

HANDSETS

G1, G2, G3, G4, G5, AND G11 TYPES

IDENTIFICATION, MAINTENANCE, AND CONNECTIONS

1. GENERAL

1.01 This section is reissued to:

- Show G3M and G3DR handset MD
- Show G5S handset MD (never manufactured)
- Add G5T handset
- Change Tables B and C
- Show G3A4 handset replaced by G3A6 handset.
- Add information on H4CJ cord replacement.

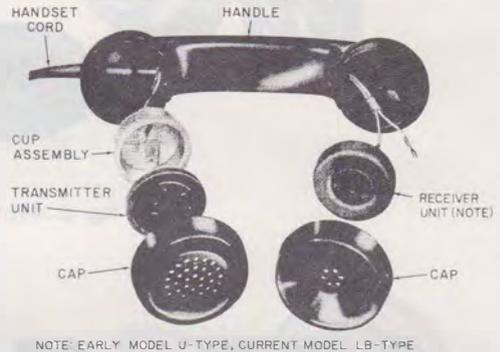


Fig. 1—G Series Handset

2. IDENTIFICATION

2.01 The G-series handset (Fig. 1) consists of a molded handle, receiver unit, transmitter unit, transmitter cup, receiver and transmitter caps, and a handset cord.

2.02 Current G5L4 handsets are the same as G5LR handsets. The *R* suffix in the code is replaced by the number 4, designating the nominal length of attached handset cord.

Example: G5L4-3, is a (-3) black G5L handset equipped with a (-3) black, 4 foot, retractile (spring) H6F handset cord.

2.03 Early G-series handsets were equipped with cord retainer parts in the transmitter cavity (Fig. 4). Current G-series handsets are equipped with transmitter cups having the cord retainer molded on the cup (Fig. 5). The two types of cord retainer arrangements are not interchangeable.

2.04 A P-26E836 waterproof membrane assembly, which fits over the transmitter and is a

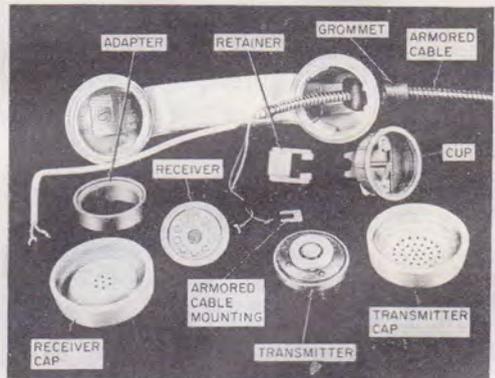


Fig. 2—G3AD, G3AE, G3AF, and G3AG Handsets

part of the G3AF, G3AG, G3S, and G3T handsets, may be installed in any G-series handset. When this cover is used, it is necessary to install a special P-87C700 transmitter cap (Fig. 6).



Fig. 3—G11-Type Handsets

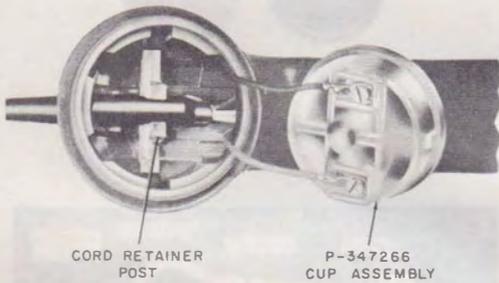


Fig. 4—Early G Series Handset



Fig. 6—Waterproof Transmitter Assembly

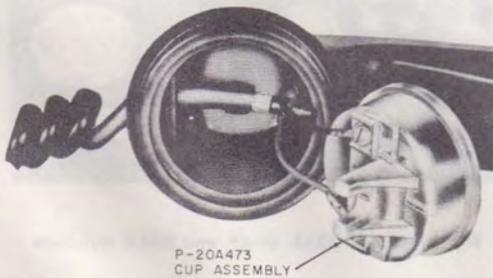


Fig. 5—Current G Series Handset

G1-Type

- 2.05 The G1-type handset is rated MD and has been replaced by the G3-type.
- 2.06 Weighted G1-type handsets are used on older modified coin collectors. The handsets are weighted by installing an RS-9099 weight in the transmitter cavity. The modified coin collectors are identified by the letter N following the type number.
- 2.07 Table A lists the G1-type handsets with component parts and intended uses. Reference to the appropriate connection diagram is also given.

TABLE A
G1-TYPE HANDSETS (MD)

HANDSET (SEE NOTE)	CORD	TRMTR UNIT	CONNECTION DIAGRAM	USED WITH
G1AR	H4CJ	T1	Fig. 11	500-series telephone sets
G1DR	H4BL		Fig. 12	PBX system order turrets
G1FR	H4BN-3		Fig. 11	Telephone sets, 570-type
G1G	H4CG	T2	Fig. 11	Coin collectors equipped with armored cords
G1J	H4CS	T1		525A and 525B telephone sets

Note: All G1-type handsets are equipped with the following parts:

- P-339616 handle
- P-80A203 receiver cap
- P-80A103 transmitter cap
- U1 or U3 receiver unit

2.08 Maintenance of G1-type handsets consists of replacing cracked or broken caps, defective transmitter and receiver units, and defective handset cords.

2.09 To replace handset cord proceed as follows:

Note: For replacement of H4CJ cord, refer to Part 3 of this section.

- (1) Remove receiver and transmitter units, disconnect cord tips, remove cotton acoustical barrier, and pull defective cord outward through hole in handle.
- (2) Pass free conductors of handset end of new cord through hole in handle.
- (3) Advance cord through hole into transmitter bowl by turning it with a threading motion until grommet is in proper position.

Note: Because of an occasional snug fit it may be necessary, after advancing cord through hole, to grasp it firmly by groove on grommet with a pair of long-nose pliers. Use pliers as a lever inside bowl to pull grommet into position.

- (4) Fold a piece of fairly stiff wire back onto itself to form a long fishing tool. Insert the closed end of the tool into the handle through the receiver well. Push fish wire into handle until closed end protrudes into the transmitter bowl.

- (5) Place ends of receiver conductors through loop of fish wire and feed conductors into handle while pulling wire through to receiver well.

- (6) Connect cord leads to transmitter cup and to receiver. Using the transmitter cup, anchor the cord and replace the transmitter and transmitter cap.

- (7) Insert the cotton acoustical barrier and dress the excess receiver leads into the receiver well. Replace the receiver and receiver cap.

Note: Acoustical barrier should not extend into receiver well.

G2-Type

2.10 The G2-type are push-to-talk or push-to-listen handsets which are equipped with a pushbar switch in the handle.

2.11 G2-type handsets are rated MD and have been replaced by the G5-type.

2.12 Repair or adjustment of pushbar contacts or springs should not be made in the field. The G2-type handsets having defective switches should be replaced by a comparable G5-type.

G3-Type

2.13 The G3AR, G3P, G3R, G3S, and G3T handsets are rated MD and have been replaced by the G3A6, G3AD, G3AE, G3AF, and G3AG handsets, respectively. The G3AD, G3AE, G3AF,

and G3AG handsets contain the LA2 receiver mounted on 840360846 adapter (Fig. 2).

2.14 Table B lists the G3-type handsets with component parts and intended uses. Reference to appropriate connection diagram is also given.

2.15 The G3BR and G3DR (MD) handsets are equipped with U4 or LB3 receiver units for use in systems requiring receivers with higher impedance (600 ohms).

2.16 G3AD, AE, AG, FR, M, P, R, S, and T handsets are intended for use on coin collectors. Some coin collectors are equipped with armored handset cords. The G3AF, G3AG, G3S, and G3T handsets are also equipped with a waterproof transmitter cover for use on outdoor coin collectors (Fig. 6).

2.17 The G3-type handsets equipped with armored cords for use with coin collectors (G3AD, E, F, G, P, R, S, and T) are sealed units. Receiver and transmitter caps are cemented to the handle to prevent loss of units. If the sealed handset or cord require replacing, replace handset and cord as a unit.

2.18 Maintenance of G3-type handsets consists of replacing cracked or broken caps, replacing defective receiver or transmitter units, and replacing frayed or damaged cords (except for sealed units).

2.19 To replace handset cord (except armored cords) see 2.09. For H4CJ cord replacement, see 3.04.

G4-Type

2.20 The G4AR (MD) and G4B handsets consist of T1 transmitter units, U3 or LB1 receiver units, and H4CJ cords mounted on a handle having two holes for mounting a shoulder rest (Fig. 8). The shoulder rest is a shipped loose item and can be installed to fit either the left or right shoulder. The G4-type handset can be used as a replacement for G3-type handsets where a shoulder rest is desired. Connection Fig. 11 applies for G4-type handsets.

2.21 The G4AR (MD) handset is available in black only. The G4B handset replaces G4AR (MD) and is available in standard telephone colors. The P-88C100 shoulder rest (G4B-type) is available in

color also. The last two digits of the part number should reflect the color desired.

2.22 A new molded pad, P-19B931, is available as a replacement for the two piece pad on G4B handset shoulder rests. The new pad is lighter in weight and of a contrasting gray color to be used with all standard handset colors. Current production G4B handsets will incorporate the new pad.

2.23 Maintenance of G4-type handsets consists of replacing cracked or broken caps, defective receiver and transmitter units, and worn, frayed, or damaged cords. Damaged or broken shoulder supports and worn or discolored pads should be replaced.

2.24 To replace handset cord of G4-type handset see 3.04.

G5-Type

2.25 The G5-type handsets (Fig. 9) are equipped with a pushbar switch located in the handle. The pushbar switch is wired for push-to-talk, push-to-listen, or to control an external function.

2.26 Table C lists the G5-type handsets with component parts and intended uses. Reference to connection diagrams are also included.

2.27 The G5ER and G5KR handsets are available in standard telephone colors. Other G5-type handsets are available in black only with the exception of special use units, such as G5GR, G5HR, G5LR, G4MR, G5PR, G5RR, and G5T.

2.28 The G5-type handsets replace the G2-type which are rated MD.

2.29 Maintenance of G5-type handsets is limited to replacement of cracked or broken caps, defective receiver or transmitter units, or frayed, worn, or damaged cords. Do not attempt field maintenance of pushbar switches or spring contacts.

2.30 To replace handset cord of G5-type handset:

- (1) Remove receiver and transmitter units, disconnect cord tips at receiver, transmitter, and switch, and remove cotton acoustical barrier.

♦TABLE B♦
G3-TYPE HANDSETS

HANDSET (NOTES)	CORD	TRMTR UNIT	TRMTR CAP	RCVR UNIT (NOTE 2)	CONNECTION DIAGRAM	USED WITH
G3AA	H4CS	T1	P-80A100	U3 or LB1	Fig. 11	525A and 525B telephone sets
G3AB	H4BL				Fig. 12	PBX system order turrets
G3AC	H4BN				Fig. 11	570-type telephone sets
G3A6	H4CJ or H4CL					500, 600, 700 series telephone sets
G3BR	H4CJ or H4CL			U4 or LB3	Fig. 11	Command Post Alerting Network (COPAN)
G3CR	H4BL, H4CU or H4DK					Fig. 13
G3DR	H4BL, H4CU or H4DK			Fig. 12	No. 112A key equipment	
G3FR	H4CP					
G3K	None			U3 or LB1 (Note 3)	Fig. 11	No. 200 series coin collectors
G3L	H4CU or H4DK					Coin collector with spring cord
		750-type telephone sets; 3A cord reels				
G3AD*	H4CY	T2	P-87C700			Fig. 11
				1A coin telephone with armored cord		
G3AE	H4DA			Coin collectors using armored cords		
G3AF*	H4CY			Waterproof transmitter cover and armored cord for 1A coin telephone		
G3AG	H4DA	Waterproof transmitter cover and armored cord for coin collectors				
G3Y	H4CJ	T1	P-80A100	Fig. 14	2568HP telephone set	
G11A4 G11A9	H4DT		†	Fig. 11	520A, B and 2520C explosion-proof telephone sets	

*G3AD and G3AF (black) handsets are equipped with an H4CY bronze armored cord for use with the 2C1-84 and 2C2-84 (bronze) coin telephone sets.

†G11A4 and G11A9 handsets are equipped with special transmitter and receiver units and caps. Caps are cemented to handset handle and must be replaced as a complete unit.

Notes:

- All G3-type handsets are equipped with P-80A000 handle and P-80A200 receiver caps. All G11-type handsets are equipped with P-21F589 handle and P-349532 receiver cap.
- When replacing a U3 or U4 receiver unit with a LB1 or LB3 receiver unit a 840358048 adapter (Fig. 7) is required. Two P-84V110 screws are provided loose with LB-type receivers for connection to the cord.
- The G3AD, G3AE, G3AF, and G3AG handsets are equipped with a 840360846 adapter and LA2-type receiver unit. Two P-43A612 screws are provided loose for connections to the cord.

Note: It may be necessary to temporarily remove the pushbar switch to remove and install cords. For replacement of H4CJ cord, refer to Part 3 of this section.

- (2) Tie a sufficient length of strong cord or string to the receiver cord tips of the old

cord and pull cord from handle, feeding the string through the handle to the transmitter bowl.

Note: If pushbar switch has been removed, a wire fish tool can be used to fish receiver leads through handle.

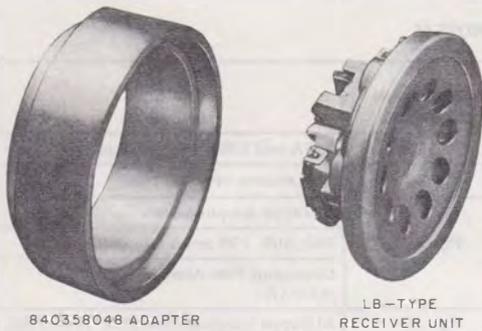


Fig. 7—Current Receiver Assembly



Fig. 8—G4-Type Handset Showing Shoulder Rest Assembly

(3) Insert the free conductors of the handset end of the new cord through the hole in the handle. Advance cord into transmitter bowl until grommet is properly seated. See note in 2.09(3).

(4) Using the string, tie the receiver leads together close to the spade tips. Feed the receiver leads into the handle using the string

to guide the leads past the pushbar switch into the receiver well.

(5) Connect cord leads to the transmitter cup, pushbar switch, and receiver unit. Using the transmitter cup, anchor the cord and replace transmitter and transmitter cap.

(6) Insert the cotton acoustical barrier and dress the excess receiver leads into the receiver well. Replace the receiver and receiver cap.

(7) Dress excess switch leads into handle and replace pushbar switch.

G11-Type

2.31 The G11-type handsets (Fig. 3) are intended for use with 15A, 15B, and 15C apparatus units which are part of 520A, 520B, and 2520C explosion-proof telephone sets. Designed to provide protection against the probability of explosion resulting from flames originating within the handset under extreme conditions of operation.

2.32 The G11-type handsets consist of a phenolic handset handle equipped with receiver and transmitter units encased in individual aluminum housings and phenolic receiver and transmitter caps.

2.33 The handsets are also equipped with an H4DT cord which may be secured in the 4-foot length for the G11A4 handset and 9-foot length for the G11A9 handset. Handsets are furnished with 4-foot cord unless otherwise specified. The H4DT cord is 4-conductor black neoprene jacketed spring cord having tinsel conductors with waterproof insulation. Set end is equipped with bushing and special nut for attaching handset to the telephone set.

2.34 The G11-type handsets and associated H4DT cord are available in black (-03) only.

2.35 Table B lists the G11-type handsets with component parts and uses. Reference to the appropriate connection diagram is also given.

2.36 Receiver and transmitter caps are cemented to the handset handle. If the sealed handset or cord require replacing, replace handset and cord as a unit.



Fig. 9—G5-Type Handset Assembly

3. MAINTENANCE

3.01 Handles, caps, and grids may be cleaned by wiping with a clean cloth moistened with water.



Do not use cleaning fluids or antirust compounds on transmitter, receiver units, or other component parts of handset. Discoloration or tarnish on the silver-plated contact surfaces is not objectionable and no attempt should be made to remove it.

3.02 Use care when cleaning colored handsets to avoid marring the finish. Replace handset if cleaning does not result in a satisfactory appearance.

3.03 Replace cut, worn, cracked, or badly frayed cords. Connections should be checked for tightness at terminals.

3.04 To replace H4CJ cord in handset handle, the following procedure should be used:

- (1) Fold back the spade-tipped conductors over cord jacket ahead of grommet, feed through hole at end of handle (transmitter end), shown in Fig. 10A.
- (2) Pass the leads through hollow handle (folded over), Fig. 10B and C, into the receiver end of handle.
- (3) Retrieve the two white (receiver leads) lead loops and pull free (Fig. 10D). Hold the free end of these leads and retract the cord to obtain the red and black leads at the transmitter end of the handle (Fig. 10D).
- (4) Terminate conductors and replace cord retainer post (early G series handset) and/or cup assembly (current G series handset), shown in Fig. 4 and 5.
- (5) Replace transmitter and receiver units and associated caps.

♦TABLE C♦
G5-TYPE HANDSETS

HANDSET (NOTES 1, 2)	CORD	RCVR UNIT (NOTE 4)	CONNECTION DIAGRAM	USED WITH
G5AR	H5AB	U3 or LB1	Fig. 15	Control Unit, 47A-3, for MD and MC mobile radio telephones
G5BR	H6C		Fig. 23	4-wire circuits and loudspeaker paging
G5CR	H4CM	U4 or LB3	Fig. 17	FAA and private line systems
G5ER	H5P	U3 or LB1	Fig. 18	535-type telephone set in noisy location
G5FR	H4BM		Fig. 19	Bendix MRT9 radio pack set
G5GR	H4CJ	U4 or LB3	Fig. 17	2- and 4-wire private line stations
G5HR	H5P		Fig. 20	102-type key equipment
G5JR	H6F		Fig. 16	No. 300 switching system — 643A3 tel set and 4A Automatic Call Distribution System
G5KR	H6E	U3 or LB1	Fig. 23	2A farm interphone
G5LR (Note 3)	H6F	U4 or LB3	Fig. 21	617-type telephone set
G5MR	H4CU		Fig. 17	Command Post Alerting Network (COPAN)
G5NR	H5Y	U3 or LB1	Fig. 15	Air-ground base station
G5PR	H6E	U4 or LB3	Fig. 23	625-type telephone set
G5RR	H4CJ		Fig. 22	No. 304 switching system 596E telephone set
G5T (Note 5)	None	U3	Fig. 24	Main operation base console at SAC.

Notes:

- All G5-type handsets are equipped with the following:
 - P-80G700 handle
 - P-80A100 transmitter cap
 - Pushbar switch assembly
 - T1 transmitter unit
 - P-80A200 receiver cap
- When ordering handsets, handles, caps, or cords, refer to section on color for proper codes and availability.
- The G5L4-3, -60, -61 and G5L9-60, -61 handsets are the same as the G5LR except the R suffix is replaced by the number 4 or 9 respectively, designating the length in feet of the attached H6F handset cord. G5L4 handset for use with 617-type telephone set and G5L9 for use with 301A switching system.
- When replacing a U3 or U4 receiver unit with a LB1 or LB3 receiver unit a 840358048 adapter (Fig. 7) and two P-48V110 screws are required.
- Available in the following colors: -51 (Green), -58 (White), -61 (Light Gray), and →-62 (Blue).←

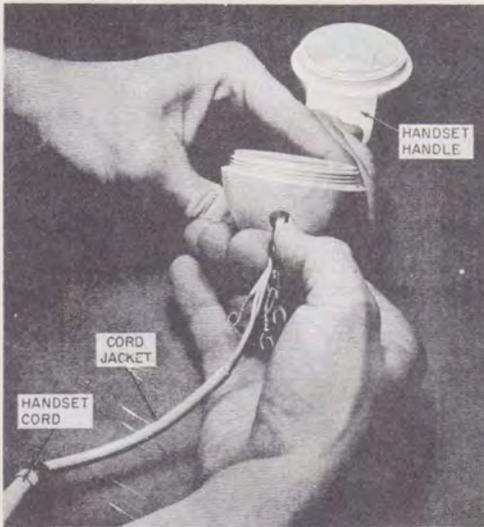


Fig. 10A—Handset Cord Replacement

3.05 Locking devices for G-type handsets are not available. If necessary, for security reasons, caps may be cemented to the G-type handles. Use N-170 cement (Armstrong Corp. Co.). The application shall consist of coating the handle threads from the top of the base over an area 1/2-inch in length in two opposite places. The caps shall then be tightened by hand. Additional tightening may be applied using a 514-type tool, but apply no more than 1/2 turn.

4. CONNECTIONS

4.01 Fig. 11 through 24 show internal connections for the G-series handsets. Refer to Tables A, B, and C for types of receiver and transmitter units.

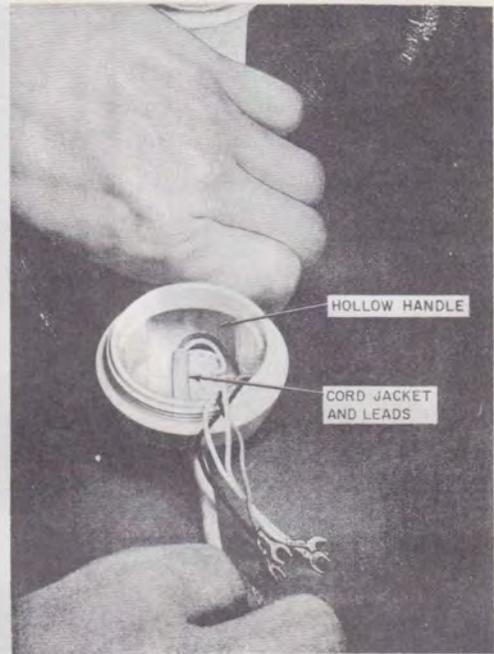


Fig. 10B—Handset Cord Replacement



Fig. 10C—Handset Cord Replacement

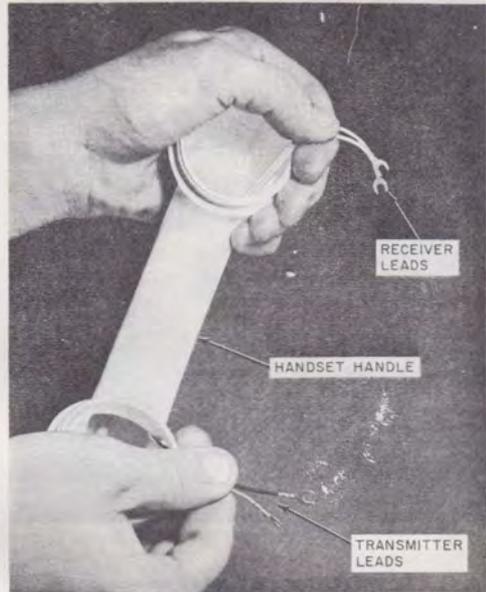


Fig. 10D—Handset Cord Replacement

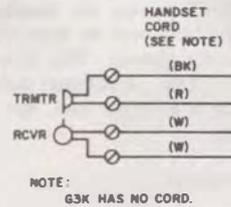


Fig. 11—G1AR, G1FR, G1G, G1J, G3AA, G3AC, G3AD, G3AE, G3AF, G3AG, G3AR (MD), G3A4, G3BR, G3FR, G3K, G3M, G3P (MD), G3R (MD), G3S (MD), G3T (MD), G4AR, G4B, G11A4, and G11A9 Handsets

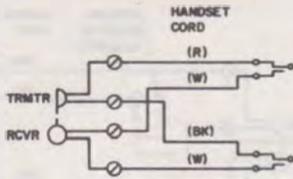


Fig. 12—G1DR, G3DR, and G3AB Handsets

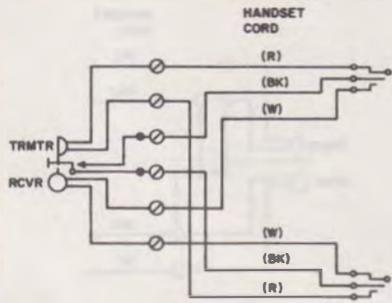


Fig. 16—G5JR Handset

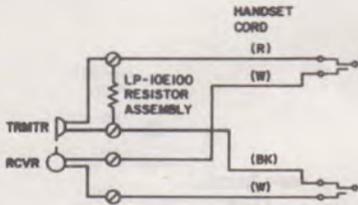
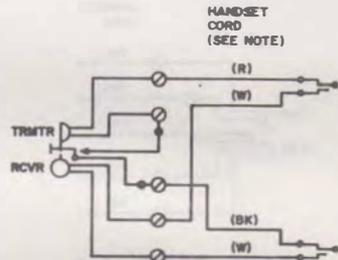


Fig. 13—G3CR and G3L Handsets



NOTE:
CORD PLUG IS NOT PROVIDED
ON G5GR HANDSETS.

Fig. 17—G5CR, G5GR, and G5MR Handsets

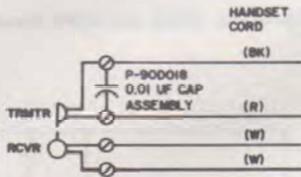


Fig. 14—G3Y Handset

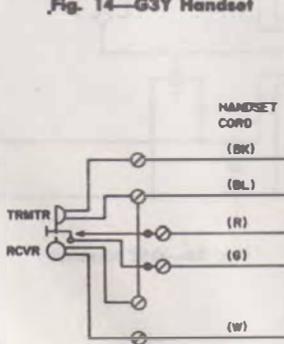


Fig. 15—G5AR and G5NR Handsets

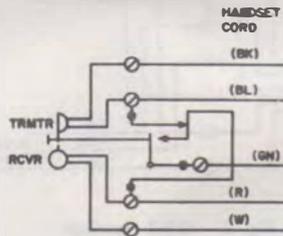


Fig. 18—G2ER and G5ER Handsets

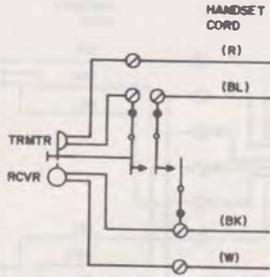


Fig. 19—G2FR and G5FR Handsets

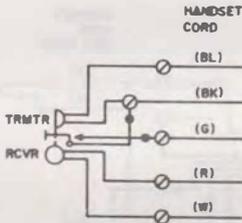


Fig. 20—G5HR Handset

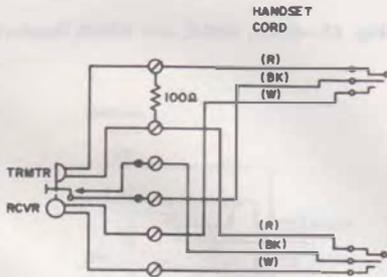


Fig. 21—G5LR Handset

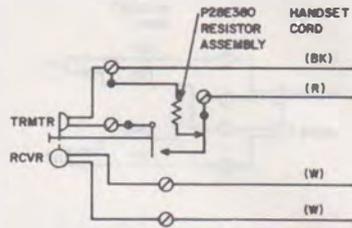


Fig. 22—G5RR Handset

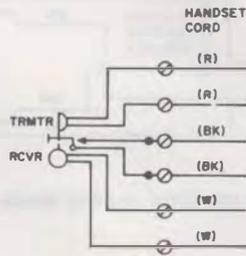


Fig. 23—G5BR, G5KR, and G5PR Handsets

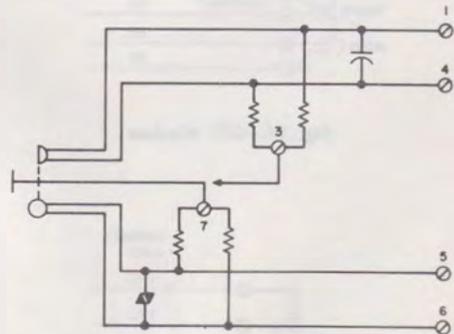


Fig. 24—G5T Handset