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## TELEPHONE SETS 2660 AND 2663 TYPES

### IDENTIFICATION, INSTALLATION, AND MAINTENANCE

(a) The 2660- and 2663-type telephone sets are desk-type, card dialer sets equipped with a 12-button TOUCH-TONE® dial providing for automatic and manual calling (Fig. 1 and 2).

(b) This section is reissued to:

- Add 425K network
- Add Fig. 2 2663A1 telephone set, interior view
- Add KS-20419 buzzer (optional)

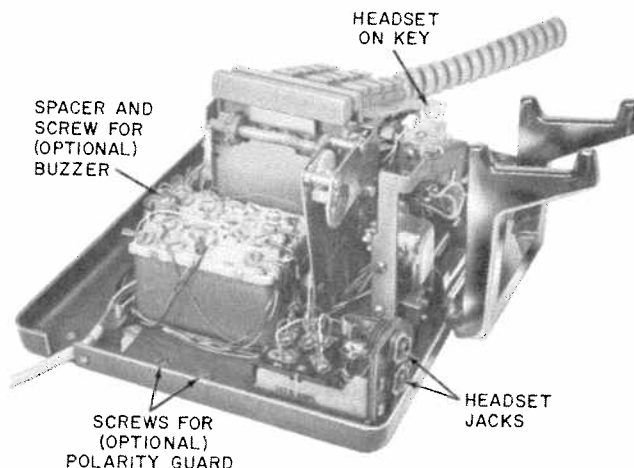


Fig. 2—2663A1 Telephone Set, Interior View



Fig. 1—2660-Type Telephone Set

- Add information on bend of P-24E455 wire link to eliminate interference with operation of exclusion switch plunger
- Show 460G diode replaces 426AN and 491A diode, P-90D012 polarity guard
- Include statement about when to use P-90D012 polarity guard
- Combine conversion kit piece part and ordering guide tables

## 2. IDENTIFICATION

### ORDERING GUIDE

Set, Telephone, 2660A1-\* (Note)  
Set, Telephone, 2663A1-\*

**Note:** The 2660-type telephone set is furnished in the A1 code only. If an A2, A3, or A4 code is specified the proper kit of parts will

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be shipped with the set. If the set is to be converted in the field, the proper kit of parts from Table A must be ordered separately. Whenever 2-line pickup and hold is desired, the kit of parts must be ordered separately.♦

### (a) *Major components of these sets are:*

- Amplifier, 242B (2663A1)
- Cord, Mounting, D3BN-\* (2660A1)
- Cord, Mounting, D6AF-\* (2660A1†, 2660A2, 2663A1)
- Cord, Mounting, D10R-\* (2660A3, 2660A4)
- Dial, 36E
- ♦Network, 425G or 425K♦
- P-13E363 Card Index (9 cards)
- P-21F752 Card Set (40 cards)
- P-82B0\* Housing Assembly, 2660-Type
- ♦P-86D8\* Faceplate, 2660A1♦
- P-87C2\* Housing Assembly, 2663A1
- ♦P-87D2\* Faceplate, 2663A1♦
- Ringer, M1A
- Set, Hand, G3AR-\*

\* Add appropriate color suffix.

† Replaces D3BN mounting cord when 2660A1 is converted to provide 2-line pickup and hold.

### (b) *Replaceable Optional Components*

- Buzzer, KS-8109L2
- ♦Buzzer, KS-20419♦

### (c) *Customer Instruction Booklet:* GN-2434

## DESIGN FEATURES

- Standard card dialer operation
- 12-button TOUCH-TONE dial

- End-to-end signaling (optional)
- AC or DC buzzer (optional)
- Exclusion and/or 2-line pickup or 2-line pickup and hold on either line (2660)
- Operation with 3-type speakerphone, 2660-type (optional)
- Handset or headset operation (2663-type)

## APPLICATION

- CO or PBX lines
- Individual, 2-party flat rate or selected, 4-party semi-selected, and 750A or 755A PBX keyless stations
- 1A1 or 1A2 KTS (2663A1)

## 3. INSTALLATION

(a) Insofar as possible, be guided by the customer's wishes when placing apparatus. Consider the following:

- Safety for yourself, customer, and maintenance personnel.
- Convenience to the user.
- General appearance of installation.

(b) The 2660- and 2663-type telephone sets are installed in accordance with standard practice for desk-type 0- and 1-button telephone sets. Refer to appropriate connection section for line and ringer connections for these sets.

### 2660-Type Sets

(c) The 2660A1 set can be converted to provide 2-line pickup and hold (nonkey system) or exclusion and/or 2-line pickup by installing the proper kit of parts and mounting cord. Tables A, B, C, and D list the conversion parts information.

### Exclusion

(d) Exclusion, if provided, is actuated by pulling up on the plastic button at the top left of

♦TABLE A♦  
ORDERING GUIDE CONVERSION KITS (SEE NOTE)

SET COLOR	SET CODE	KIT NUMBER	MATCHING FACEPLATE *	COORD FACEPLATE	EXCN SWITCH ASSEMBLY P-24E456	2-LINE PICKUP WITH MECHANICAL HOLD		2-LINE PICKUP AND SIG P-27E920
						2-LINE PICKUP KEY ASSY P-21F211	HOLD KEY ASSY P-21F208	
Black (-03)	A1†	D-180284	P-87D003	P-87D070		•	•	
	A2	D-180197	P-86D903	P-86D970	•			
	A3	D-180205	P-87D103	P-87D170				•
	A4	D-180213	P-87D003	P-87D070	•			•
Ivory (-50)	A1†	D-180293	P-87D050	P-87D080		•	•	
	A2	D-180279	P-86D950	P-86D980	•			
	A3	D-180281	P-87D150	P-87D180				•
	A4	D-180283	P-87D050	P-87D080	•			•
Green (-51)	A1†	D-180285	P-87D051	P-87D071		•	•	
	A2	D-180198	P-86D951	P-86D971	•			
	A3	D-180206	P-87D151	P-87D171				•
	A4	D-180214	P-87D051	P-87D071	•			•
Red (-53)	A1†	D-180286	P-87D053	P-87D069		•	•	
	A2	D-180278	P-86D953	P-86D969	•			
	A3	D-180280	P-87D153	P-87D169				•
	A4	D-180282	P-87D053	P-87D069	•			•
Yellow (-56)	A1†	D-180287	P-87D056	P-87D072		•	•	
	A2	D-180199	P-86D956	P-86D972	•			
	A3	D-180207	P-87D156	P-87D172				•
	A4	D-180215	P-87D056	P-87D072	•			•
White (-58)	A1†	D-180288	P-87D058	P-87D073		•	•	
	A2	D-180200	P-86D958	P-86D973	•			
	A3	D-180208	P-87D158	P-87D173				•
	A4	D-180216	P-87D058	P-87D073	•			•
Rose Pink (-59)	A1†	D-180289	P-87D059	P-87D074		•	•	
	A2	D-180201	P-86D959	P-86D974	•			
	A3	D-180209	P-87D159	P-87D174				•
	A4	D-180217	P-87D059	P-87D074	•			•
Light Beige (-60)	A1†	D-180290	P-87D060	P-87D075		•	•	
	A2	D-180202	P-86D960	P-86D975	•			
	A3	D-180210	P-87D160	P-87D175				•
	A4	D-180218	P-87D060	P-87D075	•			•
Light Gray (-61)	A1†	D-180284	P-87D061	P-87D070		•	•	
	A2	D-180197	P-86D961	P-86D970	•			
	A3	D-180205	P-87D161	P-87D170				•
	A4	D-180213	P-87D061	P-87D070	•			•
Aqua Blue (-62)	A1†	D-180291	P-87D062	P-87D076		•	•	
	A2	D-180203	P-86D962	P-86D976	•			
	A3	D-180211	P-87D162	P-87D176				•
	A4	D-180219	P-87D062	P-87D076	•			•
Turquoise (-64)	A1†	D-180292	P-87D064	P-87D077		•	•	
	A2	D-180204	P-86D964	P-86D977	•			
	A3	D-180212	P-87D164	P-87D177				•
	A4	D-180220	P-87D064	P-87D087	•			•

\* Optional, must be ordered separately. Not included with D-Kit of Parts.

† Nonkey system use.

‡ A1 code modified by addition of kit to furnish 2-line pickup with mechanical hold.

**Note:** Replace D3BN mounting cord furnished with set as follows; A1‡, A2, D6AF; A3, A4, D10R mounting cord, ordered separately.

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the faceplate. The exclusion switch is connected to the switch hook assembly by a wire link so that exclusion is canceled when the handset is restored.

(e) To add exclusion to the 2660A1 set:

- (1) Remove faceplate and housing.
- (2) Connect P-24E455 wire link to exclusion switch assembly. The wire link has two 90 degree bends at both ends. Insert short end of wire link into hole provided at rear of switch assembly.

**Note:** ♦If the P-24E455 wire link interferes with the operation of the exclusion switch plunger, straighten bottom bend of wire.♦

(3) Mount switch assembly to switch hook mounting bracket. Be sure wire link enters hole provided in arm of switch hook. Fasten assembly with three furnished screws.

(4) Dress wiring between switch hook and dial so terminal board is located at left rear of set.

(5) Fasten terminal board to base with two furnished screws.

(6) Replace D3BN mounting cord with D6AF mounting cord (ordered separately) and make proper connections.

(7) Reinstall housing and replace faceplate with one furnished in kit of parts.

(8) Check set for proper operation.

### 2-Line Pickup and Signaling

(f) To add 2-line pickup and signaling to the 2660A1 set:

- (1) Remove faceplate and housing.
- (2) Mount turnbutton-pushbutton switch assembly on left side of set in front of switch hook. Use two shouldered screws furnished in kit.
- (3) Dress the wiring across in front of dial.

(4) Locate terminal board at right front of set. Fasten terminal board to base with two furnished screws.

(5) Replace D3BN with D10R mounting cord (ordered separately) and make proper connections.

(6) Reinstall housing and replace faceplate with one furnished in kit of parts.

(7) Check set for proper operation.

### 2-Line Pickup and Exclusion

(g) To add 2-line pickup and exclusion to the 2660A1 set:

(1) Follow (e) (1) through (5).

(2) Follow (f) (2) through (7).

### 2-Line Pickup and Hold (Nonkey System)

(h) To add 2-line pickup and hold (nonkey system) to the 2660A1 set:

(1) Remove faceplate and housing.

(2) Mount hold switch assembly to switch hook mounting bracket. The hold switch mounts similar to the exclusion switch (e). Wire link must be connected between switch hook arm and hold switch assembly. Secure hold switch assembly using three furnished screws.

(3) Dress wiring between switch hook and dial to terminal board at left rear of set.

(4) Mount turnbutton-pushbutton key assembly on left side of set in front of switch hook. Use bracket and hardware furnished in kit.

(5) Dress wiring between switch hook and dial to terminal board on left rear of base and network.

(6) Replace mounting cord with a D6AF mounting cord (ordered separately) and make the proper connections.

(7) Reinstall housing and replace faceplate with one furnished in kit of parts.

- (8) Check set for proper operation.



**The following operating instructions for sets with 2-line pickup and hold feature should be explained to the customer.**

- (i) When a call is received on one line and it is desired to hold the call while transferring to the other line:

- (1) Lift the hold switch button and operate the line key to pickup the second line.
- (2) When the call on the second line is completed, operate the line key back to the first line position and depress the hold switch button.

**Note:** Failure to depress the hold button when a held line is reconnected will automatically place a hold on the unused line and prevent its use for either incoming or outgoing calls. Depressing the hold button before switching the line key back to the first line position will disconnect the first line.

#### 2663-Type Sets

- (j) The 2663A1 telephone set is equipped with an amplifier and headset jacks to permit either handset or headset operation. The HEADSET ON key is located at the top left of the faceplate. No provision for exclusion or 2-line pickup is made in these sets.



**A 52- or 53-type headset must be ordered separately. The type headset should be determined by customer requirements.**

#### Options

- (k) A KS-8109L2 (ac or dc) or KS-20419 (10 volt ac only) buzzer can be mounted in these sets for use as an auxiliary signal. Mount either type buzzer using the spacer and screw provided on the network. The KS-20419 (miniature) buzzer may be mounted using existing dial mounting screw or spare screw.

- (l) These sets are arranged to accommodate a P-90D012 guard assembly to provide for end-to-end signaling when specified by local

instructions. The guard assembly consists of a 460G diode and current limiting resistors mounted on a printed circuit board.♦

- (m) To provide for end-to-end signaling:

- (1) Remove faceplate and housing.
- (2) Mount the P-90D012 guard assembly on base of set at the rear of network, using mounting screws provided.
- (3) Connect guard as shown in appropriate connection section.
- (4) Reinstall housing and faceplate.
- (5) Check set for proper operation.

#### Coding Cards

- (n) Code cards as follows:

- (1) Write name and telephone number in spaces provided as shown in Fig. 3 and 4.
- (2) Convert exchange letters to numbers. For example: Use 2 for A, B, or C; 7 for P, R, or S; etc.

**Note:** There are two groups of numbers 1 through 0 on the card (Fig. 3).

- (3) In Fig. 3 the first digit of the telephone number is 5. In column 1, locate digit 5 in the first group of numbers and punch out the perforation with a pencil or ballpoint pen. In the same column, locate digit 5 in the second group of numbers and again punch out the perforation.

**Note:** The STOP in column 1 is already punched.

- (4) Repeat this procedure for each digit in the telephone number. The digit 0 must be punched out in each group of numbers just as any other digit.
- (5) Do not punch STOP following the last digit. (A stop is only used for certain operations requiring an interruption in the automatic dialing process.)

(o) In certain PBX systems, it may be necessary to dial an access code to obtain central office dial tone. To prepare a card, proceed as follows (Fig. 4):

- (1) Punch out the access code in column 1.
- (2) If a second dial tone is required, punch out the STOP in column 2.
- (3) Beginning in column 2, punch out in the regular manner the directing or area code, if any, and telephone number.

(q) Check card before using to be sure it is properly punched for the number desired. There should be two punched holes in each column plus a STOP, if required. Holes should be punched out completely and neatly.

(r) To install station number card, remove faceplate and slide number card behind number card retainer. Replace faceplate.

#### 4. MAINTENANCE

(a) Refer to appropriate sections for maintenance of components, such as handset, ringer, dials, etc.

(b) Maintenance of the card dialer is limited to the following:

(1) **Sticking cards:** make visual inspection of dial for loose parts or wires which might interfere with the dial mechanism.

(2) **Foreign material:** check for material such as paper clips, hairpins, etc. lodged in card slot.

(3) **Faulty cards:** check cards for proper size by comparing with a working card. Replace bent or mutilated cards.

(4) **Inoperative dial:** check polarity of the line. The dial requires negative battery on the (O-BK) lead of the dial and ground or positive potential on the (G) lead.

(5) **Wrong numbers:** verify coding of card. Check at least twice on line with a test code card. Check operation of TOUCH-TONE dial in the normal manner.

(c) If tests indicate trouble in the 36-type dial, replace the dial.

**Note:** Do not make any adjustments on the 36-type dial in the field.

#### Faceplate Removal

(d) To remove faceplate:

(1) Place point of KS-16750 type releaser or equivalent at edge of faceplate catch.

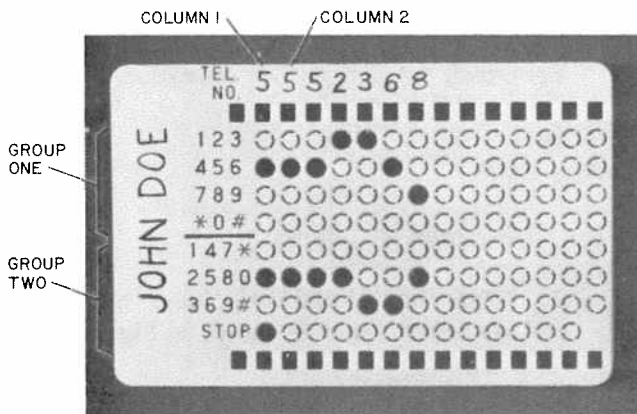


Fig. 3—Card Coded for 7-Digit Telephone Number

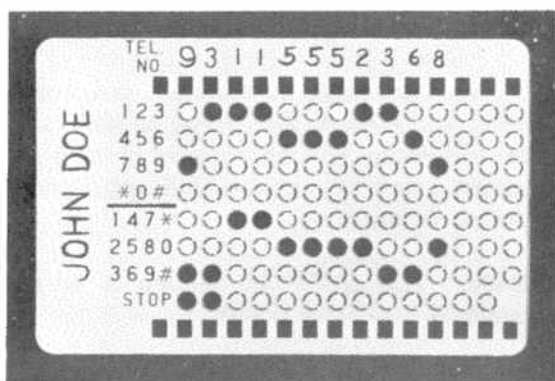


Fig. 4—Card Coded for Access Code (9), Stop, Area Code (311), and 7-Digit Telephone Number

(p) For DDD calling, punch out the access code, if required, area code and the complete telephone number.

- (2) Push catch toward rear of set until releaser enters notched portion of faceplate.
- (3) Turn point of releaser under faceplate and raise.

**Note:** When replacing faceplate, use releaser to hold catch until faceplate is in position.

#### Housing Removal

- (e) To remove housing:
  - (1) Loosen four captive screws through access holes in base of set.
  - (2) Lift housing straight off.

#### Dial Replacement

- (f) To remove 36-type dial:
  - (1) Remove faceplate and housing.
  - (2) Disconnect spade-tipped dial leads from network and TB1.
  - (3) Turn set on side, remove dial mounting screws and lift dial away from base.
- (g) To replace 36-type dial:
  - (1) Dress spade-tipped leads toward components on which they terminate.

- (2) Move dial into position, making certain that the locating tabs on dial mounting enter slots in base.
- (3) Secure dial to base with mounting screws.



***Take care not to pinch wires between dial and base or other components. Also be sure that wiring is not resting on gong nor interfering with mechanical operation of the ringer.***

- (4) Terminate dial leads.
- (5) Reinstall housing and faceplate.
- (6) Check manual dialing operation.
- (7) Use properly coded card to check card dialer operation.

#### Ringer Replacement

- (h) To remove M1A ringer:
  - (1) Remove faceplate and housing
  - (2) Disconnect ringer leads from TB1.
  - (3) Remove dial mounting screws and move dial to gain access to ringer (dial leads need not be disconnected).
  - (4) Remove screws holding ringer to base and remove ringer.
- (i) To replace ringer, reverse procedure of (h).

