

# **TELEX<sup>®</sup>**

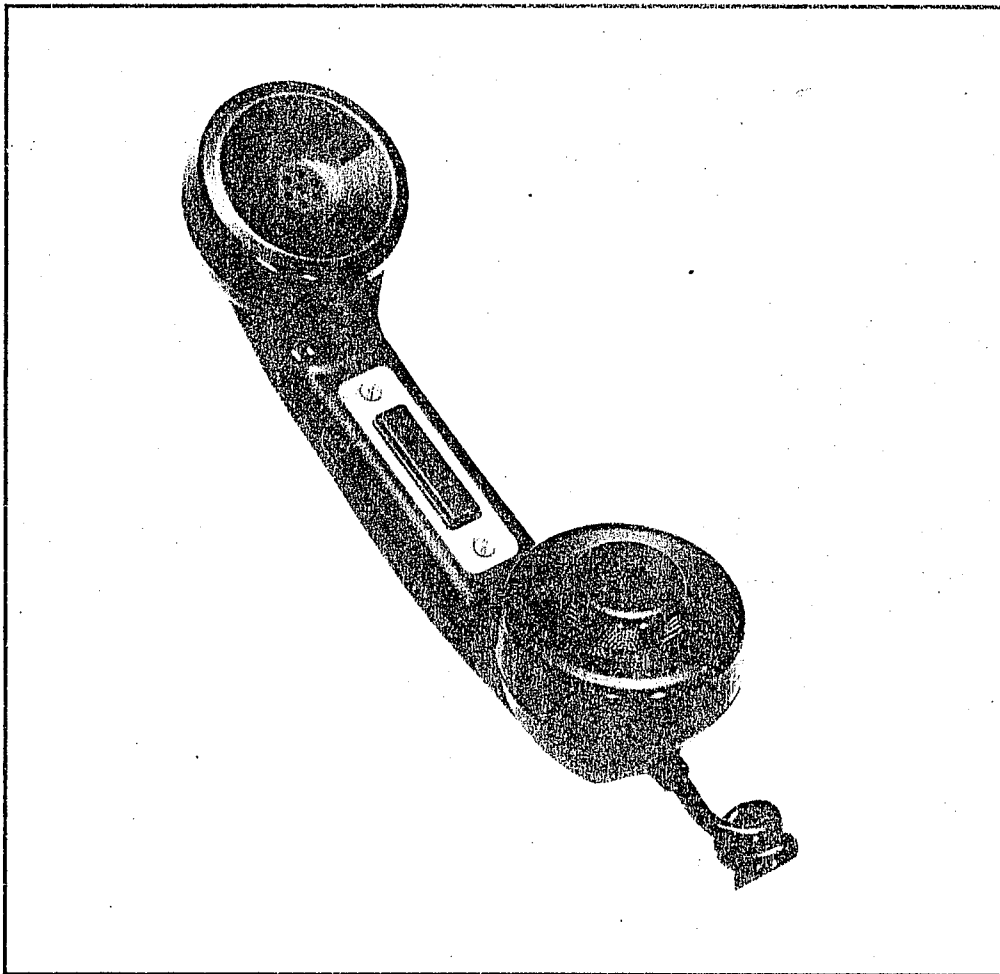
**MAINTENANCE AND  
OVERHAUL MANUAL**

## **MODEL HS-500 HANDSET**

### **MAINTENANCE AND OVERHAUL MANUAL FOR HANDSET**

#### **TELEX PART NUMBERS**

63274-000, -001, -003, -004, -005  
63274-006, -008, -010, -011 and -012



**MODEL HS-500 HANDSET**  
**Figure 1**

## **ATA 23-40-01**



MODEL HS-500 HANDSET

RECORD OF REVISIONS

REV NO.	REVISION DATE	INSERTION DATE	PAGES EFFECTED	INSERTED BY
1	June 1975	June 1975	i	Telex
2	Dec. 1976		i, 3 and 4	
3	May 1977	May 1977	i, iii, 1 thru 5	Telex
4	Sept. 1977		i, 4	
5	June 1979		i, 3, 4, and 5	
6	Jan. 1985	March 1985	All	Telex
7	Nov. 1988	Nov. 1988	All	Telex
8	June 1989	June 1989	Cover, i, ii, 4 and 5	Telex
9	December 1993	December 1993	All	Telex



**MODEL HS-500 HANDSET**

**LIST OF EFFECTIVE PAGES**

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MODEL HS-500 HANDSET

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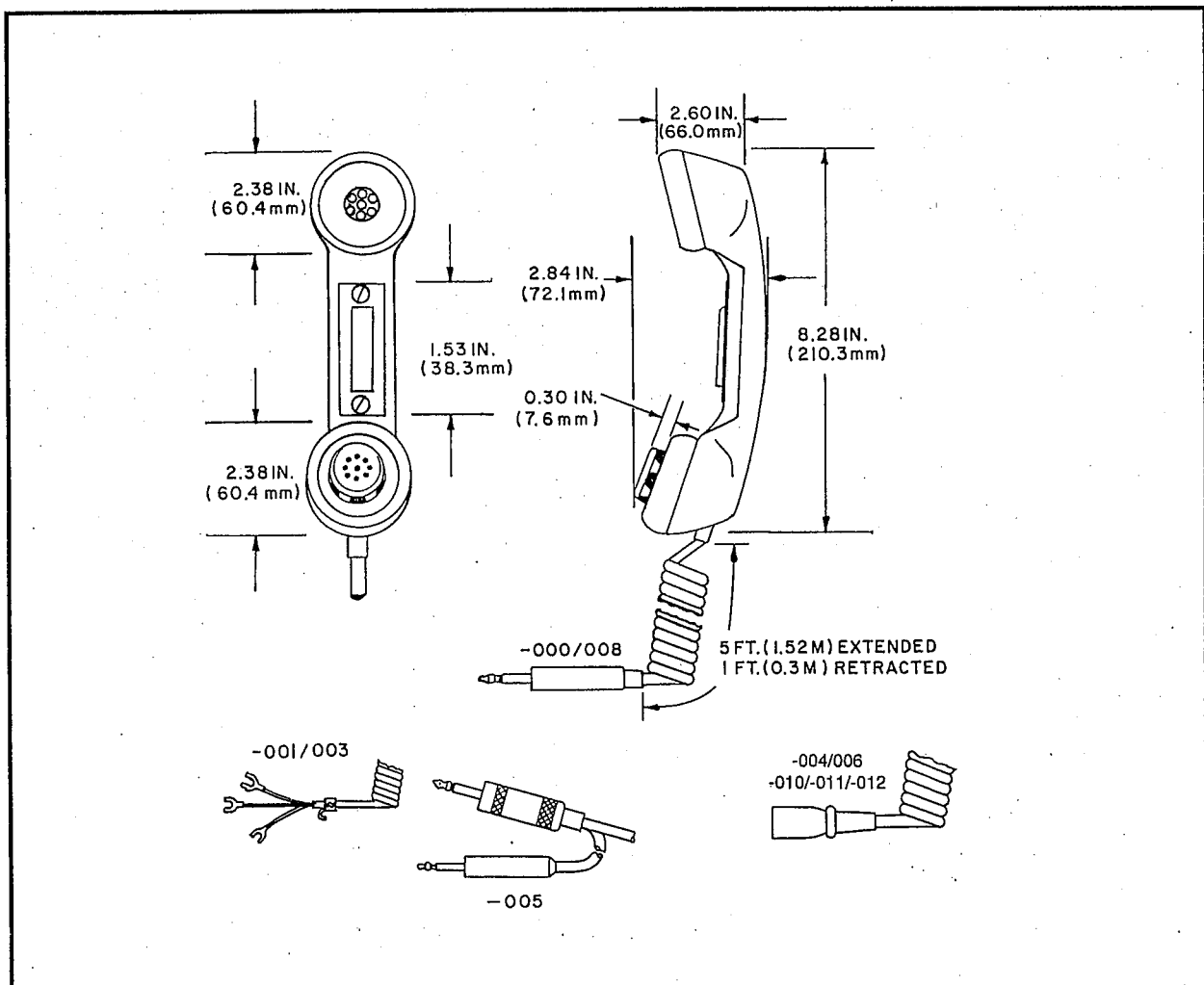
FIGURE NO.	DESCRIPTION	PAGE
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### MODEL HS-500 HANDSET

## 1. DESCRIPTION AND OPERATION

### A. General Description

The Telex Model HS-500 Handset is designed for use in aircraft communications. It consists of a microphone subassembly and a moving coil dynamic earphone mounted in a high-impact plastic G-4 handset frame. The microphone subassembly (consisting of a noise-canceling electret microphone element and a solid-state amplifier) operates from the current normally supplied to a carbon microphone. Output voltages are equivalent to carbon microphone levels. The amplifier gain is adjustable over a 10 dB range. Access to the screwdriver gain adjustment is through a hole in the side of the microphone subassembly. A bar-type switch is mounted in the handle and is wired in a push-to-talk mode. The handset is approved for aircraft use under the Federal Aviation Agency TSO-C57, C58. An outline diagram is shown in Figure 2.



HANDSET OUTLINE DIMENSIONS

Figure 2



MODEL HS-500 HANDSET

**B. Specifications**

**Receiver**

Sensitivity: 109 dB SPL for 1 mW input, at 1 kHz. (NBS 9A coupler.)  
Frequency Response: 20-4,000 Hz.  
Impedance: 600 ohms.

**Microphone**

Sensitivity\*: -55 dB re: 1 volt/ubar with a source 1/4-inch (6.4 mm) in front of screen and a 12 Vdc supply in series with a 100-ohm load.  
Frequency Response\*: 100-10,000 Hz.  
Impedance: Matches 50-600 ohms.

**Handset Switch**

Actuated by a rectangular push bar. On the 63274-000, -001, -003, -005, -008 and -012 Handsets, the receiver is continuously active, and the microphone is switched in a push-to-talk function. On the 63274-004 Handset, the receiver and microphone are activated by separate switches in a push-to-talk/listen function. On the 63274-006, -010, and -011 Handsets, the receiver is continuously active, and the microphone and transmit key are activated by separate switches in a push-to-talk function.

**General**

Current Drain: 18 mA at 12 Vdc w/100-ohm load.  
Cord Length: Approximately 5 ft (1.5 m) extended.  
Weight: Approximately 12 oz (340 g).  
Color: Black  
Supply Voltage: 8-30 Vdc.

\* Installed in handset

T487F

**C. Ordering Information**

HS-500 w/PJ-051 Plug	Part No. 63274-000, -008
HS-500 w/Spade Lugs	Part No. 63274-001, -003
HS-500 w/XLR-4-12C Plug	Part No. 63274-004, -006, -010, -012
HS-500 w/PJ-055 and PJ-068 Plugs	Part No. 63274-005
HS-500 w/XLR-5-12C Plug	Part No. 63274-011



MODEL HS-500 HANDSET

## 2. DISASSEMBLY/REASSEMBLY

Reference Figure 3.

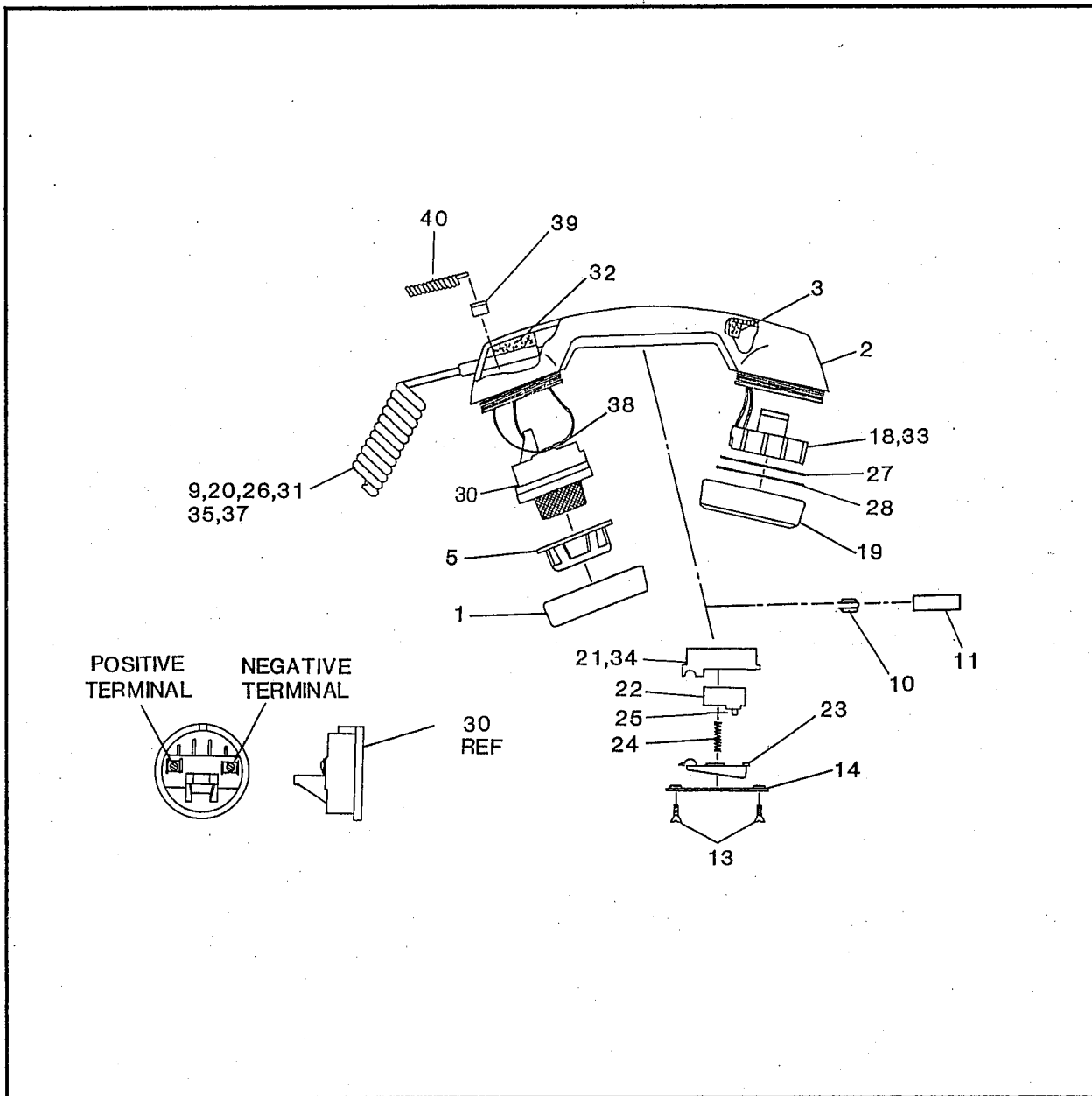
### A. Disassembly

- (1) Unscrew the microphone cap (1) from the handset handle (2). Remove the screen retainer (5), and gently pull the microphone assembly (30) from (2). Loosen the two terminal screws on the back of the microphone assembly to completely detach all the lead wires.
- (2) Remove the cord unit (9, 20, 26, 31, 35, 37) from (2) by disconnecting the white and red lead wires inside (2). These lead wires are mated to the switch and receiver lead wires by press-on connectors (10) and are insulated by vinyl tubing (11).
- (3) The switch (22) and switch housing (21, 34) are extracted from (2) by removing the two screws (13), the switch frame (14), the push bar (23), and the spring (24) attached between (22) and (23).
- (4) Remove the receiver assembly (18, 33) from (2) by unscrewing the receiver cap (19).

### B. Reassembly

- (1) When splicing lead wires with the connectors (10), be sure that all exposed conductors are covered with the tubing (11).
- (2) When installing the microphone assembly (30) in the handle (2), be sure that the two fingers protruding from the bottom of the microphone assembly captivate the vinyl strain relief on the cord unit (9, 20, 26, 31, 35, 37).
- (3) When reassembling switch (22) spring (24) and push bar (23), apply a small piece of double-back tape (25) on switch at location behind button on switch as shown. Adhere spring to tape. Do not place spring on or around button on switch.

### MODEL HS-500 HANDSET



HANDSET EXPLODED VIEW  
Figure 3





MODEL HS-500 HANDSET

3. HANDSET PARTS LIST

Reference Figure 3

Item No.	Part No.	Description	Quantity									
			63274-000	63274-001	63274-003	63274-004	63274-005	63274-006	63274-008	63274-010	63274-011	63274-012
1	63286-000	Microphone Cap	1	1	1	1	1	1	1	1	1	1
2	56650-000	Handle	1	1	1	1	1	1	1	1	1	1
3	C12425-1	Rubber Dam	1	1	1	1	1	1	1	1	1	1
4	NA	Deleted	-	-	-	-	-	-	-	-	-	-
5	63472-000	Screen Retainer	1	1	1	1	1	1	1	1	1	1
6	NA	Deleted	-	-	-	-	-	-	-	-	-	-
7	NA	Deleted	-	-	-	-	-	-	-	-	-	-
8	NA	Deleted	-	-	-	-	-	-	-	-	-	-
9	63287-000	Cord Unit w/PJ-051 Plug	1	-	-	-	-	-	1	-	-	-
10	53111-000	Connector	2	2	2	4	3	3	2	3	4	3
11	25063-015	Tubing, 1.0-inch (25 mm) Long	2	2	2	4	3	3	2	3	4	3
12	NA	Deleted	-	-	-	-	-	-	-	-	-	-
13	58413-202	Screw	2	2	2	2	2	2	2	2	2	2
14	56661-000	Switch Frame	1	1	1	1	1	1	1	1	1	1
15	NA	Deleted	-	-	-	-	-	-	-	-	-	-
16	NA	Deleted	-	-	-	-	-	-	-	-	-	-
17	NA	Deleted	-	-	-	-	-	-	-	-	-	-
18	63283-001	Receiver Assy	1	1	1	-	1	1	1	-	-	-
19	56658-000	Receiver Cap	1	1	1	1	1	1	1	1	1	1
20	63288-001	Cord Unit w/Spade Lugs	-	1	1	-	-	-	-	-	-	-
21	63332-000	Switch Housing	1	1	1	-	1	-	1	-	-	1
22	50914-001	Switch	1	1	1	2	1	2	1	2	2	1
23	63331-000	Push Bar	1	1	1	1	1	1	1	1	1	1
24	60237-005	Spring	1	1	1	1	1	1	1	1	1	1
25	LP*	Double-Back Tape	1	1	1	1	1	1	1	1	1	1
26	63287-001	Cord Unit w/XLR-4-12C Plug	-	-	-	1	-	-	-	1	-	1
27	63277-008	Foam Support	1	1	1	1	1	1	1	1	1	1
28	63261-000	Receiver Washer	1	1	1	1	1	1	1	1	1	1
29	NA	Deleted	-	-	-	-	-	-	-	-	-	-
30	63275-003	Microphone Subassembly	1	1	1	1	1	1	1	1	1	1
31	63287-002	Cord Unit w/XLR-4-12C Plug	-	-	-	-	-	1	-	-	-	-
32	63463-001	Foam Pad	1	1	-	1	-	-	1	1	1	1
33	63283-002	Receiver Assembly	-	-	-	1	-	-	-	1	1	1
34	63332-001	Switch Housing	-	-	-	1	-	1	-	1	1	-
35	63823-000	Cord Unit w/PJ-055 & PJ-068 Plugs**	-	-	-	-	1	-	-	-	-	-
36	NA	Deleted	-	-	-	-	-	-	-	-	-	-
37	70599-000	Cord Unit w/XLR-5-12C Plug	-	-	-	-	-	-	-	-	1	-
38	54444-000	Spade Terminal	2	2	2	4	2	4	2	4	4	2
39	47068	Cable Clamp	-	-	-	-	-	-	-	-	1	-
40	47069-1	Cable Spring	-	-	-	-	-	-	-	-	1	-

63274, AY

\* Indicates a local purchase item.

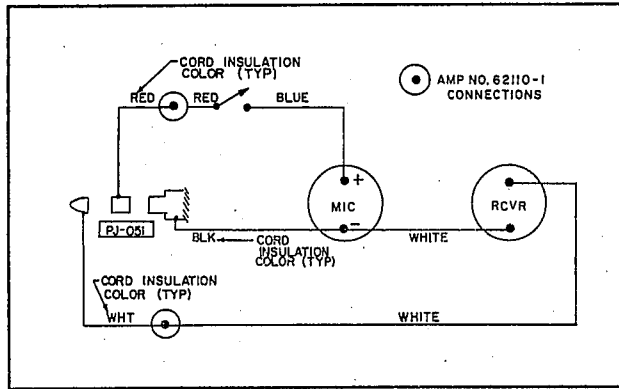
\*\* Part no longer available

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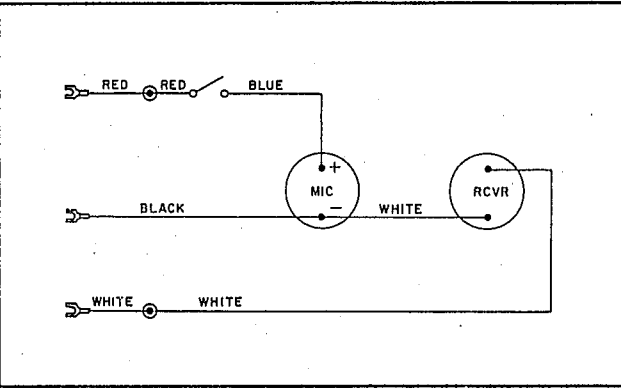
### MODEL HS-500 HANDSET

#### 4. WIRING DIAGRAMS

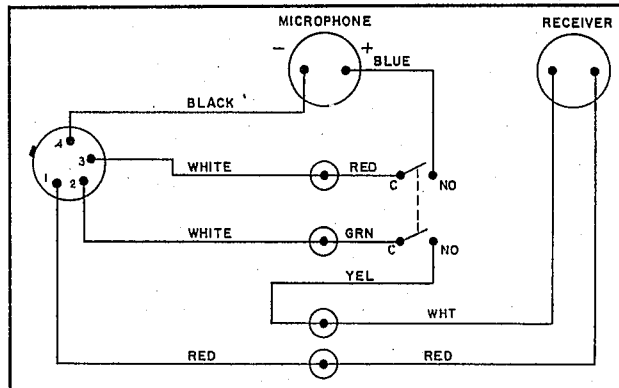
NOTE: Microphone polarity symbols correspond to terminals on back of microphone subassembly as shown in Figure 3.



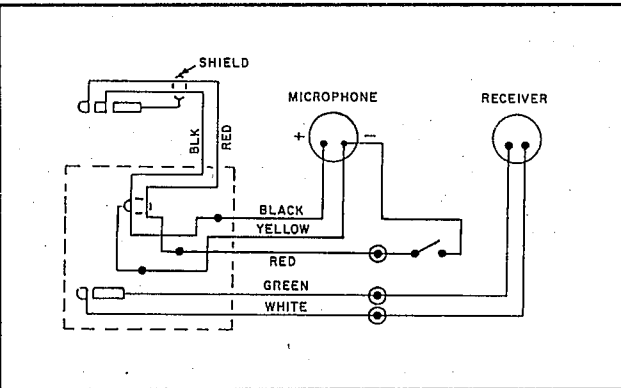
**PART NUMBERS 63274-000, -008**  
Figure 4



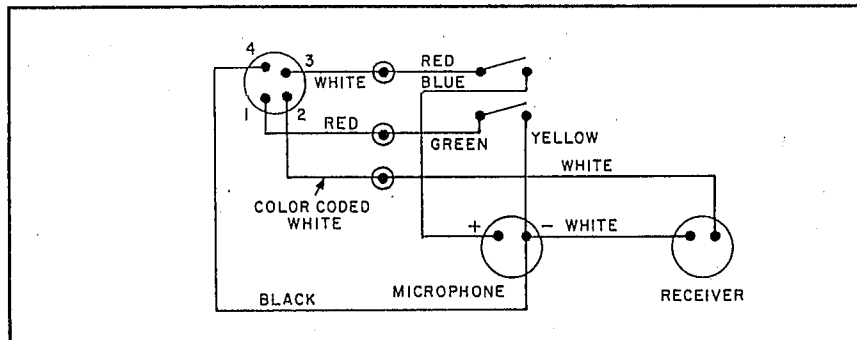
**PART NUMBERS 63274-001, -003**  
Figure 5



**PART NUMBER 63274-004**  
Figure 6



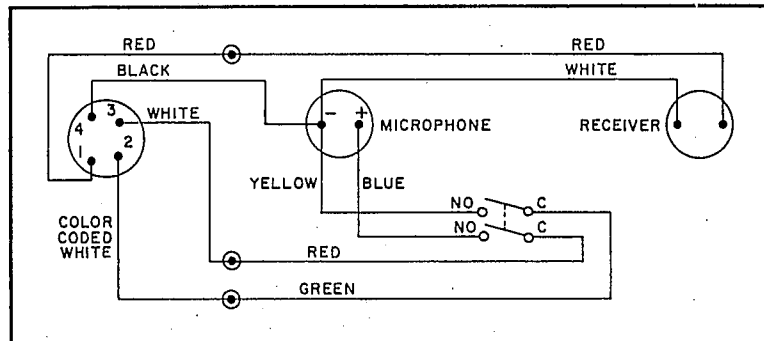
**PART NUMBER 63274-005**  
Figure 7



**PART NUMBER 63274-006**  
Figure 8

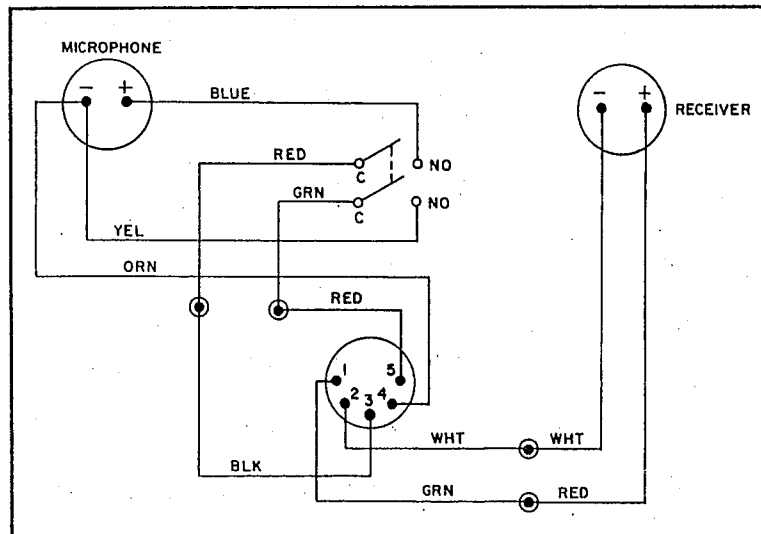
### MODEL HS-500 HANDSET

#### 4. WIRING DIAGRAMS (Continued)



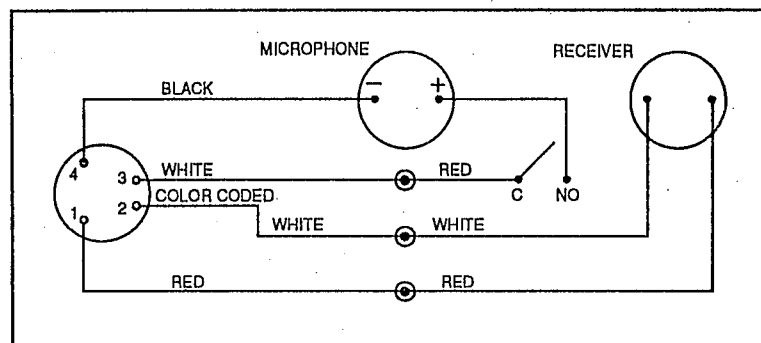
PART NUMBER 63274-010

Figure 9



PART NUMBER 63274-011

Figure 10



PART NUMBER 63274-012

Figure 11

**MODEL HS-500 HANDSET****5. SCREEN CLEANING**

**A. Recommended Cleaning Agent:** Isopropyl Alcohol.

**B. Procedure:**

- (1) The entire microphone and amplifier assembly can be removed from the Handset for cleaning, or the screen can be cleaned without removing the assembly. **THE SCREEN ITSELF SHOULD NOT BE REMOVED FOR CLEANING.** Removal of the screen will break the acoustic seal and affect noise cancellation and frequency response.
- (2) Position the screen downward. Using a small brush saturated with the cleaning solution, brush the screen until clean. **DO NOT SUBMERGE THE ENTIRE ASSEMBLY IN THE SOLUTION.** Shake excess solvent from the screen after cleaning.

**6. TROUBLESHOOTING CHART**

	CHECK PLUG(S)	CHECK MICROPHONE SUBASSEMBLY	CHECK RCVR ASSEMBLY	CHECK CORD	CHECK SWITCH	CHECK AMP GAIN ADJUST
RECEIVER INOPERATIVE	X		X	X		
MICROPHONE INOPERATIVE	X	X		X	X	
RECEIVER INTERMITTENT	X		X	X		
MICROPHONE INTERMITTENT	X	X		X	X	
DISTORTED RECEIVER SIGNAL			X			
DISTORTED MICROPHONE SIGNAL		X				X
MICROPHONE SIGNAL LOW		X				X