

STATION DIALS—26-TYPE

IDENTIFICATION, OPERATION, MAINTENANCE, AND CONNECTIONS

1. GENERAL

1.01 This section is reissued to:

- Include the 26F and G dials
- Show the 26B and D dials MD
- Show changes on 26C dial

2. IDENTIFICATION

(a) Purpose

- Provides automatic dialing of telephone numbers from precoded plastic cards in addition to manual dialing.
- Used as a component in other telephone apparatus (see Table A).

(b) Ordering Guide

Dial 26 — (see Table A for specific code)

(1) Replaceable Components

- P-24E238 Dialing Card (pkg. of 20)
- P-13E363 Index Card (pkg. of 9)

(2) Replaceable Optional Components

- P-21F752 Dialing Card (pkg. of 20). For use with 12-button convertible dial.

(c) Design Features

- Manual TOUCH-TONE® dial in combination with a card dialer mechanism.
- Gear train assembly — controls speed and timing (Fig. 2)

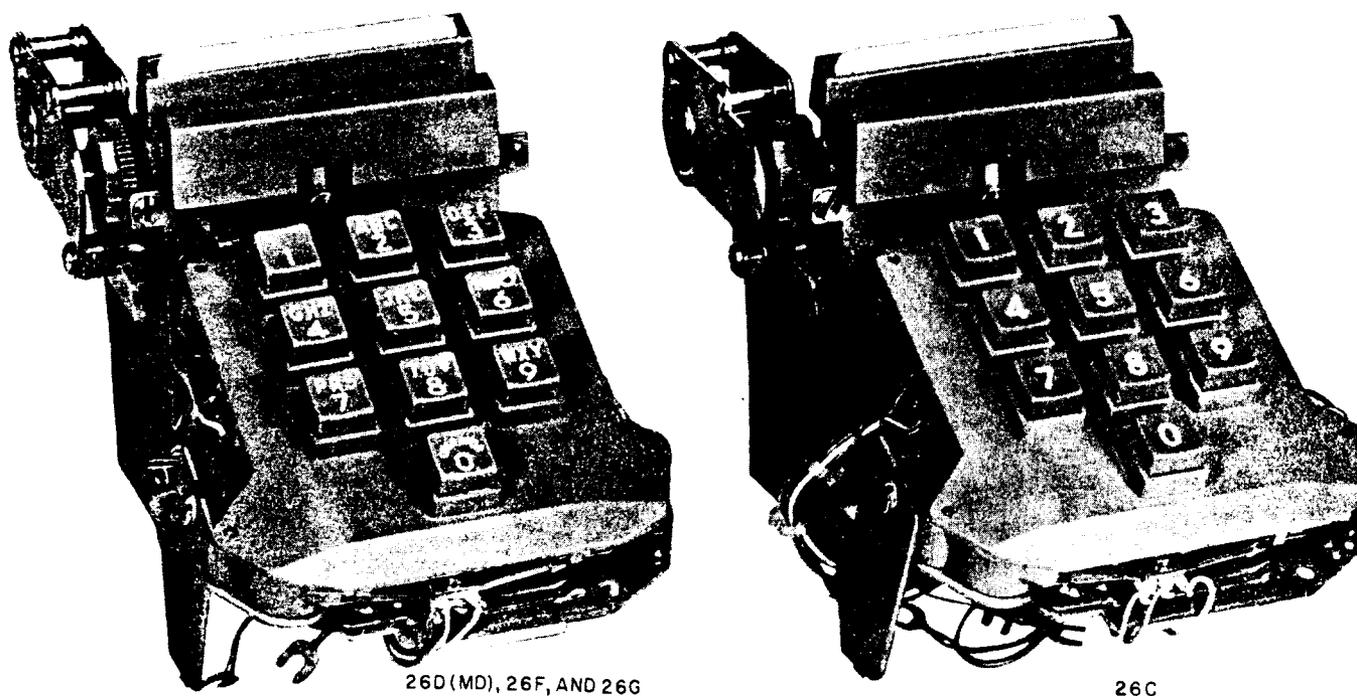


Fig. 1 — 26-Type Dials

TABLE A

DIAL	USES	REMARKS	SCHEMATIC FIG. NO.
26C	With attendant console of Model 33 and 35 Teletypewriters	Combination of 25G dial and card reading mechanism Leads 12 — spade tipped Current models have 3-pole single-throw switch to enable manual dialing when card is in stop position.	7
26D (MD)	With 1660-, 1662-, 1663-, and 1664-Type Telephone sets	Combination of 25M3 (MD) dial and card reading mechanism Leads 10 — spade tipped Polarity guard cannot be used when dial connected to speakerphone	8
26F	With 1660-, 1662-, 1663-, and 1664-Type Telephone sets	Combination of 25R3 dial and card reading mechanism Has 3-pole, single-throw switch to enable manual dialing when card is in stop position Polarity guard can be used when dial connected to speakerphone	9
26G	With 557A and 557B PBXs	Combination of 25T3 dial and card reading mechanism Leads terminate in a KS-19088, List 5 plug Has 3-pole, single-throw switch to enable manual dialing when card is in stop position Polarity guard can be used	10

- Card throat — provides switching (Fig. 2)
- Frame assembly — for positioning in apparatus assemblies (Fig. 3)
- Sprocket assembly — provides motor action (Fig. 4)
- Front plate assembly — controls start and stop action (Fig. 2)
- Stop switch — allows manual dialing while card is at any stop position (Fig. 3)

(d) **Application**

See Table A for specific uses.

(e) **Operating Features**

- START bar (Fig. 2) when depressed operates the common switch of associated TOUCH-TONE dial and starts dialing mechanism.
- P-24E238 dialing card set for encoding telephone numbers and originating calls.

3. OPERATION

(a) **TOUCH-TONE Dial**

- (1) Refer to Section 501-164-105 for operation of 25-type dial and conversion of dial from 10 to 12 buttons

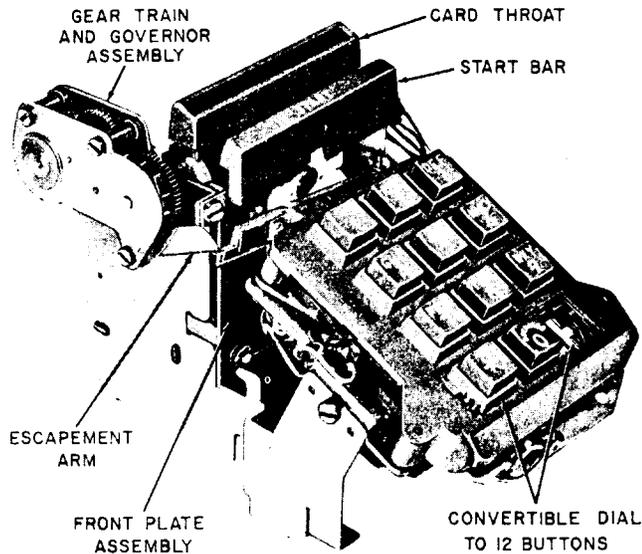


Fig. 2 — 26F Dial, Left Side View

(2) For manual dialing

(b) *Dialing Card*

- (1) Prepare dialing card
- (2) Write name and telephone number in spaces as shown in Fig. 5 and 6

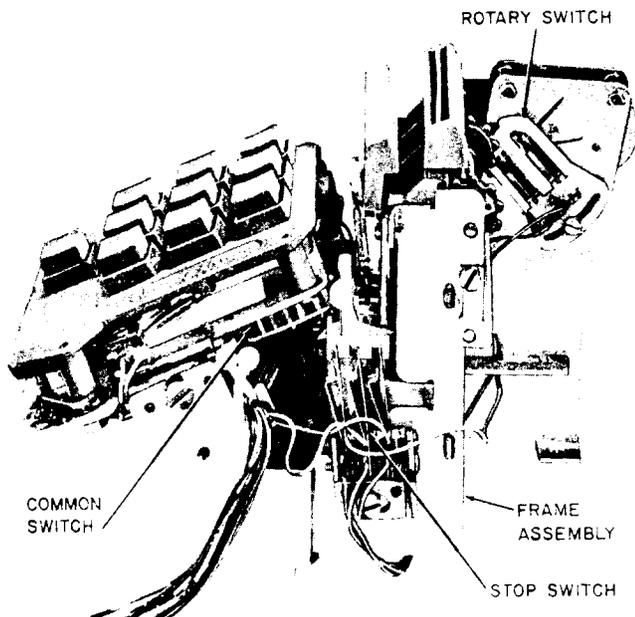


Fig. 3 — 26-Type Dial, Right Side View

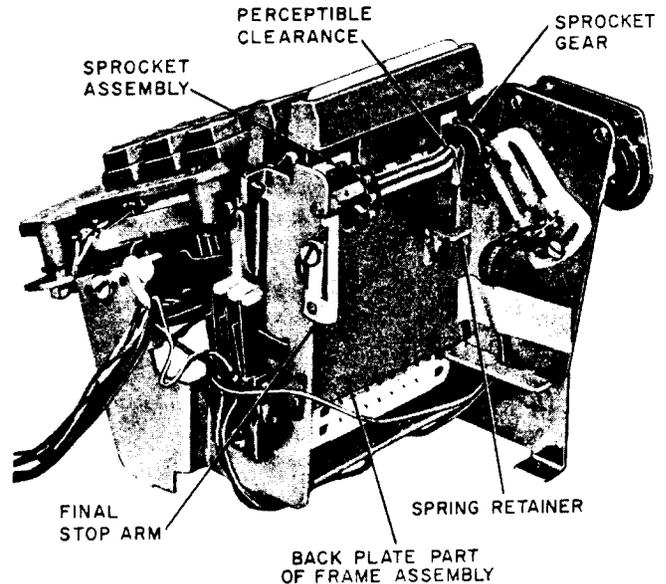


Fig. 4 — 26-Type Dial Rear View

- (3) Convert prefix letters to numbers

Note: There are two groups of number 1 through 0 on the card (Fig. 5).

- (4) In Fig. 5 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.

- (5) Repeat this procedure for each digit in the telephone number. Digit 0 must be punched out in each group of numbers just as any other digit.
- (6) Do not punch STOP following the last digit.

Note: STOP is used for certain operations requiring an interruption in the automatic dialing process such as in PBX systems where it is necessary to dial an access code to obtain central office dial tone.

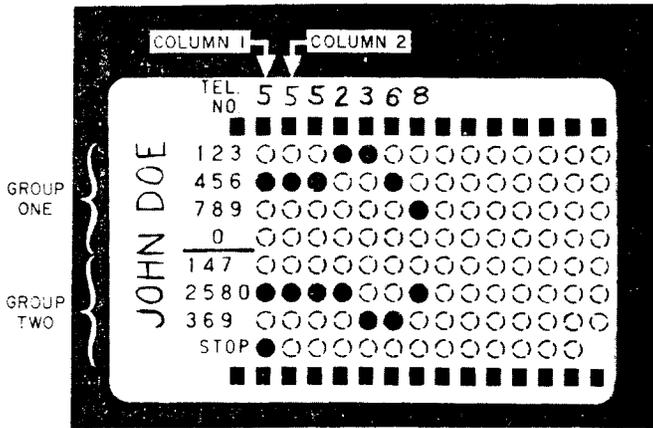


Fig. 5 — Card Coded for 7-Digit Telephone Number

(7) To prepare a card for dialing an access code, punch out the appropriate digit in column 1 (Fig. 6). If a second dial tone is required, punch out STOP in column 2.

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

(9) Check card before using. There should be two punched holes in each column plus a STOP (when required). Holes should be punched out completely and neatly.

(c) *Calling a Number*

(1) Insert prepunched card in card throat with name facing you and press down all the way.

(2) Remove handset and listen for dial tone. When dial tone is heard, depress START bar. When calling from a PBX extension the card will stop after the access code has been dialed. After hearing the second dial tone, depress the START bar again.

(3) With 26C, (current model) 26F, and 26G dials, manual dialing may be done while the card is in a STOP position.

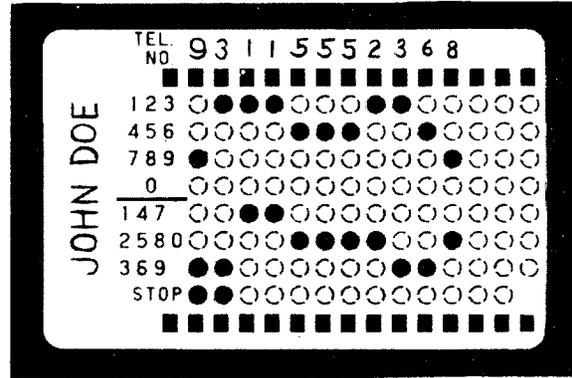


Fig. 6 — Card Coded for Access Code (9) Stop, Area Code (311) and 7-Digit Telephone Number

(d) *Card Dialer*

(1) Dialer mechanism determines the digit or frequencies by passing the coded card against hole sensing feelers located in the card throat.

(2) When the card hole passes, the feelers drop in, closing frequency selector contacts. These contacts are connected in parallel with the frequency selector contacts on the TOUCH-TONE dial.

(3) Linkage couples the START bar to the common switch of the TOUCH-TONE dial so that when the bar is depressed, the common switch is held operated.

(4) A rotary switch controls the exciter path to the oscillator and is adjusted to close the exciter path when card feelers drop into coded holes. Opening and closing of the exciter path permits the oscillator to generate two frequencies on the line to the central office.

4. MAINTENANCE

- Field adjustment of the 26-type dial is not recommended.
- To determine if dial is defective, use the following method:

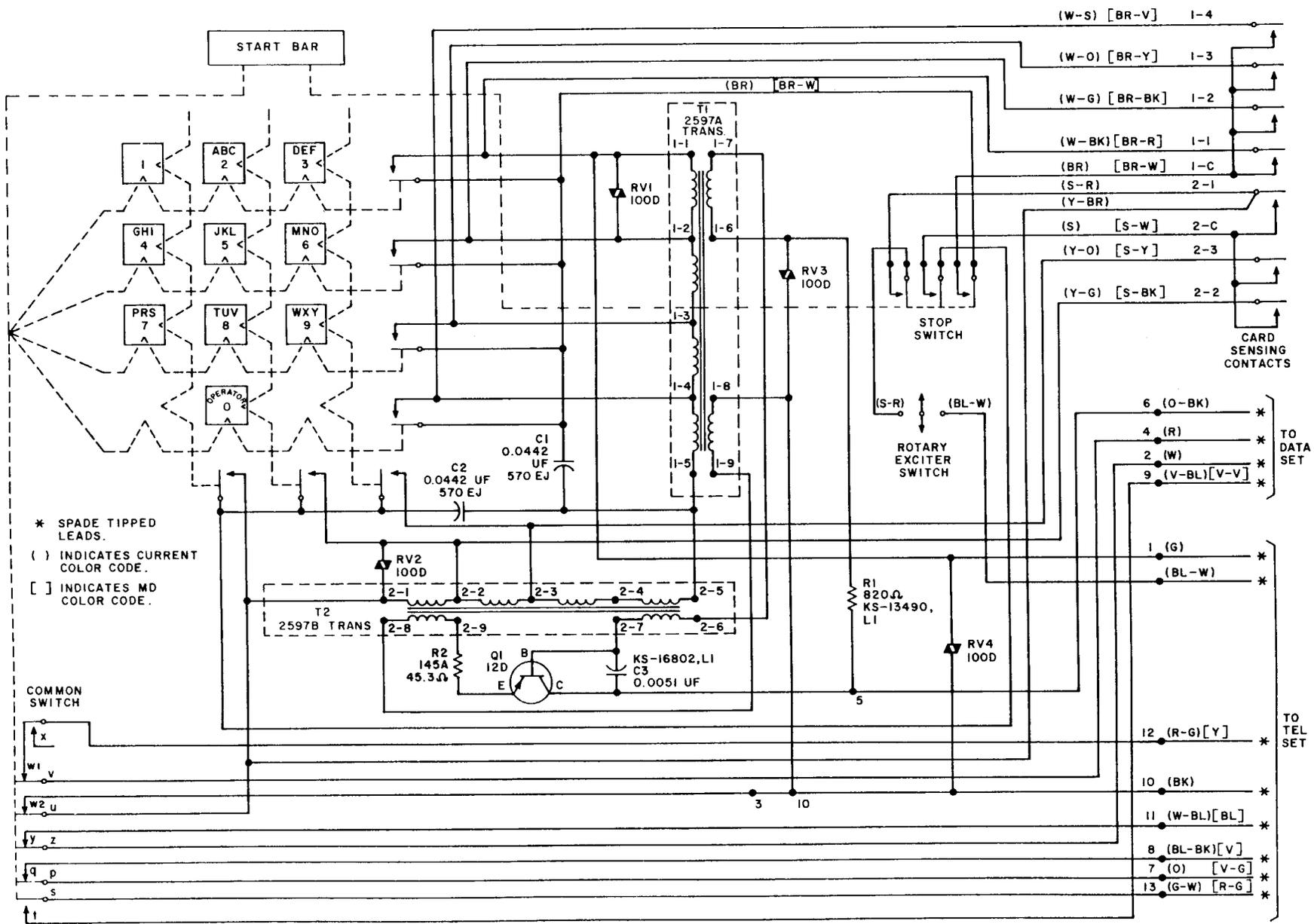
- (a) Check for dial tone by listening to receiver on telephone set or by depressing ORIG button and listening for dial tone from loudspeaker on model 33 or 35 teletypewriter.
- (b) If no dial tone is heard, use 1011B test set to check at connecting block. If dial tone is heard at connecting block, make normal test of station components as described in appropriate sections.
- (c) Check line polarity. Dial will function only when orange-black dial lead is negative (—) and green lead is positive (+).
- (d) Check all buttons for tone feedback. Two tones should be heard in receiver when any button is depressed. A single tone is heard when two adjacent buttons in a horizontal or vertical row are depressed simultaneously.
- (e) If tone troubles are suspected, proceed as follows:
- (1) Dial ringer-test code for testing TOUCH-TONE dials or dial local test desk and request access to ringer-test circuit for testing TOUCH-TONE dials.
- Note:* Dial the appropriate code for testing 10-, or 12-button dials. Access to the test circuit via the local test desk, permits testing 10-button dials only.
- (2) When second dial tone is heard, key all digits in numerical order 1 through 0.
- Note:* With 12-button dials, key digits 1 through 9 then *, 0, and #.
- (3) If dial is operating properly, two spurts of tone will be returned by the dial tester.
 - (4) If any digit fails to meet the test or if test is not completed in 15 seconds, one spurt of tone will be returned by the dial tester.
 - (5) Disconnect from test circuit by hanging up.
- (f) Replace dial if it fails to meet the tests.
- (g) If troubles in the card dialer are suspected, proceed as follows:
- (1) Inspect card throat for foreign material.
 - (2) Place a properly coded test card in throat and depress fully.
 - (3) Release START bar, dial tone should be broken and two tones should be heard at each coded line as card advances.
- Note:* Card should not bind or stick in transport mechanism at any point during deposit or return.
- (4) Stop switch contacts (Fig. 3) must be made while card is advancing and must be open when card is in stop position or at end of run.
 - (5) Card drive spring should have consistent tension as the card is lifted. If card rises too slowly check drive spring tension as follows:
 - (a) Unwind drive spring by pulling out on final stop arm (Fig. 4) until there is no tension on spring retainer.
 - (b) Release final stop arm.
 - (c) Hold START bar operated and turn sprocket assembly 12 full turns. The turns can be counted by listening to the clicks as the final stop arm passes over the drive shaft return stop.
 - (d) When spring is properly wound, there should be a perceptible clearance between the hub of the sprocket gear and spring retainer. Hold spring retainer to the left for this measurement.
- Caution:* Do not exceed 12 turns for spring tension. Do not try to overcome other resistance such as dirty card or dirty gears by tightening spring.
- (e) Escapement arm (Fig. 2) should work freely without binding or catching.

- (f) Replace dial if it does not meet above requirements.

- (6) Inspect precoded cards. All cards bent, warped, dirty (heavy accumulation of dirt), or deformed by heat (such as cigarette burns) should be replaced.

5. CONNECTION INDEX

- Fig. 7 — 26C Dial, Connections
- Fig. 8 — 26D Dial, Connections
- Fig. 9 — 26F Dial, Connections
- Fig. 10 — 26G Dial, Connections



* SPADE TIPPED LEADS.
() INDICATES CURRENT COLOR CODE.
[] INDICATES MD COLOR CODE.

Fig. 7 — 26C Dial, Connections

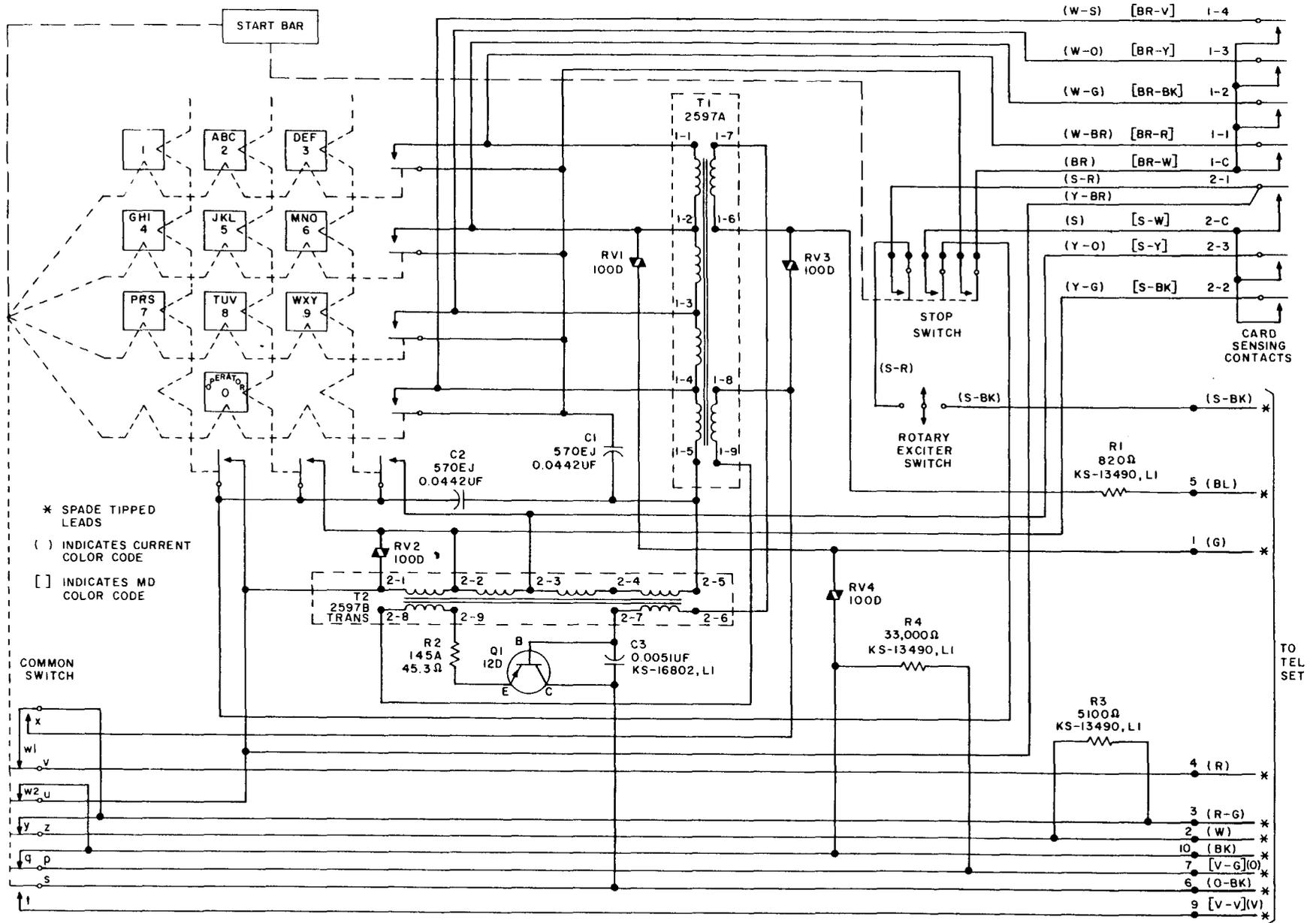


Fig. 8 — 26D Dial, Connections

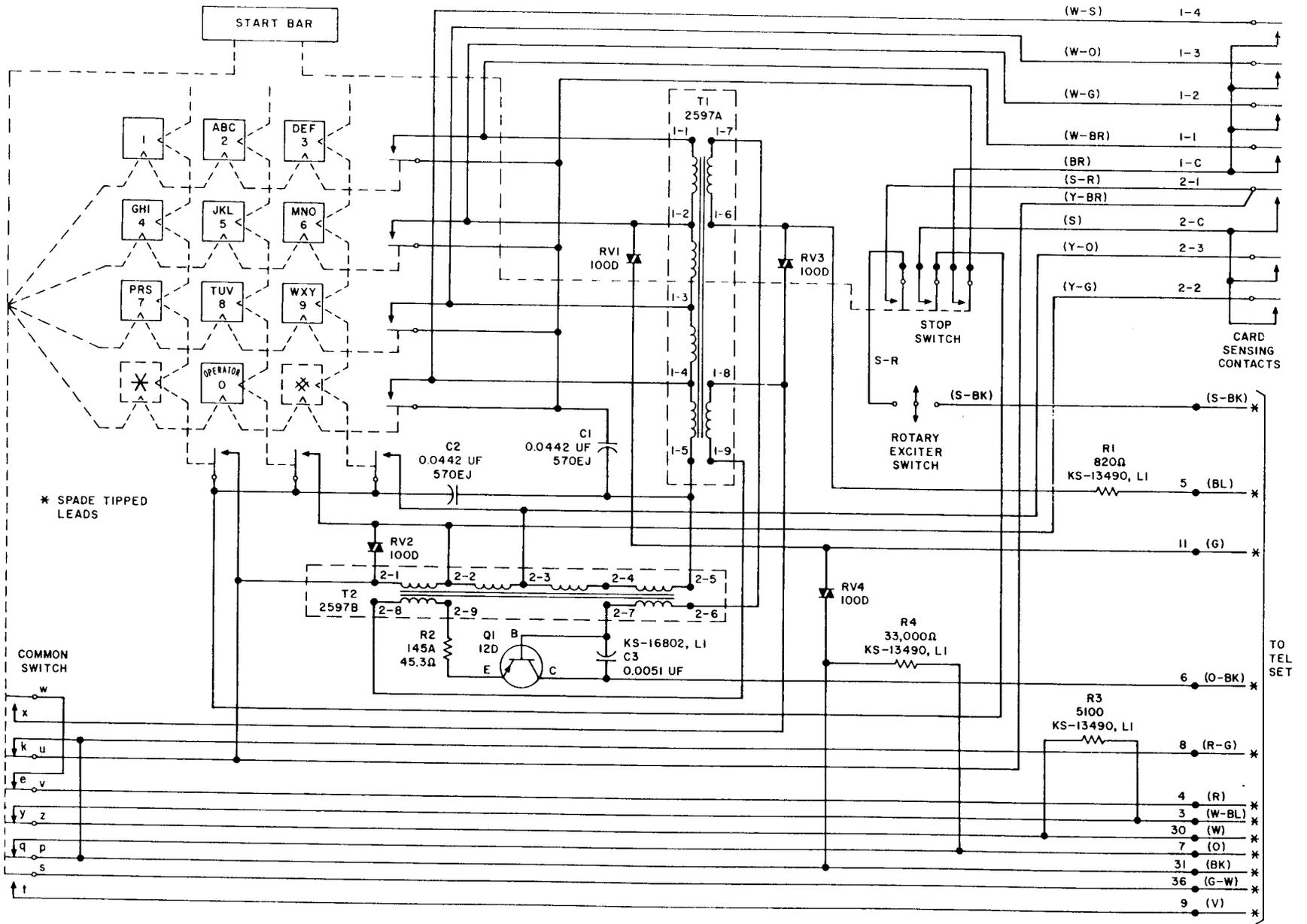


Fig. 9 — 26F Dial, Connections

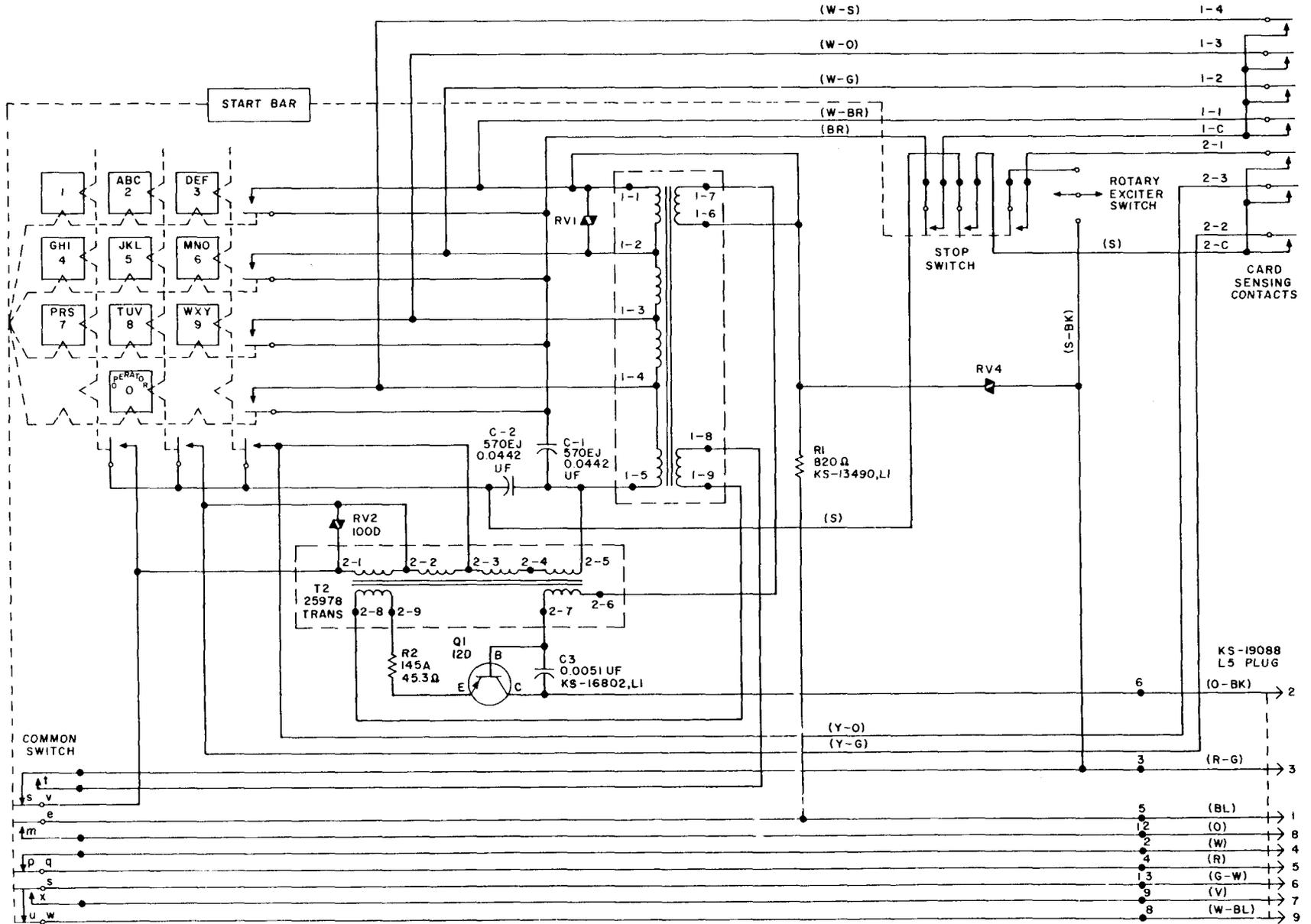


Fig. 10 — 26G Dial, Connections