

PLEASE NOTE AND RETURN:

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STATION DIALS

66-TYPE

IDENTIFICATION, OPERATION, AND MAINTENANCE

1. GENERAL

1.01 The 66-type dial has sixteen pushbuttons; ten used in "number-letter" dialing and six used to provide special service features.

1.02 The 16 pushbuttons and multifrequency oscillator are a unit. Flat tabs extending from each side of the unit provide facilities for mounting the dial in the associated telephone sets.

1.03 Photos of dials used in this section are of shop models, production units may differ slightly.

2. IDENTIFICATION

66A3A DIAL

2.01 The 66A3A dial (Fig. 1) is initially intended for use in the 3568HT-, 3640A1A-, and 3641A1A-type telephone sets for the Automatic Voice Network (AUTOVON) project.

2.02 The 66A3A dial may also be used in a standard telephone set circuit using a 425E or equivalent network. The necessary switching for use with speakerphone is provided. Eleven spade-tipped leads extend from the dial to connect to telephone set terminals.

2.03 The six special service buttons have snap-on caps which may be removed and replaced with caps having other designations.

2.04 The right-hand row of pushbuttons are red. All other pushbuttons, including the "A" and "star ☆" special service buttons, are medium gray.

66A4B DIAL

2.05 The 66A4B dial (Fig. 2) is initially intended for use in telephone sets in the AUTOVON project where a lighted dial is de-



Fig. 1 — 66A3A Dial — Front View

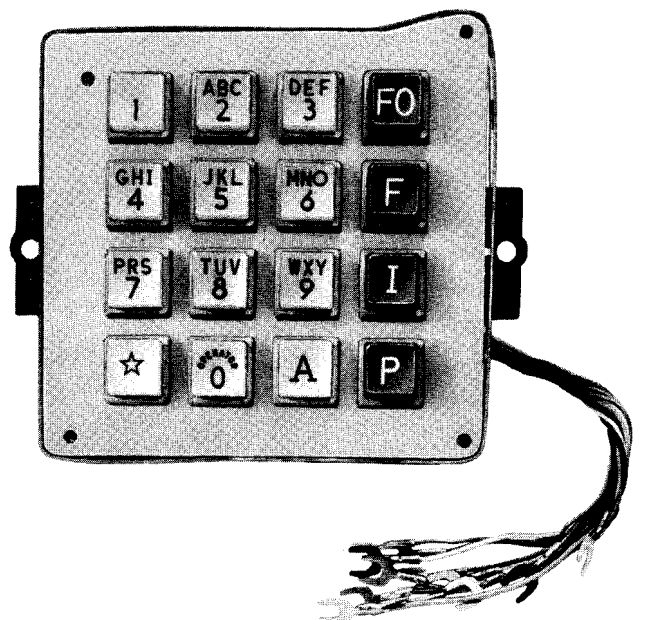


Fig. 2 — 66A4B Dial — Front View

sired. A pair of lamps, mounted on the underside of the dial, illuminates the 16 pushbuttons.

**2.06** The 66A4B dial may also be used in a standard telephone circuit using a 425A or equivalent network. Switching facilities for use with speakerphone are provided. Thirteen spade-tipped leads extend from the dial to connect to telephone set terminals.

**2.07** The right-hand row of pushbuttons are a red translucent type. All other pushbuttons, including the "A" and "star ☆" special-service buttons, are a white translucent type. Buttons are not equipped with snap-on caps.

**66B3A DIAL**

**2.08** The 66B3A dial (Fig. 3) is initially intended for use in the 67A card dialer which is used in the 3666A1A telephone sets in the AUTOVON project.

**2.09** The 66B3A dial may also be used in a standard telephone set circuit using a 425E or equivalent network. The necessary switching for use with speakerphone is provided. Eleven spade-tipped leads extend from the dial to connect to the telephone set terminals and ten tinned

leads are brought out from the dial for connection to the card reader.

**2.10** The right-hand row of pushbuttons are red. All other pushbuttons, including the "A" and "star ☆" special-service buttons, are medium gray. The six special-service buttons are equipped with snap-on caps so that designations may be changed.

**66B4B DIAL**

**2.11** The 66B4B dial is initially intended for use in the 67B card dialer which is used in the 3666A1B telephone set where a set with an illuminated card dialer is desired.

**2.12** The 66B4B dial is similar to the 66B3A except that a pair of lamps, mounted on the underside of the dial, illuminate the 16 pushbuttons. Spade-tipped leads from the lamp sockets provide connection to the lighting circuit.

**2.13** The right-hand row of pushbuttons are a red translucent type. All other pushbuttons, including the "A" and "star ☆" special service buttons, are a white translucent type. Buttons are not equipped with snap-on caps.

**66C3A DIAL**

**2.14** The 66C3A dial (Fig. 4) is initially intended for use in a Dial Restoration Panel for the AUTOVON project.

**2.15** The 66C3A dial is designed for use in a standard telephone set circuit using a 425E or equivalent network. Provisions for using the dial with speakerphone circuits are provided.

**2.16** The six special-service pushbuttons have snap-on caps which may be removed and replaced with caps having other designations.

**2.17** The right-hand row of pushbuttons are red. All other pushbuttons, including the "A" and "star ☆" special-service buttons, are medium gray.

**2.18** Eight make contacts are provided in addition to the normal frequency signal switches which operate when the frequency signal switches are operated. Seven of these contacts are wired for use. An additional make contact is provided on the common switch.

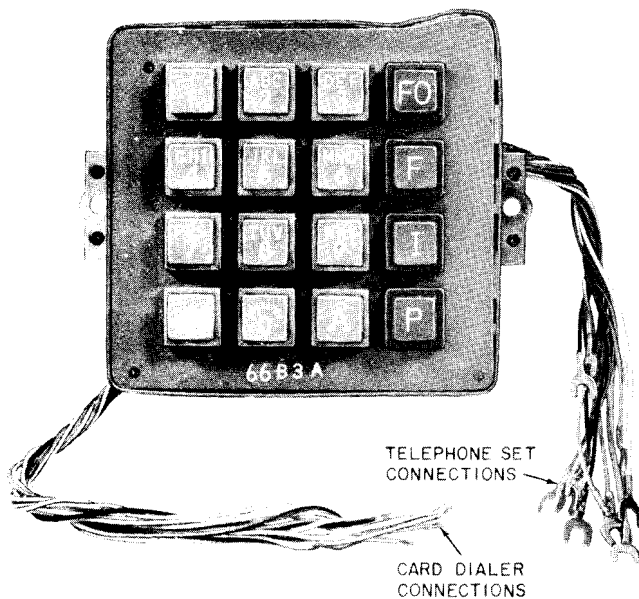


Fig. 3 — 66B3A Dial — Front View



Fig. 4 — 66C3A Dial — Front View

2.19 Twenty-two connections are brought out from the dial to a 25-pin connector for connection to the telephone set.

#### 66D3A DIAL

2.20 The 66D3A dial (Fig. 5) is initially intended for use in a 50B dial mounting for PBX switchboards in the AUTOVON project. Contacts are provided on the common switch for external switching.

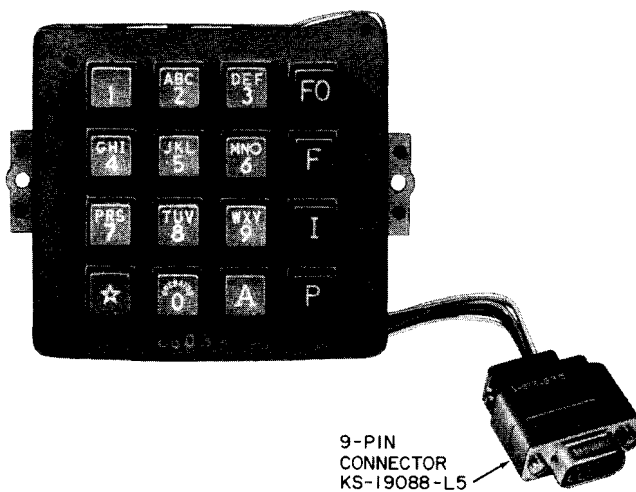


Fig. 5 — 66D3A Dial — Front View

2.21 The right-hand row of pushbuttons are red. All other pushbuttons are medium gray. The six special-service pushbuttons have snap-on caps which may be removed and replaced with caps having other designations.

2.22 Nine leads extend from the dial and are terminated in a 9-pin connector to provide connection to the switchboard.

#### 66D4B DIAL

2.23 The 66D4B dial is initially intended for use in a 50B dial mounting for PBX switchboards where a lighted dial is desired.

2.24 The 66D4B dial is similar to the 66D3A except that a pair of lamps are mounted on the underside of the dial to provide illumination for the 16 pushbuttons.

2.25 Nine leads extend from the dial and are terminated in a 9-pin connector to provide connection to the switchboard. Two spade-tipped leads extend from the dial for connection to the lamp power circuit.

2.26 The right-hand row of pushbuttons are a red translucent type. All other pushbuttons, including the "A" and "star ☆" special-service buttons, are a white translucent type. The buttons are not equipped with snap-on caps.

#### SPECIAL SERVICE BUTTONS

2.27 Table A shows the special service buttons available with part numbers of the buttons and snap-on caps (where applicable) for replacement purposes.

### 3. OPERATION

3.01 Depressing any of the 16 pushbuttons operates two frequency-select switches and a common switch (Fig. 6). The frequency-select switches determine the two frequencies to be generated by the transistorized oscillator.

3.02 The common switch, 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.

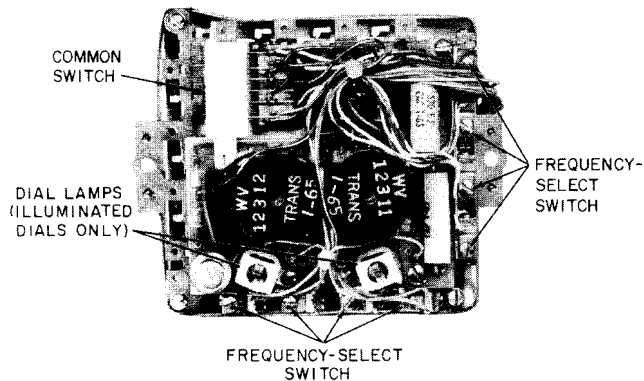
**3.03** The oscillator generates the selected frequencies and feeds them over the line to the central office. In the central office, the two frequency signals are received by a converter unit. This converter unit translates the frequencies into codes suitable to the particular central office.

**3.04** The relationship of pushbuttons to available frequencies is shown in Fig. 7. A pushbutton located at a specified intersection selects those two frequencies. For example, depressing button 9 selects and transmits 851 and 1477 cycles to the central office.

**4. WIRING SCHEMATIC**

**4.01** Connections to and schematics for the 66-type dials are shown in the following wiring schematics:

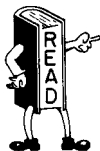
- Fig. 8 — 66A3A Dial — Wiring Schematic
- Fig. 9 — 66A4B Dial — Wiring Schematic
- Fig. 10 — 66B3A Dial — Wiring Schematic
- Fig. 11 — 66B4B Dial — Wiring Schematic
- Fig. 12 — 66C3A Dial — Wiring Schematic
- Fig. 13 — 66D3A Dial — Wiring Schematic
- Fig. 14 — 66D4B Dial — Wiring Schematic



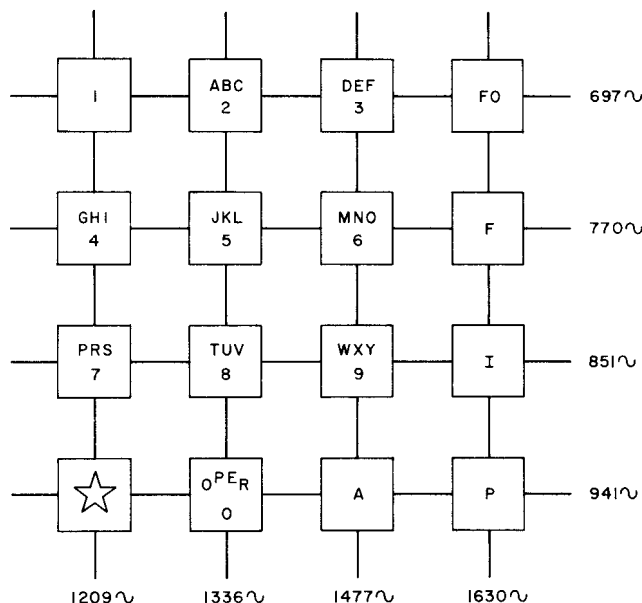
**Fig. 6 — 66-Type Dial — Rear View**

**5. MAINTENANCE**

**5.01** Replace defective dials.



*Maintenance of 66-type dials consists only of determining if the dial is defective. Do not attempt adjustments of the dial in the field.*



**Fig. 7 — Dial Frequencies**

**5.02** If unable to dial, proceed as follows:

- (1) Check all connections between dial and telephone set circuit.



*The 66-type dial will function only when the orange-black dial lead is negative (-) and the green lead is positive (+).*

- (2) Check for presence of dial tone. If no dial tone is heard, make check with 1011B test set at connecting block. Make normal test of telephone set components as described in appropriate sections.

- (3) Break dial tone by depressing button 2. If unable to break dial tone, restore switch hook and connect 1011B test set across incoming line terminations of network. Using the

**TABLE A**  
**SPECIAL SERVICE BUTTONS**

DIAL	DESIG	OPAQUE BUTTONS WITH SNAP-ON CAPS	SNAP-ON CAPS ONLY	TRANSLUCENT BUTTONS FOR LIGHTED DIALS (NOTE)
66A3A 66B3A 66C3A 66D3A	☆	P-29E650	P-29E600	
	A	P-29E651	P-29E601	
	FO	P-29E652	P-29E602	
	F	P-29E653	P-29E603	
	I	P-29E654	P-29E604	
	P	P-29E655	P-29E605	
66A4B 66B4B 66D4B	☆			P-29E390
	A			P-29E401
	FO			P-29E402
	F			P-29E403
	I			P-29E404
	P			P-29E405

*Note:* Translucent buttons do not have snap-on caps and cannot be interchanged.

test set, dial digit 2 to break dial tone. If dial tone can be broken at the network, replace the dial.

(4) Check all pushbuttons 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.

(5) Replace dial if feedback tones are not as described.

(6) Check dial tone and frequency output by dialing the Station Ringer Test Circuit provided for TOUCH-TONE dials.

**5.03** If telephone set meets requirements in 5.02 and trouble still exists, check central office or PBX equipment.

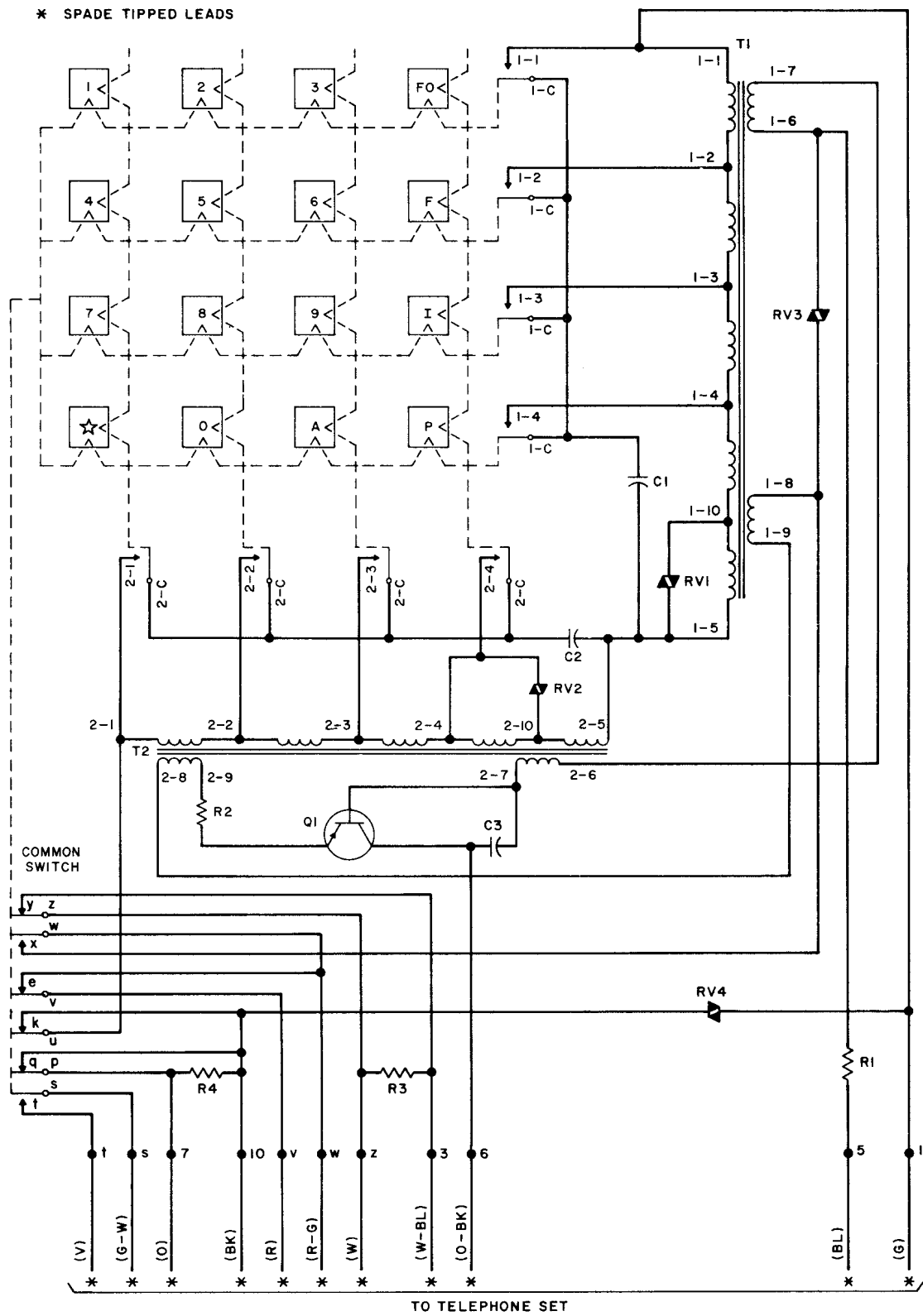


Fig. 8 — 66A3A Dial — Wiring Schematic

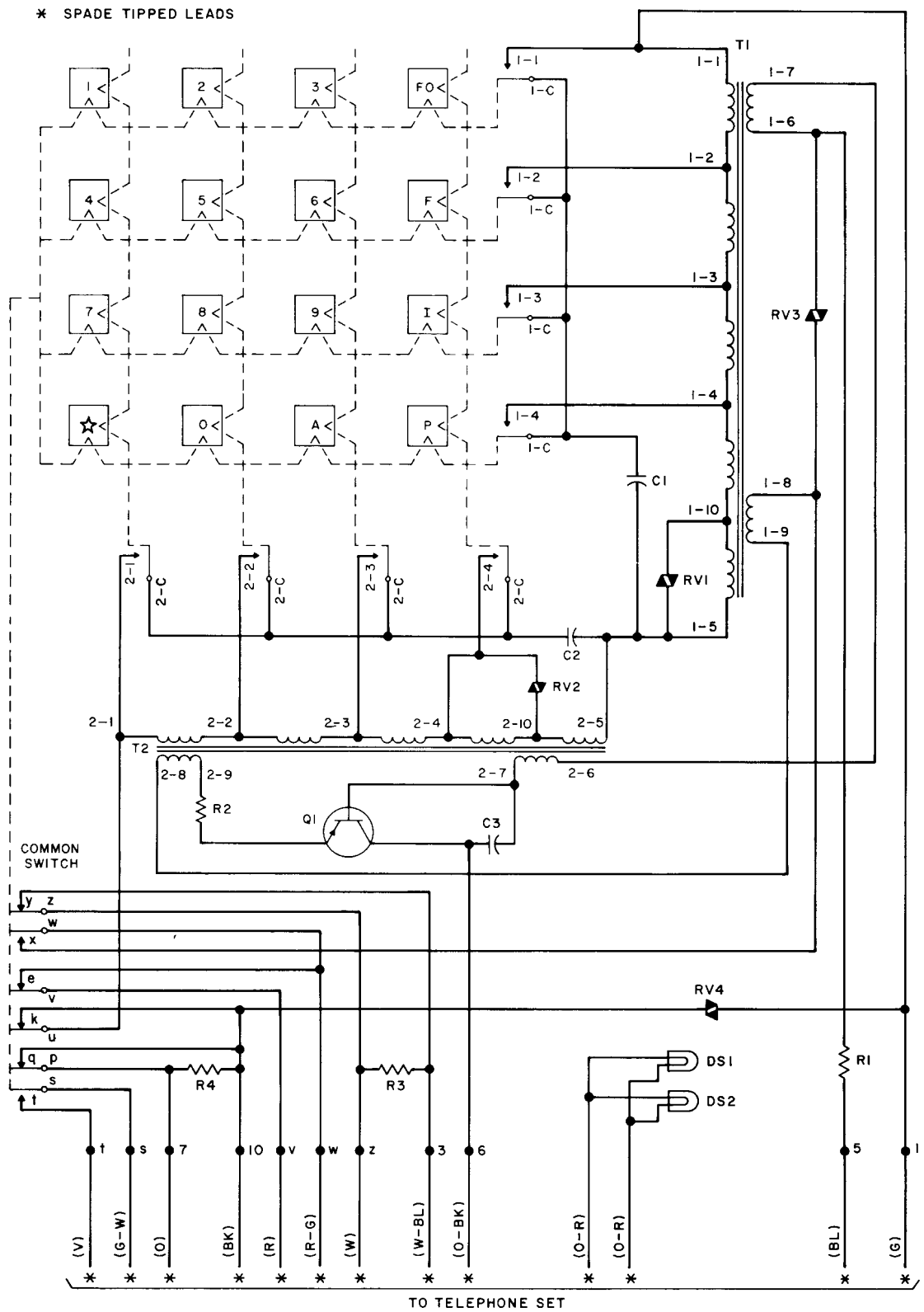


Fig. 9 — 66A4B Dial — Wiring Schematic

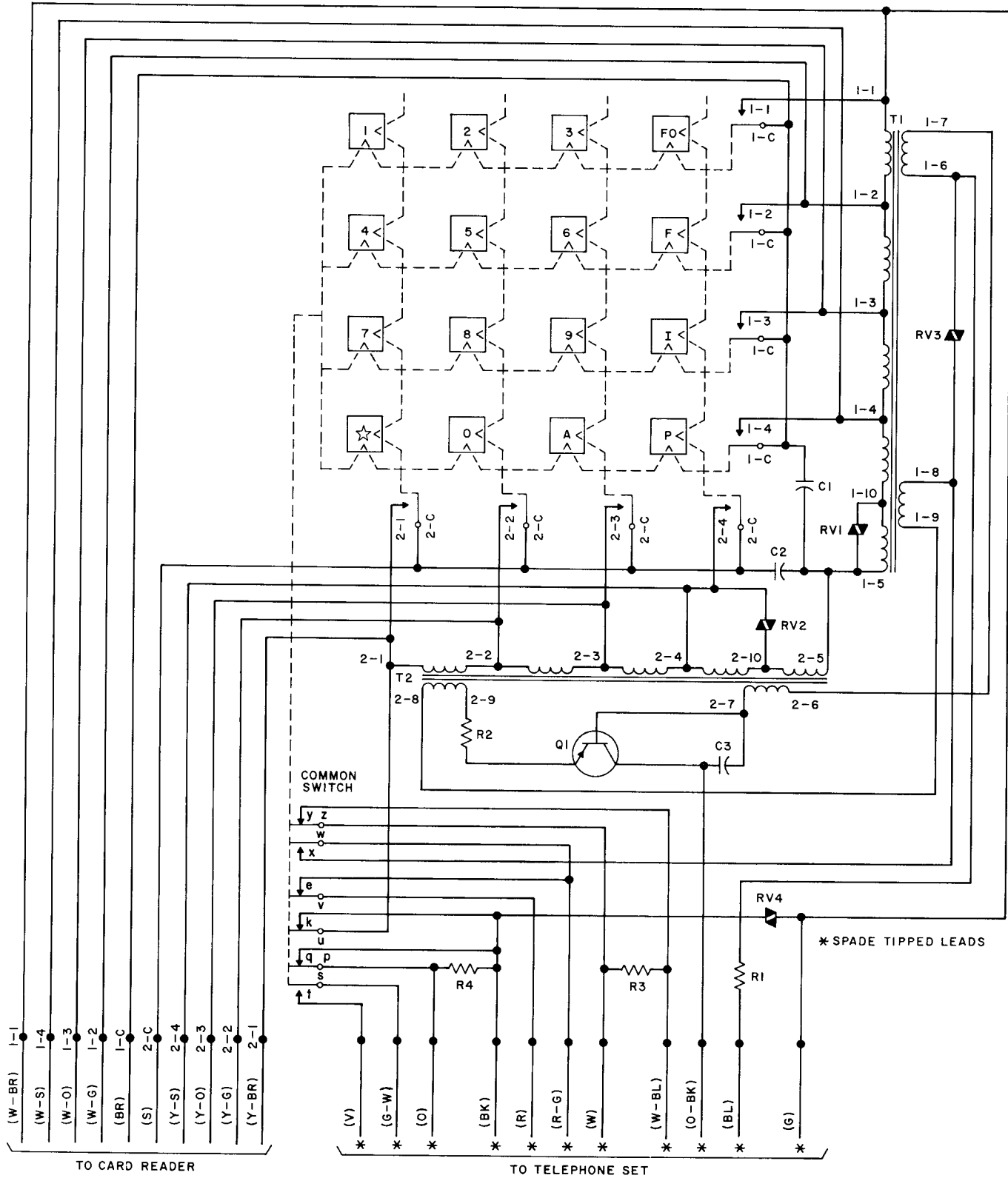


Fig. 10 — 66B3A Dial — Wiring Schematic



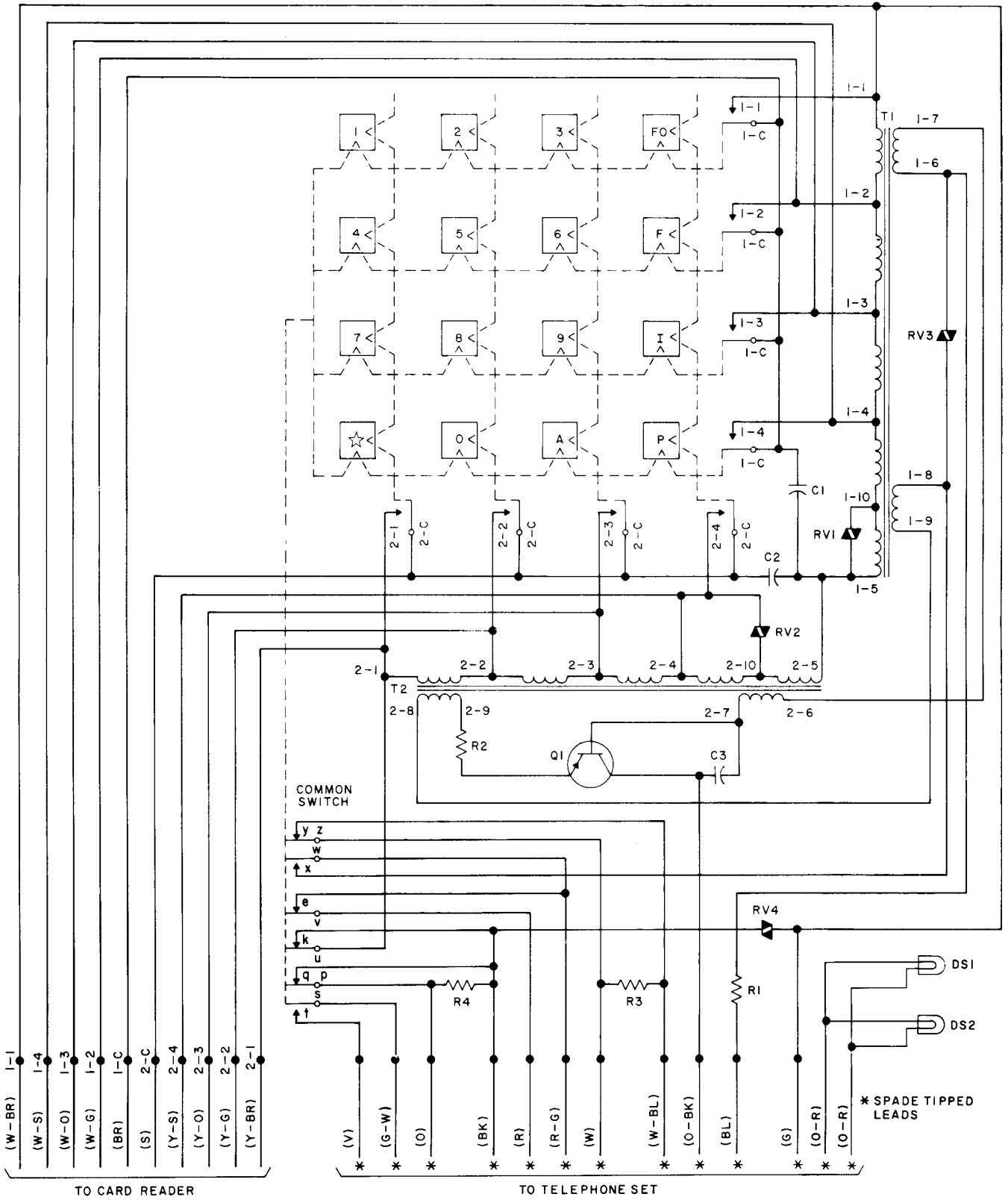


Fig. 11 — 66B4B Dial — Wiring Schematic

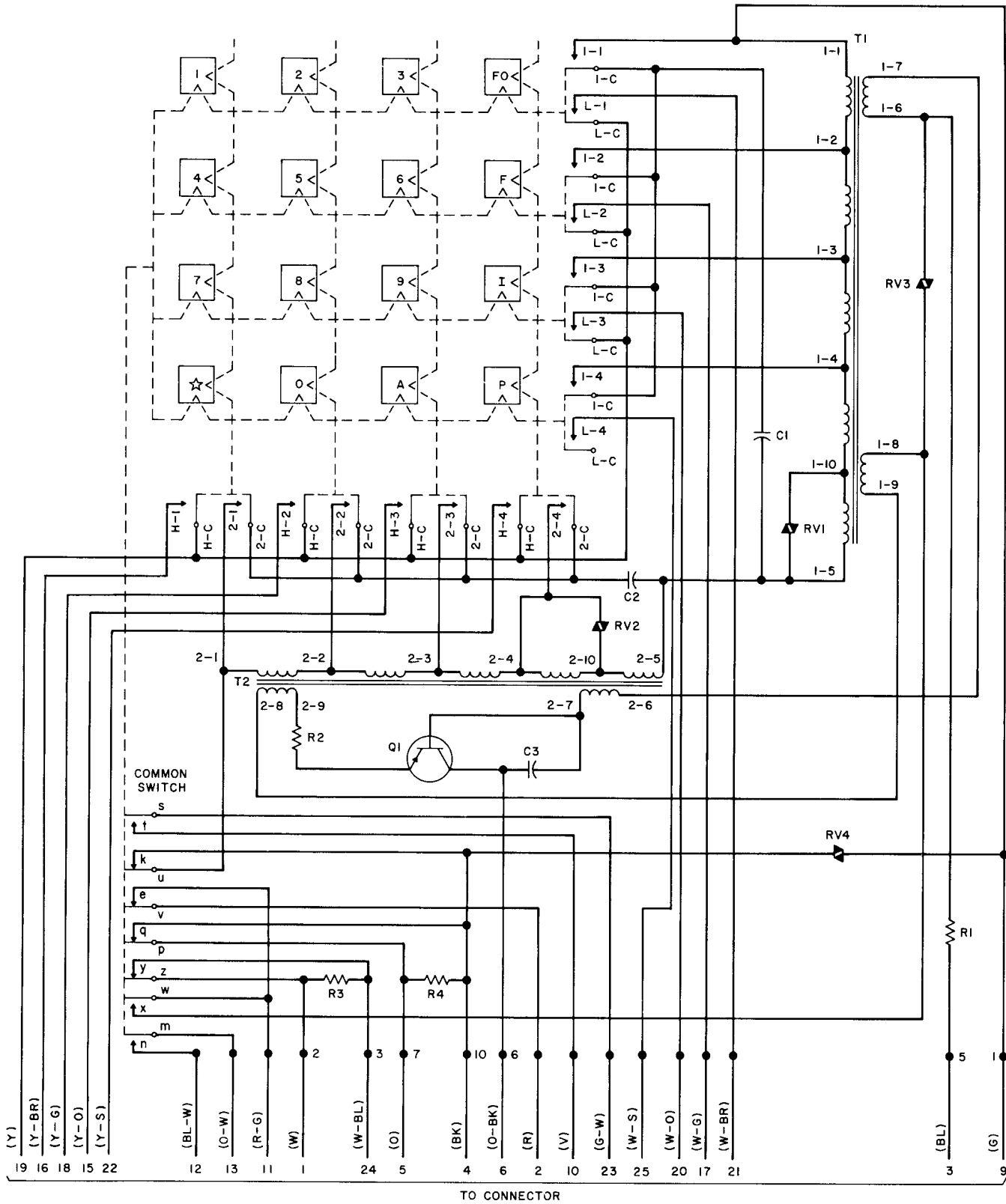


Fig. 12 — 66C3A Dial — Wiring Schematic

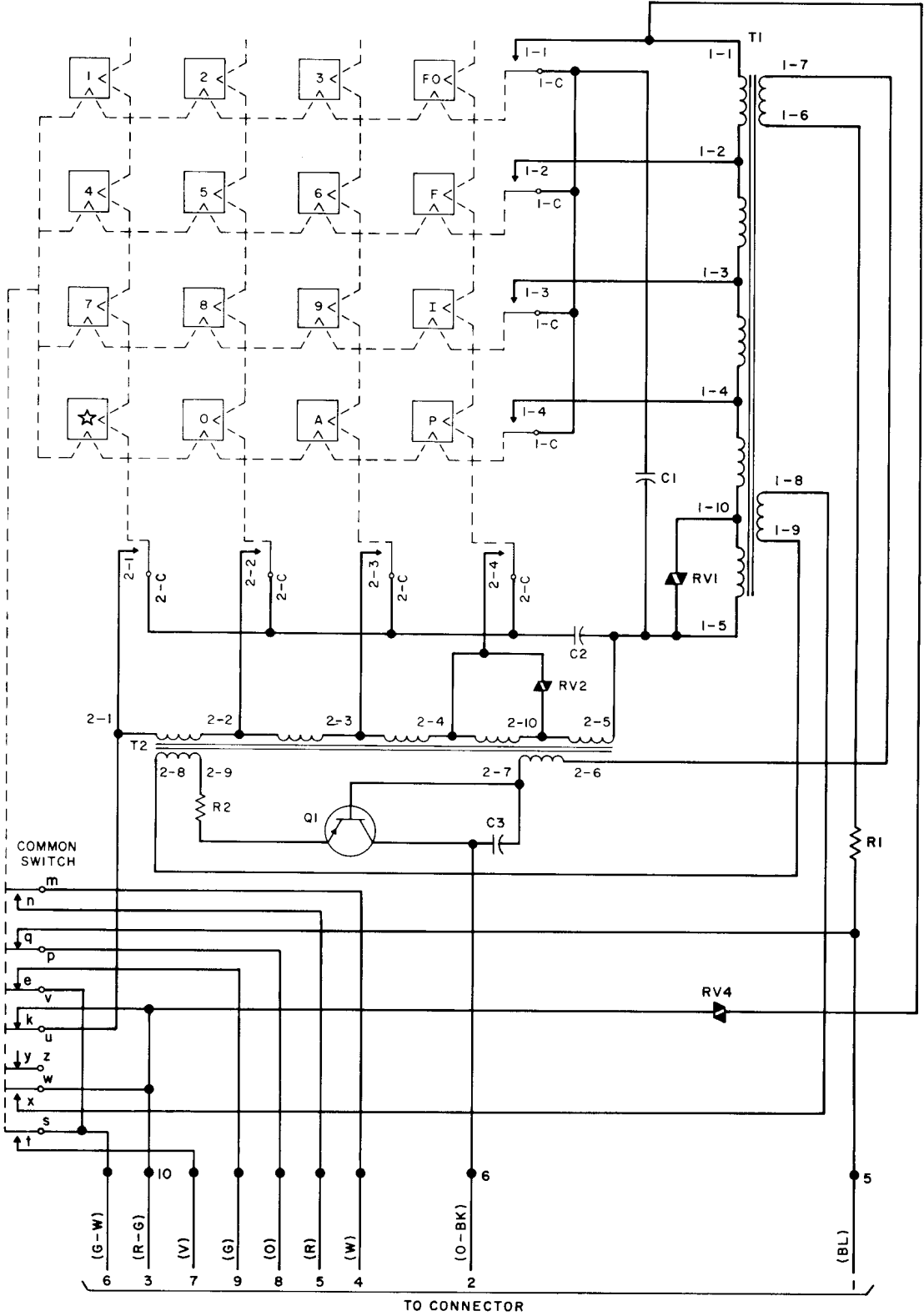


Fig. 13 — 66D3A Dial — Wiring Schematic

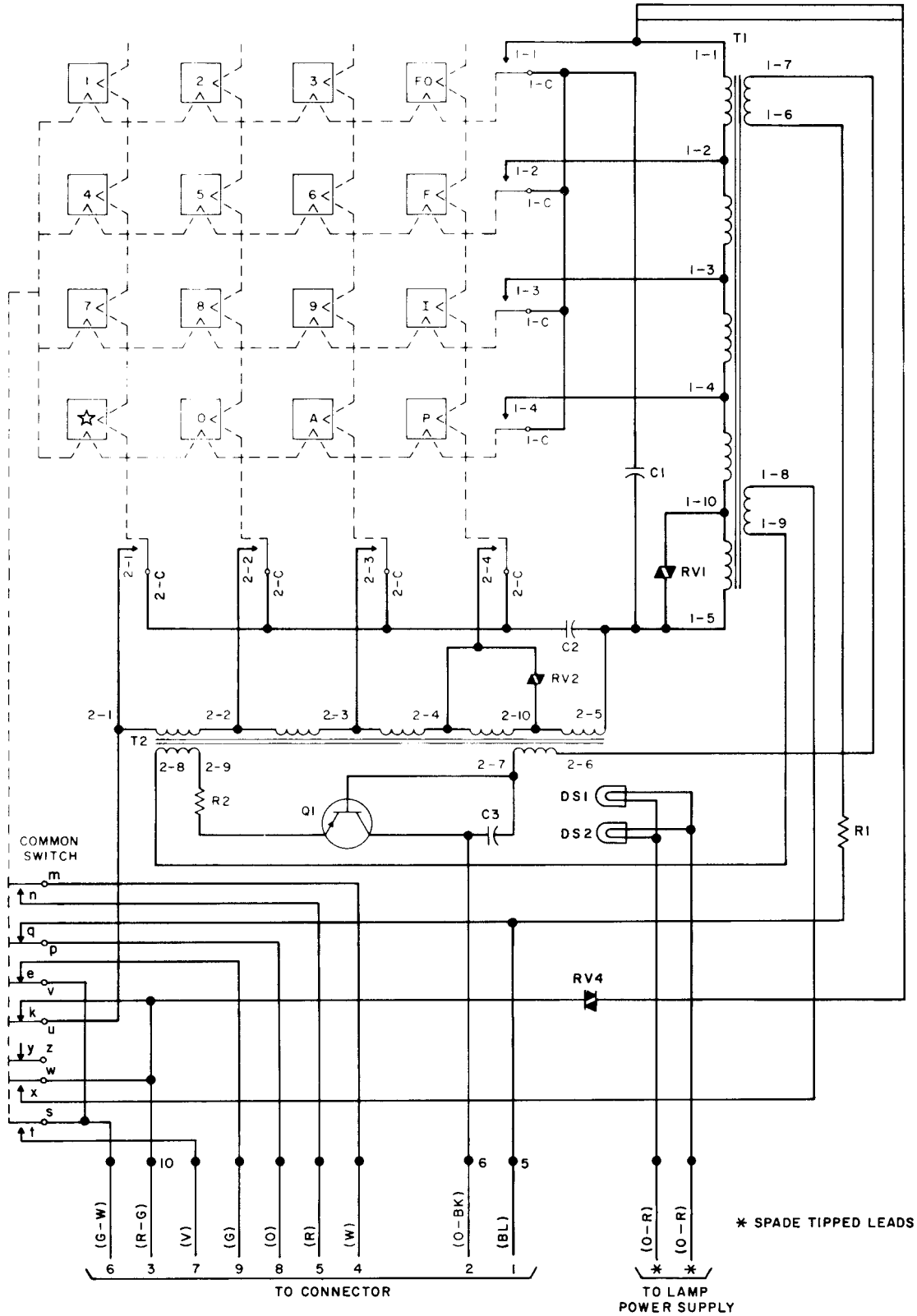


Fig. 14 — 66D4B Dial — Wiring Schematic