

## QSE4 TYPE HANDSETS

## DIAL HAND TEST SET

## WIRING, ASSEMBLY AND PIECE PART DATA

## 1. GENERAL

1.01 This section provides wiring and conversion information as well as piece part identification for use with the QSE4A and QSE4B type handsets.

1.02 The purpose of the QSE4 type handsets is to originate test calls on dial system apparatus to test switching, continuity and talking features of the subscribers circuit.

1.03 The QSE4A and QSE4B type handsets differ in that the QSE4A type is designed for use where data transmission facilities are not provided and only a medium impedance (less than 1000  $\Omega$ ) is required to bridge the line under test. The QSE4B type set is used where data circuits are provided and a high impedance (100 000  $\Omega$ ) is necessary when bridging the line for test purposes to ensure that data transmission is not disrupted. To convert from a QSE4A to a QSE4B type handset, replace printed circuit board P0500417 with a P0500416 printed circuit board as described in part 3 of this section. (Table A)

## 2. IDENTIFICATION OF PARTS

2.01 The component parts of the QSE4 Type Handset Assembly are shown in Fig. 1. The parts are keyed by number to the list given in Table B.

## 3. CONVERSION

3.01 The QSE4A handset may be converted to a QSA4B handset by changing the PC2 printed circuit board assembly using the following procedure.

3.02 *Method of Conversion:*

- (1) Remove the back cover of the handset as described in Section 100-1211-100.
- (2) Remove the two screws (item 6 Fig. 1) from the transmitter cup terminals.
- (3) Remove (R), (O) and line cord leads. (Fig. 2, 3, and 4).
- (4) Fold (R) and (O) leads to the side of the handset.
- (5) Remove (S-R) lead from under the dial plate screw (item 1 Fig. 1).
- (6) Remove (W) lead connected to terminal C of PC2.
- (7) Remove (Y-S) lead from under terminal R on transmitter cup (TB2).
- (8) Remove (R) and (BL) leads from both TB2 and S3 (Fig. 1).
- (9) Remove original PC2 (P0500417).
- (10) Insert (S-R) lead into terminal B and (W) lead into terminal C of the new PC2 (P0500416).
- (11) Place new PC2 (P0500416) into position and ensure that the (Y-S) lead is dressed between the transformer on PC2 and the transmitter cup (item TB2) and that the transformer bobbin rests on the raised portion of the instrument section housing between the dial and pushbutton (item S1). The bracket of

**SECTION 100-1211-820**

the transformer should now be located over the pushbutton.

(12) Connect the (Y-S) lead from PC2 to terminal "R" of the transmitter cup along with the existing (Y-S) lead on that terminal.

(13) Insert the two screws (item 6) through the mounting holes in PC2 and into the terminal screw holes in the transmitter cup.

(14) Ensure that the line cord is passed through the cord hole in the handset back cover, (item 23B).

(15) Connect the (R) lead, which was moved to one side of the handset and the (R) lead of

the line cord, to the terminal immediately above terminal "R" on the transmitter cup. (See Fig. 4.) Tighten this connection.

(16) Connect the (O) lead which was moved to one side of the handset and the (BK) line cord lead to the other PC2 mounting terminal (rocker switch side) and tighten the mounting screw. (See Fig. 4.)

(17) Dress leads and line cord as shown in Fig. 4.

(18) Replace handset back cover, line cord grommet and card retainer window.

**TABLE A  
CONVERSION OF QSE4 TYPE HANDSETS**

CONVERT FROM	CONVERT TO	REPLACE PART NUMBER
QSE4A- Medium Impedance Monitor (Non-Data)	QSE4B- High Impedance Monitor Manual (Data-Manual)	P0500416

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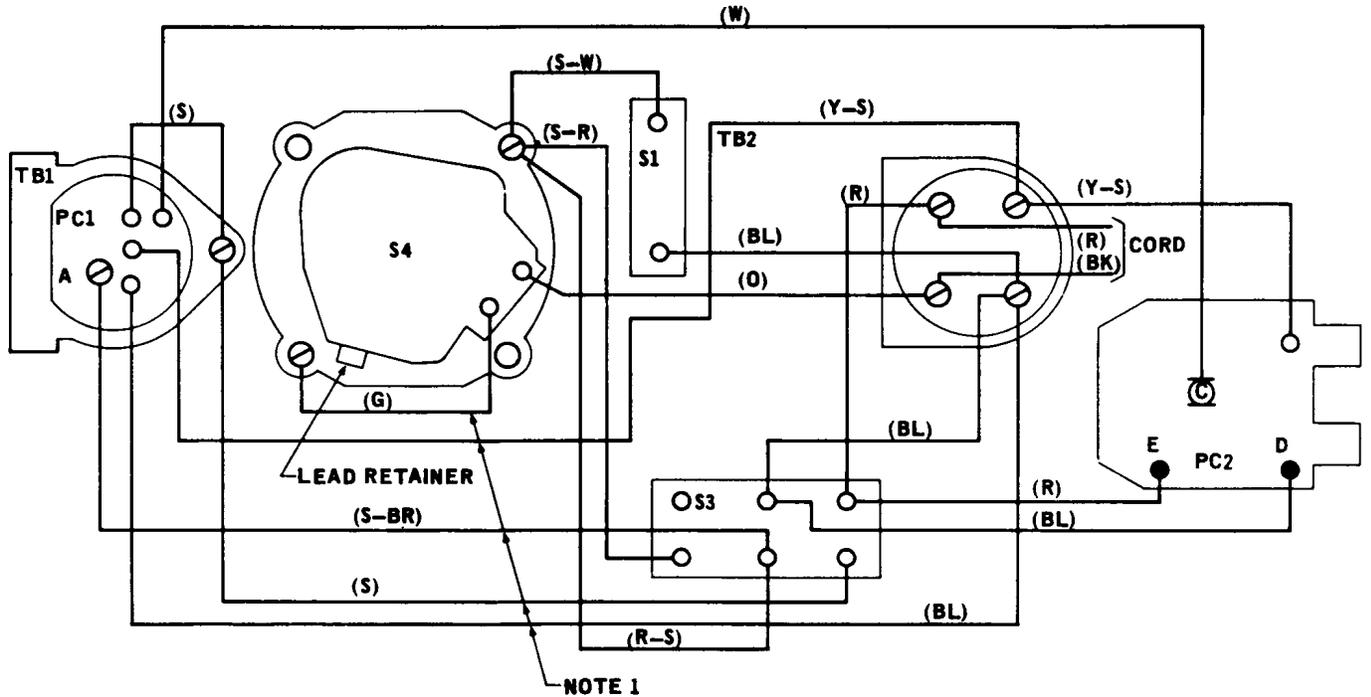
**TABLE B**  
**QSE4 TYPE DIAL HAND TEST SET IDENTIFICATION OF PARTS**

ITEM	IDENTIFICATION	DESCRIPTION	QSE4A1	QSE4B1	QSE4A2	QSE4B2
1	— P096D315	.112 – 24 (# 4 – 24) x .375 long, Type B, Flat Fillister Head, Tapping Screw	6	6	6	6
2	—	.138 – 20 (# 6 – 20) x .650 long, Type B, Flat Fillister, Captive Tapping Screw	2	2	2	2
3	—	.112 – 24 (# 4 – 24) x .500 long, Type B, Flat Fillister, Tapping Screw	5	5	5	5
4	—	.125 – 40 (# 5 – 40) x .500 long, Pan Head Machine Screw	2	2	2	2
5	—	.112 – 40 (# 4 – 40) x 3/16 long, Pan Head Machine Screw	4	4	4	4
6	—	.125 – 40 (# 5 – 40) x 5/16 long, Pan Head Machine Screw	4	4	4	4
7	—	Washer, Steel, .145 I.D. X .344 O.D. x .038 Thick	2	2	2	2
8	—	Spacer, Phenol Fibre, .141 I.D. x .219 O.D. x .250 long	2	2	2	2
9	—	Washer, Brass. .143 I.D. x .250 O.D. x .032 Thick, Tinned	2	2	2	2
11	P0500423	Bracket	1	1	1	1
12	P096B528	Label	0	1	0	1
13	P096D313	Card Holder	1	1	1	1
14	P0500419	Hookstop	1	1	1	1
15	P0500411	Hook Plate Retainer	2	2	2	2
16	P0500403	Hook Plate	1	1	1	1
17	P096E723	Disc	1		1	
17	P096E724	Disc		1		1
20	P0500420	Friction Pad	1	1	1	1
22B	P0500500*	Instrument Section Assembly	1	1	1	1
23B	P0892000*	Handset Cover Assembly	1	1	1	1
27	P0512100*	Grommet Female	1	1	1	1
28	P0512000*	Grommet Male	1	1	1	1
29	NE-W2QK	Cord (E/W NSQ4100 L1 Clips)	1	1		
30	NE-H2QB	Cord (E/W NE-346A Plug)			1	1
32	NSQ1010	Hook	1	1	1	1
HT1	NE-T1	Transmitter Unit	1	1	1	1
MK1	NE-U1	Receiver Unit	1	1	1	1
TB1	P096D305	Receiver Cup	1	1	1	1
TB2	P0500414	Cup Assembly	1	1	1	1
S1	P0501500*	Pushbutton Assembly	1	1	1	1
S2	P0500412			1		1
S3	P0500413	Rocker Switch Assembly	1		1	
S4	NE-10QA	Dial	1	1	1	1
PC1	P0500400	Printed Circuit Board Assembly	1	1	1	1
PC2	P0500417	Printed Circuit Board Assembly	1		1	
PC2	P0500416	Printed Circuit Board Assembly		1		1
Not Shown	NE-W2QK1	Cord (Less NSQ4100 L1 Clips) (Note 1)	1	1		
Not Shown	NE-H2QB1	Cord (Less NE-346A Plug) (Note 2)			1	1
Not Shown	NSQ4100L1	Clips (Note 1)	2	2		
Not Shown	NE-346A	Plug (Note 2)			1	1

*Note 1:* Part of NE-W2QK Cord, Item 29.

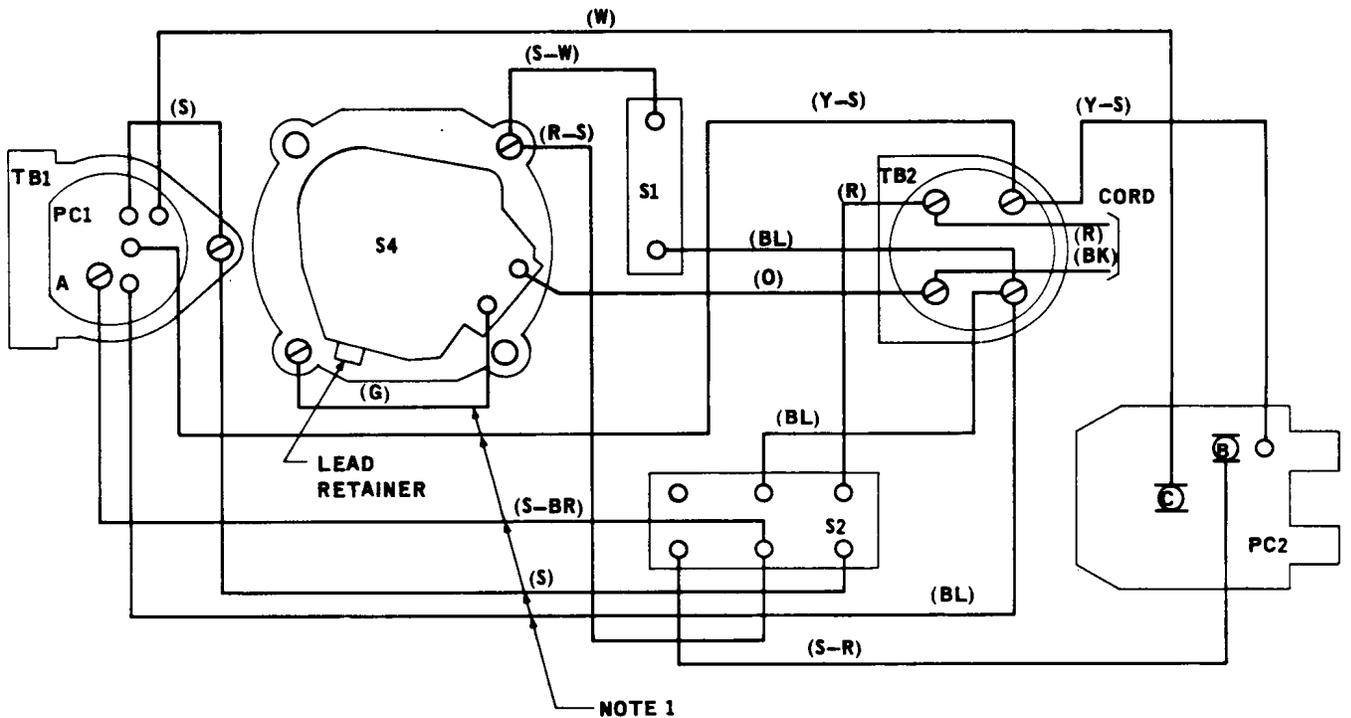
*Note 2:* Part of NE-H2QB Cord, Item 30.

\* The last two digits of these part numbers are color significant and should be replaced by the correct color code for the color desired. I.E., P0500551 – Instrument section assembly (green).



NOTE 1: LEADS INDICATED SHOULD BE PLACED IN THE LEAD RETAINER OF THE DIAL COVER.

Fig. 2 - QSE4A Wiring Diagram



NOTE 1: LEADS INDICATED SHOULD BE PLACED IN THE LEAD RETAINER OF THE DIAL COVER.

Fig. 3 - QSE4B Wiring Diagram

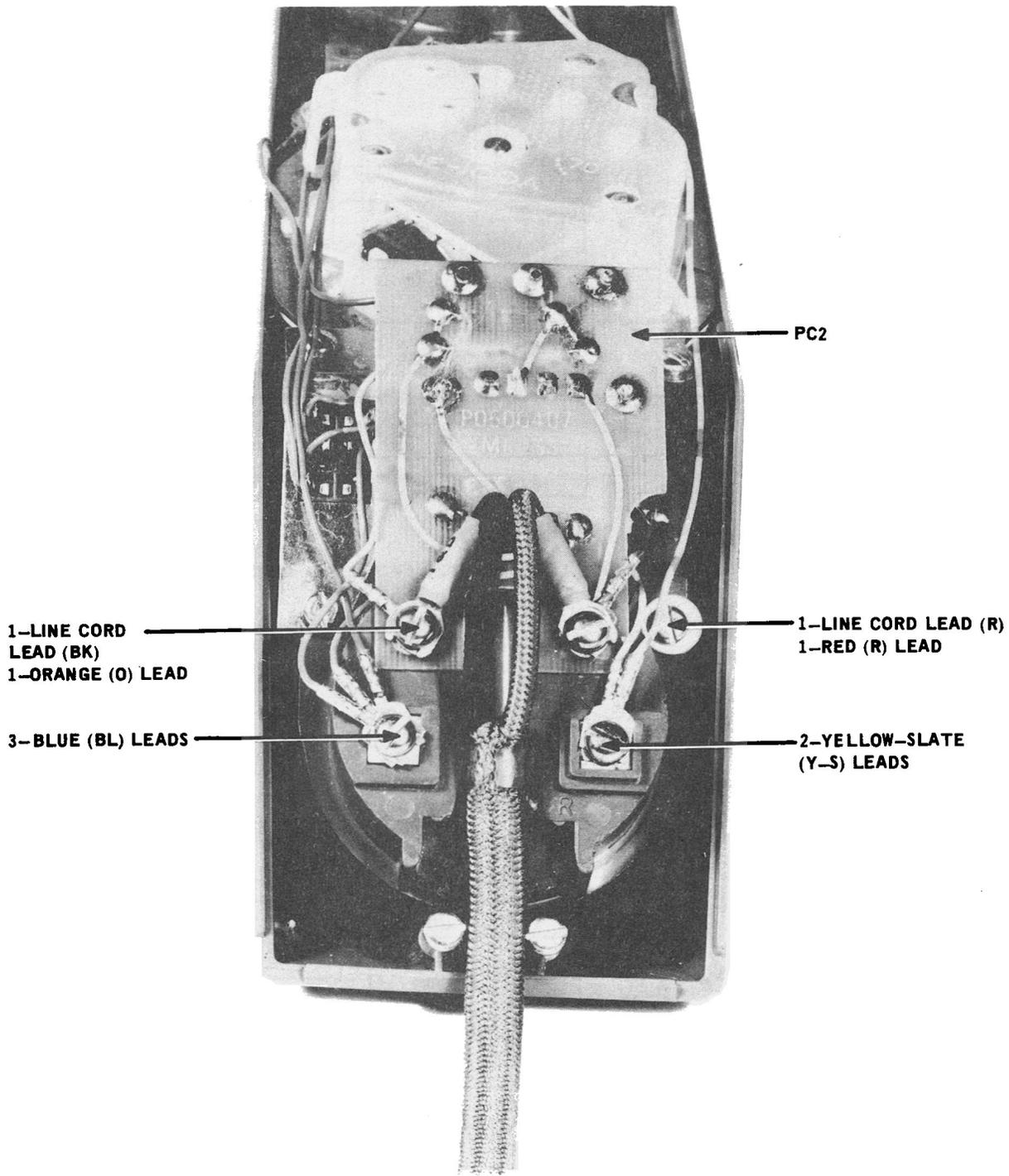


Fig. 4 – QSE4B Type Handset – Cover Removed – Showing Connection of Line Cord and Assembly of PC2 (P0500416) for Conversion Purposes