

Filing Instructions:
 THIS SECTION REPLACES SECTION 501-1641-115 ISS. 1
 WHICH SHOULD BE REMOVED FROM THE BINDERS AND
 DESTROYED.

STATION DIALS

NE-35Q TYPE

1. GENERAL

1.01 This section contains identification, maintenance, and connection information for NE-35Q type DIGITONE* dials that are used in telephone sets and telephone consoles.

1.02 This section is reissued to add Part 5 Connection Information NE-35Q Dials, and to revise Table A.

IDENTIFICATION

01 The NE-35Q type DIGITONE dial is a 12-button multifrequency dialing device. It is equipped with pushbuttons having both numbers and letters, a transistorized oscillator and a common switch (Fig. 1).

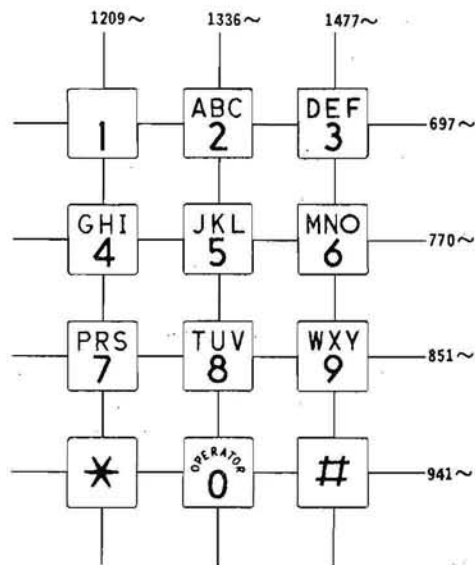


Fig. 2 - Dial Frequencies

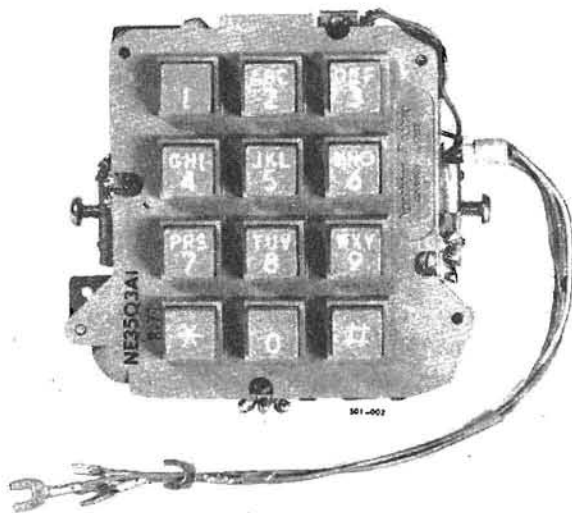


Fig. 1 - NE-35Q3A1 Dial, Front View

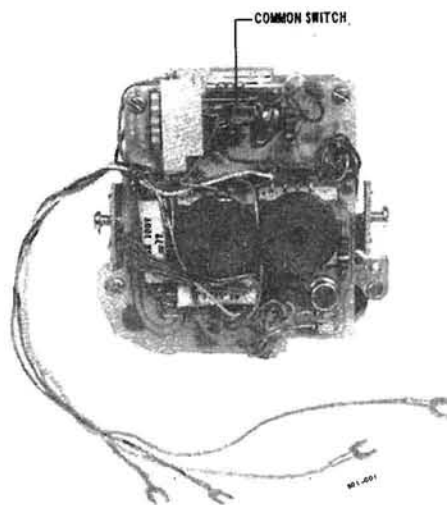


Fig. 3 - NE-35Q3A1 Dial, Rear View

2.02 Any pushbutton when depressed will close one low band and one high band frequency contact. These contacts close a path for 2 of the 7 output frequencies of the oscillator (Fig. 2). Continued travel of the button will operate the common switch (Fig. 3). Each button operates a different pair of frequency contacts. For example,

when button number 5 is depressed, it selects frequencies of 770 and 1336 hertz simultaneously for transmission to the Central Office (CO). All buttons operate the common switch. The signal

*Trademark of Northern Electric

3352+
 New Brunswick Telephone Co.
 C.S. Supvr.-I&R
 Water St.
 ST. STEPHEN, N.B.

SECTION 501-1641-115

will remain on the line as long as the button is depressed.

2.03 The common switch (Fig. 3), when operated, reduces the sidetone to the receiver, opens the transmitter path, applies bias voltage to the transistorized oscillator, and breaks the dc energy path to the tank coils.

2.04 The transistorized oscillator generates the customer dialing signals and is powered by current from the telephone line.

2.05 The CO must be equipped with converters that will accept the oscillator signals and translate them into a 2-out-of-5 digit code for crossbar offices or into dial pulses for step-by-step offices. The converter in the CO does not interfere with rotary dial pulse signals. Both DIGITONE and rotary dial type telephone sets may be served by the same CO equipment.

2.06 Dials of current manufacture contain a polarity guard which permits the dial to function normally when there is battery reversal on the line. These dials are identified with the digit 1 at the end of the code, e.g., NE-35Q3A1. The new codes directly replace the previous corresponding codes which did not end in the digit 1.

Note: The NE-35Q3E1 and NE-35Q3K1 dials are not available with a polarity guard due to their end use requirement. (See Table A.)

3. MAINTENANCE

3.01 Maintenance of NE-35Q type dials is limited to replacing the dial if it is found to be defective.

Note: Do not attempt adjustments of the dial in the field.

3.02 Use the following methods to determine if the dial is defective:

(a) Check for presence of a dialtone. If no dialtone is heard, check the connecting block using either a QSE4 or NE-1011Q type

dial hand test set. If a dialtone is heard at the connecting block, check all telephone set components using the appropriate section and replace if defective. If the network is defective, replace the telephone set.

(b) Depress all buttons individually to check for tone feedback. When any button is depressed, two tones should be heard. These tones are blended together but can be identified as two tones. When any two adjacent buttons are depressed simultaneously, only one tone should be heard. Replace the dial if feedback tones are not as described.

(c) Break the dialtone by depressing any button. If dialtone remains restore the line switch to normal and connect a QSE4 or NE-1011Q type dial hand test set across the incoming line terminations of the network. Dial a digit to break the dialtone. If the dialtone can be broken at the network, replace the dial.

Note: Before replacing a dial, check for line polarity if the dial code does not end with the digit 1. NE-35 type dials whose code does not end with the digit 1 will function only when the orange-black (O-BK) dial lead is negative (-) and the red-green (R-G) dial lead is positive (+). This holds true for all classes of service to which the telephone set is connected. To maintain proper dial polarity, refer to the connecting tables in the appropriate section on connections for all classes of service, including tip party identification.

3.03 If the telephone set meets the requirements in 3.02 and the trouble persists, check the CO or Private Branch Exchange (PBX) equipment.

4. CONNECTION FIGURES INDEX

4.01 Schematic diagrams for the NE-35Q type dials are listed on page 4. Fig. 4 to 11 inclusive show schematics of dial codes which are now rated Manufacture Discontinued (MD) while Fig. 12 to 19 inclusive show schematic diagrams for dials of current manufacture.

TABLE A
TYPES OF DIALS

DIAL CODE NUMBER	PUSHBUTTON CHARACTERS*	USES	REMARKS	FIGURE NUMBER
†NE-35Q3A *NE-35Q3A1	Letters and Numbers	General purpose; in single line telephone sets	Has standard common switch and four (4) spade-tipped leads	1,3,4, & 12
†NE-35Q3B *NE-35Q3B1		For use in telephone sets for NE-3 type speakerphone systems, and in NE-1035B3QA station dial	Similar to the NE-35Q3A dial but has an expanded common switch and additional leads	5 13
†NE-35Q3C *NE-35Q3C1		For use in business interphone sets	Similar to the NE-35Q3B dial but has modified circuit	6 14
†NE-35Q3D *NE-35Q3D1		For use in telephone consoles associated with various PBX	Has expanded common switch providing additional functions necessary for use within various PBX	7 15
†NE-35Q3E NE-35Q3E1		For use in coin telephone sets	Similar to the NE-35Q3A dial but has modified circuit for use with coin telephones	8 16
†NE-35Q3F *NE-35Q3F1		For use in a QDD2A dial assembly only	Similar to the NE-35Q3A dial except provides additional switch capacity. Is a dust proof assembly for FM communication	9 17
†NE-35Q3G		For use in NE-2558 type telephone sets	Similar to the NE-35Q3A dial except for physically smaller size	1,4
†NE-35Q3J *NE-35Q3J1		For use in NE-2565QHA telephone sets	Similar to the NE-35Q3B dial except has an additional pair of 'make' contacts	10 18
†NE-35Q3K NE-35Q3K1		For use in coin telephone sets	Similar to the NE-35Q3E dial except expanded common switch and additional leads	11 19
†NE-35Q3L *NE-35Q3L1		For use in QSK2200 telephone set	Similar to the NE-35Q3B dial except body color oxford gray	5 13
<p><i>Note 1:</i> Dials are available in gray only.</p> <p><i>Note 2:</i> All dials, except the NE-35Q3L1, are available with or without the word 'operator' spelled out on the button designated 'O' and the customer must specify which is required when ordering. The NE-35Q3L1 is not available with the word operator.</p> <p>† These dials are Manufacture Discontinued (MD) * These dials are equipped with a polarity guard</p>				

SECTION 501-1641-115

- Fig. 4 – NE-35Q3A and NE-35Q3G Dials Schematic (MD)
- Fig. 5 – NE-35Q3B and NE-35Q3L Dials Schematic (MD)
- Fig. 6 – NE-35Q3C Dial Schematic (MD)
- Fig. 7 – NE-35Q3D Dial Schematic (MD)
- Fig. 8 – NE-35Q3E Dial Schematic (MD)
- Fig. 9 – NE-35Q3F Dial Schematic (MD)
- Fig. 10 – NE-35Q3J Dial Schematic (MD)
- Fig. 11 – NE-35Q3K Dial Schematic (MD)
- Fig. 12 – NE-35Q3A1 Dial Schematic
- Fig. 13 – NE-35Q3B1 and NE-35Q3L1 Dials Schematic
- Fig. 14 – NE-35Q3C1 Dial Schematic
- Fig. 15 – NE-35Q3D1 Dial Schematic
- Fig. 16 – NE-35Q3E1 Dial Schematic
- Fig. 17 – NE-35Q3F1 Dial Schematic
- Fig. 18 – NE-35Q3J1 Dial Schematic
- Fig. 19 – NE-35Q3K1 Dial Schematic

5. CONNECTION INFORMATION NE-35Q TYPE DIALS

5.01 To replace existing NE-25 and NE-35 type dials with the new NE-35Q type dial proceed as follows:

Note: NE-35Q type dials have no black or green leads.

(a) *NE-1500DQ1A, -1554BQ1A, -2500DQ1A, and -2554BQ1A Telephone Sets.* Connect the O-BK, R, W, and R-G leads to the same locations as the existing dial. Move the S-W line switch lead from F to RR on the network.

(b) *NE-1511, and -2511 Telephone Sets.* Connect the O-BK, V-W, V-G, R, R-G and W leads to the same locations as the existing dial. Move the S-G, NE-631A key lead from L1 to RR on the network.

(c) *NE-1558DR, and -2558DR Telephone Sets.* Connect the R-G, W, R, and O-BK leads to the same locations as the existing dial. Move the S-G pick-up key lead from F to RR on the network.

(d) *NE-1565, and -2565 Type Telephone Sets* (other than those listed below). Connect the O-BK, V-W, V-G, R, R-G and W leads to the same locations as the existing dial. The G lead of the NE-636A key should be moved from L2 to RR on the network.

(e) *NE-1565Q1B, and -2565Q1B Telephone Sets.* Connect the BL-BK V-G, V-W, R, W, R-G, O-BK, and S leads to the same locations as the existing dial. The S-W line switch lead should be moved from F to RR on the network.

(f) *NE-2565LQF, and -LQE Telephone Sets.* Connect to the V-G, O-BK, R-G, R, W, and V-W leads to the same locations as the existing dial. Move the G pick-up key lead from F to RR on the network.

(g) *NE-1630, -1631, -2630, and -2631 Type Telephone Sets.* Connect the W, R-G, R, V-G, V-W and O-BK leads to the same locations as the existing dial. Move the V-BL mounting cord lead from terminal 4 on the terminal strip to RR on the network.

(h) *NE-1634, -1635, -2634, and -2635 Type Telephone Sets.* Connect the W, R-G, R, V-G, V-W and O-BK leads to the same location as the existing dial. Move the W-BL mounting cord lead from terminal 4 on the terminal strip to RR on the network.

(i) *NE-1,-2,-3,-4, QCN3 and QCN4 Type Consoles.* Connect the W, R-G, R, BL-BK, O, G-W, V-BL, and O-BK leads to the same location as the existing dial. Connect a jumper between terminals 1 and 7 of the dial assembly terminal strip.

(j) *NE-1236, and -2236 Q Type Coin Telephones.* Connect the BL, W, R, R-G, O-BK and O-R leads to the same location as the existing dial. Connect a jumper between C on the network and 6 on the terminal strip.

(k) *NE-2565QHA Telephone Set*. Connect dial leads as follows:

R-G R of network
 R Y of network
 V-G G of network

W RR of NE-636QM Key
 V-W SG of NE-636QM Key
 BK 6 of NE-636QM Key
 G ONI of NE-636QM key
 O-BK C of network

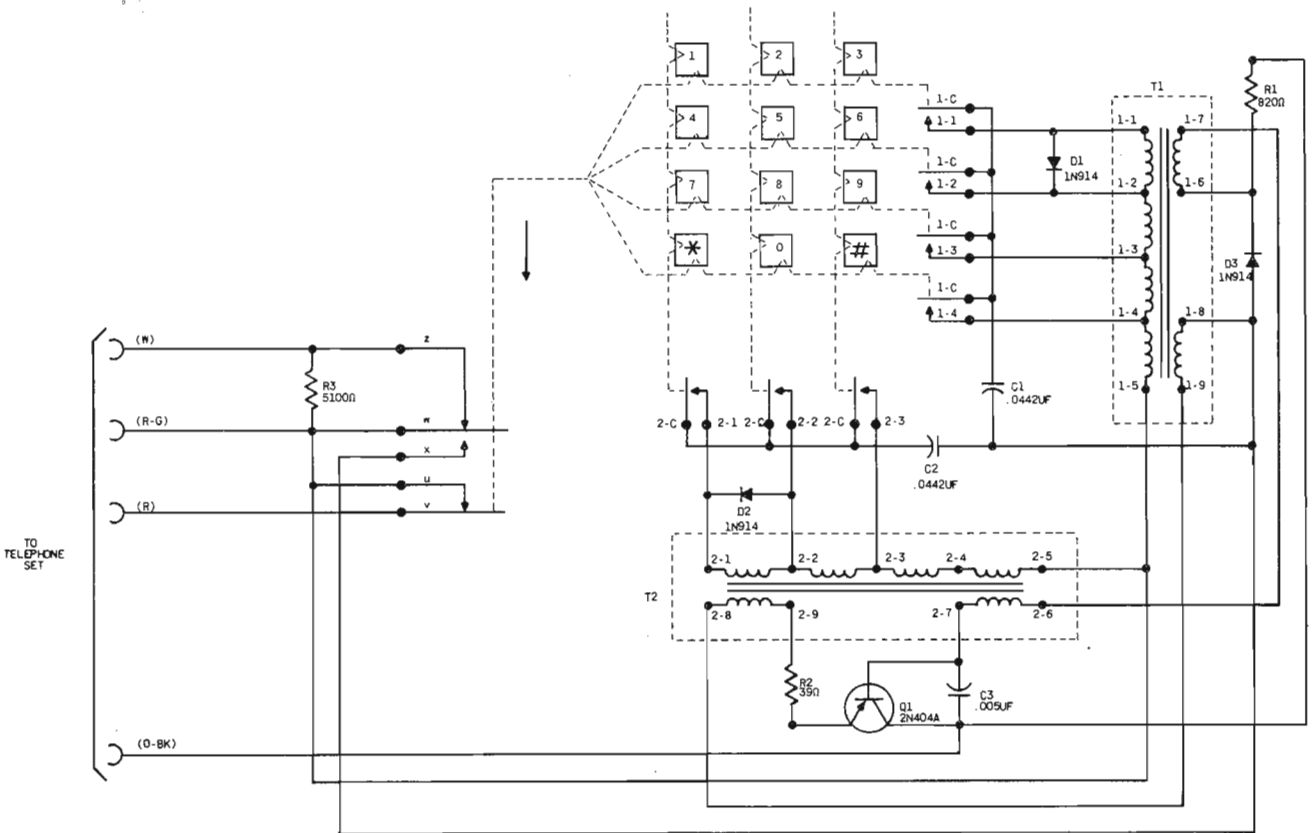


Fig. 4 – NE-35Q3A and NE-35Q3G Dials Schematic (MD)

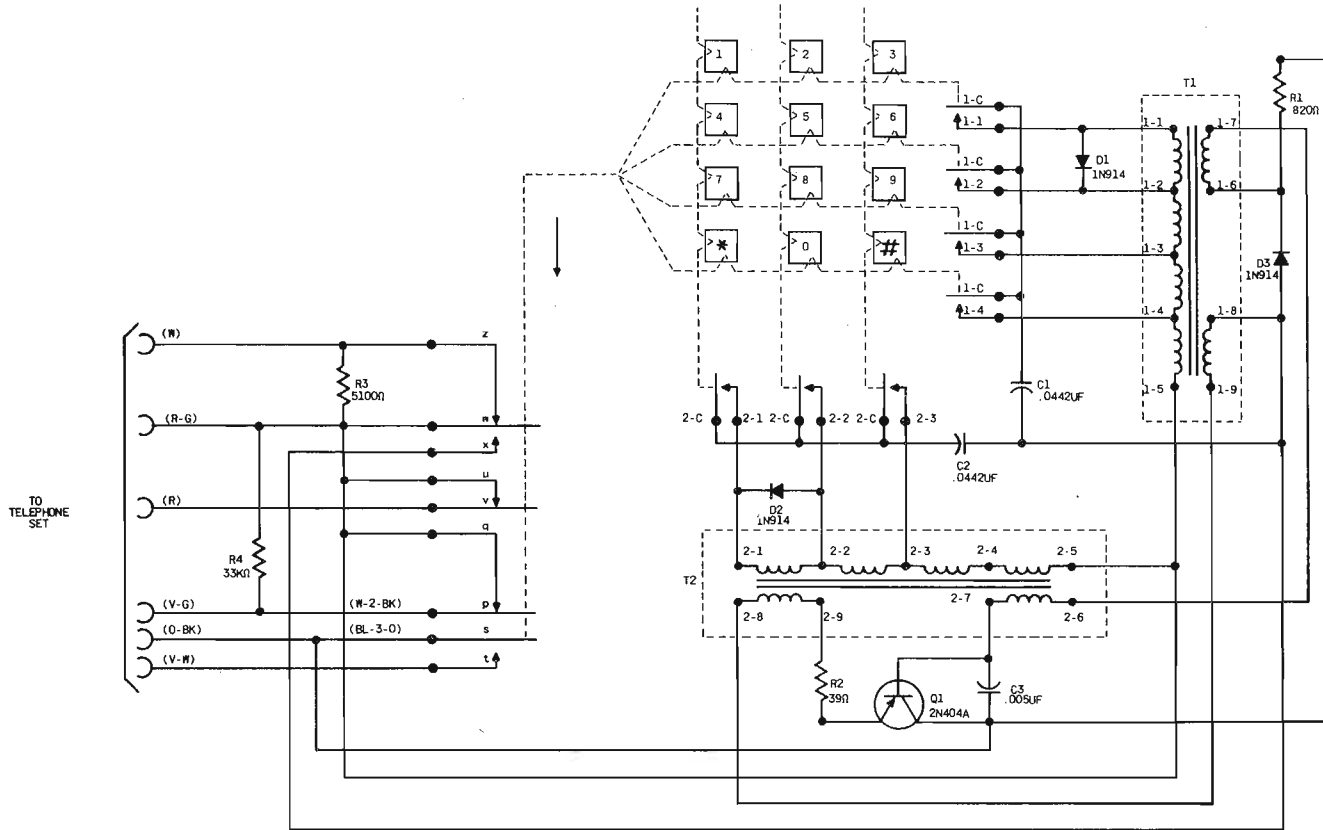


Fig. 5 — NE-35Q3B and NE-35Q3L Dials Schematic (MD)

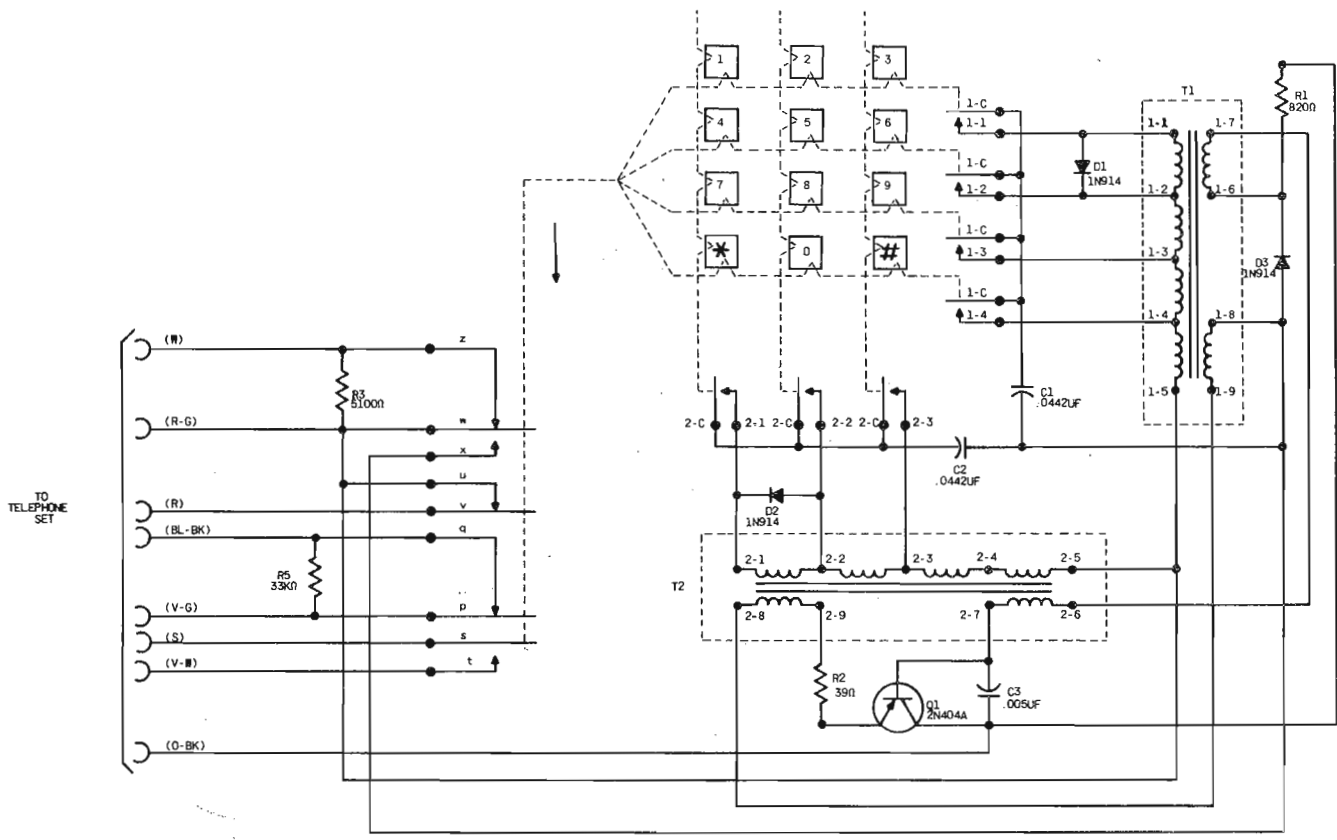


Fig. 6 — NE-35Q3C Dial Schematic (MD)

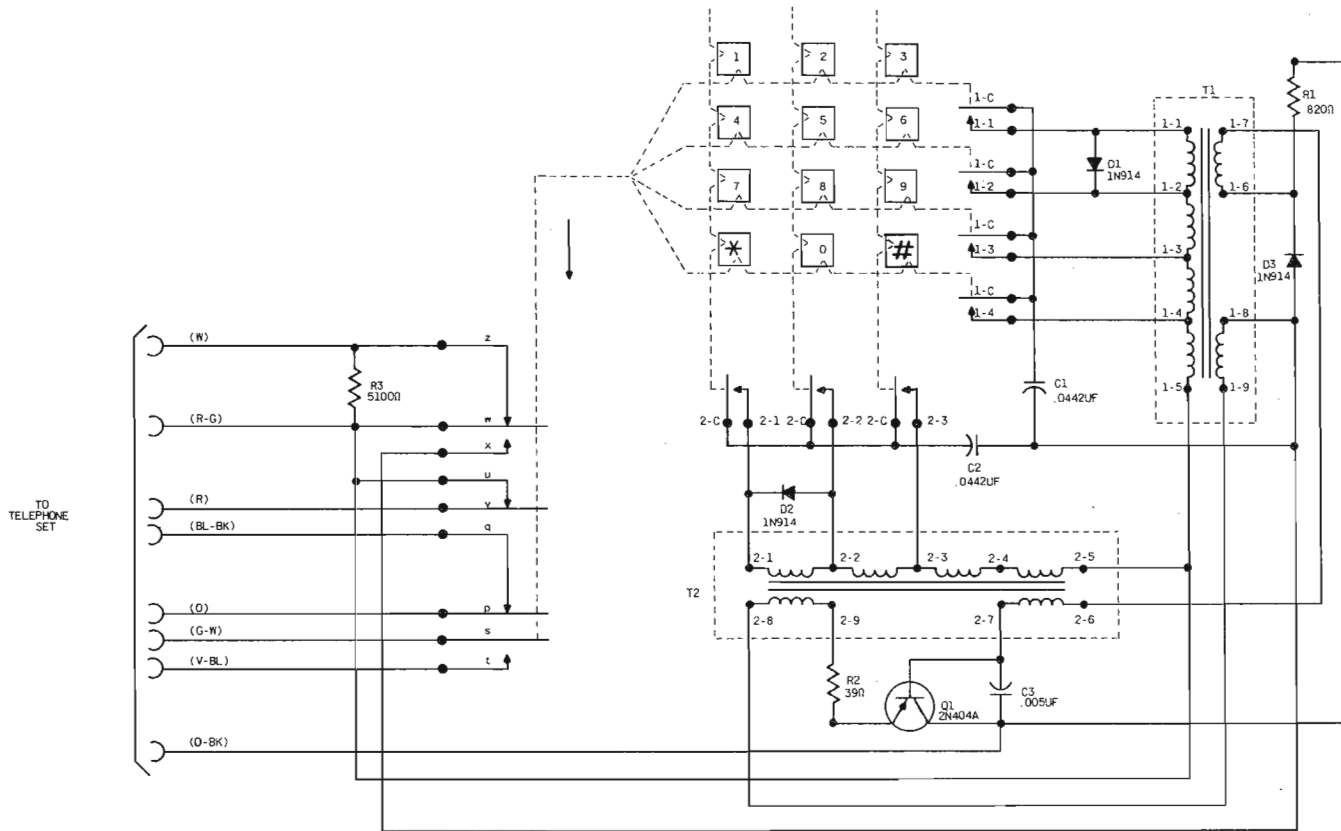


Fig. 7 - NE-35Q3D Dial Schematic (MD)

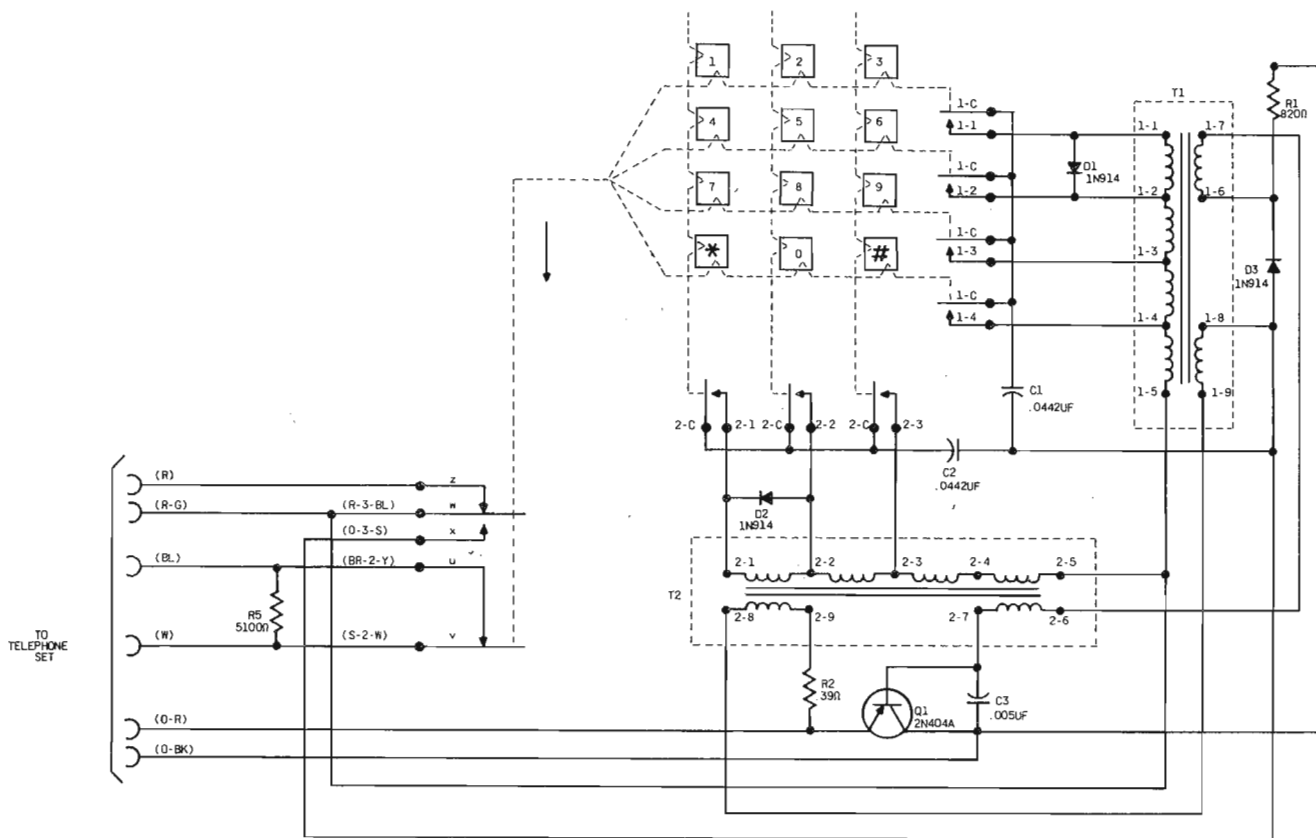


Fig. 8 — NE-35Q3E Dial Schematic (MD)

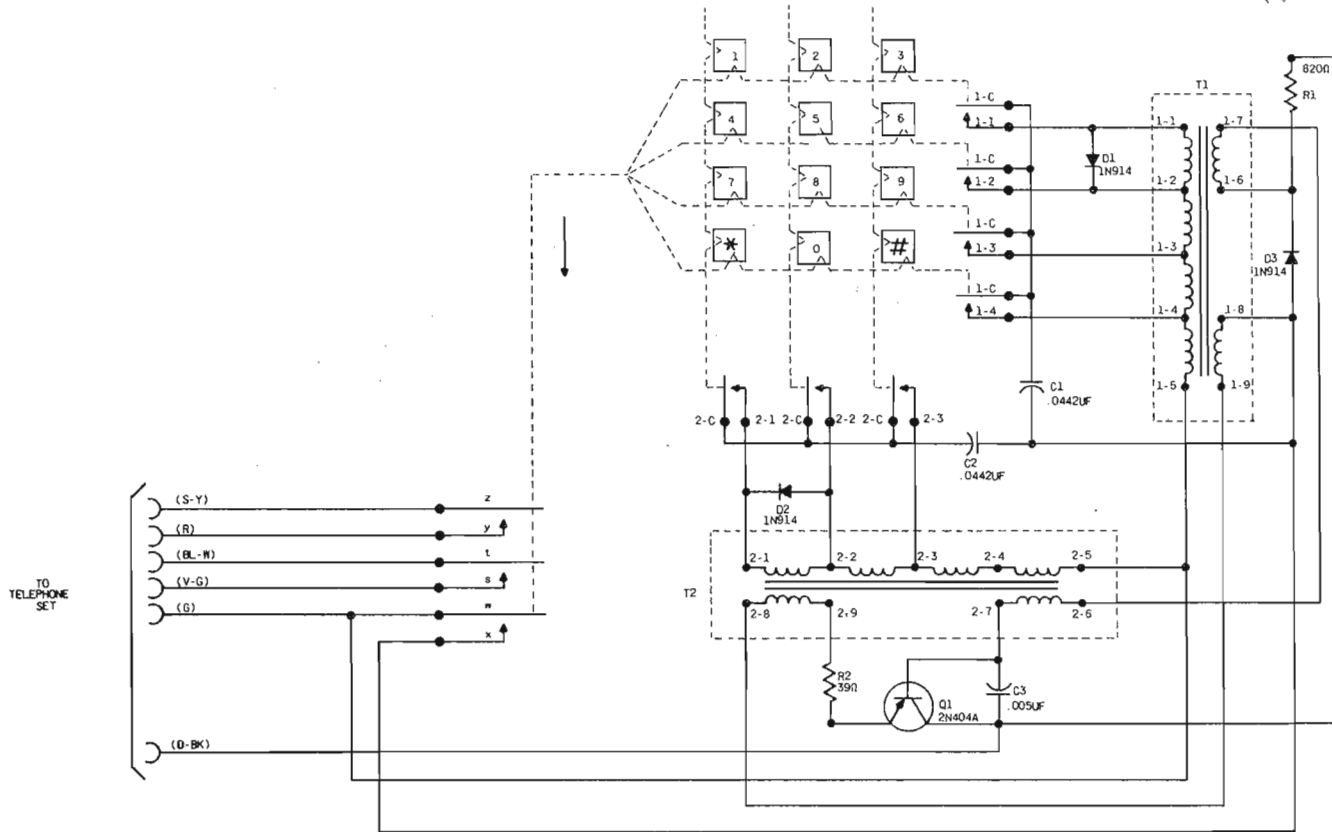


Fig. 9 - NE-35Q3F Dial Schematic (MD)

TO TELEPHONE SET

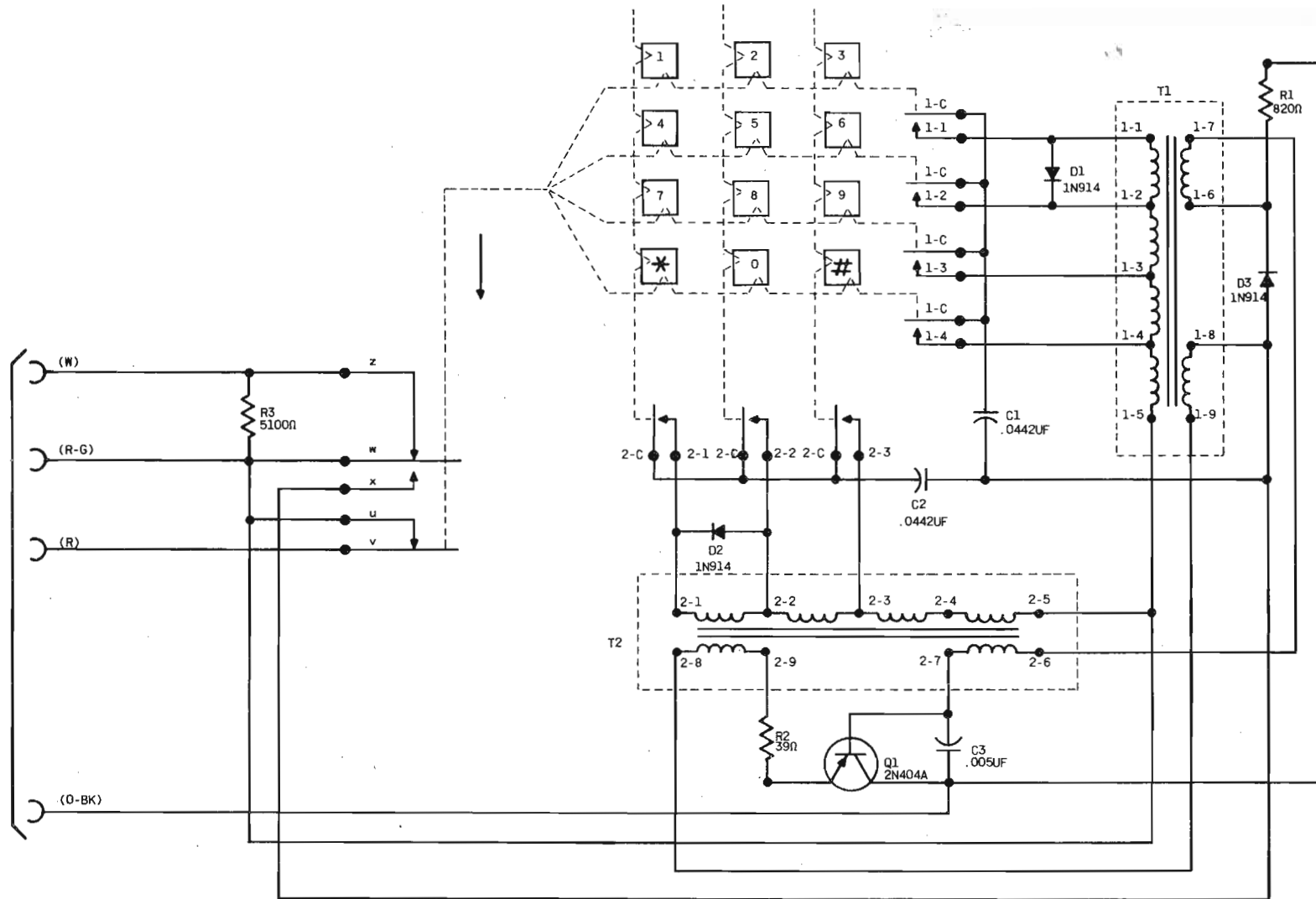


Fig. 10 - NE-35Q3J Dial Schematic (MD)

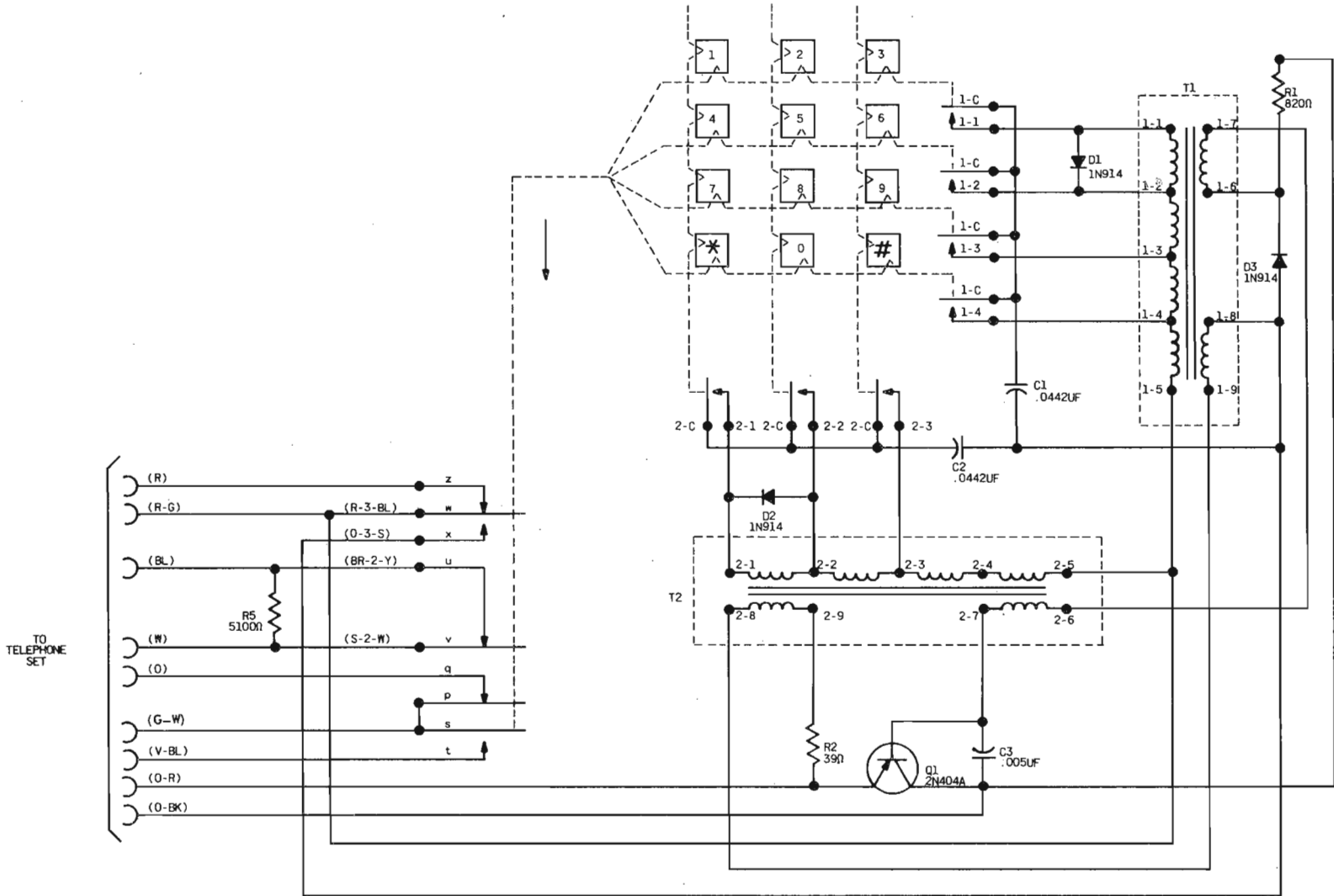


Fig. 11 - NE-35Q3K Dial Schematic (MD)

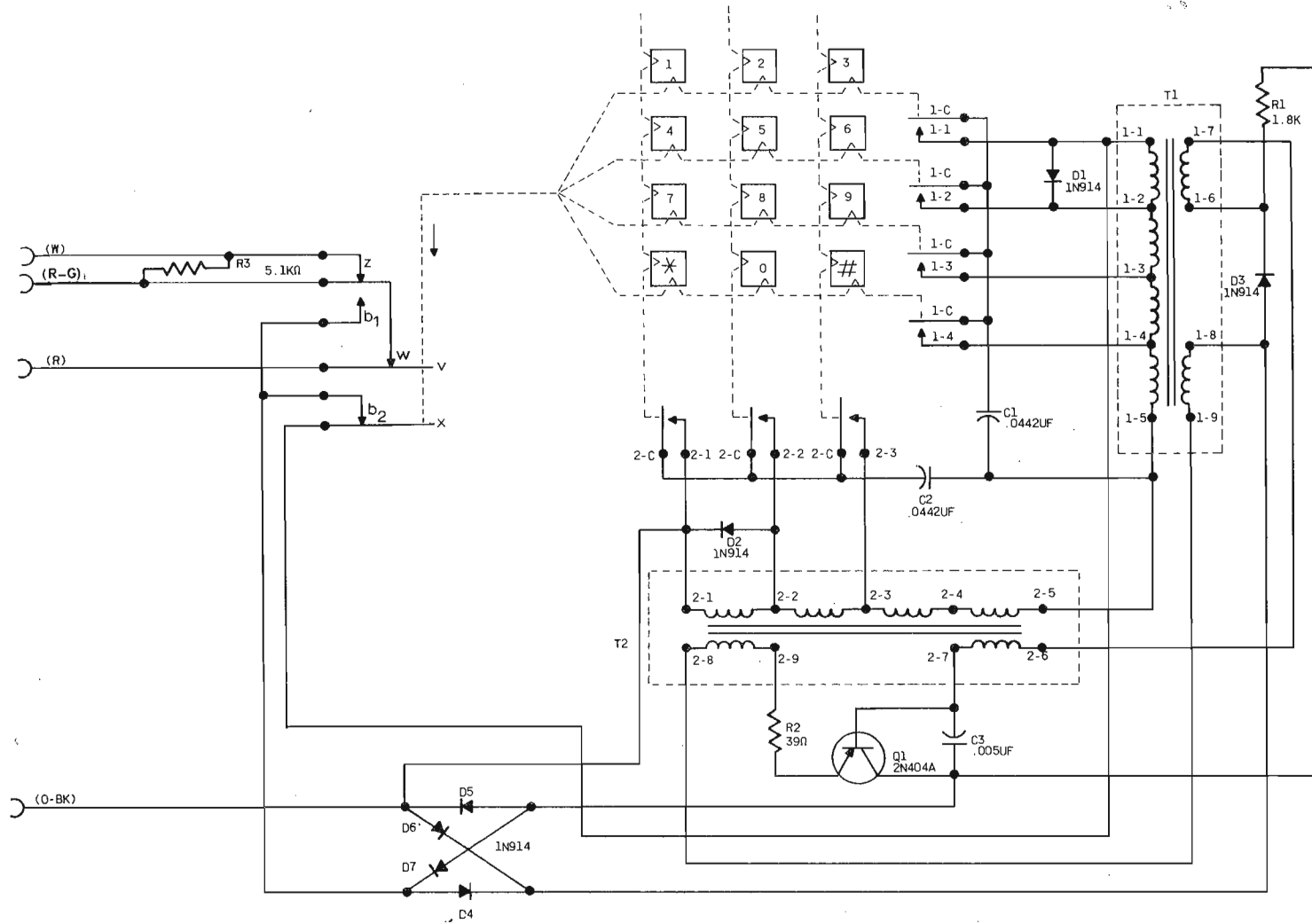


Fig. 12 — NE-35Q3A1 Dial Schematic

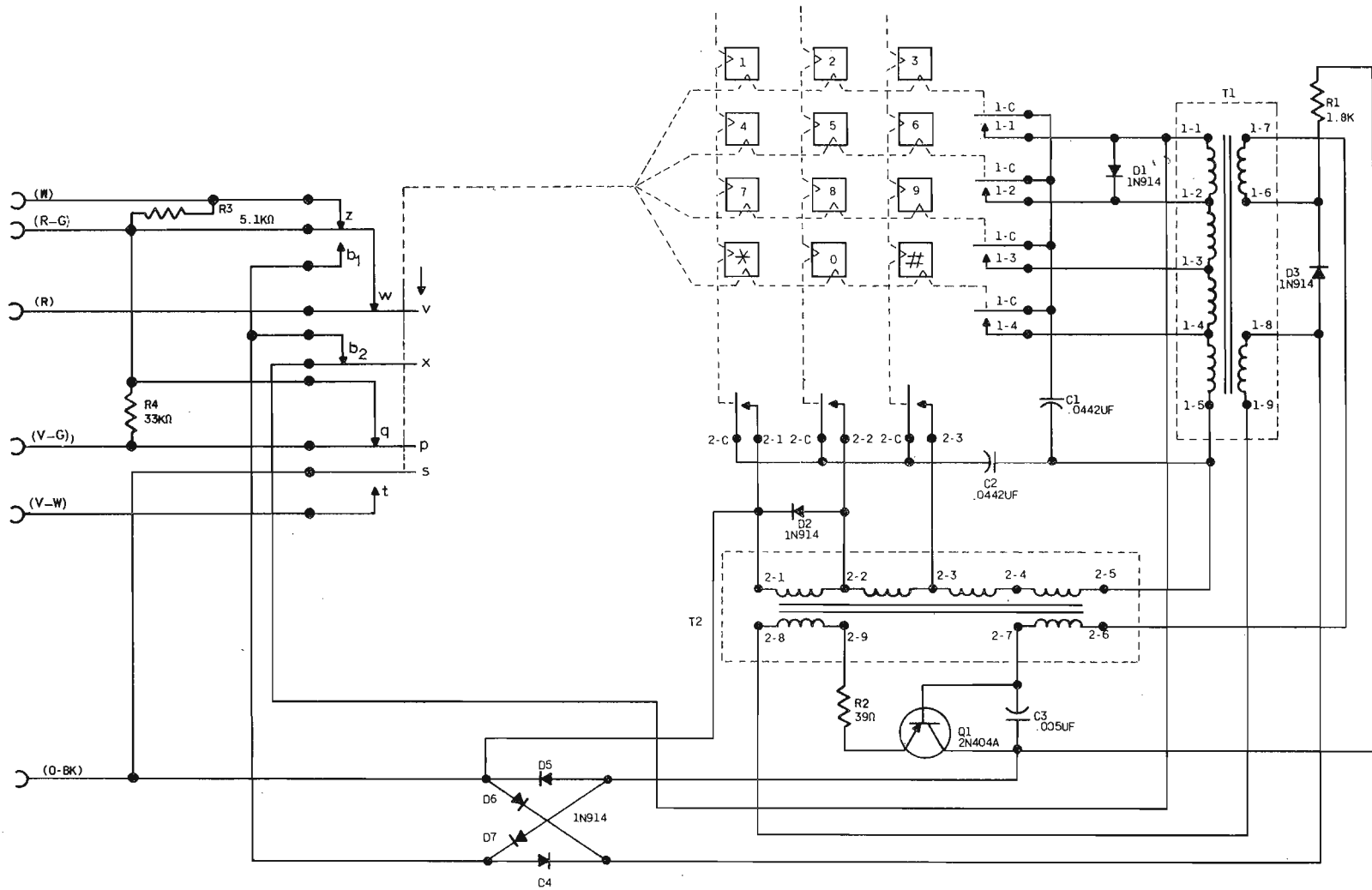


Fig. 13 - NE-35Q3B1 and NE-35Q3L1 Dials Schematic

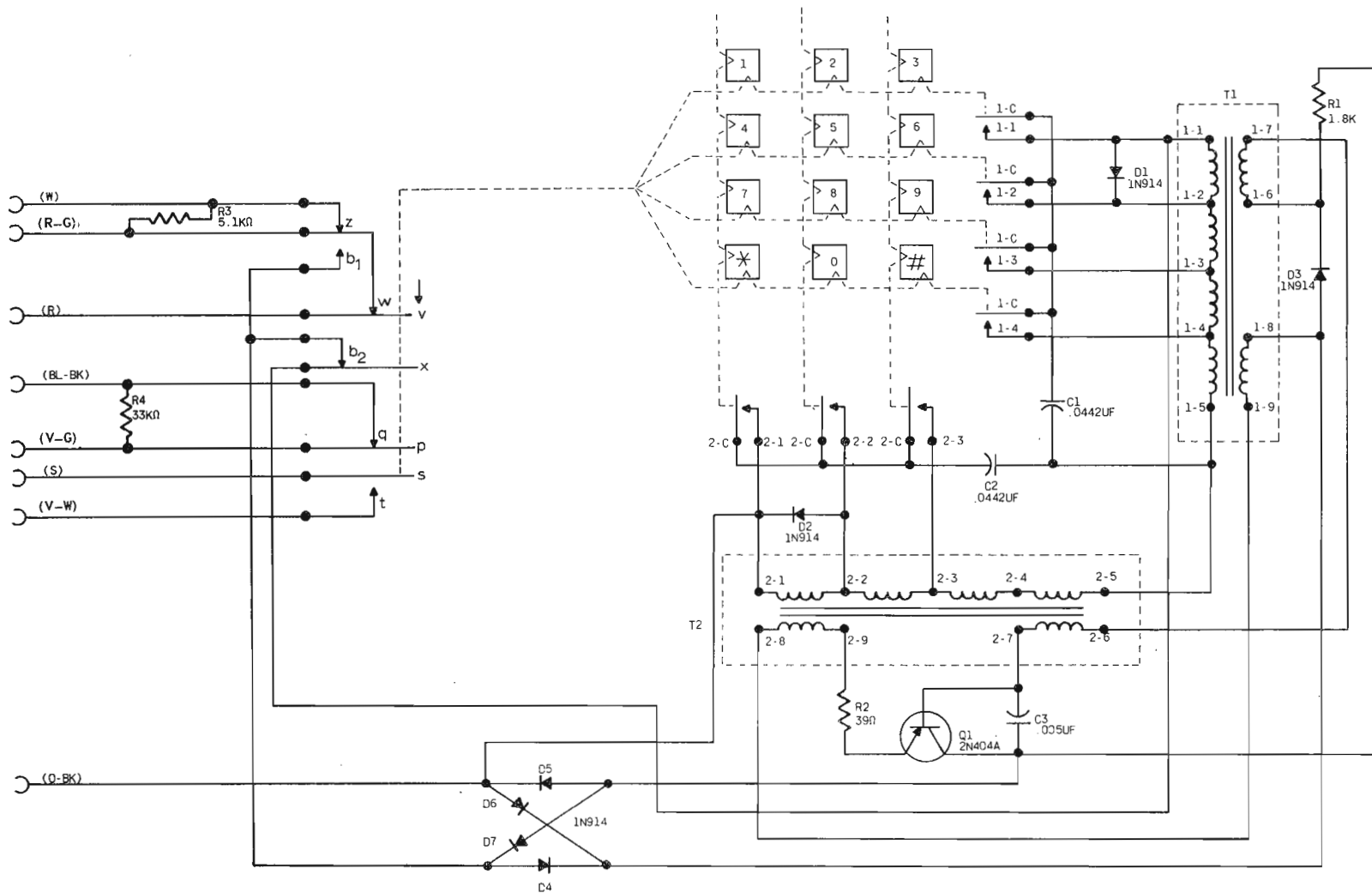


Fig. 14 - NE-35Q3C1 Dial Schematic

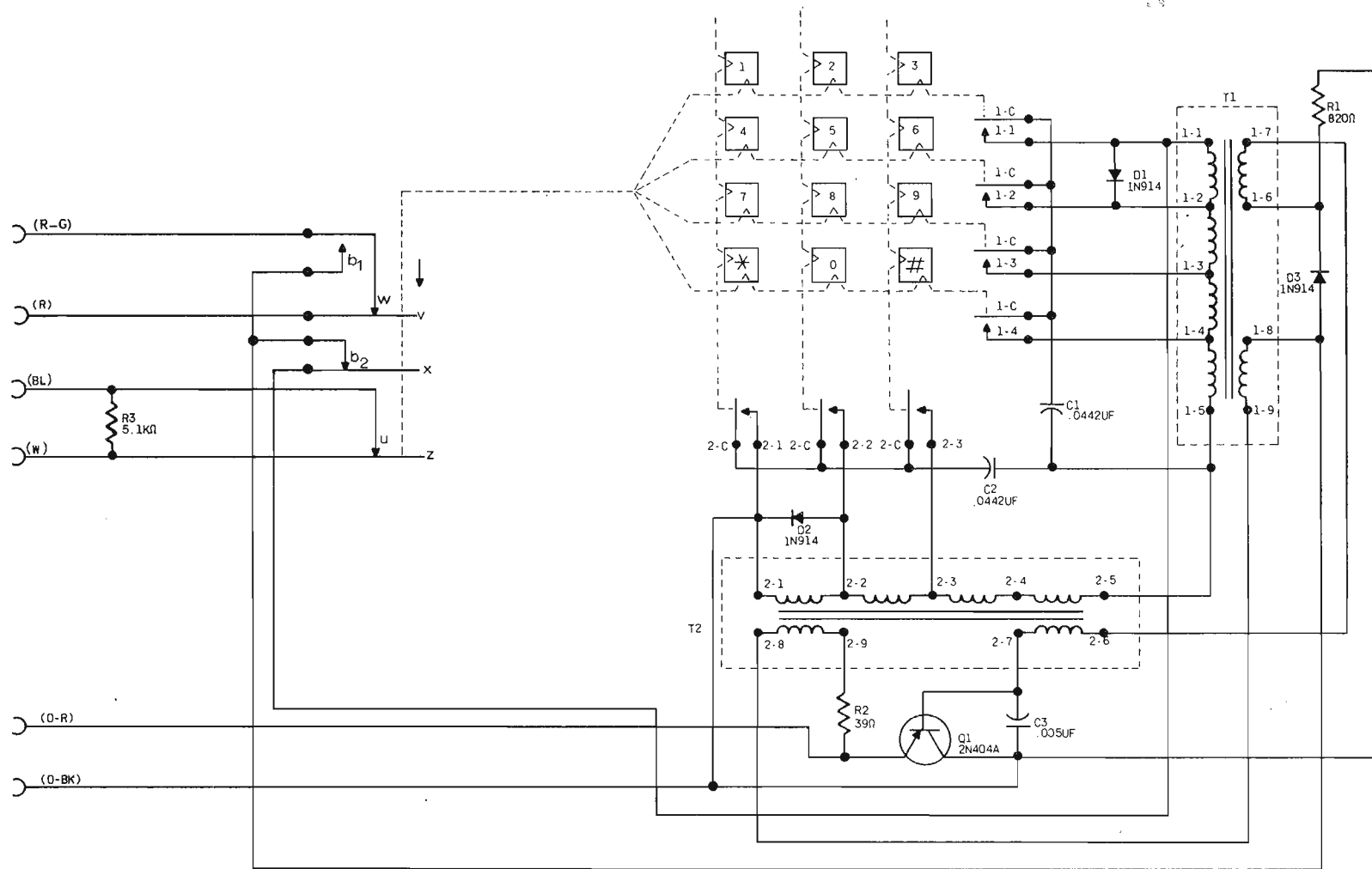


Fig. 16 - NE-35Q3E1 Dial Schematic

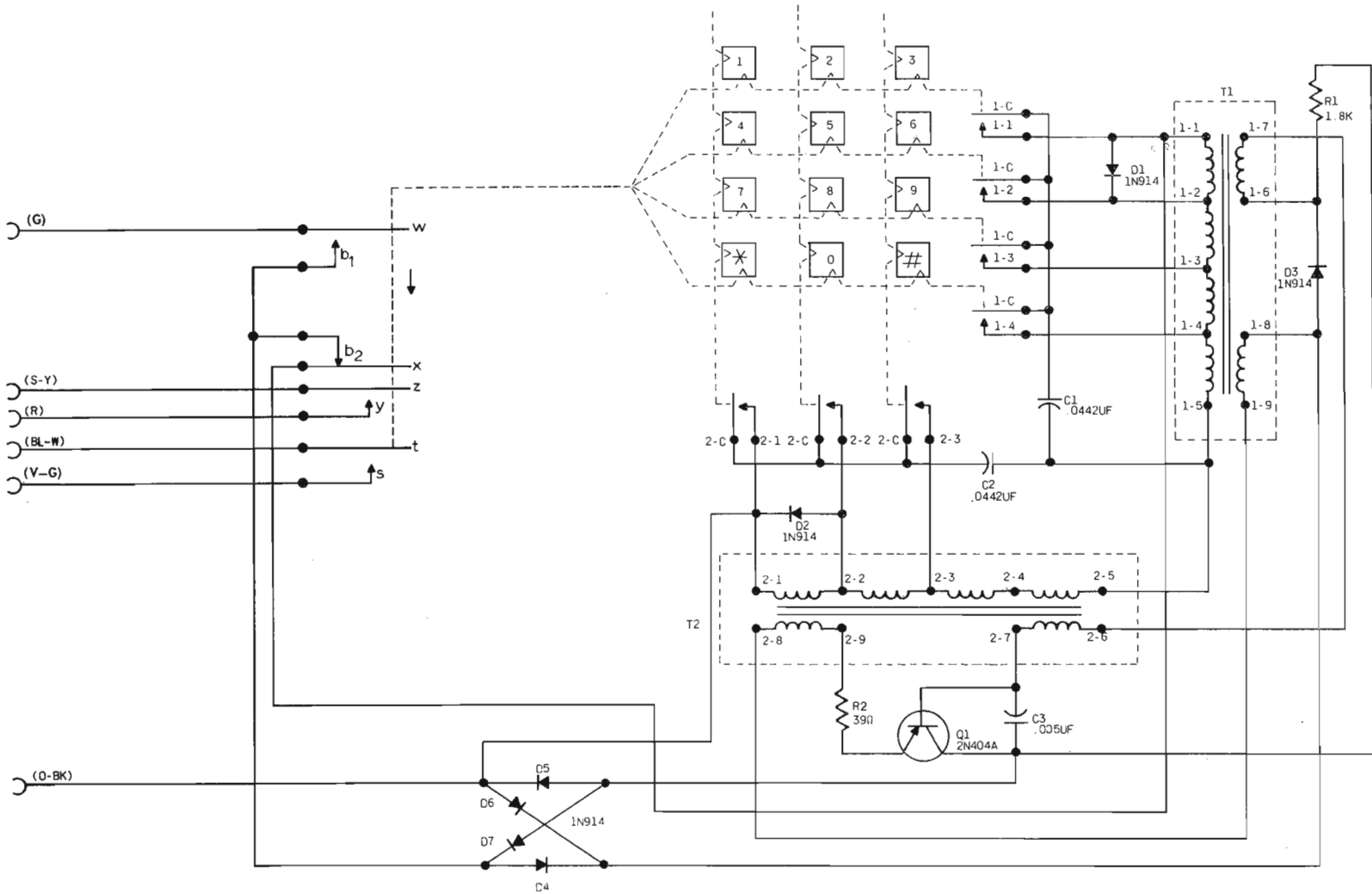


Fig. 17 - NE-35Q3F1 Dial Schematic

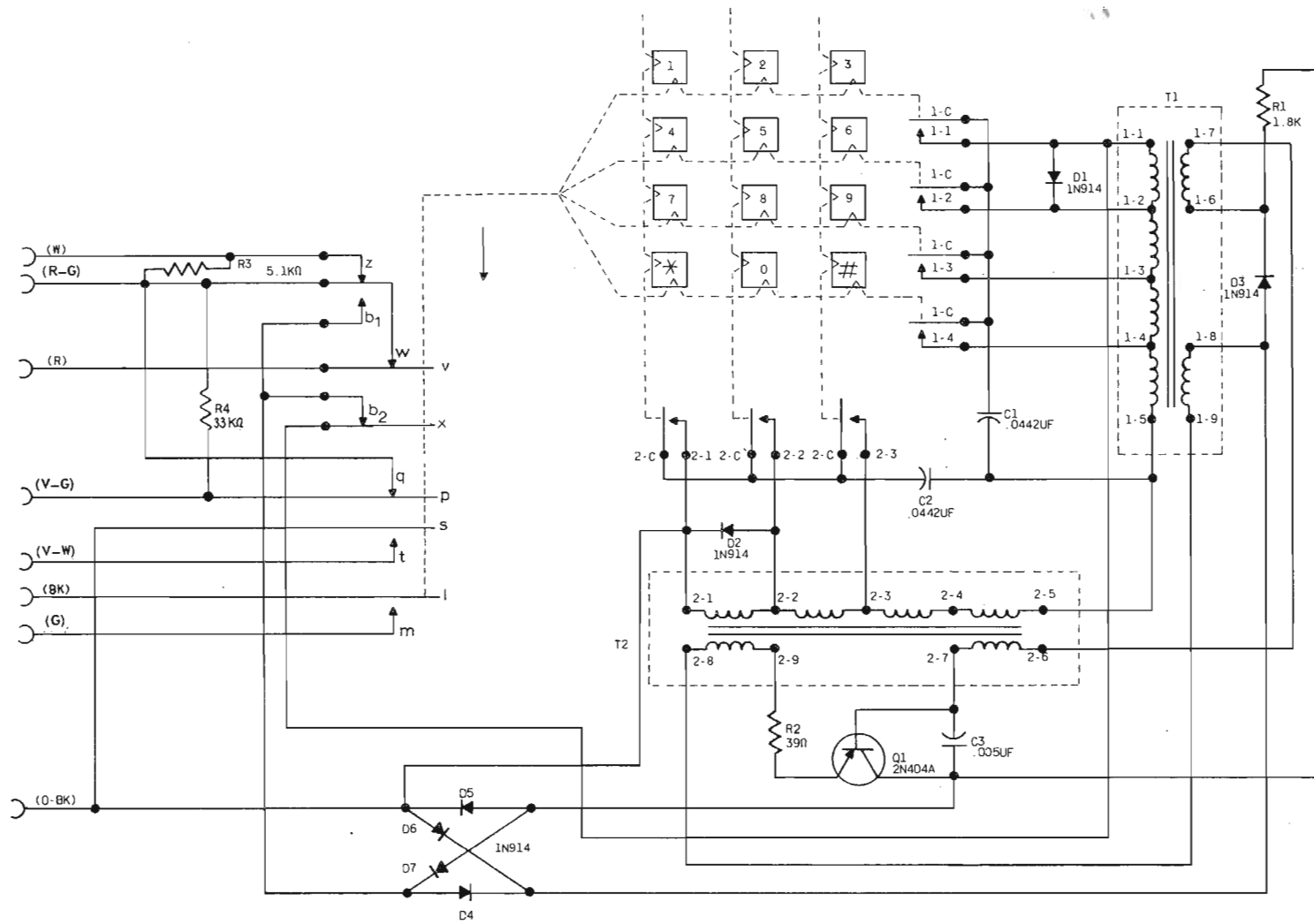


Fig. 18 - NE-35Q3J1 Dial Schematic

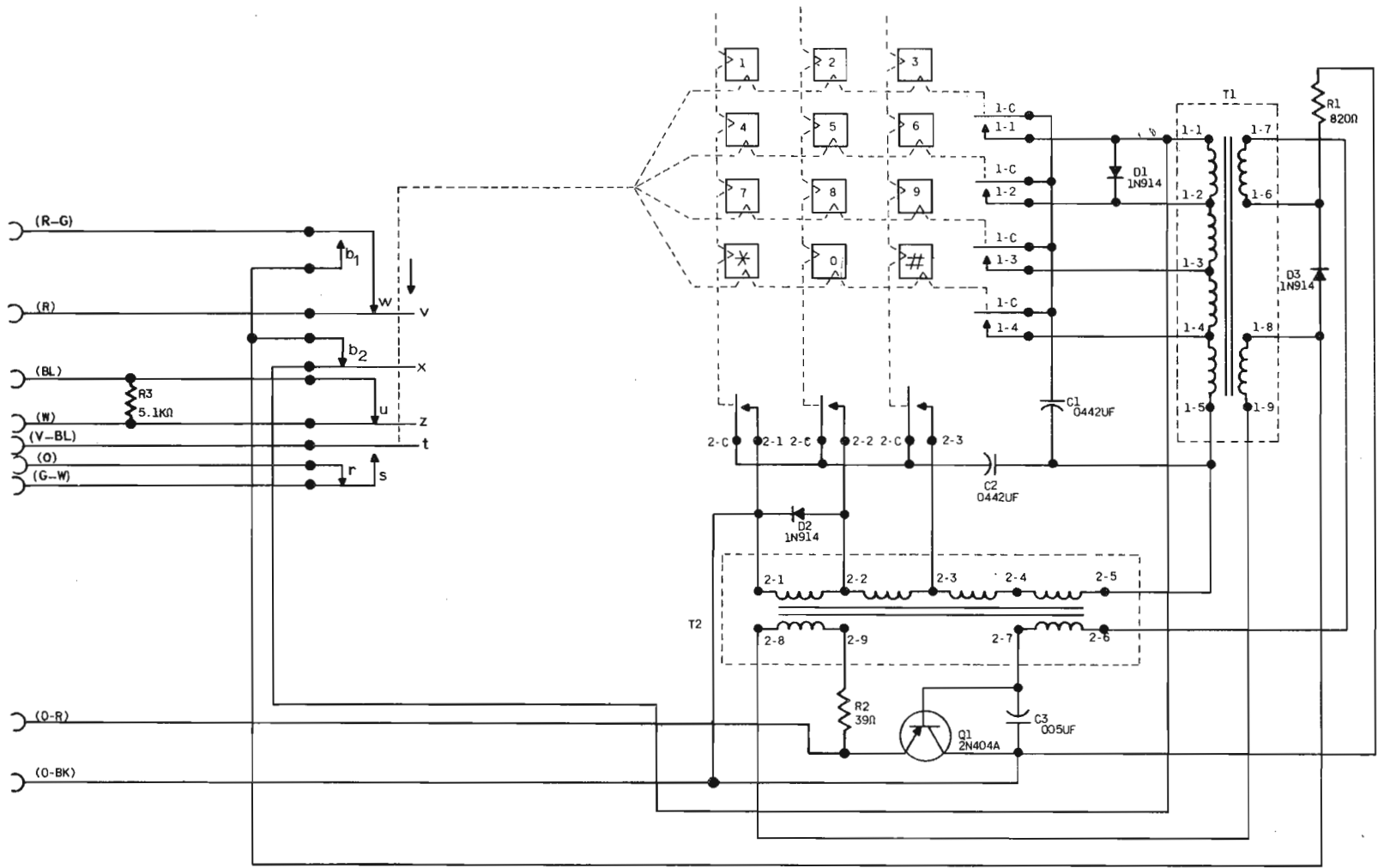


Fig. 19 - NE-35Q3K1 Dial Schematic