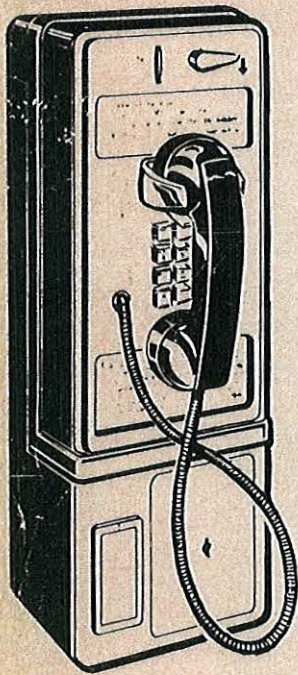


BSP 506-900-503



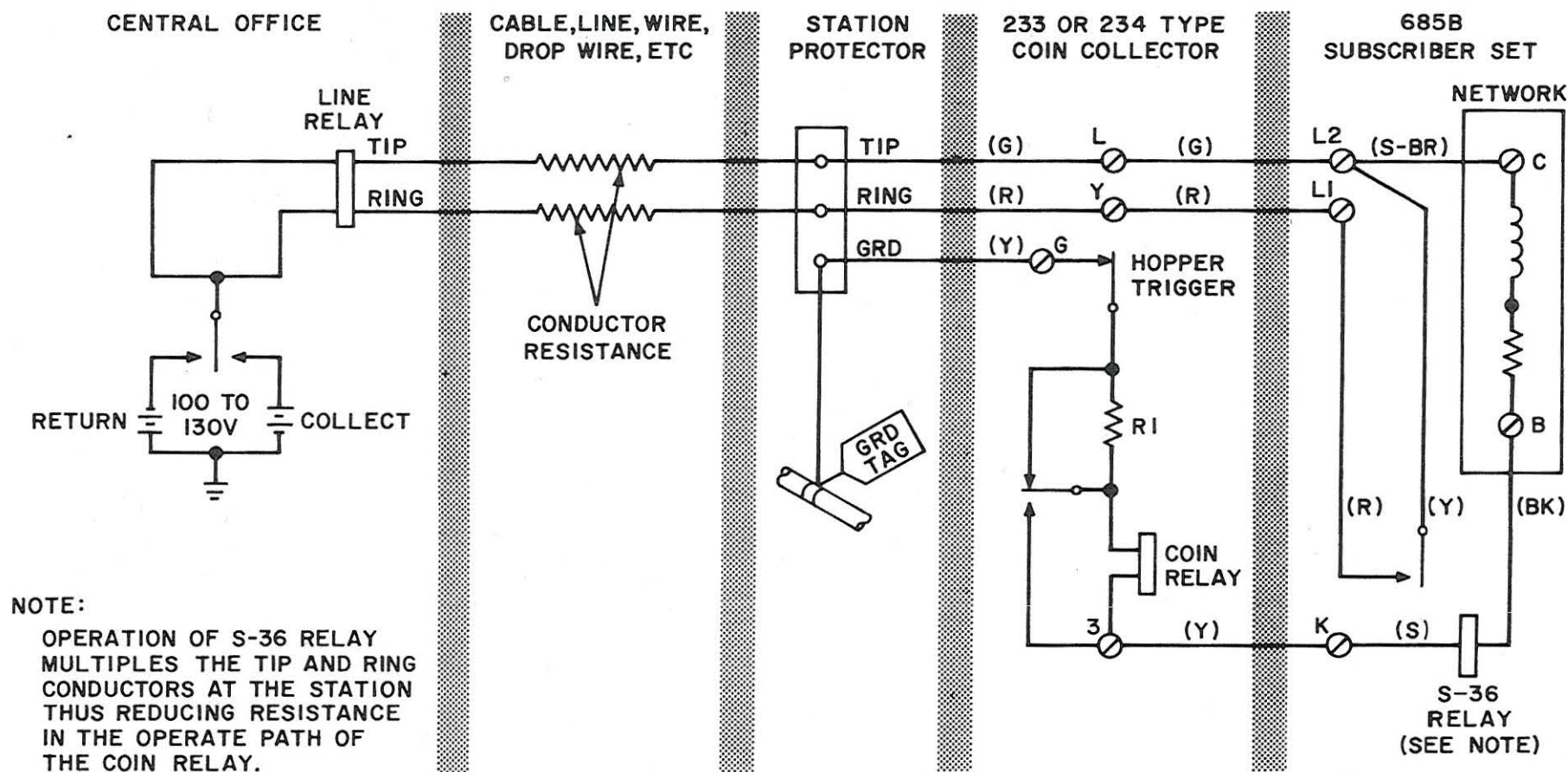
COIN MAINTENANCE CHECK

Selected pages -- Enlarged Schematics
Oriented for screen viewing

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Bell System



NOTE:

OPERATION OF S-36 RELAY
MULTIPLES THE TIP AND RING
CONDUCTORS AT THE STATION
THUS REDUCING RESISTANCE
IN THE OPERATE PATH OF
THE COIN RELAY.

Fig. 5 — Connections and Operate Path of S-36 Relay (Coin First Only)

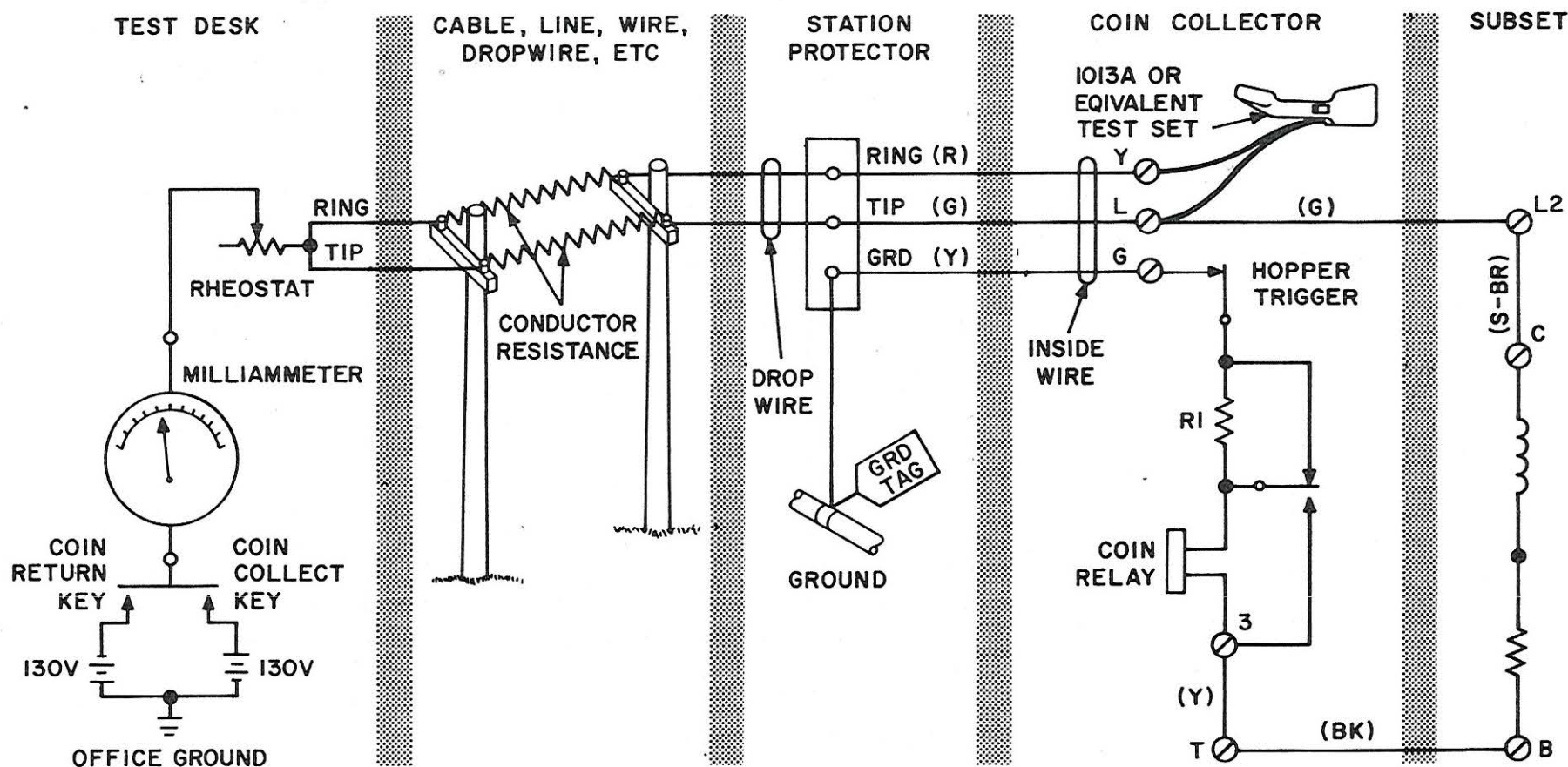
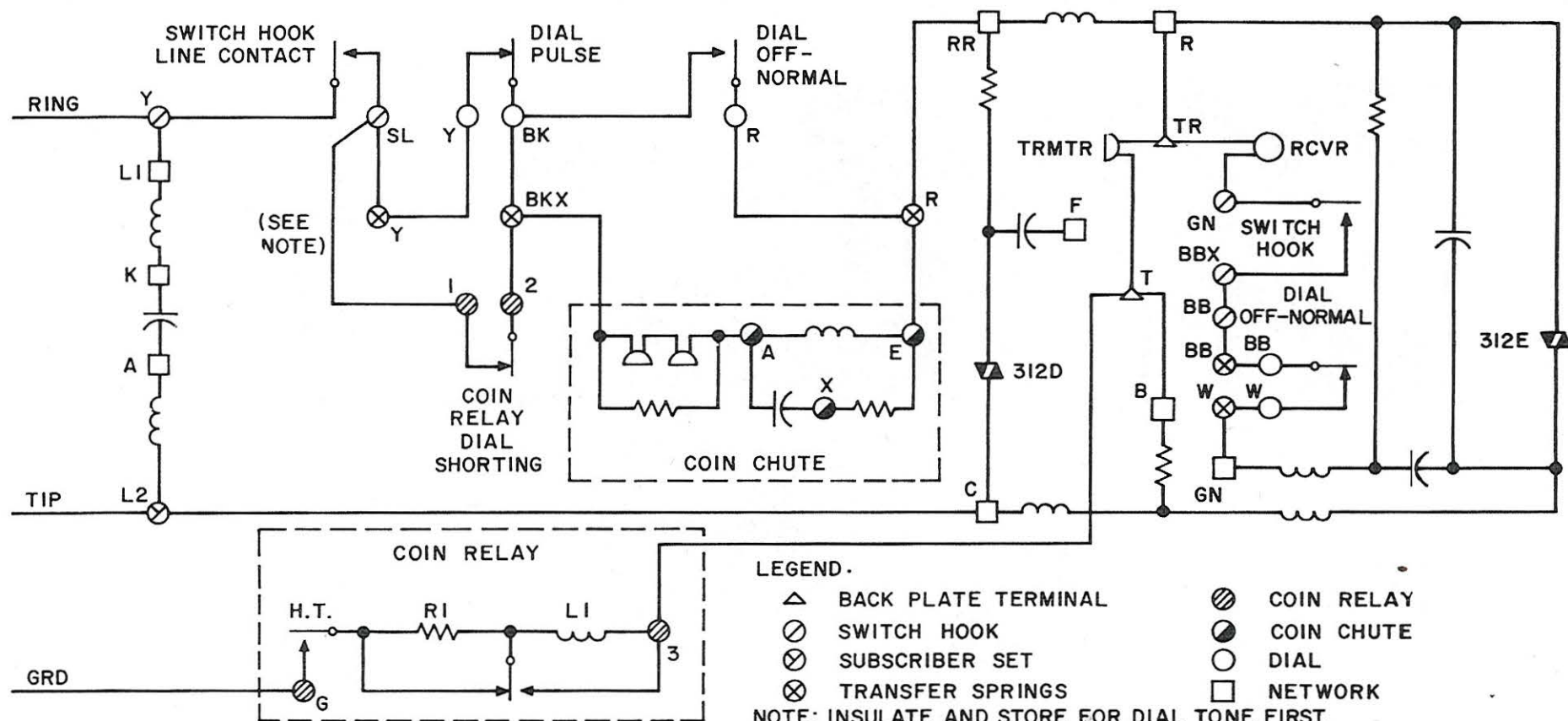


Fig. 6 — Coin Relay Current Flow Test



685A Coin Collector with 685A Subscriber Set

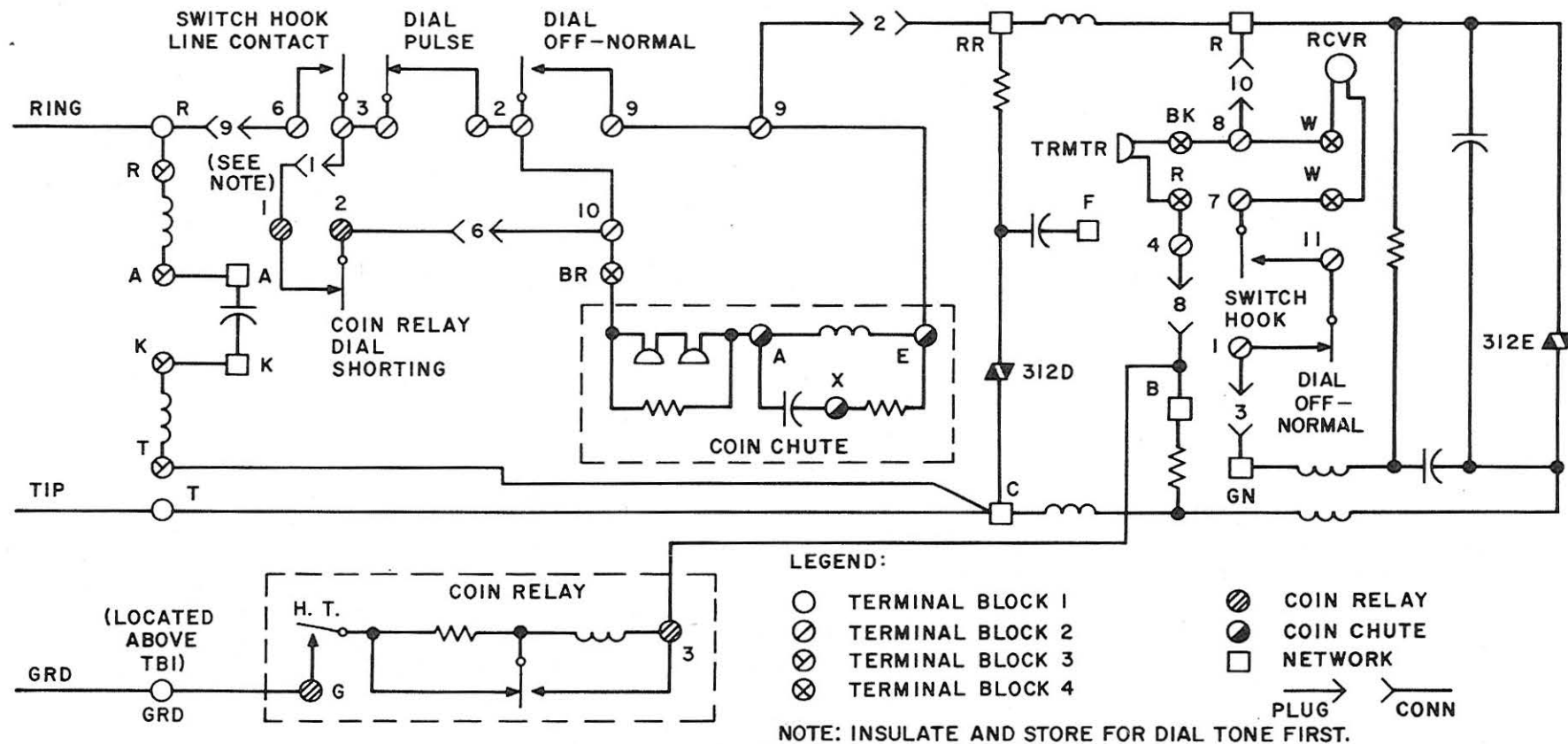


Fig. 12 - 235G Coin Collector

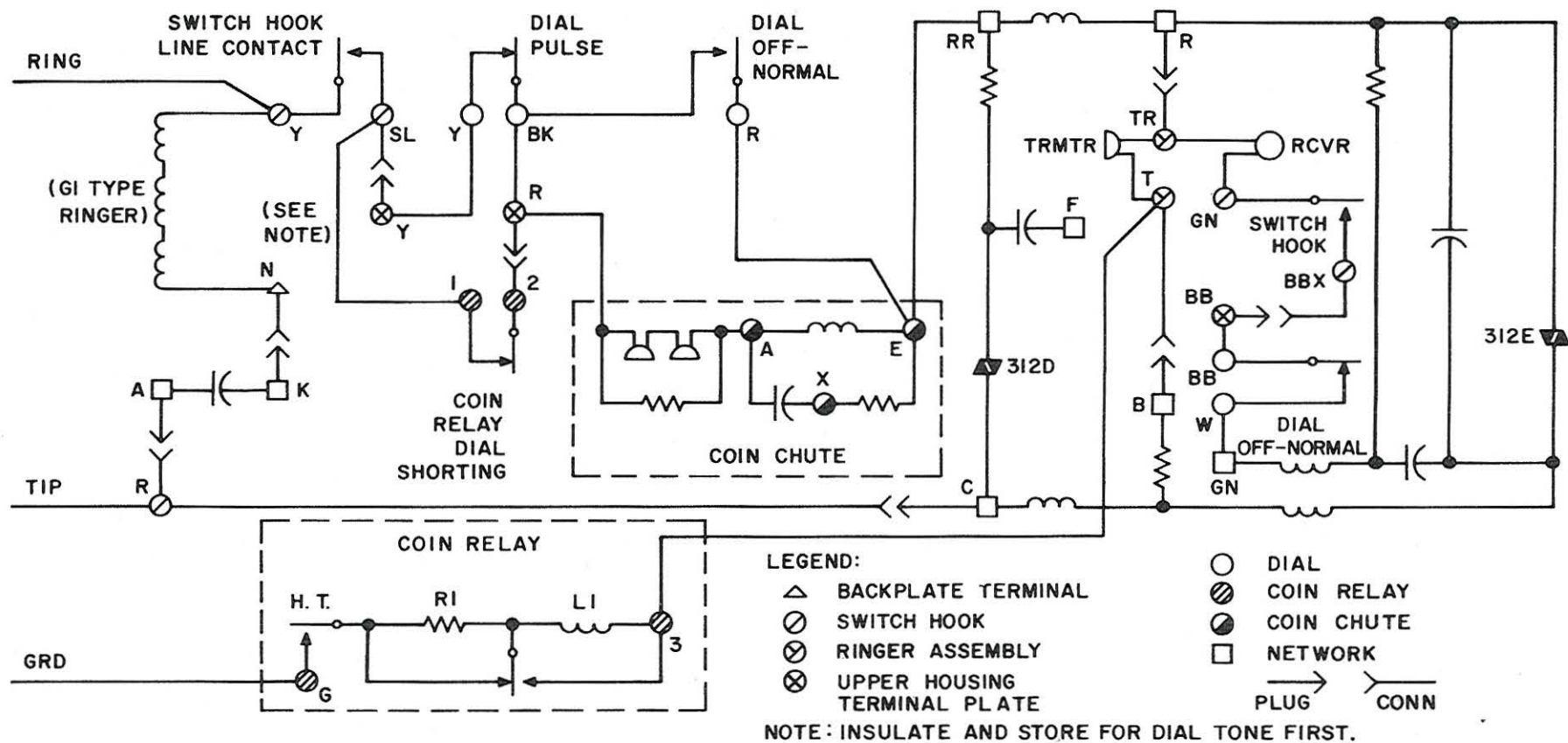


Fig. 13 — 236G Coin Collector

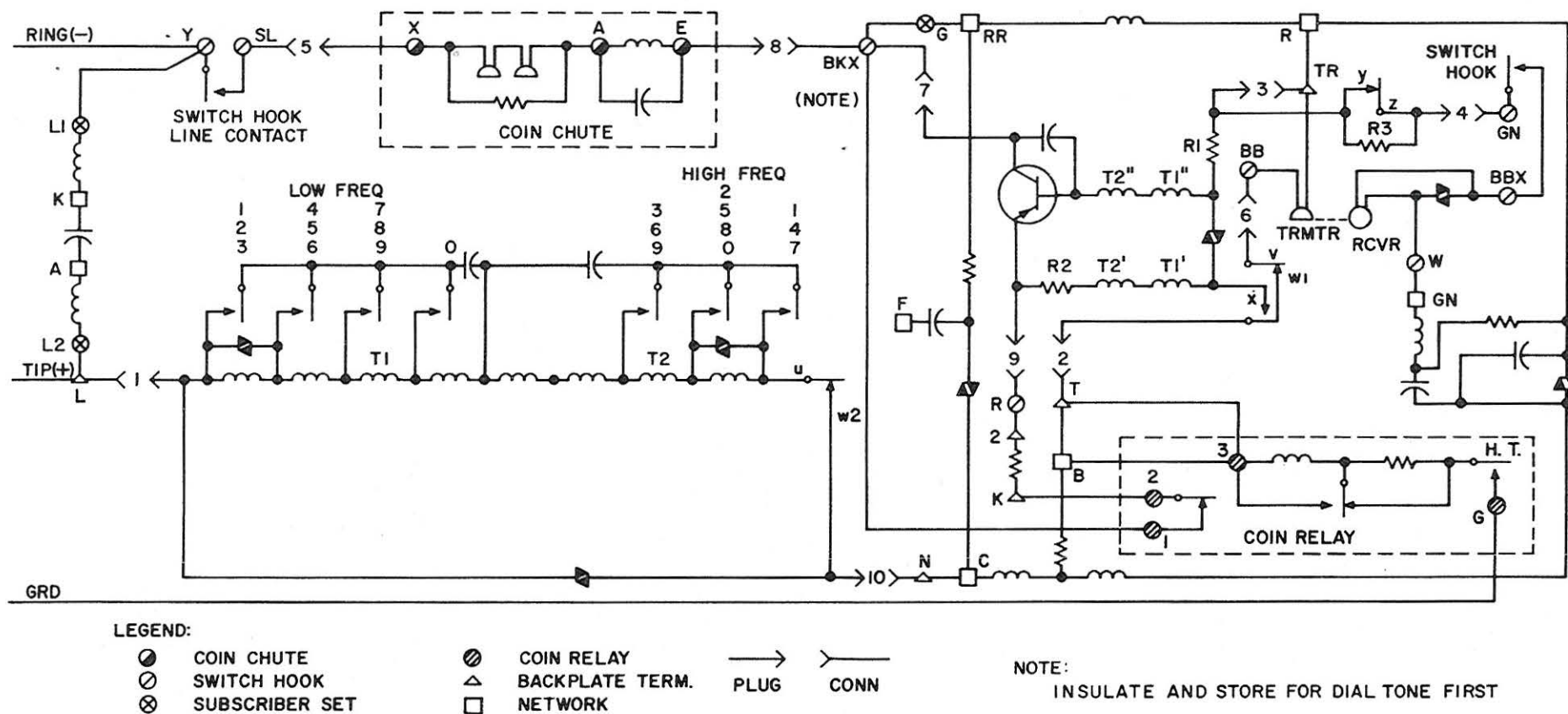


Fig. 14 — 1234G Coin Collector With 685A Subscriber Set

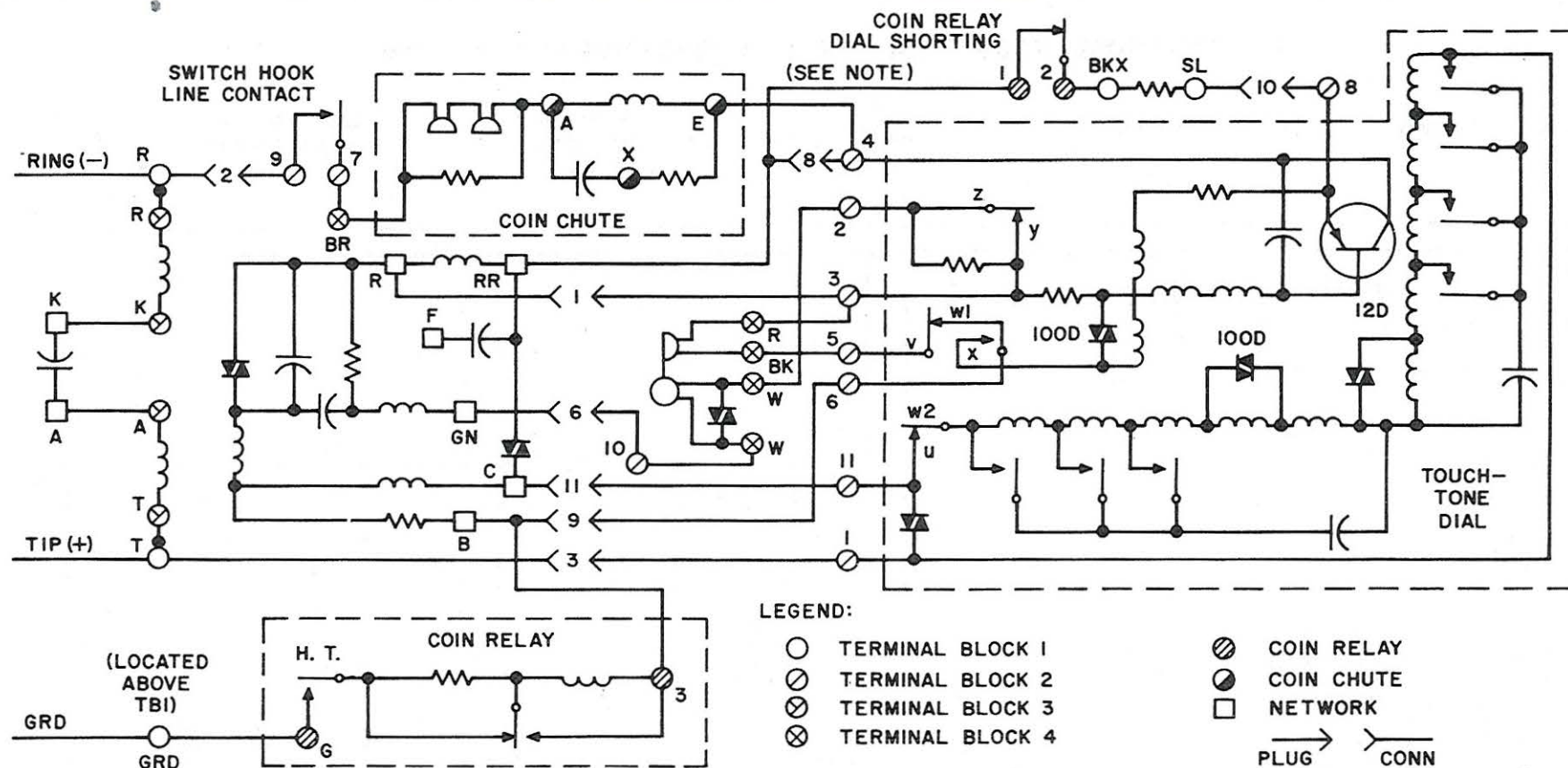


Fig. 15. 1235G Coin Collector

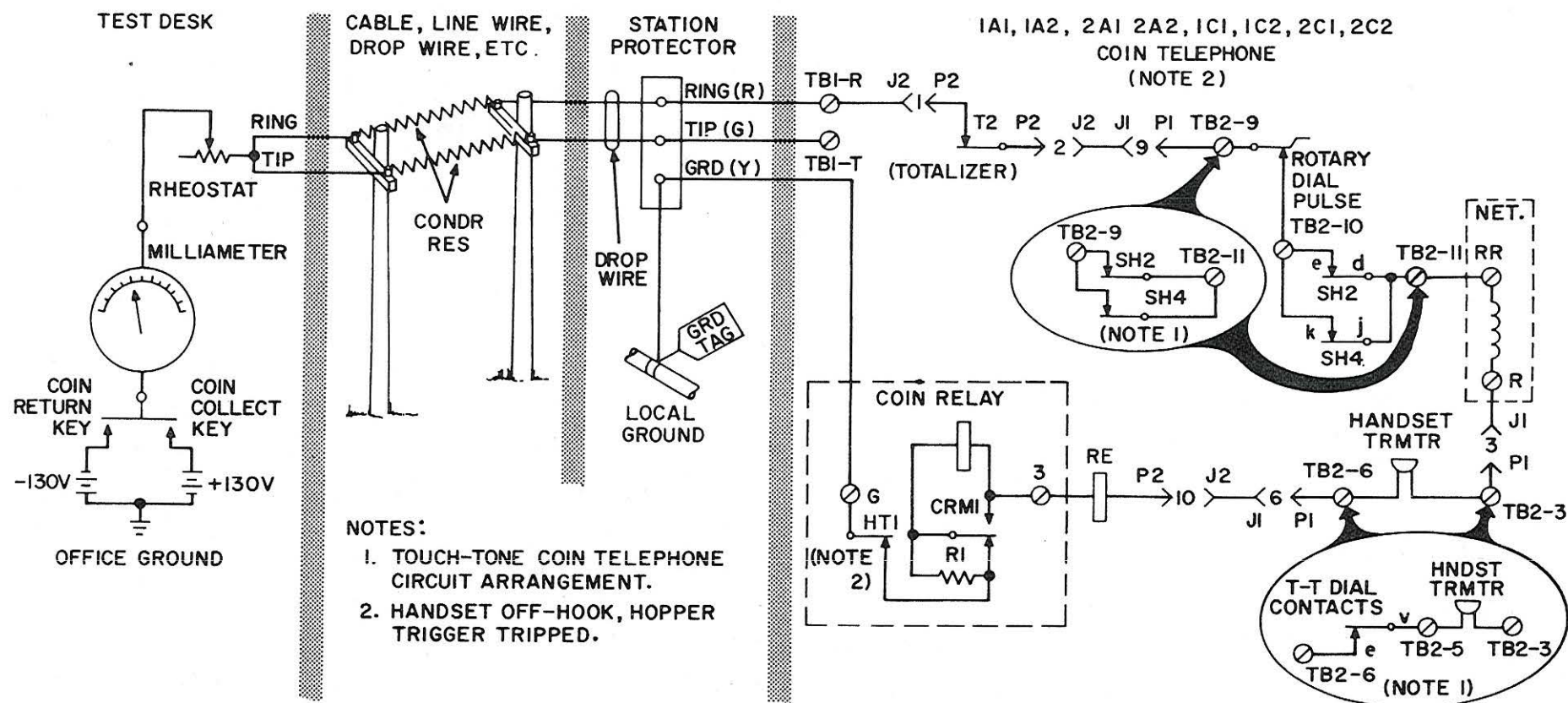


Fig. 18 — Coin Relay Current Flow Test

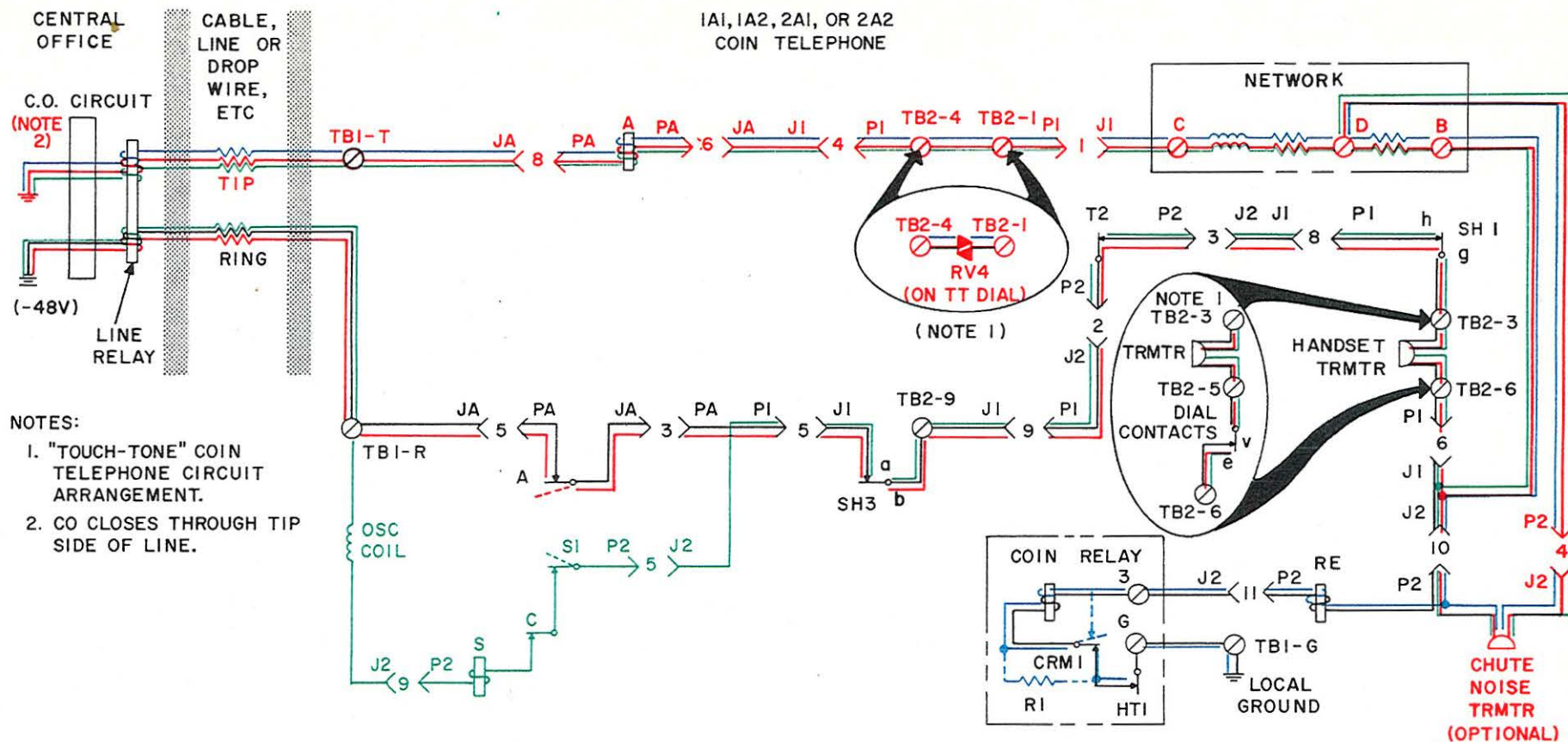


Fig. 19 — Call Abandoned With Less Than Initial Rate Deposited (Deposit Refunded)

LEGEND FOR FIG. 19

CIRCUIT CONDITION:

- Handset on switchhook
- T2 operated (coin deposited)
- HT1 (hopper trigger) operated

CIRCUIT ACTION:

1. **Black** — This circuit causes the tip side of line to be closed through to ground in the CO. Dial tone is placed on line but is ineffective. Current in this circuit (48V) is not sufficient to operate RE or coin relay.
2. **Red** — A relay operates, causing its normal contacts to open removing the short across the **S** (stepper) relay.
3. **Green** — (a) Operation of **S** relay causes its normally closed **S1** contact to open. The **S1** contact in opening causes the **S** relay to release, thus closing the **S1** contact. This operating and releasing action of the **S** relay steps the totalizer 10 degrees back to normal each time it operates. (Each \$.05 amount deposited causes the totalizer to rotate 10 degrees off normal.)
(b) When the totalizer has been stepped back to normal, **T2** contact restores, (opens its make contact, which in turn, opens the telephone circuit.
4. **Blue** — (a) The CO, detecting the open telephone circuit, sends out negative 100 to 130 volts return battery to return the deposit.
(b) The **RE** relay in operating would normally restore the **T1** contact. Since the initial rate was not deposited, the **T1** was normal and the operated **RE** relay has no effect.
(c) The operated coin relay, closes its make contact causing the current to bypass the relay and flow through the resistor which was previously shorted. The short across the relay winding causes the relay to be slow release. The resistor, having approximately the same resistance as the coin relay winding, is placed in the circuit to protect contact **HT1** when it restores, and to protect the resistance lamp in the central office circuit.
(d) As the coin relay releases, the **HT1** contact opens, placing the coin telephone set in its idle state.

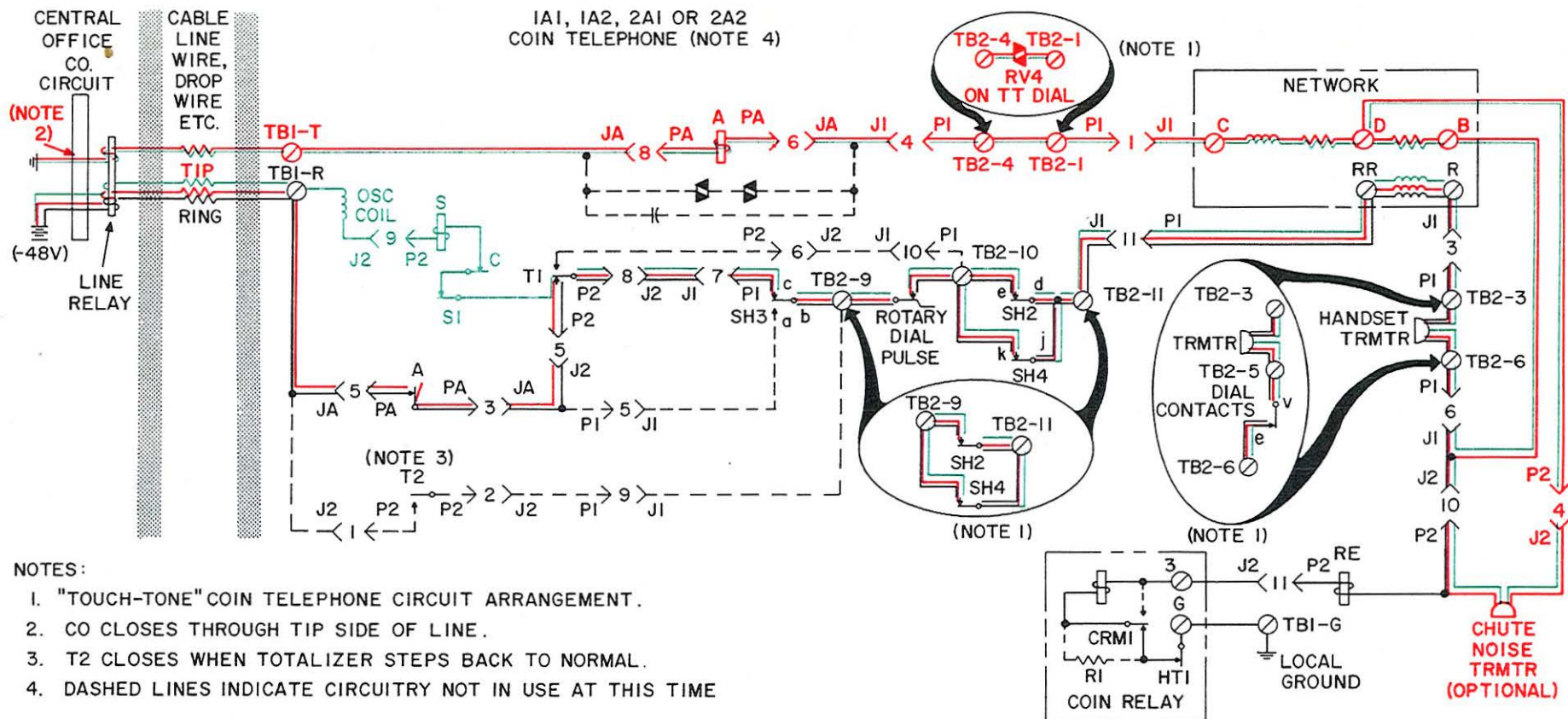


Fig. 20 — Initial Rate Deposited — Origination State

LEGEND FOR FIG. 20

CIRCUIT CONDITION:

- Outgoing call
- Handset off-hook (SH1, SH2, SH3, SH4 operated)
- T2 operated (coin deposited)
- T1 operated (initial rate deposited)
- HT1 (hopper trigger) operated

CIRCUIT ACTION:

1. **Black** — This circuit causes the tip side of line to be closed through to ground in the CO. Dial tone is placed on line. Current in this circuit (48V) is not sufficient to operate RE or coin relay.
2. **Red** — A relay operates causing its normal contact to open which removes the short across the S (stepper) relay.
3. **Green** — (a) Operation of S relay causes its normally closed S1 contact to open. The S1 contact in opening causes the S relay to release thus closing the S1 contact. This operating and releasing action of the S relay steps the totalizer 10 degrees back to normal each time it operates.
(b) When the totalizer has been stepped back to normal the T2 contact resets and places the telephone circuit in its dialing and talking state.

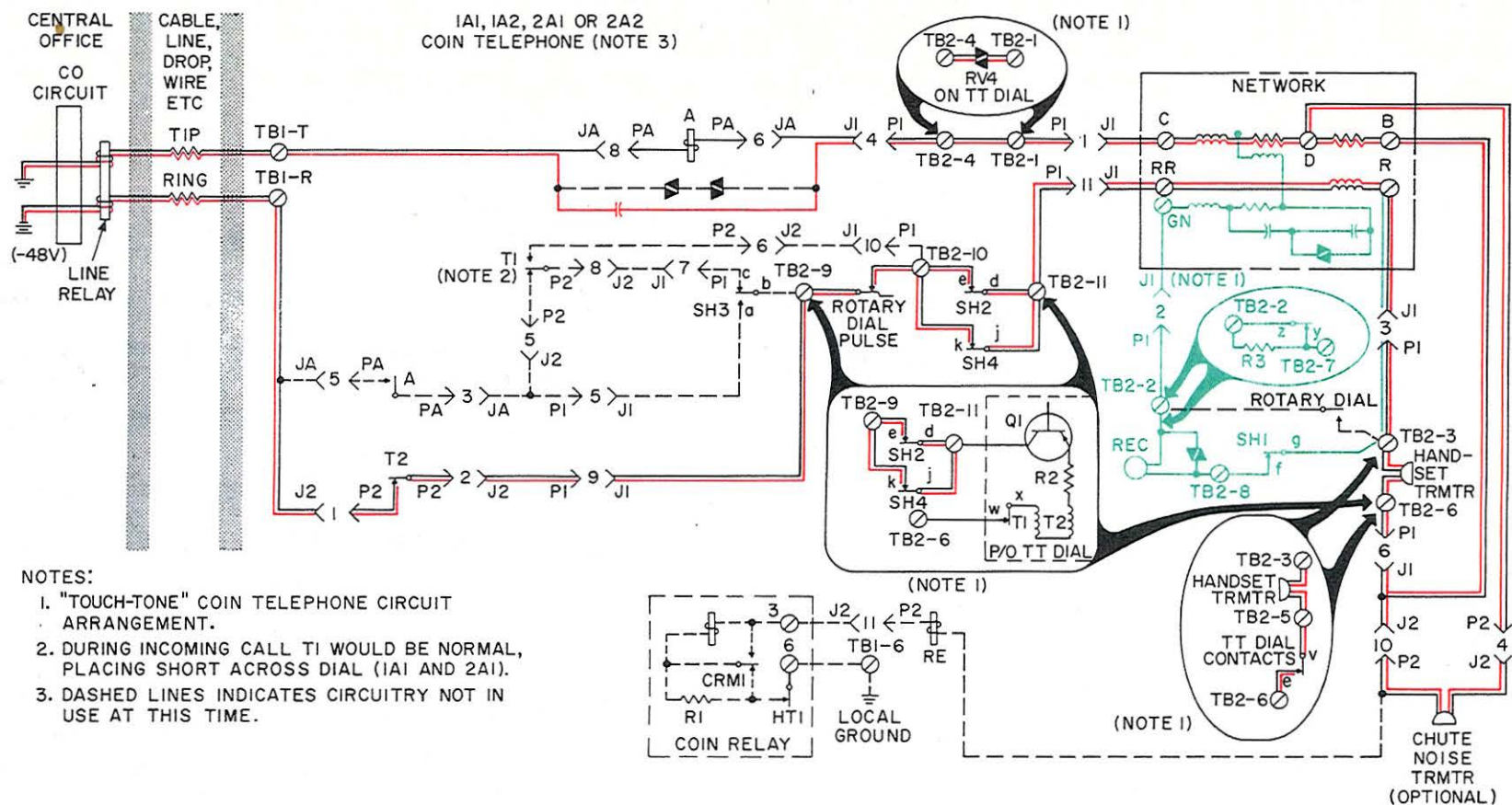


Fig. 21 — Dialing, Talking, and Listening Circuits

LEGEND FOR FIG. 21

CIRCUIT CONDITION:

- Outgoing call
- Handset off-hook
- Dial tone present
- T1 operated
- T2 returned to normal

CIRCUIT ACTION:

1. Black — Dialing —

Dialing path of rotary dial coin telephone set differs from TOUCH-TONE set (see Note 1 and insets). TOUCH-TONE dial contacts V, E open and disconnect transmitter from network during dialing; contacts W, X close and connect the dial oscillator to the network in place of the transmitter.

2. Red — Talking —

TOUCH-TONE dial contacts V, E close, and W, X open during the talking state (see insets). The coin signal transmitter detects the sound of coins dropping through the chute.

3. Green — Listening —

- (a) The listening (secondary) circuit receives its energy through inductive coupling from the primary induction coil windings.
- (b) Rotary dial off-normal contacts short out the receiver during dialing.
- (c) TOUCH-TONE dial contacts Y, Z remove the shunt across level limiting resistor R3 to reduce oscillator sidetone during dialing.

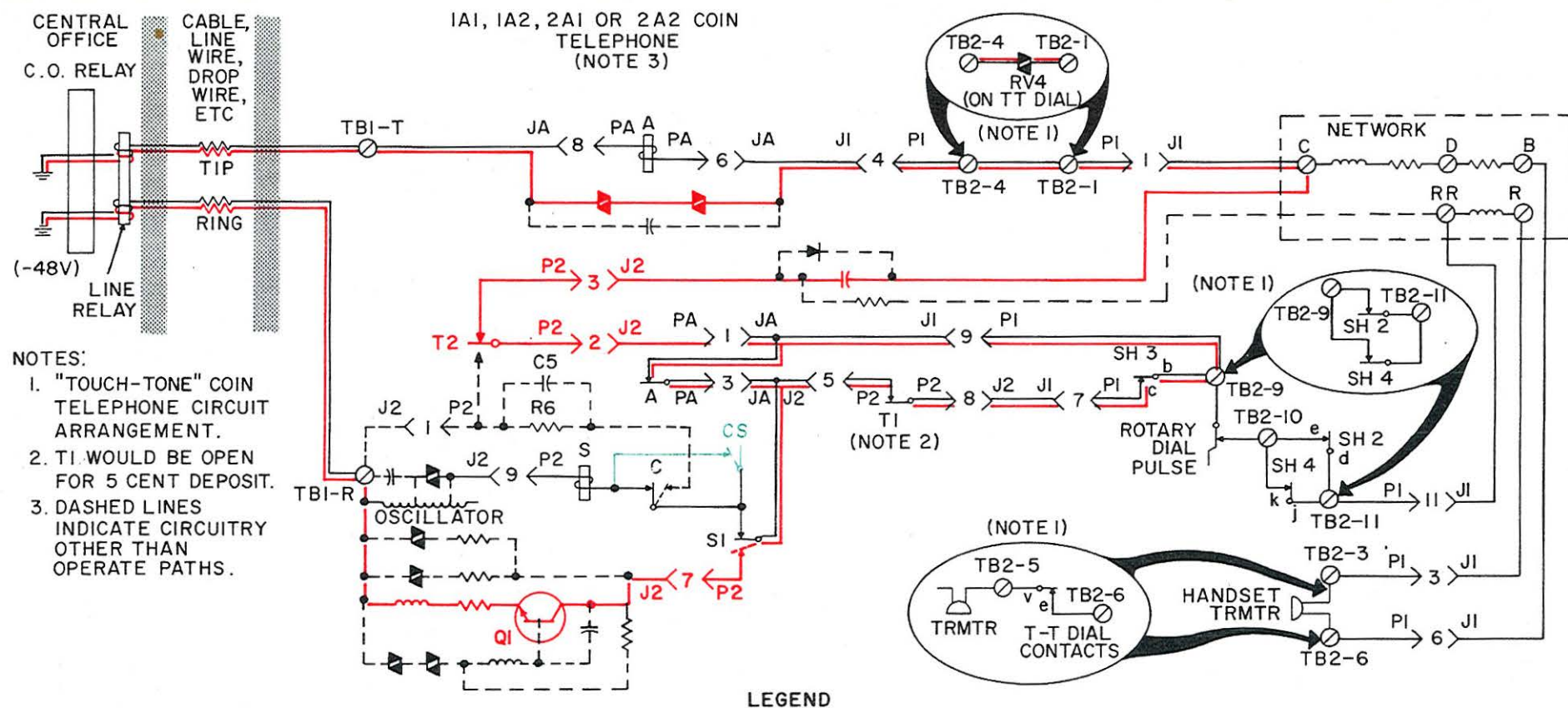


Fig. 22 — Coin Signal Tone Circuit

LEGEND FOR FIG. 22

CIRCUIT CONDITION:

- Nickel, Dime, or Quarter deposit requested by operator
- T2 operated as result of deposited coin
- C and CS contacts normal for nickel or dime deposit
- C and CS contacts operated for quarter deposit

CIRCUIT ACTION:

1. **Black** — Oscillator charging circuit and S relay operating path for nickel or dime deposit. The circuit is shown for dime deposit. Nickel deposit circuit would be the same, except T1 contact would be normal (open) instead of closed as shown.
2. **Black and Green** — Oscillator charging circuit and S relay operating path for quarter deposit. CS contact operates when totalizer rotates 45°, enabling charging of the oscillator and operation of S relay after C contact opens. This enables a faster readout of the oscillator circuit.
3. **Red** — Oscillator readout (tone signal) path. Contact S1 transfers the current flow from the totalizer to the transistor. Current flow is increased and decreased due to the changing polarity on the emitter and base of the transistor caused by the transformer action of the tank circuit. This produces tone signal heard by operator during operate and release stepping of S relay.

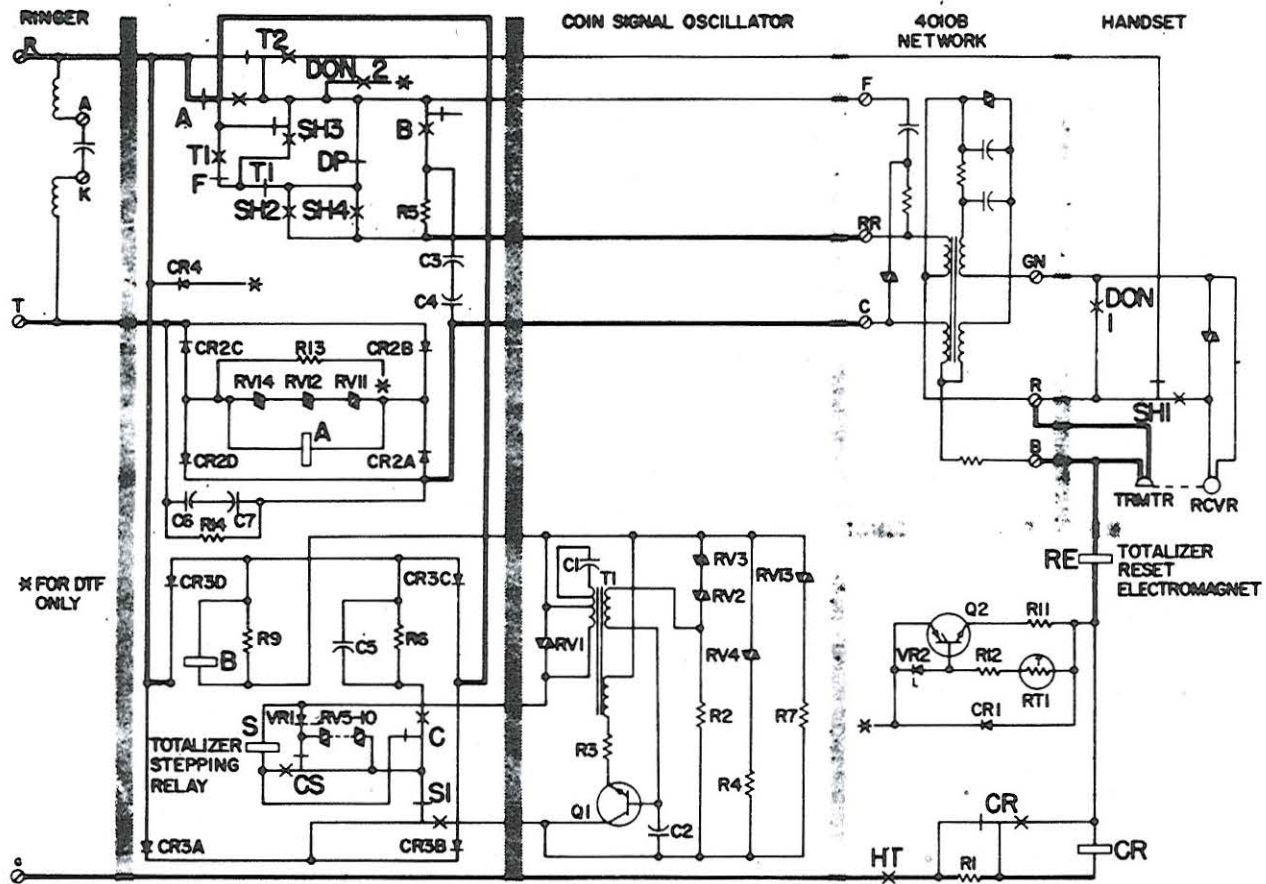


Fig. 26 — 1C1 and 2C1 Coin-First Coin Telephone Sets, Schematic

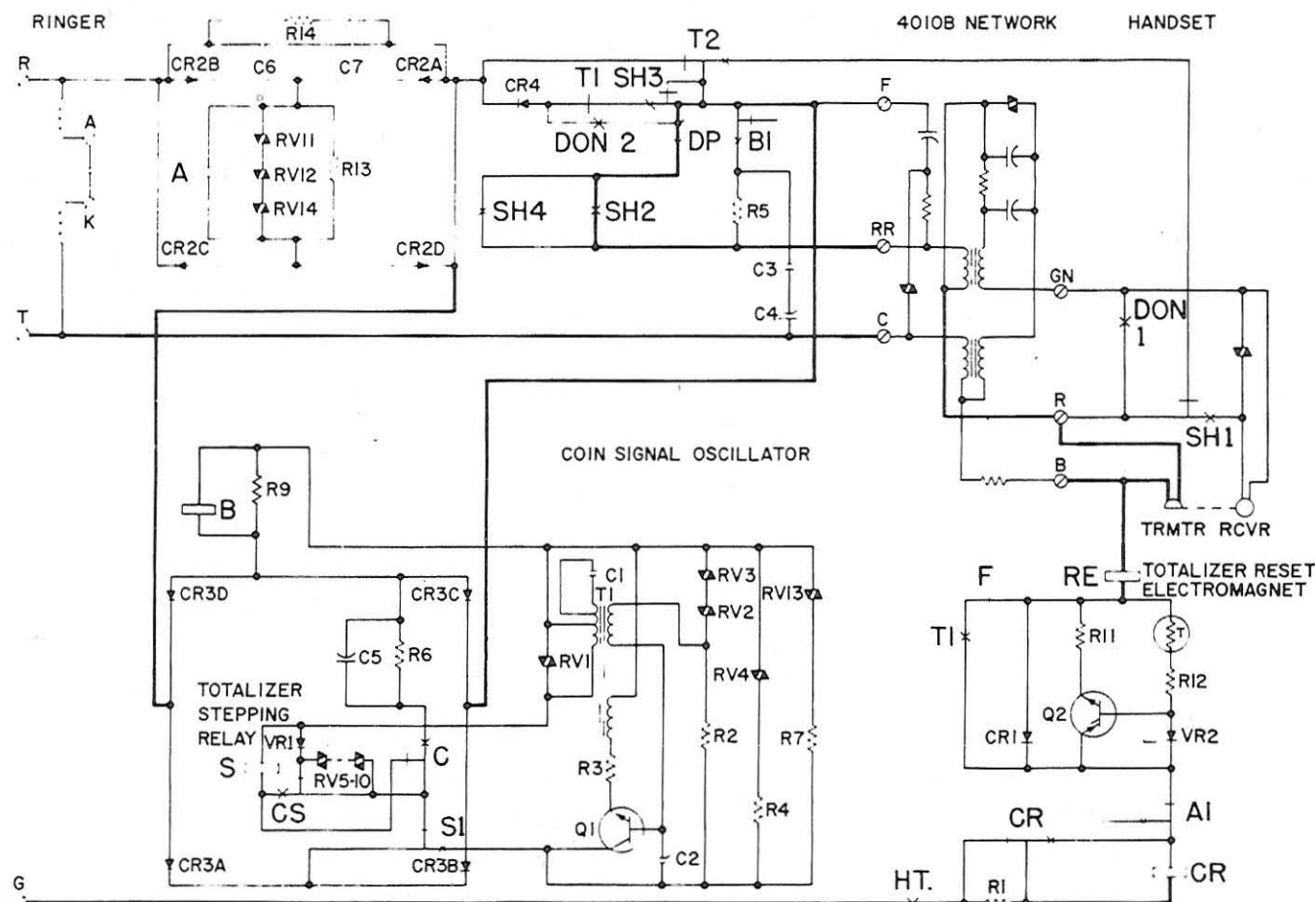


Fig. 27 — 1C1 and 2C1 Dial-Tone-First Coin Telephone Sets, Schematic

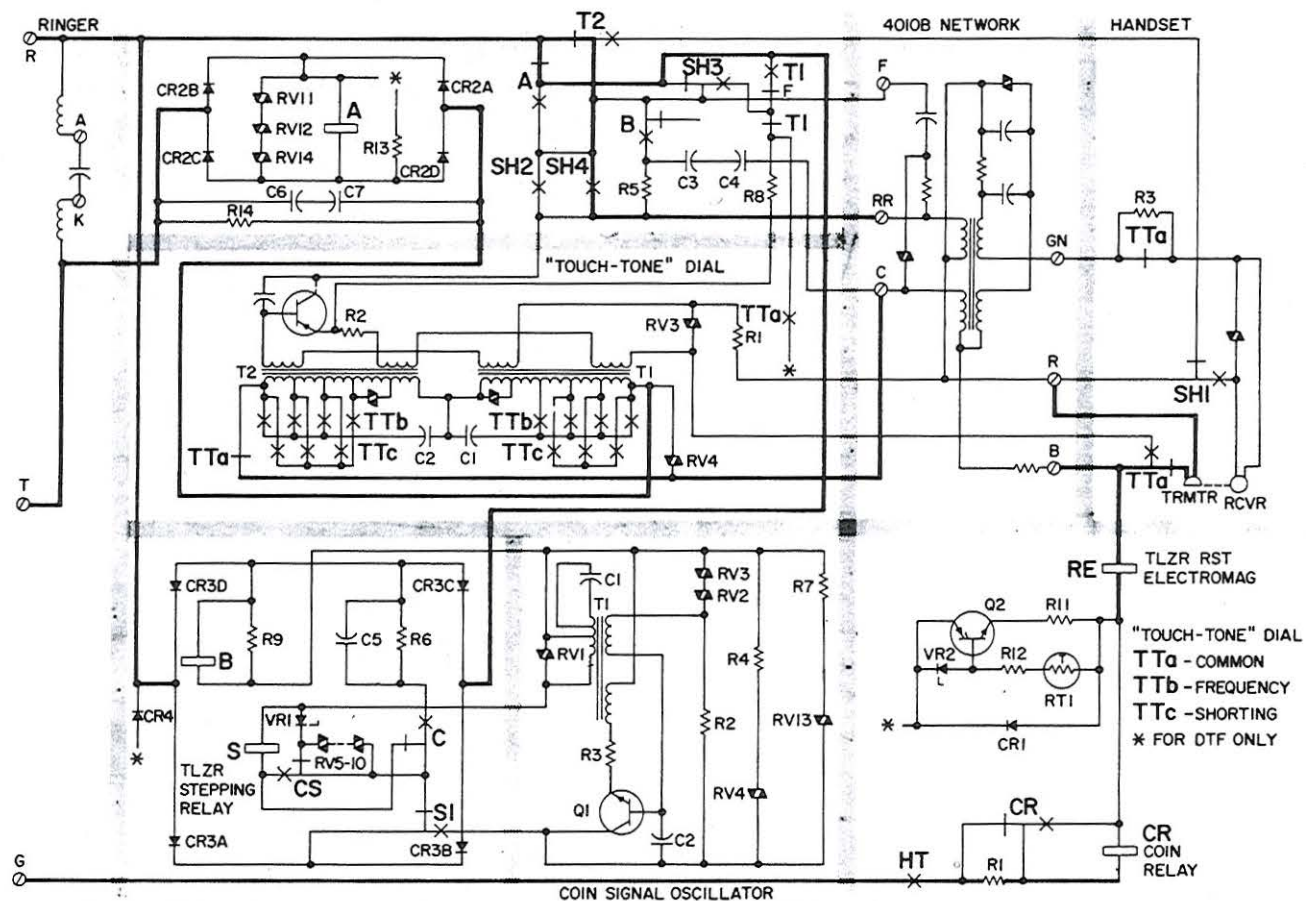


Fig. 28 — 1C2 and 2C2 Coin-First Coin Telephone Sets, Schematic

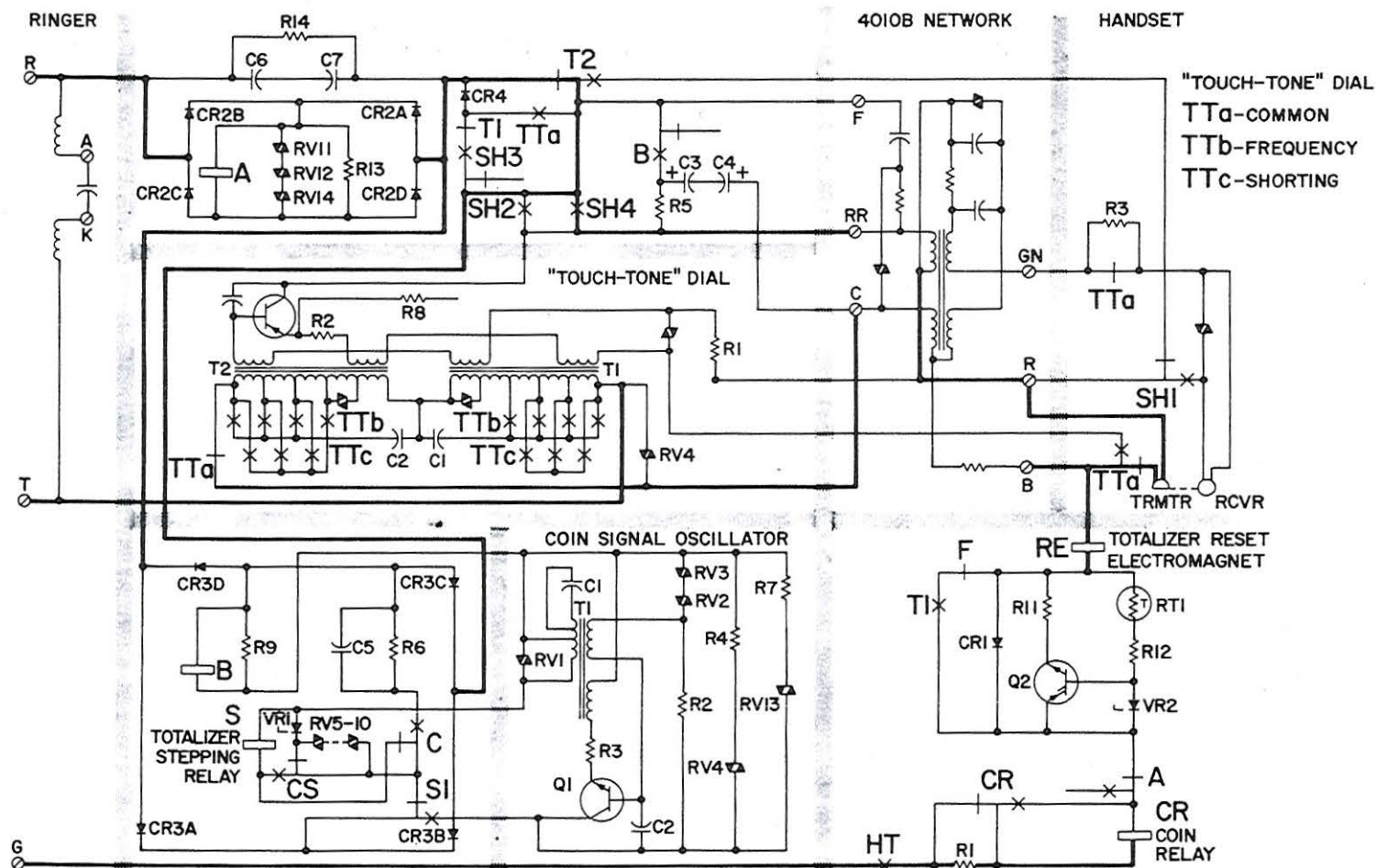


Fig. 29 — 1C2 and 2C2 Dial-Tone-First Coin Telephone Sets, Schematic