

**CONTEMPRA\* TELEPHONE SETS****QSK3100A, QSK3100B and QSQM3100A****DESCRIPTION, INSTALLATION, CONNECTIONS AND MAINTENANCE****Fig. 1 — 3100A-Type Shown in Off-Hook Position****1. DESCRIPTION**

1.01 The CONTEMPRA telephone set is a combined desk and wall telephone which has the dial set into the handset.

- When used as a desk telephone, it rests on feet provided in the base of the set. The handset rests in a recess in the base.
- When used as a wall telephone, the CONTEMPRA telephone set is mounted using mounting holes in the baseplate. The receiver end of the handset engages a projection in the handset recess.

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**REASON FOR REISSUE**

1.02 To add information concerning the QSK3100B and QSQM3100A telephone sets.

1.03 The QSK3100A and QSQM3100A telephone sets are similar. They differ in that the QSK3100A set is equipped with a 3-conductor, round, spade-tip-ended mounting cord, and the QSQM3100A set is equipped with a 4-conductor, flat, plug-ended mounting cord. Also the QSK3100B telephone is factory equipped with a polarity applique kit, the QSK3100A set is not.

## DIGIPULSE\* DIAL

1.04 The QDC3A DIGIPULSE dial is a pushbutton, pulse-output dial which can be used on any telephone line equipped for use with a 10-pps, 62 percent break rotary dial. The interdigital time is 650 ms nominal.

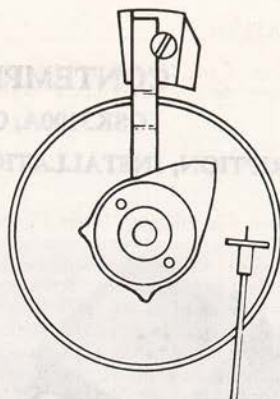
1.05 One need not wait for a digit to be outpulsed before pushing the next button because the digits are stored in a memory and outpulsed with the correct timing. Outpulsing begins within 200 ms of pushing the first button.

1.06 The dial can be reset or reinitiated with an on-hook/off-hook sequence by pressing the line switch or recall button, for at least 274 ms.

1.07 Dial pulses are muted to a level of not greater than 83 dB SPL and not less than 73 dB SPL at the receiver.

1.08 The dc on-hook resistance of the telephone set is 500k ohms minimum.

1.09 Operation of the sextile (✱) button inserts a pause of approximately 2 seconds into the dialing sequence.

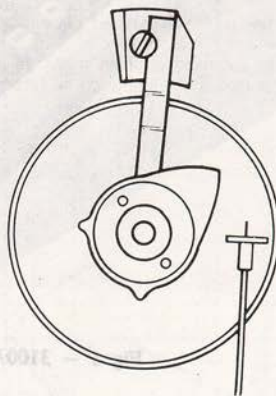


(a)

## RINGER ADJUSTMENT

1.10 The ringer volume control on the telephone set is a wheel which extends through the side of the baseplate of the set. The baseplate is stamped with a large and small bell symbol to indicate the direction in which the wheel must be turned to raise or lower the volume.

1.11 To provide the ringer cut-off feature, change the position of the lever associated with the ringer volume control wheel. With the housing removed, remove the screw that holds the lever in contact with the wheel (Fig 2[a]). Shift the lever to the opposite end of the slot; place the screw in the hole that was covered by the lever and tighten the screw (Fig 2[b]).



(b)

Fig 2 — Ringer Cut-Off Feature

1.12 The QSK3100A, QSK3100B and QSQM3100A telephone sets are wired for individual service. Wiring changes can be made to allow their use for the following services.

- Tip party flat rate
- Ring party flat rate
- NE-1A1 or NE-1A2 Key Telephone Systems
- Speakerphone

**Note:** The CONTEMPRA telephone sets cannot be used for tip party ANI service.

1.13 A recall button, which can be used to disconnect for redialing, is located on the handset. This eliminates the need to operate the line switch on each call.

1.14 The QSK3100A, QSK3100B and QSQM3100A telephone sets, manufactured before December 1978, contain a QNB18A printed circuit board network. Telephone sets manufactured after December 1978, contain a QNB425E1A printed circuit board network.

1.15 See 500-1201-100 for color codes of station apparatus products.



## 2. INSTALLATION

2.01 Installation of the CONTEMPRA telephone set should be in accordance with local procedures.

### Disassembly

#### 2.02 To Remove The Housing From The Base.

(a) Remove card retainer (or window), located near the front of the housing. To remove card retainer, insert the tip of an NS-167150L3 releaser into the small slotted hole at the edge of the window. Ensure that the tip does not enter the hole by more than one-eighth of an inch as an underlying screw may hinder the lateral movement of the tool. Apply a slight pressure to the handle of the tool (Fig. 3). This will bow the window upward so that its edges may be grasped with the fingertips of the other hand to spring it out.

(b) Remove the number card, if present.

(c) Loosen the exposed captive screw sufficiently for the front of the housing to be lifted free of the base.

(d) Continued lifting of the cover enables the housing latches to disengage and free the cover.

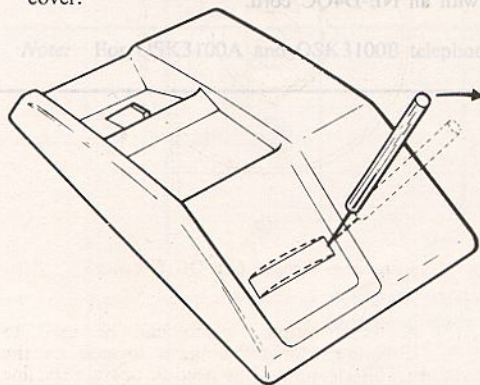


Fig. 3 — Removal of Card Retainer

#### 2.03 To Open The Handset.

(a) Remove the card retainer (2.02[a]) and the number card located above the dial.

(b) Remove the handset grommet by holding the handset with the back in the palm of the hand. Insert the tip of the NS-16750L3 releaser into the

small slot adjacent to the grommet (Fig. 4). Press the handle of the tool towards the grommet and push the tip into the slot as far as it will go. Push the handle of the releaser away from the grommet to release the spring and gently ease the grommet out of the handset shell.

(c) Once the grommet has been withdrawn, two screws are exposed. Remove these two screws.

(d) Loosen (do not remove) the two captive screws in the card retainer well, sufficiently to separate the handset sections at the receiver end. Lift the grommet end of the back half of the handset housing and slide it toward the receiver end thus opening the handset.



Fig. 4 — Removal of Handset Grommet

### Wall Mounting

2.04 Remove line cord. The center keyhole opening in the base is normally used for the entry of the station wiring. The hole at the line switch end of the set and the one just below the ringer, are used for normal wall mounting. For mounting on an outlet box, the keyhole at the center of the set and the one just below the ringer are used. Additional space may be opened for the entrance of the wire from the outlet box, when necessary, by placing the set on a flat surface, placing a screwdriver in the knockout adjacent to the center keyhole and giving the screwdriver a sharp knock downward. This action will shear out an additional opening leading into the center keyhole. If a mounting screw fails to hold, knockouts can be made, as above, near the handset cord or under the switch plunger, as necessary, for the addition of another screw. These knockouts should not be opened unnecessarily. If it is necessary to bring the station wire up the wall from the baseboard, an opening can be uncovered for wire entry by removing the handset cord grommet from the base, rotating it 180° and replacing it.

### Reassembly

#### 2.05 Base.

(a) Dress line cord leads and other wiring away from the housing retaining screw post on the base of the telephone set.



- (b) Place the housing at an angle to the base.
- (c) Press rear of housing down and towards the back of the base to engage the housing latches with the notches in the base.
- (d) Push front of housing down, ensuring that latches remain in notches, so that the retaining screw enters the tapped post in the base. Tighten the screw.
- (e) Insert station card number and retainer window into the card retainer well.

## 2.06 Handset.

- (a) Align the jacketed portion of the handset cord which projects beyond the grommet and into the handset, so that it will fit the channel in the transmitter cup assembly.
- (b) Dress receiver leads through clip.
- (c) Carefully align sections so that the two screws in the number plate slot engage the tapped post holes in the other section.
- (d) Pull the grommet end down so that the two sections fit together.
- (e) Replace two screws in the grommet cutout and two in the card retainer well.

(f) Slide the grommet into the square hole in the end of the handset housing with the retaining clip facing the instrument section of the handset. Fully seat the grommet so that the clip will engage. The grommet shoulder should be flush with the surface of the housing.

- (g) Insert station number card and card holder window into the card retainer well.

## 3. CONNECTIONS

3.01 Connection information for the QSK3100A, QSK3100B, and QSQM3100A telephone sets is shown in Tables A and B.

**Note:** In the QSK3100A and QSQM3100A telephone sets, the DIGIPULSE dial does not operate, if tip and ring are reversed. Therefore, tip party wiring changes must be made inside the set.

3.02 Schematic diagrams for the telephone sets are shown in Fig. 5 through 9.

3.03 If the telephone set is wired for 'A' lead control, the mounting cord must be replaced with an NE-D4QC cord.



Fig. 3 - Removal of Card Retainer

1. Remove the card retainer from the base of the telephone set. The card retainer is located in the base of the telephone set, and is used to hold the card in place. To remove the card retainer, first remove the two screws that hold it in place. Then, lift the card retainer out of the base. The card retainer is shown in the diagram, and is labeled 'Card Retainer'.



**TABLE A**  
**QSK3100A, QSK3100B and QSQM3100A CONNECTIONS**  
 (For Sets Equipped With QNB18A Network)

		COLOR	INDIVIDUAL OR BRIDGED	RING PARTY	TIP PARTY	'A' LEAD CONTROL
Mounting Cord at Connecting Block (Note)	Ring Tip Grd Aux	(R) (G) (Y) (BK)	Ring Tip Grd —	Ring Tip Grd —	Ring Tip Grd —	Ring Tip A1 A
Inside Wire Or Mounting Cord at Network	Ring Tip Grd Aux	(R) (G) (Y) (BK)	L2 L1 G *	L2 L1 G *	L2 L1 G *	L2 L1 G X
Ringer		(R) (BK) (S) (S-R)	L2 L1 K A	L2 G K A	G L1 K A	L2 L1 K A
Line Switch		(S-BY) (S-Y)	C X	C X	C X	X G
Handset Cord		(Y)	X	X	X	C

\* Indicates insulate and store.

*Note:* For QSK3100A and QSK3100B telephone sets only.

Fig. 5 — Schematic Diagram — QSK3100A Telephone Set  
 (Equipped With QNB18A Network)

**TABLE B**  
**QSK3100A, QSK3100B and QSQM3100A CONNECTIONS**  
 (For Sets Equipped With QNB425E1A Network)

		COLOR	INDIVIDUAL OR BRIDGED	RING PARTY	TIP PARTY	'A' LEAD CONTROL
Line Cord at Connecting Block (Note)	Ring Tip Grd Aux	(R) (G) (Y) (BK)	Ring Tip Grd —	Ring Tip Grd —	Ring Tip Grd —	Ring Tip A1 A
Inside Wire or Line Cord at Network	Ring Tip Grd Aux	(R) (G) (Y) (BK)	L2 L1 G L4	L2 L1 G L4	L2 L1 G L4	L2 L1 G X
Ringer		(R) (BK) (S) (S-R)	L2 L1 K A	L2 G K A	G L1 K A	L2 L1 K A
Line Switch		(S-BR) (S-Y)	C X	C X	C X	X G
Handset Cord		(Y)	X	X	X	C

*Note:* For QSK3100A and QSK3100B telephone set only.



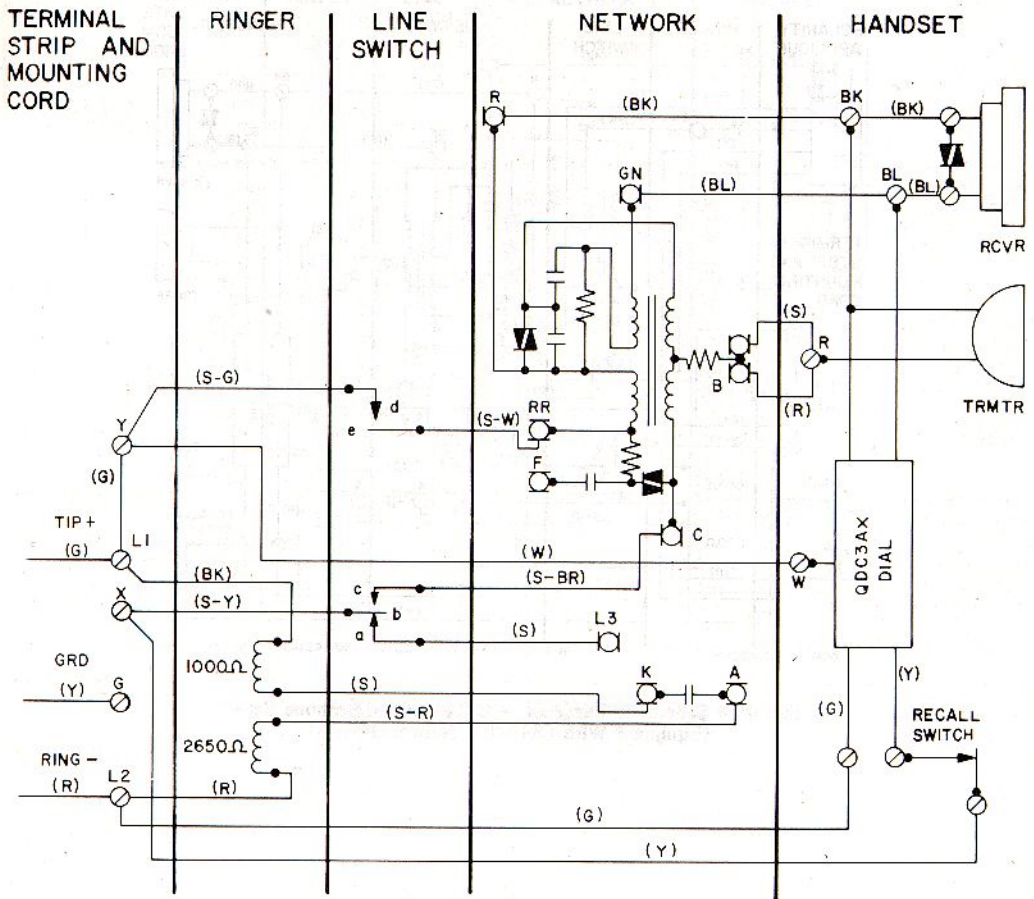


Fig. 5 — Schematic Diagram — QSK3100A Telephone Set  
(Equipped With QNB18A Network)

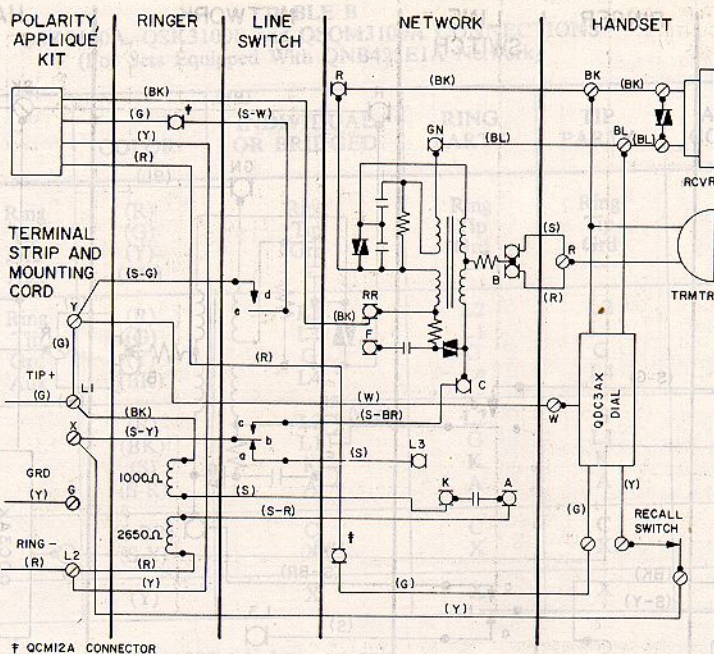


Fig. 6 - Schematic Diagram - QSK3100B Telephone Set  
(Equipped With QNB18A Network)



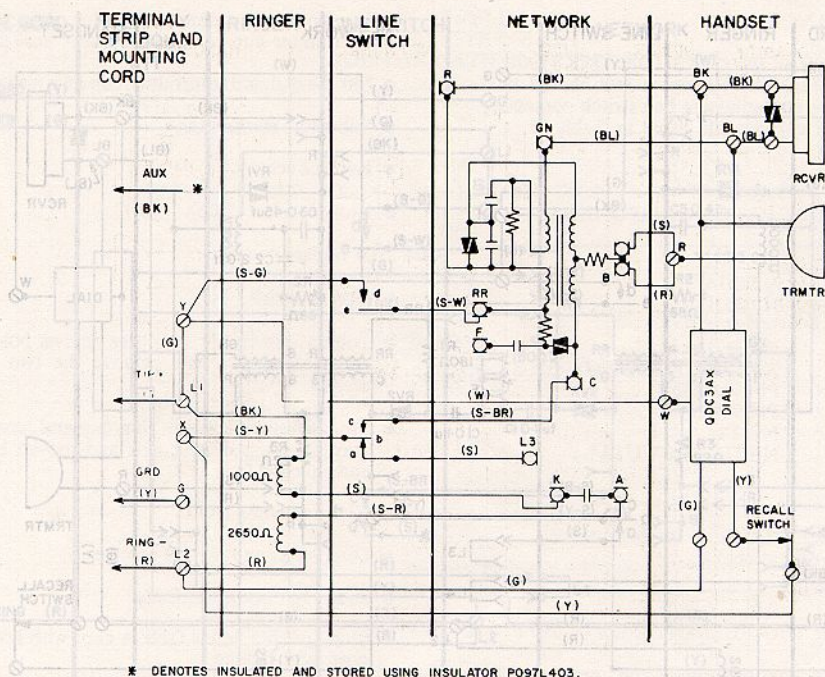


Fig. 7 — Schematic Diagram — QSQM3100A Telephone Set  
(Equipped with QNB18A Network)

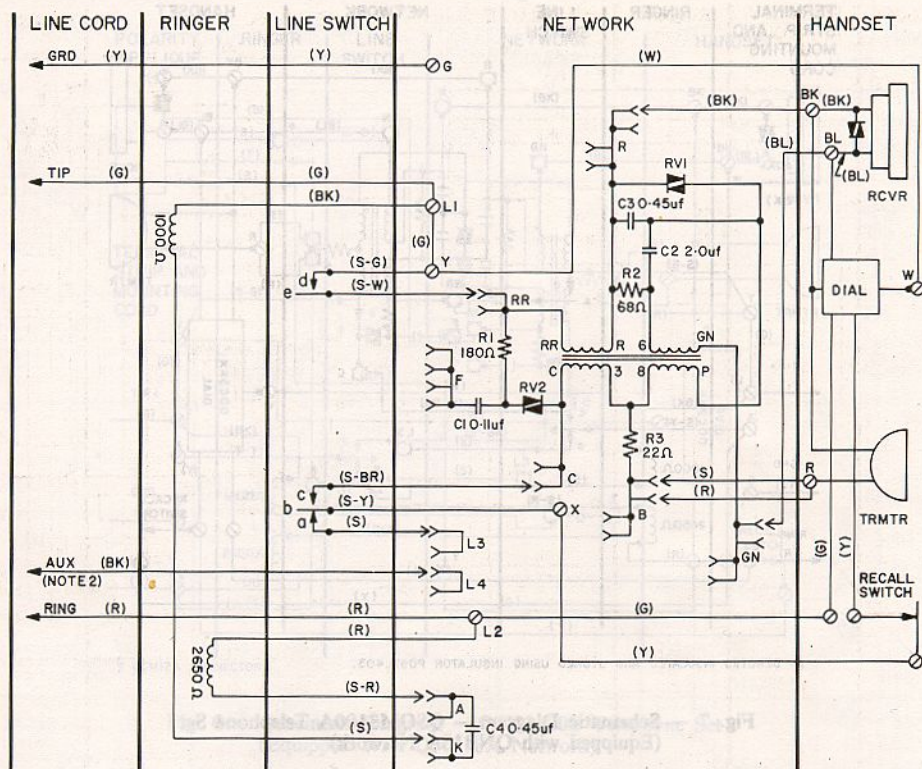


Fig. 8 — Schematic Diagram — QSK3100A and QSQM3100A Telephone Set (Equipped With QNB425E1A Network)



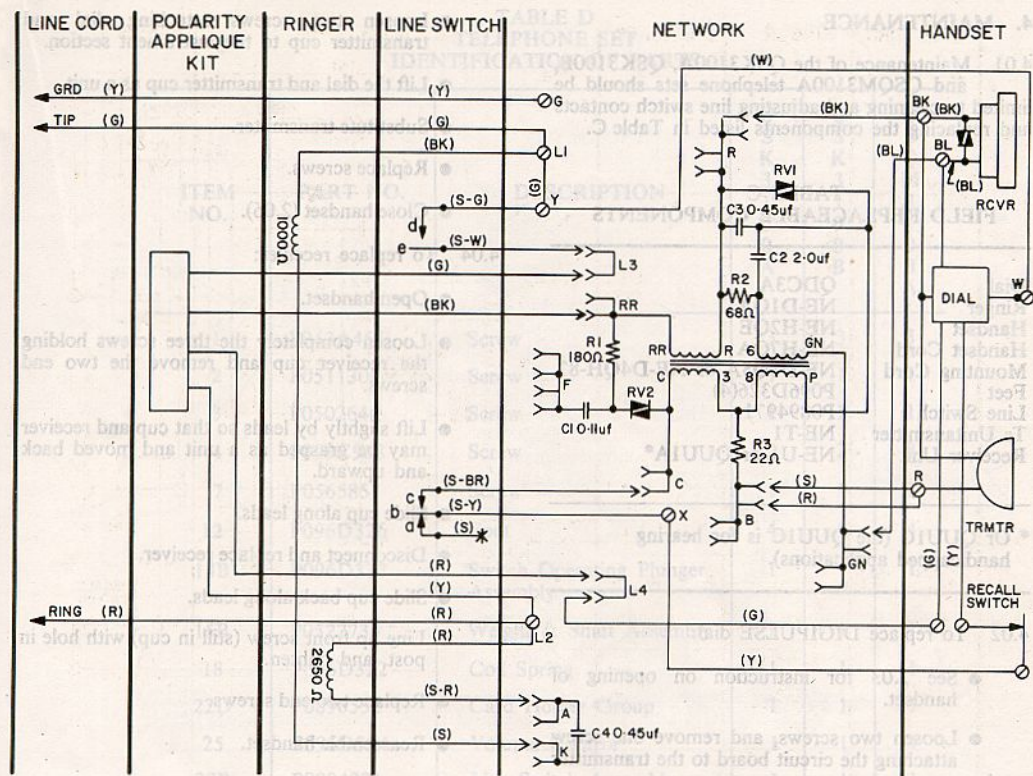


Fig. 9 — Schematic Diagram — QSK3100B Telephone Set  
(Equipped With QNB425E1A Network)

\* Replace the last two digits with the appropriate color code.

† Add the appropriate color code.



## 4. MAINTENANCE

4.01 Maintenance of the QSK3100A, QSK3100B, and QSQM3100A telephone sets should be limited to cleaning and adjusting line switch contacts and replacing the components listed in Table C.

TABLE C  
FIELD REPLACEABLE COMPONENTS

Dial	QDC3A
Ringer	NE-D1QA
Handset	NE-H2QE
Handset Cord	NE-H7QA
Mounting Cord	NE-D3Q5A or NE-D4QH-87
Feet	P096D326(4)
Line Switch	P0894971
Tr Unitansmitter	NE-T1
Receiver Unit	NE-U1 or QUU1A*

\* Or QUU1C (the QUU1C is for hearing handicapped applications).

## 4.02 To replace DIGIPULSE dial:

- See 2.03 for instruction on opening of handset.
- Loosen two screws, and remove one screw attaching the circuit board to the transmitter cup.
- Remove two mounting screws attaching dial and transmitter cup to instrument section.
- Remove dial leads from underside of transmitter cup.
- Replace dial leads on underside of transmitter cup and reinstall two mounting screws to reconnect dial and transmitter cup to instrument section.
- Reconnect the dial leads (see appropriate schematic diagram).
- Reassemble handset (2.06).

## 4.03 To replace transmitter.

- Open handset (2.03).

- Loosen two screws attaching dial and transmitter cup to the instrument section.
- Lift the dial and transmitter cup as a unit.
- Substitute transmitter.
- Replace screws.
- Close handset (2.06).

## 4.04 To replace receiver:

- Open handset.
- Loosen completely the three screws holding the receiver cup and remove the two end screws.
- Lift slightly by leads so that cup and receiver may be grasped as a unit and moved back and upward.
- Slide cup along leads.
- Disconnect and replace receiver.
- Slide cup back along leads.
- Line up front screw (still in cup) with hole in post, and tighten.
- Replace two end screws.
- Reassemble handset.

## 4.05 Handset cord replacement:

- See 2.03 for instruction on opening of handset.
- Cut back the outer sheath of the handset cord to within 1 inch of the grommet.
- Connect leads (see appropriate schematic diagram).

4.06 *Ringer.*

- Open base (2.02).
- Loosen screw in volume control and mounting screws of ringer.
- Replace ringer.



**TABLE D  
TELEPHONE SET  
IDENTIFICATION OF PARTS**

ITEM NO.	PART NO.	DESCRIPTION	Q S K 3 1 0 0 A	Q S K 3 1 0 0 B	Q S K 3 1 0 0 A
1	P043A456	Screw	3	3	3
2	P0511307	Screw	1	1	1
3	P0502646	Screw	1	1	1
4	P099C968	Screw	2	2	2
7	P0565857	Screw	1	1	1
12	P096D326	Foot	4	4	4
13B	P096D337	Switch Operating Plunger Assembly	1	1	1
15B	P0522734	Weight & Shaft Assembly	1	1	1
18	P096D322	Coil Spring	1	1	1
22D	P0896532	Card Holder Group	1	1	1
25	P096D324	Volume Control	1	1	1
27B	P0894971	Line Switch Assembly	1	1	1
29	P096D314	Baseplate	1	1	1
33B	P096D200.*	Housing Assembly	1	1	1
35	P0563490	Polarity Applique Kit	—	1	—
36	QNB425E1A	Network	1	1	1
39	NE-D1QA	Ringer	1	1	1
42	NE-D4QH-87	Mounting Cord	—	—	1
	NE-D3Q5A-†	Mouting Cord	1	1	—
45	NE-H2QE-†	Handset	1	1	1
64	P0565012	Adaptor	1	1	1
65	P0583461	Clamp	1	1	1

\* Replace the last two digits with the appropriate color code.

† Add the appropriate color code.

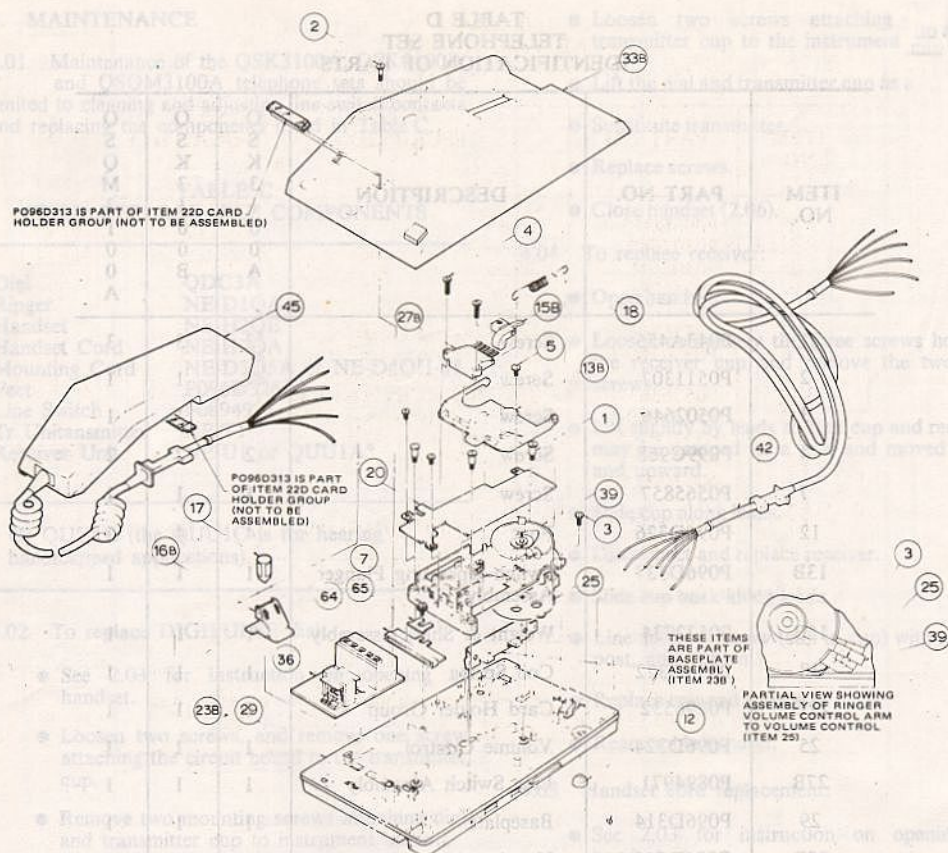


Fig. 10 — Exploded View — QSK3100A, QSK3100B and QSQM3100A Telephone Sets

\* Replace the last two digits with the appropriate color code.  
† Add the appropriate color code.



TABLE E  
NE-H2QE HANDSET  
IDENTIFICATION OF PARTS

ITEM NO.	PART NO.	DESCRIPTION	QUANTITY
1	P096D315	Screw	2
2	P0502647	Screw	4
3	P0502646	Screw	3
4	P0249778	Screw	9
11	P096D305	Receiver Cup	1
21	P0556364	Insulator (see Note)	1
31B	P0892200*	Handset Instrument Section Assembly	1
32B	P0556363	Transmitter Cup Assembly	1
33B	P0892000*	Handset Cover Assembly	1
61	NE-U1	Receiver Unit	1
62	NE-T1	Transmitter Unit	1
63	NE-H7QA-†	Handset Cord	1
64	QDC3A	Dial	1
65	P0896532	Card Holder Parts Group	1

\* Replace the last two digits with the appropriate color code.

† Add the appropriate color code.

**Note:** Insulator, Item 21 (not shown pictorially) shall be assembled between the two (2) printed circuit boards of the QDC3A dial.

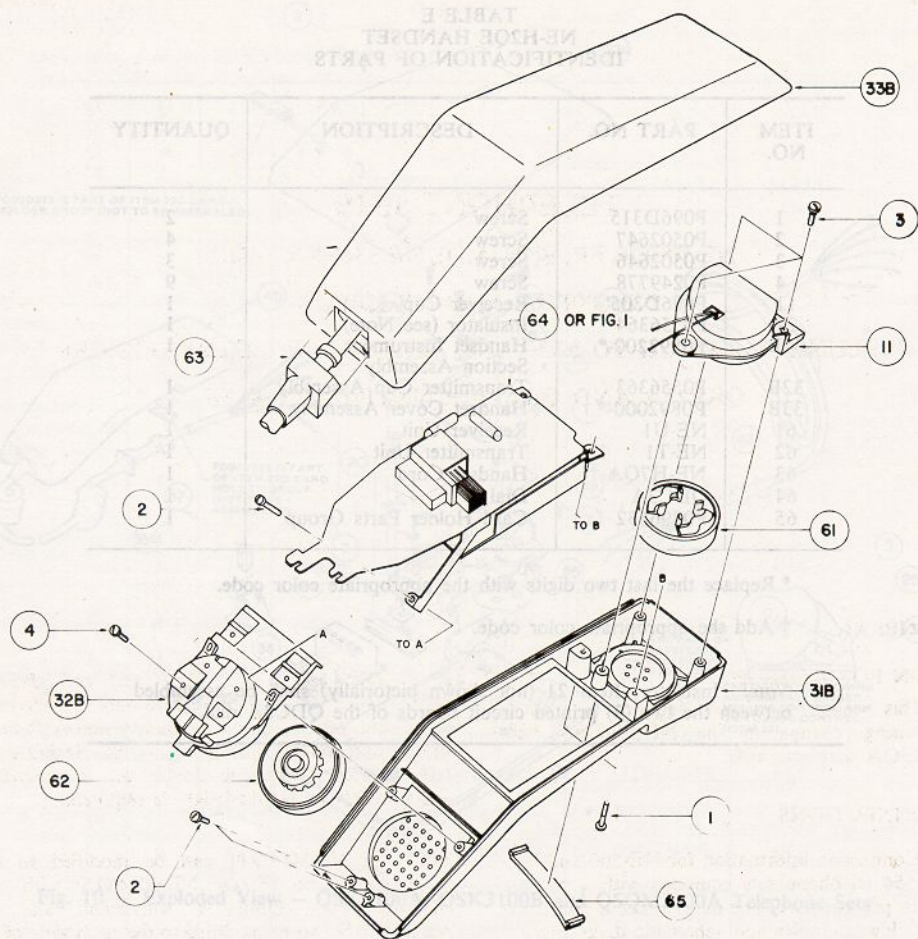


Fig. 11 — Exploded View — NE-H2QE Handset