiver cap for F6 handsets.  
P-349532 receiver cap for G1, G2, and G4 handsets.
- Cup, Transmitter — P-347266 transmitter cup assembly for G-type handsets (equipped with P-249778 screws).