

COIN TELEPHONE SETS

1C- AND 2C-TYPES

CONTENTS	PAGE	CONTENTS	PAGE
1. GENERAL	1	<i>1A Coin Relay</i>	34
2. IDENTIFICATION	3	<i>Coin Hopper</i>	34
ORDERING GUIDE	3	<i>Return Chute Assembly</i>	35
DESIGN FEATURES	5	<i>Coin Return Assembly</i>	35
OPERATING FEATURES	5	<i>Ringer</i>	35
3. INSTALLATION	9	<i>Handset</i>	35
LOCATION	9	<i>Dial and Housing Assembly</i>	36
BACKBOARDS AND SECURITY STUDS	9	CLEANING	36
APPLICATION	10	7. CONNECTIONS	36
COMPONENTS	10	8. CONVERSIONS	36
<i>Cover Unit Assembly (1C-Type)</i>	10	1. GENERAL	
<i>Door and Faceplate Assembly (2C-Type)</i>	13	1.01 This section includes identification, installation, operation tests and trouble analysis, maintenance, connections, and procedures for converting 1C- and 2C-type coin telephone sets to either the prepay (PP) or dial tone first (DTF) mode of operation.	
<i>1AA Chute</i>	13	1.02 The convertible 1C-type coin telephone sets (Fig. 1) replace the prepay-only 1A-type.	
<i>1A Coin Chassis</i>	14	1.03 The convertible 2C-type coin telephone sets (Fig. 2) replace the prepay-only 2A-type.	
<i>Coin Receptacle (Cash Box)</i>	15	1.04 The 1C1 set can be modified to a 1C2 by replacing the rotary dial-equipped P-90E400 cover unit assembly with a TOUCH-TONE dial-equipped P90E500 cover unit assembly. No wiring changes are necessary. No provision is made for modifying a 2C1 set to a 2C2.	
<i>Instruction Cards (1C-Type)</i>	16	1.05 All 1C- and 2C-type coin telephone sets are shipped wired for prepay service but can be converted in the field to dial tone first service. Refer to Part 8.	
<i>Instruction Cards (2C-Type)</i>	16		
<i>Number Card (TOUCH-TONE® Only)</i>	17		
WIRING	17		
4. OPERATION TESTS AND TROUBLE ANALYSIS (PREPAY MODE)	18		
5. OPERATION TESTS AND TROUBLE ANALYSIS (DIAL TONE FIRST MODE)	28		
6. MAINTENANCE	33		
<i>Clearing Chute</i>	33		
<i>Electrical Troubles</i>	33		
<i>1AA Coin Relay</i>	33		

1.08 Overall dimensions of the 2C-type coin telephone set are shown in Fig. 3.

2. IDENTIFICATION

ORDERING GUIDE

Set, Coin Telephone, 1C1*, 1C2*, 2C1-67A, or 2C2-67A

(a) *Replaceable Components for 1C1 (Fig. 4)*

- P-90E400* cover unit assembly
- P-84A852 number plate assembly
- G3P-52 handset†
- P90D274 dial and housing assembly
- 8S-52 dial‡
- 1AA chute
 - 1A chute
 - 1A totalizer
- 1A coin chassis
 - C4A ringer
- 1AA coin relay
 - 1A coin relay
 - P-15E717 coin hopper assembly
- P-15E730 return chute assembly
- P-21F546 coin return assembly
- 1B coin receptacle rail

(b) *Replaceable Components for 1C2 (Fig. 4)*

- P-90E500* cover unit assembly
- G3P-52 handset†
- P-90D275 dial and housing assembly
 - 35T3A 12-button TOUCH-TONE dial
- 1AA chute
 - 1A chute
 - 1A totalizer
- 1A coin chassis
 - C4A ringer

(c) *Replaceable Components for 2C1 (Fig. 5)*

- 1AA chute
 - 1A chute
 - 1A totalizer
- 1A coin chassis
 - C4A ringer
- 1AA coin relay
 - 1A coin relay

- P-15E717 coin hopper assembly
- P-15E730 return chute assembly
- P-21F546 coin return assembly
- G3P-52 handset†
- 1D coin receptacle rail
- 5A door
- P-87B052 number plate assembly
- P-90D274 dial and housing assembly
 - 8S-52 dial‡

(d) *Replaceable Components for 2C2 (Fig. 5)*

- (1) Components for the 2C2 set are the same as for 2C1 with the following exceptions:
- P-90D275 dial and housing assembly
 - 35T3A 12-button TOUCH-TONE dial
 - P-87B052 numberplate assembly (not required)

(e) *Associated Apparatus for 1C-Type (order separately)*

- 2A door*
- 1B or 1C coin receptacle
- 1D or 1E coin receptacle cover
- 1A switch kit (alarm) (See Section 506-110-103)
- 257A alarm switch assembly (See Section 506-110-103)
- 30-Type lock (cash compartment) (See Section 506-110-103)
- 29A lock (cover unit assembly) (See Section 506-110-103)

* See Table A for color selection.

† A G13B handset (for impaired hearing) or G3S handset (waterproof) is available for use with the 1C/2C-type coin telephone sets but must be ordered separately. Refer to Section 501-211-102 for complete information on the handset.

‡ The fingerwheel (P-21F299) for the 8S dial is shipped loose and is to be installed in the field. The releasing hole has been partially plugged (requires sharp rap on KS-16750 releaser to pierce) to deter tampering; thus station number card should be in place before fingerwheel is installed on dial. Refer to Section 501-162-100 for complete information on the fingerwheel.

SECTION 506-329-100

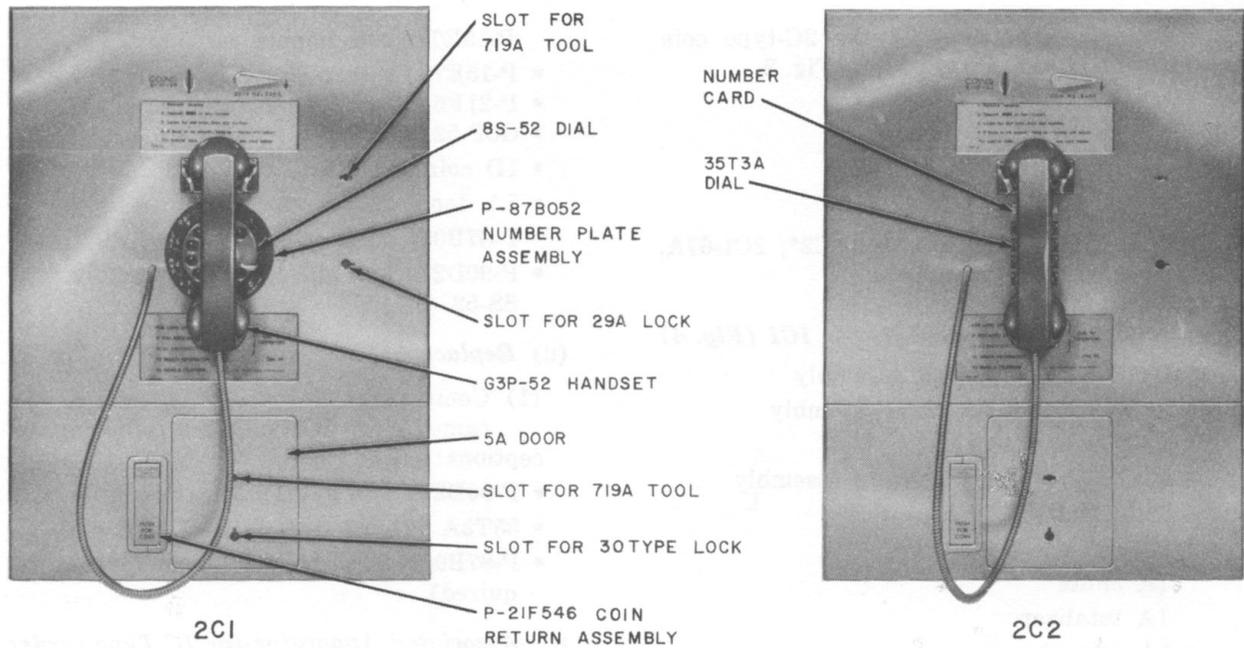
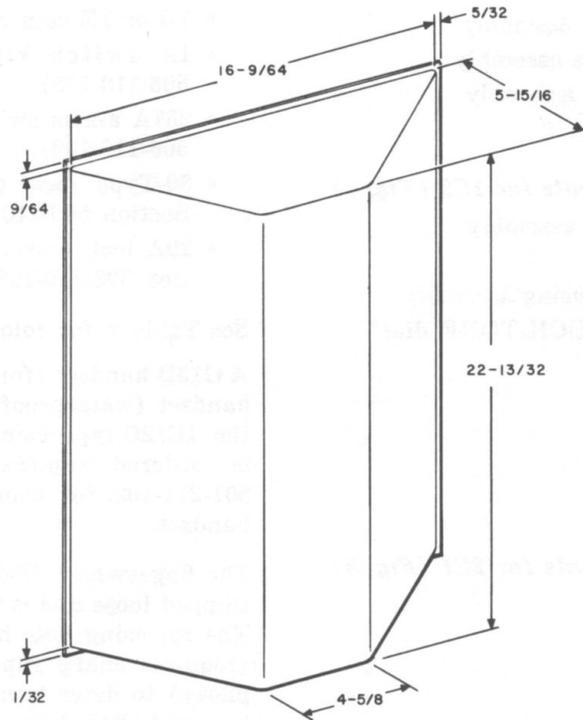


Fig. 2 — 2C-Type Coin Telephone Sets



- NOTES:
1. ALL DIMENSIONS SHOWN ARE IN INCHES.
 2. THE SWITCH HOOK AND HANDSET EXTEND 2-3/4 INCHES IN FRONT OF THE FACEPLATE.

Fig. 3 — Rear View of 2C-Type Showing Dimensions

- 719A tool (See Section 506-110-103)
 - PIIC test cord* (Fig. 6)
 - Security studs
- (f) **Associated Apparatus for 2C-Type (order separately)**
- 1B or 1C coin receptacle
 - 1D or 1E coin receptacle cover
 - 30-Type lock (cash compartment) (See Section 506-110-103)
 - 257A alarm switch assembly (See Section 506-110-103)
 - 29A lock (door and faceplate assembly) (See Section 506-110-103)
 - 719A tool (See Section 506-110-103)
 - P11C test cord* (Fig. 6)
 - 127A or 127B cover† (Fig. 7)
 - Security studs

* Used for testing when access to inside of set is required.

† For use over the coin telephone set in installations not flush mounted.

secured by a 29A lock. Cash compartment door has four locking points actuated by a 719A tool and is secured by a 30-type lock.

- (b) Provision is made for use of four security studs. (Fig. 8).
- (c) The single slot provided accepts U.S. nickels, dimes, and quarters.
- (d) All sorting of coins is done internally by chute.
- (e) Coin return is designed to deter stuffing.
- (f) Transmission characteristics of 500-type telephone set.
- (g) Arranged to accept 1B or 1C coin receptacle. When larger 1C is used, false floor in cash compartment must be removed.
- (h) 1D or 1E coin receptacle cover may be used.
- (i) Electrical connections of field replaceable assemblies are made by plug and jack arrangement except coin relay, ringer, and coin chassis.
- (j) Will accept 1A alarm switch kit or 257A alarm switch.
- (k) Designed for field conversion from prepay mode to dial tone first mode.

TABLE A

**COLOR ORDERING GUIDE
(1C-TYPE ONLY)**

COLOR		HOUSING AND MOUNTING PLATE ASSEMBLY	2A DOOR	COVER UNIT ASSEMBLY
Black	-03	•	•	•
Chrome	-44		•	
Moss Green	-51	•	•	•

DESIGN FEATURES

1C-Type

- (a) All parts are contained in a high-security steel housing; cover unit assembly has six locking points actuated by a 719A tool and is

2C-Type

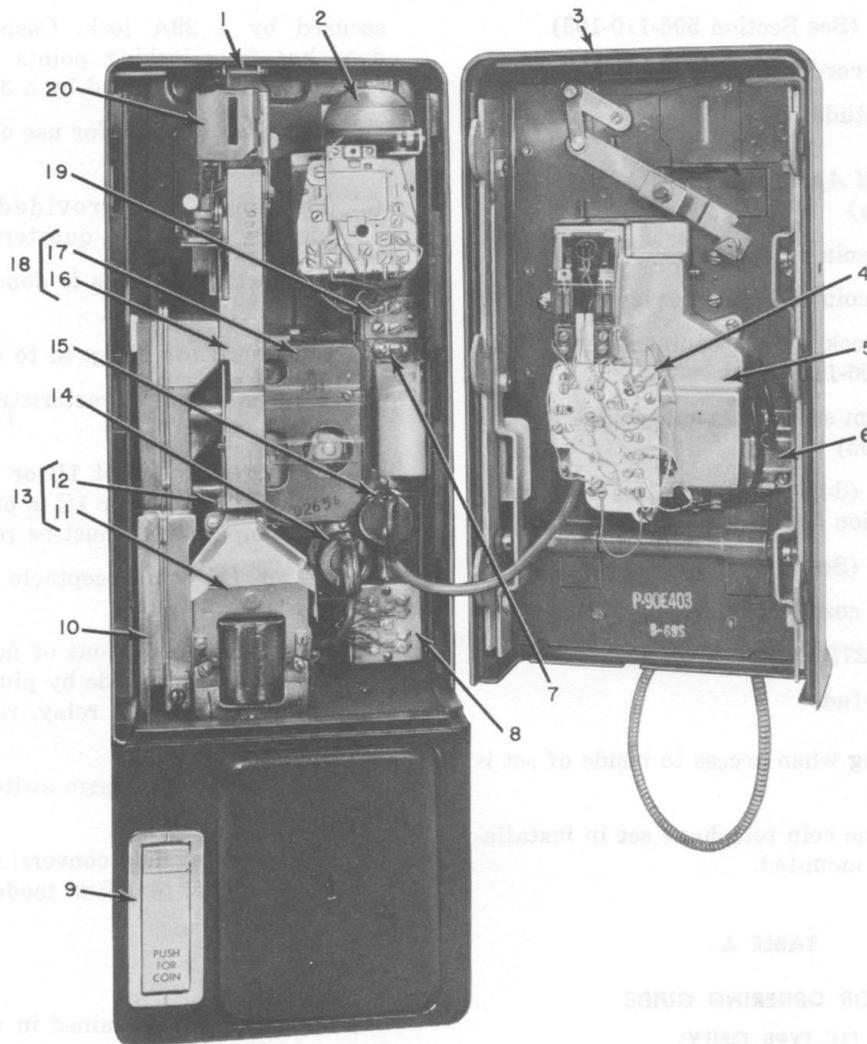
- (a) All parts are contained in a high-security steel housing; door and faceplate assembly has six locking points actuated by a 719A tool and is secured by a 29A lock. Cash compartment door has five locking points; three are actuated by a 719A tool; two are stationary. Door is secured by a 30-type lock.

Note: Other design features are same as listed for 1C-type, except the 2C-type which will not accept the 1A switch kit.

- (b) Refer to Fig. 9 for location of mounting screw and security stud holes.

OPERATING FEATURES

- (a) For prepay operation, the coin telephone line circuit at the central office responds to ground start control. A start circuit must

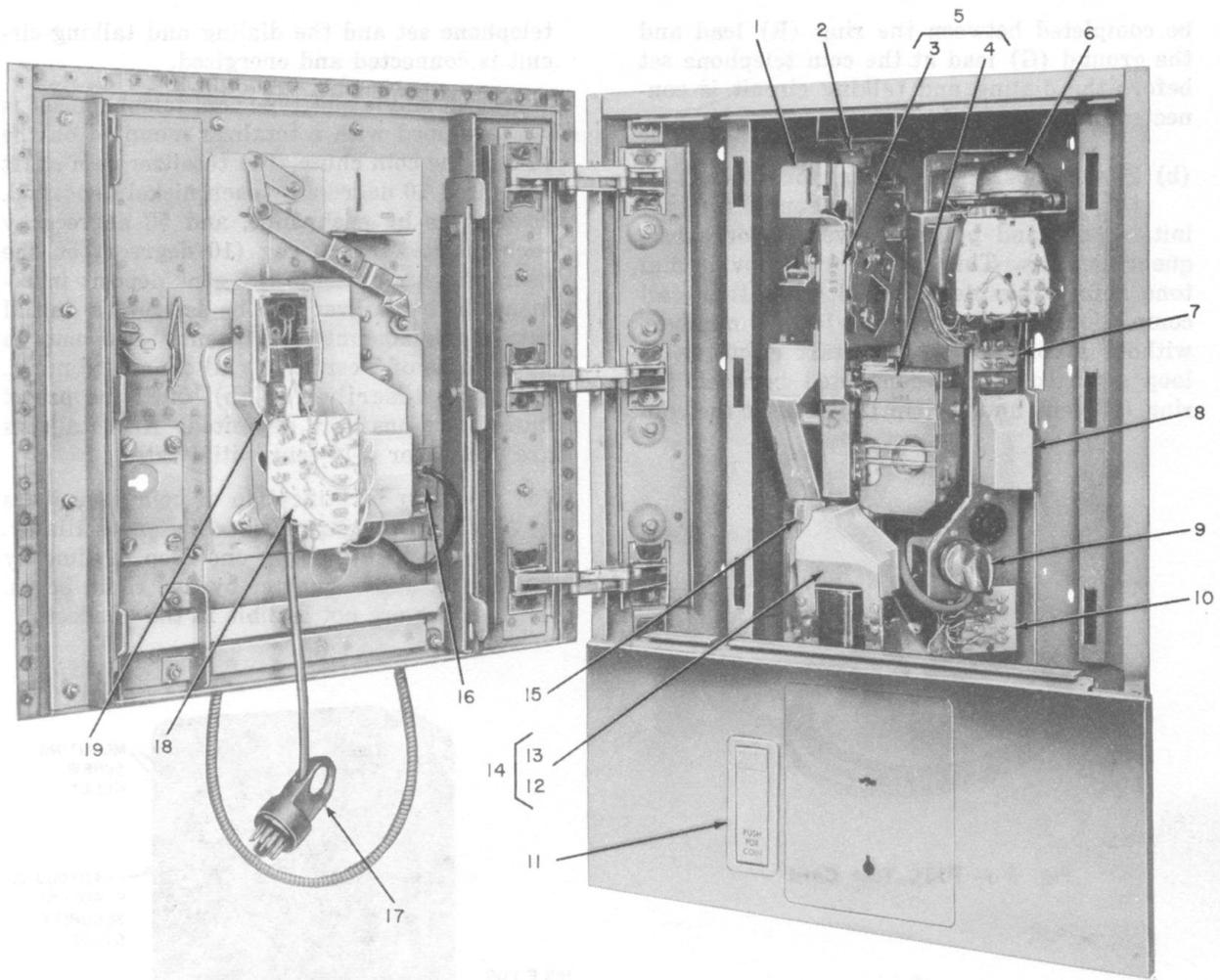


LEGEND

- 1—P-40Y144 LOCKING LEVER ASSEMBLY
- 2—C4A RINGER
- 3—P-90E400 (1C1) OR P-90E500 (1C2) COVER UNIT ASSEMBLY
- 4—TB2
- 5—P-90D274 (1C1) OR P-90D275 (1C2) DIAL AND HOUSING ASSEMBLY
- 6—P-15E444 COVER PLATE AND P-181678 BHM SCREW
- 7—1A COIN CHASSIS
- 8—TB3
- 9—P-21F546 COIN RETURN ASSEMBLY

- 10—P-15E730 RETURN CHUTE ASSEMBLY
- 11—1A COIN RELAY
- 12—P-15E717 COIN HOPPER ASSEMBLY
- 13—1AA COIN RELAY
- 14—P2
- 15—P1
- 16—1A CHUTE
- 17—1A TOTALIZER
- 18—1AA CHUTE
- 19—TB1
- 20—P-23F361 ENTRANCE STOP

Fig. 4 — Assembly of Parts (1C-Type)



LEGEND

- 1—P-23F361 ENTRANCE STOP
- 2—P-40Y144 LOCKING LEVER ASSEMBLY
- 3—1A CHUTE
- 4—1A TOTALIZER
- 5—1AA CHUTE
- 6—C4A RINGER
- 7—TB1
- 8—1A COIN CHASSIS
- 9—P2
- 10—TB3

- 11—P-21F546 COIN RETURN ASSEMBLY
- 12—1A COIN RELAY
- 13—P-15E717 COIN HOPPER ASSEMBLY
- 14—1AA COIN RELAY
- 15—P-15E730 RETURN CHUTE ASSEMBLY
- 16—P-15E444 COVER PLATE AND P-181678 BHM SCREW
- 17—P1
- 18—TB2
- 19—P-90D274 (2C1) or P-90D275 (2C2) DIAL AND HOUSING ASSEMBLY

Fig. 5 — Assembly of Parts (2C-Type)

be completed between the ring (R) lead and the ground (G) lead at the coin telephone set before the dialing and talking circuit is connected and energized.

(b) System operation for dial tone first is on the basis of loop start, ground test for initial rate, and polarity reversal for subsequent deposits. This system will provide dial tone before coin deposit and will allow call completion to certain preselected numbers without a coin deposit. A start circuit with loop start control is completed between the ring (R) lead and the tip (T) lead at the coin

telephone set and the dialing and talking circuit is connected and energized.

(c) Each single slot type coin telephone set is equipped with a totalizer mounted on the side of the coin chute. The totalizer cam shaft is rotated 10 degrees by each nickel deposited, 20 degrees by each dime, and 50 degrees by each quarter. Each cog (10 degrees) on the gear wheel represents a 5-cent deposit increment. The totalizer can be set for an initial rate of any amount from 5 cents to 45 cents in increments of 5 cents. A call cannot be made, except as described in (b), until the preset initial rate has been deposited. All totalizers are preset for a 10-cent initial rate.

(d) Operator identification of coin deposits is by beep tones generated by an oscillator. A nickel is identified by one beep, a dime by two beeps, and a quarter by five rapid beeps. These tones are not audible in the handset.

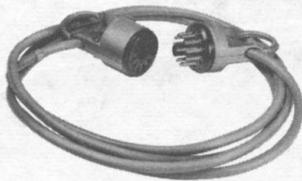


Fig. 6 — P11C Test Cord

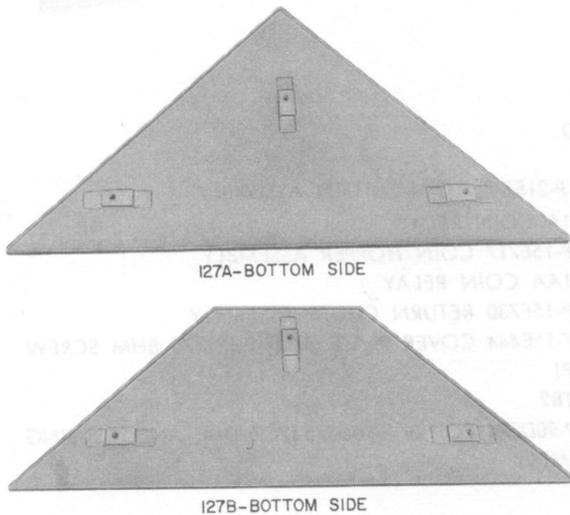


Fig. 7 — 127A and 127B Covers

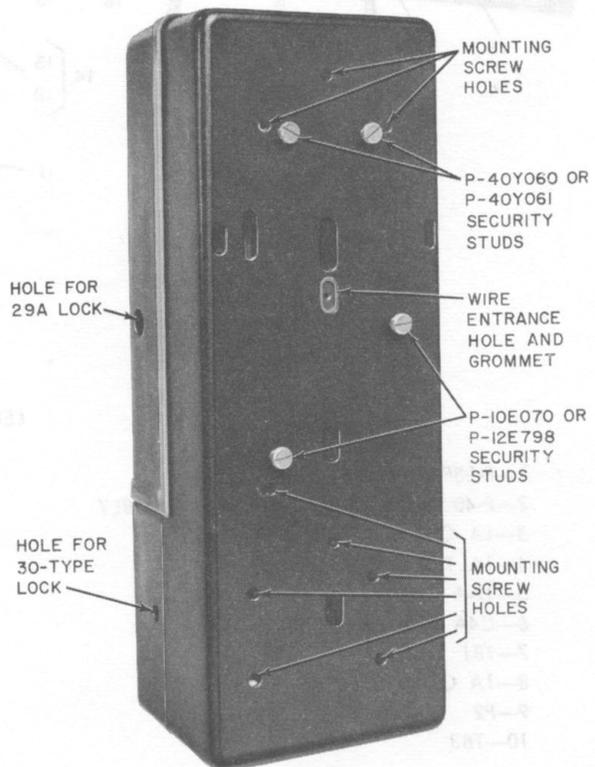


Fig. 8 — Location of Mounting Screw Holes and Security Studs in 1C-Type

3. INSTALLATION

LOCATION

(a) The 1C-type coin telephone can be installed in/on the following:

- 178A-3 backboard
- 10- and 11-type booths
- KS-14611 outdoor booth
- KS-16797 universal booth
- KS-19206 curved door booth
- KS-19267 coin telephone shelf
- KS-19340 wood booth
- KS-19425 indoor-outdoor booth

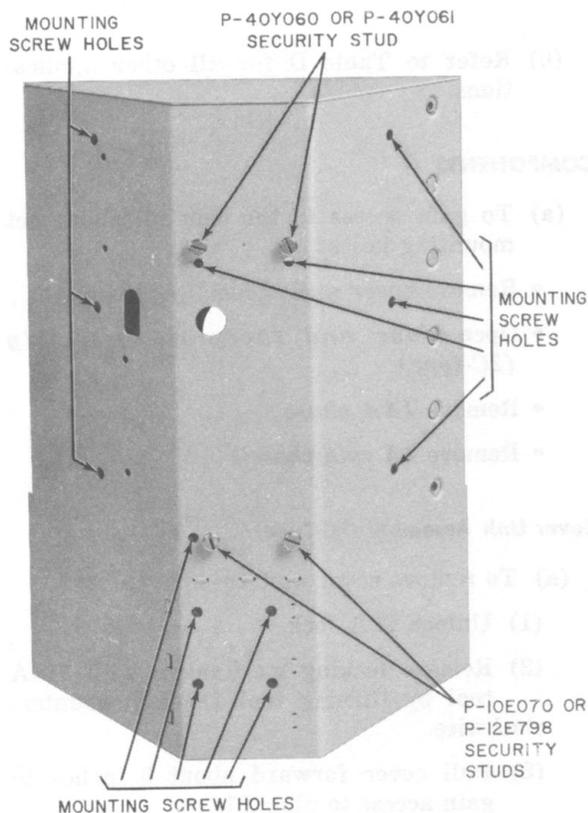


Fig. 9 — Location of Mounting Screw Holes and Security Studs in 2C-Type

- KS-19426 walk-up, drive-up mounting
- KS-19580 outdoor booth
- KS-19945 shelf
- KS-20194 wedge shelf
- KS-20255 telephone kiosk.

(b) The 2C-type coin telephone set can be installed in the following:

- KS-19206 curved door booth
- KS-19340 wood booth
- KS-19426 walk-up, drive-up mounting
- KS-19442 deluxe glass booth
- KS-19681 shelf
- KS-20194 wedge shelf

• A wall that will allow the phone to be recessed.

(c) Consider the following:

- Accessibility to customers
- Sufficient light
- Privacy
- Minimum noise and vibration
- Absence of grease, smoke, or dust
- Clean surroundings
- Clearance from moving machinery, piled merchandise, or narrow aisles
- Mounting surfaces — Consult a supervisor before locating coin telephone set on finishes that would be expensive to repair if the set is removed.
- Inductive effects — Locate telephone and associated wiring at least 6 inches from neon fixtures, transformers, or other interference-causing equipment.

BACKBOARDS AND SECURITY STUDS

(a) Refer to Section 506-110-105 for complete information on backboards and observe the following:



When mounting the coin telephone set, a vertical surface must be provided. A tilt greater than 1-1/2 degrees in any direction can cause chute malfunction. A vertical surface may be determined by the following steps:

- (1) Place a spirit level vertically against the mounting surface on which the set is to be installed.
- (2) When a vertical reading is obtained, the end of the level opposite the point of contact shall be no farther from the mounting surface than shown in Table B.
- (3) The left to right mounting axis shall also be within 1-1/2 degrees of true vertical.

TABLE B
METHOD OF DETERMINING
A VERTICAL SURFACE

SPIRIT LEVEL LENGTH	MAXIMUM ALLOWABLE DISTANCE OUT OF PLUMB
18 inches	15/32 inch
24 inches	5/8 inch
30 inches	25/32 inch
36 inches	15/16 inch

- (b) Refer to Fig. 8 and 9 and Tables C and D for security stud requirements.



Use security studs with short thread length in the two top holes. Use long thread length studs in the two bottom holes. Top studs must be flush or under flush with inside of backplate to avoid interference with chute. Security studs are not furnished and must be ordered separately.

APPLICATION

1C-Type

- (a) Refer to Table C.

2C-Type

- (a) To fully recess a 2C set in a wall:
 - (1) Ensure that the wall will accept the set.
 - (2) Refer to Fig. 3 for dimensions of the set.
 - (3) Cut a hole in the wall
 - Height — 22-1/2 inches
 - Width — 16-1/4 inches
 - Depth — 6 inches



Ensure that the lip of the faceplate overlaps the wall around the hole. If security studs are used, top of hole must be enlarged approximately 1/2-inch and a false panel (procured locally) provided to close the extra opening.

- (b) Refer to Table D for all other applications.

COMPONENTS

- (a) To gain access to the coin telephone set mounting holes:
 - Remove *cover unit assembly (1C-type)*
 - Open *door and faceplate assembly (2C-type)*
 - Remove *IAA chute*
 - Remove *IA coin chassis*

Cover Unit Assembly (1C-Type)

- (a) To remove cover unit assembly:
 - (1) Unlock 29A lock.
 - (2) Release locking mechanism with 719A tool by turning tool 1/8-turn counter-clockwise.
 - (3) Pull cover forward about 3 inches to gain access to plug P1.
 - (4) Disconnect plug P1 (Fig. 4) by pulling straight out as cover is carefully lifted off.

TABLE C
APPLICATION OF 1C-TYPE

BACKBOARD, BOOTH, SHELF, MOUNTING, OR KIOSK	USE BACKBOARD FURNISHED	USE OTHER THAN BACKBOARD FURNISHED	P-23F790 1/4-20 X 5/8 HARDENED RHM SCREWS FURNISHED (USE 7 MINIMUM)	SECURITY STUDS				REMARKS
				SHORT SHOULDER		LONG SHOULDER		
				P-40Y060 (SHORT THREADS)	P-10E070 (LONG THREADS)	P-40Y061 (SHORT THREADS)	P-12E798 (LONG THREADS)	
178A-3 Backboard			•	2	2			Refer to Section 506-110-105
10- and 11- Type Booths		D-179939 or D-179940 Kit of Parts	•	2	2			
KS-14611 Booth	•		•	2	2			
KS-16797 Booth		B-190387 Backboard	•			2	2	Refer to Section 508-230-100
KS-19206 Booth		KS-19206 List 6 Installation Kit	•	2	2			Refer to Section 508-115-200
KS-19267 Shelf	•		•	2	2			
KS-19340 Booth		KS-19340, List 53 Backboard	•	2	2			Refer to Section 506-110-105
KS-19425 Booth	•		•			2	2	
KS-19426 Mounting		KS-19426, List 7 Installation Kit	•			2	2	Refer to Section 508-470-200
KS-19580 Booth	•		•	2	2			
KS-19945 Shelf	*		•			2	2	
KS-20194 Shelf		178A-3 Backboard	•	2	2			
KS-20255 Kiosk	•		•			2	2	Refer to Section 508-355-100

* 178A backboard normally furnished unless otherwise specified.

TABLE D
APPLICATION OF 2C-TYPE

BOOTH, SHELF, OR MOUNTING	USE BACKBOARD FURNISHED	USE OTHER THAN BACKBOARD FURNISHED	P-23F790 1/4-20 X 5/8 HARDENED RHM SCREWS FURNISHED (USE 7 MINIMUM)	SECURITY STUDS				COVER*		REMARKS
				SHORT SHOULDER		LONG SHOULDER		127A	127B	
				P-40Y060 (SHORT THREADS)	P-10E070 (LONG THREADS)	P-40Y061 (SHORT THREADS)	P-12E798 (LONG THREADS)			
KS-19206 Booth		KS-19206, List 7 Installation Kit	•	2	2				•	
KS-19340 Booth		KS-19340, List 54 Backboard	•	2	2			•		Refer to Section 508-111-200
KS-19426 Mounting	•		•			2	2			Refer to Section 508-470-200
KS-19442 Booth		KS-19340, List 54 Backboard	•	2	2			•		
KS-19681 Shelf	•		•							
KS-20194 Shelf	•		•	2	2					Refer to Section 508-122-100

* Three No. 8-32 by 3/16 RHM screws are furnished with cover for installation.

Door and Faceplate Assembly (2C-Type)

- (a) To open door and faceplate assembly:
- (1) Unlock 29A lock.
 - (2) Release locking mechanism with 719A tool by turning 1/8-turn counterclockwise.
 - (3) Open door approximately 3 inches to gain access to plug P1 (Fig. 5).
 - (4) Disconnect P1 by pulling straight out as door is opened.

THINK Exercise care to keep the set from tipping over when door is opened.

IAA Chute

- (a) To remove chute:
- (1) Disconnect plug P2 (Fig. 4 or 5).
 - (2) Release chute locking lever.
 - (3) Lift spring out of groove in chute.
 - (4) Tilt top of chute forward and lift out.
- (b) To remove totalizer from chute:

Do not damage totalizer arms when removing or replacing totalizer on chute or when returning damaged totalizers to service center. Do not move screws that are sealed with glyptal. When returning totalizers or chutes to service center, reuse packing material from which the new item was removed.

- (1) Unscrew three captive-type mounting screws (Fig. 10) from chute.
 - (2) Carefully remove totalizer from chute.
- (c) To reset totalizer rate:

Note: Totalizers are preset at the factory for an initial 10-cent rate. If initial rates other than 10 cents are required, they may be reset (see Fig. 11). Two KS-16750, List 2 releasers or two paper clips are used to set the totalizer.



Use extreme care when resetting totalizer. Avoid damaging pawl and spring pile-ups. Do not attempt to turn totalizer cam shaft in direction opposite to that shown in Fig. 11.

- (1) Remove transparent totalizer cover by loosening captive cover screw.
- (2) Rotate totalizer shaft in proper direction (from bottom to top) until T2 springs (Fig. 11) rest in depression in shaft as indicated by movement of springs.
- (3) Depress reset latch toward bottom of totalizer.
- (4) Rotate shaft in proper direction until contacts T1 operate as indicated by an upward movement of the reset latch.
- (5) Do not allow shaft to move. Insert KS-16750, List 2 releaser or paper clip into hole 1 located near right-hand end of shaft. Do not disturb contact springs.
- (6) Hold tool firmly so that right-hand end of shaft cannot move.
- (7) Insert the second releaser or paper clip into one of the four "Hole 2" holes in center of shaft. Do not allow end of pin or clip to extend too far beyond shaft; this may damage insulation of coil located directly beneath shaft.

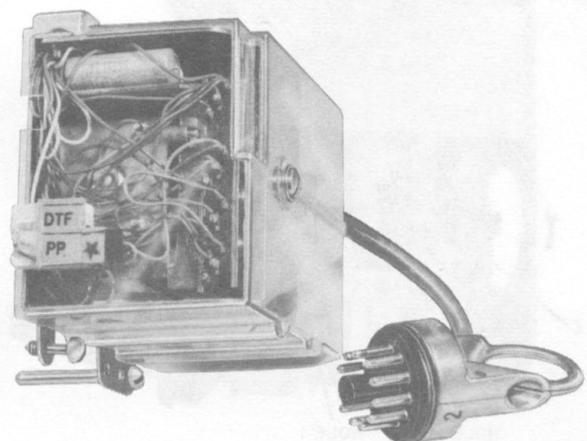


Fig. 10 — 1A Totalizer

SECTION 506-329-100

(8) Rotate second releaser or clip in proper direction until T2 springs come to rest in depression in shaft. This is zero rate position. Do not remove releasers or clips from holes in shaft.

(9) Set charge rate by rotating shaft in proper direction from the zero rate position according to Table E.

TABLE E
SETTING INITIAL CHARGE RATE OF TOTALIZER

INITIAL CHARGE RATE	ROTATE SHAFT IN PROPER DIRECTION (FROM BOTTOM TO TOP)
5 cents	One step
10 cents	Two steps
15 cents	Three steps
20 cents	Four steps
25 cents	Five steps
30 cents	Six steps

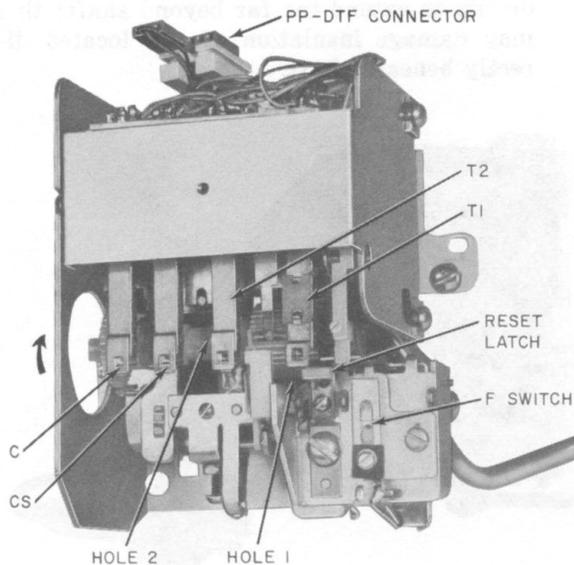


Fig. 11 — Setting Totalizer Rate

- (10) Remove releasers or paper clips.
- (d) To check for correct totalizer setting:

- (1) Rotate shaft in proper direction until T2 springs rest in depression in shaft.
- (2) Depress reset latch toward bottom of totalizer.
- (3) Rotate shaft in proper direction, one step for each 5 cents of the exact initial rate desired.

(4) T1 springs should operate (indicated by reset latch moving forward) when initial rate has been reached.

Example: For a 10-cent rate, shaft should be rotated two steps. On the second step, T1 springs should operate.

- (e) To install totalizer on chute:

- (1) Replace totalizer cover.
- (2) Line up the long guide pins on the totalizer with holes in the chute.
- (3) Place totalizer on chute making sure that totalizer arms enter slots in chute. Be sure short guide pins on chute are in mating totalizer bracket holes.
- (4) Tighten three captive totalizer mounting screws.

- (f) To install chute in set:

- (1) Place chute on locating pins at rear of hopper assembly, and back of housing (Fig. 12 and 13).

Note: Ensure that reject chute, return chute, and coin return assemblies line up properly.

- (2) Place spring in groove on chute.
- (3) Lock spring in place by pushing chute locking lever down.
- (4) Reconnect totalizer plug P2 to J2.

1A Coin Chassis

- (a) To remove coin chassis:

- (1) Remove chute.
- (2) Disconnect (BK) and (Y) leads from coin relay and carefully pull leads through guide hole on coin hopper.

- (3) Loosen chassis mounting captive screw.
- (4) Pull chassis assembly out at bottom and slide down to remove.

(b) To install coin chassis:

Note: When installing coin chassis assembly, dress inside wire behind chassis and to the right of TB1. Allow for wires to be connected to TB1 from right side.

- (1) Slide chassis under tab (Fig. 12 and 13).
- (2) Seat chassis tabs in slots.
- (3) Tighten chassis mounting captive screw.

- (4) Replace (BK) and (Y) leads on coin relay after threading through hole in hopper. Connect (Y) lead to terminal G and (BK) lead to terminal 3 of coin relay.

Coin Receptacle (Cash Box)

(a) The coin telephone set is arranged for a 1B coin receptacle. If a greater capacity is desired, a 1C coin receptacle can be installed as follows:

- (1) Remove cash compartment door.
- (2) Remove 1B coin receptacle.
- (3) Remove false floor from bottom of cash compartment.
 - Break spot weld at left front tab
 - Pry with large screwdriver or equivalent
- (4) Install 1C coin receptacle.
- (5) Install cash compartment door.

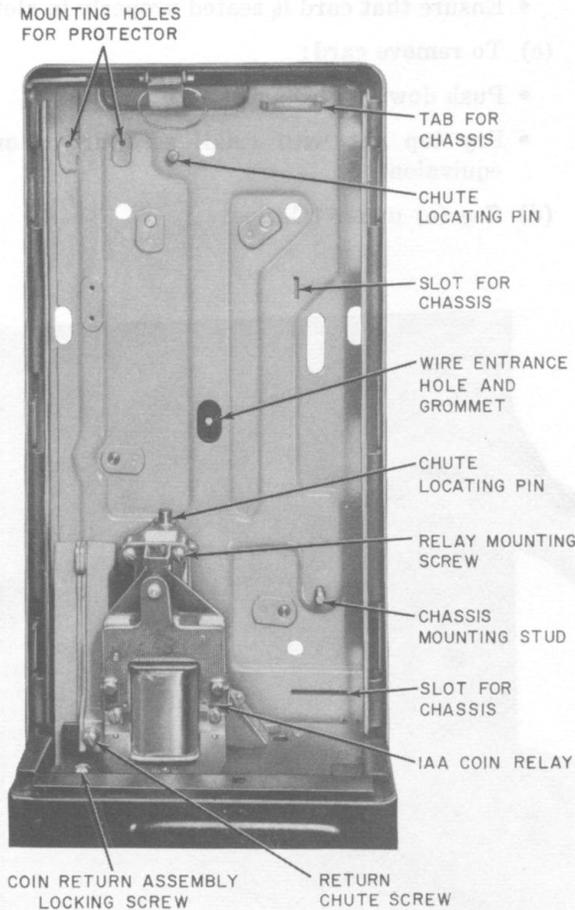


Fig. 12 — Housing and Mounting Plate Assembly (1C-Type)

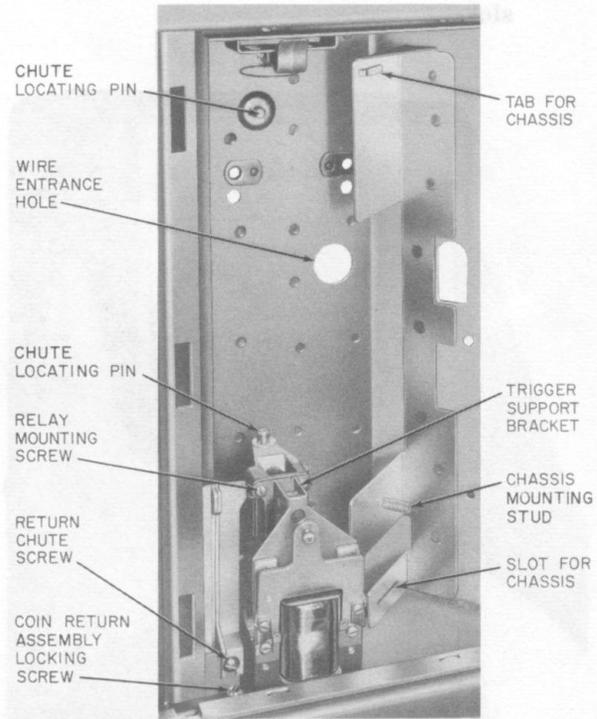


Fig. 13 — Housing and Mounting Plate Assembly (2C-Type)

SECTION 506-329-100

Instruction Cards (1C-Type)

- (a) Instruction cards are not furnished and must be procured locally.
- (b) Instruction cards should meet following size specifications which are in inches:

	UPPER CARD	LOWER CARD
Width	6.130 ± .005	6.130 ± .005
Height	2.130 + .015 - .025	2.840 + .015 - .025
Thickness	.050 + .006 - .010	.050 + .006 - .010
Corner Radius	.125	.125

- (c) To install card:
 - Push up with fingers (Fig. 14)
 - Snap card in place
 - Ensure that card is seated properly in slot

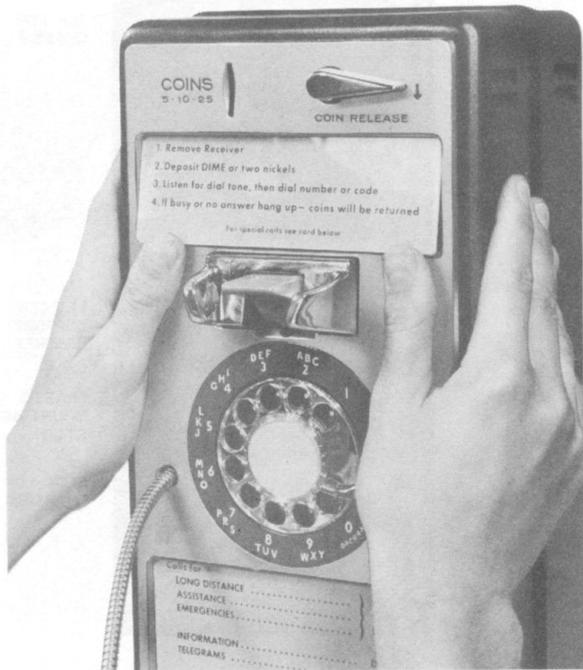


Fig. 14 — Installing Instruction Cards (1C-Type)

- (d) To remove card:
 - Push up with fingers
 - Pry bottom out with small screwdriver or equivalent
- (e) A gummed OUT-OF-SERVICE sticker (Form E-4914) is available in books of five. Place over coin slot when required.

Instruction Cards (2C-Type)

- (a) See (a) and (b) under 1C-type.
- (b) To install card:
 - Push down with fingers (Fig. 15)
 - Snap card in place
 - Ensure that card is seated properly in slot
- (c) To remove card:
 - Push down with fingers
 - Pry top out with small screwdriver or equivalent
- (d) See (e) under 1C-type.



Fig. 15 — Installing Instruction Cards (2C-Type)

Number Card (TOUCH-TONE Only)

- (a) The number card shall be furnished locally.
- (b) A P-21F947 card holder bracket, P-21F948 window, and two hex nuts (Fig. 16) are packaged separately and shipped in the cash compartment.
- (c) Install number card as follows:
 - (1) Remove dial housing.
 - (2) Insert P-21F948 window in faceplate from rear (Fig. 17).
 - (3) Insert number card in window (Fig. 17).
 - (4) Secure window and number card using the P-21F947 card holder bracket and two hex nuts (Fig. 18).
 - (5) Install dial housing.

WIRING

- (a) Select and place wire in accordance with sections covering inside wiring. Wire all coin telephone sets with triple conductor station wire to provide individual ground for each station. The ground connection for this conductor must be the same one used for signaling ground. (See Section 460-100-201.)

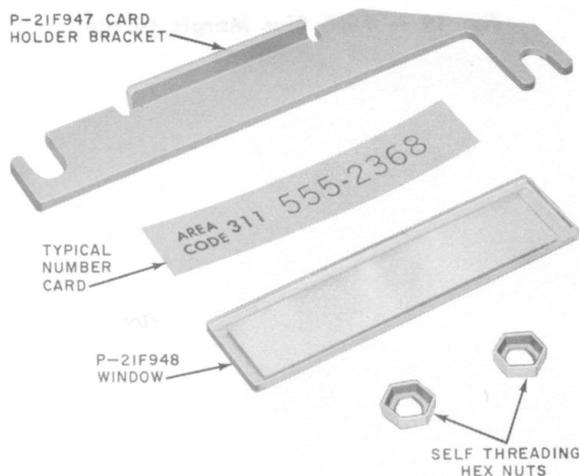


Fig. 16 — Number Card and Associated Hardware (TOUCH-TONE)

- (b) Feed inside wire through wire entrance hole (Fig. 12 or 13) as set is mounted on backboard.
- (c) Dress wire behind chassis and run to right side of TB1.
- (d) Conceal wiring near telephone. If this is not possible, use approved molding or tubing.
- (e) Locate any protectors, connecting blocks, etc. where they will be inaccessible to person using coin telephone set. A 123A1A protector can be installed inside a 1C-type set when manufactured as shown in Fig. 12, using two P-205607 screws (8-32 X 1/2 brass RHM or equivalent) provided separately. Take care that lead dress does not interfere with chute operation if a protector is used. No provisions are provided for a protector in a 2C-type set.



After installation has been completed, refer to Part 4 or 5 and verify if the coin telephone is operating correctly.

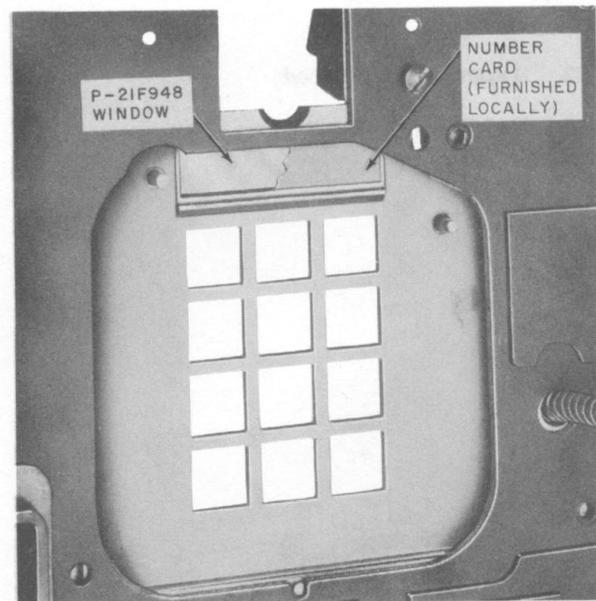


Fig. 17 — Window and Number Card Installed in Faceplate (TOUCH-TONE)

4. OPERATION TESTS AND TROUBLE ANALYSIS (PREPAY MODE)

Note: These operation tests should be performed when a new 1C- or 2C-type coin telephone set wired in the prepay mode is installed, when a 1A- or 2A-type set has been converted to a 1C- or 2C-type in the prepay mode, or when maintenance checks are made.



On trouble reports of coins collected or returned in error, try to obtain area code and telephone number of called party to facilitate tracing trouble in central office.

4.01 Tests Include

- A. Totalizer and Coin Relay Operation (On-Hook)
- B. Totalizer Operation (Off-Hook)
- C. Dial Shorting Test
- D. Coin Relay Bias Margin Test
- E. Coin Tone Signaling
- F. Returning Set to Normal Operation

4.02 Apparatus Required

- (a) P11C Cord (Fig. 6)

- (b) 1011B Test Set or equivalent
- (c) Coins: 1 penny, 2 nickels, 1 dime, 2 quarters
- (d) 146B Bias Margin Gauge (Fig. 19)

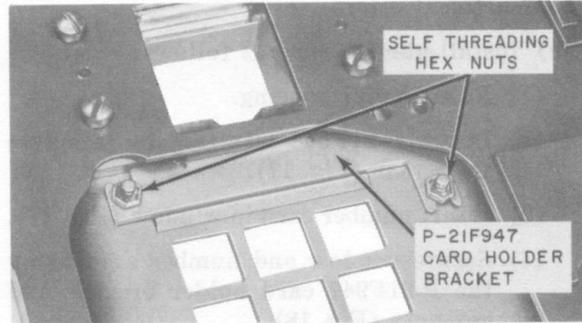


Fig. 18 — Card Holder Bracket Installed (TOUCH-TONE)

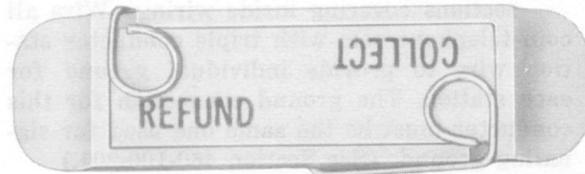


Fig. 19 — 146B Bias Margin Gauge

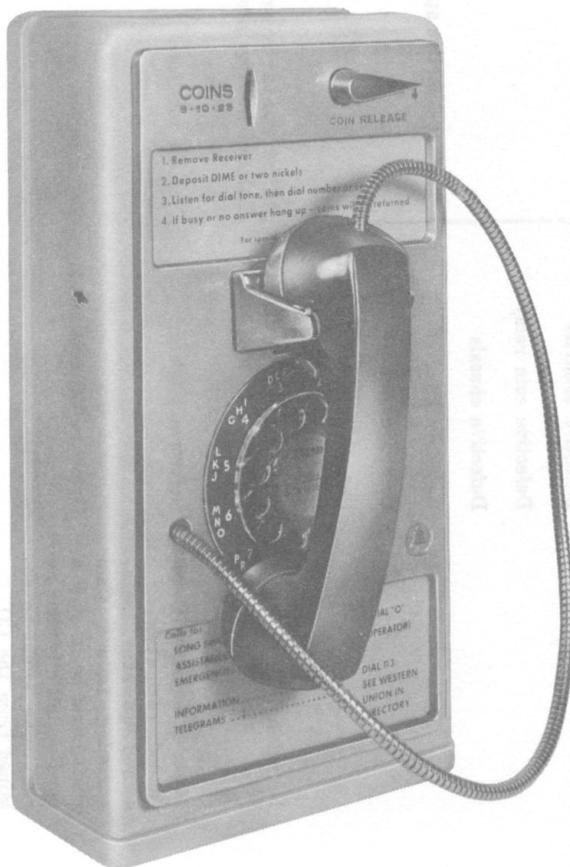


Fig. 20 — Cover Unit With Handset Inverted

4.03 Preparation

STEP	ACTION	VERIFICATION
Tests A, B, C, D, and E		
1	Invert handset on switchhook (1C-type only) (Fig. 20) <i>Note:</i> Prevents armored cord from pushing handset off switchhook when cover is removed.	
2	Remove cover unit assembly (1C-type) or open door and faceplate assembly (2C-type) and disconnect plug P1. Place cover unit assembly (1C-type) on firm level surface.	
3	Connect P11C cord between plug P1 and jack J1 of coin chassis.	
4	Ensure that the plug, on the totalizer is in the PP position.	



In the following tests, readout refers to operation of totalizer and generation of beeps by coin signal oscillator. Initial rate set for 10 cents.

4.04 Method

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
A. Totalizer and Coin Relay Operation (On-Hook)					
5	Deposit quarter in chute.	Totalizer operates and then steps back to home position. Coin relay refunds coin.	No readout. <i>Note:</i> An overload in the central office may appear to be a failure in some instances. Before assuming failure, wait and repeat test.	Plugs P1 and P2 reversed. Totalizer plug in DTF position. Central office overload. TB3 not wired correctly. Coin relay HT contact not making. Switchhook transfer contacts SH1 (NC) not making. Defective totalizer Defective coin relay Defective chassis Defective handset Defective dial Defective wiring in dial and housing assembly.	Reconnect properly. Reconnect properly. An overload in the central office may appear to be a failure in some instances. Before assuming failure, allow CO adequate time to provide line. See Table L. Clean contacts or replace coin relay. Clean contacts or replace dial and housing assembly. Replace defective apparatus
			No refund. <i>Note:</i> If coin is not refunded, repeat with a second quarter before assuming failure. Cam shaft could be in such a position initially that no response would be obtained from the CO.	Switchhook contacts SH2 or SH4 not breaking. Defective totalizer. Defective CO coin trunk.	Adjust contacts or replace dial and housing assembly. Replace totalizer. Refer to test center.

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
6	Deposit nickel.	Same as Step 5.	No readout.	Switchhook transfer contacts SH3 (NC) not making. TB2 not wired correctly. Defective wiring in dial and housing assembly. Central office overload.	Clean contacts or replace dial and housing assembly. See Tables K and M. Replace dial and housing assembly. Same as Step 5.
7	Deposit dime.	Same as Step 5.	No readout.	Central office overload.	Same as Step 5.
B. Totalizer Operation (Off-Hook)					
<i>Note:</i> Totalizer set for an initial rate of 10 cents.					
5	Lift handset and deposit nickel in coin chute.	Totalizer cam rotates 1 step. No dial tone.	Readout obtained, dial tone heard.	TB2 not wired correctly. TB3 not wired correctly. Initial rate set for 5 cents. T1 contacts remain latched after refund. Switchhook transfer contacts SH3 (NC) not breaking (Rotary only). Defective chassis or chassis wiring. Defective wiring in dial and housing assembly.	See Tables K and M and Fig. 24 or 26. See Table L. Reset totalizer (Part 3). Replace totalizer. Adjust contacts or replace dial and housing assembly. Replace chassis. Replace dial and housing assembly.
6	Deposit second nickel.	Totalizer cam rotates an additional step, then steps back to home position; dial tone is heard.	No readout.	TB2 not wired correctly. Switchhook contacts SH2 or SH4 (NO) not making. Totalizer set for more than initial rate. Defective wiring in dial and housing assembly. T1 contacts (NO) not making.	See Tables K and M and Fig. 24 or 26. Clean contacts or replace dial and housing assembly. Reset totalizer rate (Part 3). Replace dial and housing assembly. Replace totalizer.

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
6 (Cont)			No dial tone or reduced dial tone level.	F contacts (NC) not making.	Replace totalizer.
				TB2 not wired correctly.	See Tables K and M and Fig. 24 or 26.
				Switchhook transfer contacts SH1 (NO) not making.	Clean contacts or replace dial and housing assembly.
				Dial off-normal contacts not breaking (Rotary only).	Replace dial and housing assembly.
				Defective wiring in dial and housing assembly.	} Replace defective apparatus
				Defective chassis	
			Coins return after read-out with no dial tone.	Defective handset	
				Defective dial	
				TB2 not wired correctly.	See Tables K and M and Fig. 24 or 26.
				TB3 not wired correctly.	See Table L.
				Switchhook contacts SH2 or SH4 (NO) not making.	Clean contacts or replace dial and housing assembly.
				Open dial (Rotary only).	} Replace defective apparatus
			Defective chassis		
			Defective wiring in dial and housing assembly.		
			Totalizer steps continuously (may give bursts of dial tone).	TB2 not wired correctly.	See Tables K and M and Fig. 24 or 26
				TB3 not wired correctly.	See Table L.
				Totalizer transfer contacts T2 (NC) not making.	} Replace defective apparatus
				Defective chassis	
7	With dial tone obtained, dial any digit but "0" or "1".	Dial tone breaks.	Cannot break dial tone.	TB2 not wired correctly.	
				TB3 not wired correctly.	See Table L.
				Totalizer contacts T1 not latching.	Replace totalizer.

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
7 (Cont)				Defective dial Defective chassis Defective wiring in dial and housing assembly	} Replace defective apparatus. Replace dial.
			Coins return when dial is operated.	Defective dial.	
8	Hang up handset.	Coins returned.	No refund.	Central office overload. Defective central office trunk.	Same as Step 5. Refer to Test Center.
9	Lift handset and deposit dime.	Totalizer cam rotates 2 steps and then steps back to home position; dial tone is heard.	Same as Step 6.	Same as Step 6.	Same as Step 6.
10	Repeat Step 8.				
11	Lift handset and deposit quarter.	Totalizer cam rotates 5 steps and steps back to home position; dial tone is heard.	Same as Step 6.	Same as Step 6.	Same as Step 6.
12	Repeat Step 8.				

C. Dial Shorting Test

5	Remove coin relay dust cover.				
6	Lift handset and operate hopper trigger by hand.	Dial tone heard.			
7	Dial any digit but "0" or "1".	Dial tone should not break.	Dial tone breaks.	Totalizer transfer contacts T1 (NC) not breaking. TB3 not wired correctly.	Replace totalizer. See Table L.
				Defective chassis.	Replace chassis.
8	Deposit nickel.	Totalizer reads out; dial tone does not break.	Line drops off.	Defective chassis.	Replace chassis.
9	Hang up handset.	Coin relay operates and returns nickel.			
10	Install dust cover.				

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
D. Coin Relay Bias Margin Test					
	<i>Note:</i> Make this test when coin relay fails to operate or operates incorrectly.				
5	Remove coin relay dust cover.				
6	Lift handset, obtain dial tone, call test desk and request a bias margin test. (Use central office test circuit where available.)				
7	Slip 146B bias margin gauge (Fig. 19) over left pole piece extension arm from left side of coin relay (Fig. 21).				
8	Request deskman to apply central office collect (or return) voltage as indicated in the lower left corner of gauge.	Relay operates to collect (or return) coins as indicated in lower left corner of gauge.	Relay does not operate properly.	Defective coin relay.	Replace coin relay.
9	Reverse the 146B bias margin gauge by turning it around on the same pole piece extension arm.				
10	Repeat Step 8.	Same as Step 8.	Same as Step 8.	Same as Step 8.	Same as Step 8.
11	Remove 146B gauge.				
12	Hang up handset.				
13	Install dust cover.				

E. Coin Tone Signaling

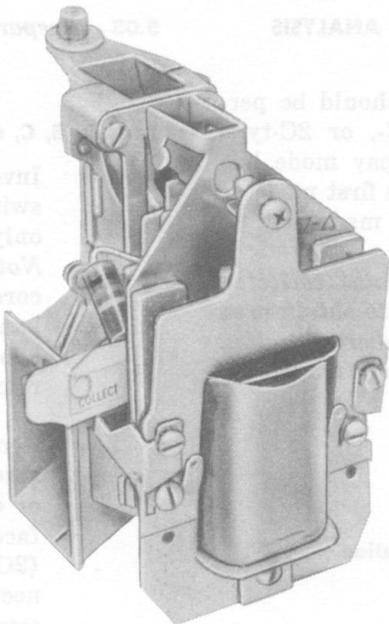
- 5 Connect leads of 1011B test set to tip and ring terminals on TB1.
- 6 Place TALK-MONITOR switch of test set in MONITOR position.
- 7 Lift handset and deposit dime.

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
8	Dial any digit but "0" or "1" with coin telephone set dial.	Dial tone breaks.			
9	While monitoring with test set, deposit nickel.	One beep heard in test set.	No coin tones heard in test set. Coin tones heard in coin telephone handset. <i>Note:</i> A slight tone may be heard on long loops but may not necessarily be a failure.	Totalizer transfer contacts S1 (NC) not making. Defective chassis.	Replace totalizer. Replace chassis.
10	Deposit dime.	Two beeps heard in test set.	Dime tones too fast. Too many coin tones.	Totalizer transfer contacts CS (NC) not making or CS cam not resetting. Totalizer not stepping properly or contacts T2 (NC) not making.	} Replace totalizer.
11	Deposit quarter.	Five rapid beeps heard in test set.	Quarter tones too slow.	Totalizer transfer contacts CS (NC) not breaking.	
12	Hang up handset.	Coin relay refunds all coins.			
13	Disconnect 1011B test set.				

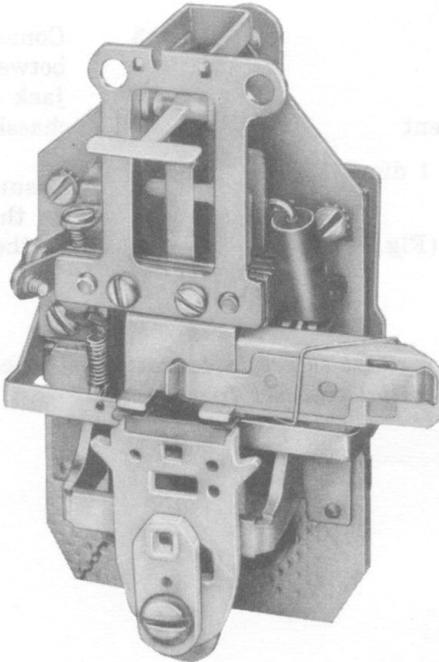
F. Returning Set to Normal Operation

- 1 Check ringer for maximum volume position of gong.
- 2 Remove P11C test cord.
- 3 Connect P1 to J1 and install cover unit assembly (1C-type) or close door (2C-type).
- 4 Deposit penny.
- 5 Operate coin release lever. Penny is returned.

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
6	Operate coin release lever and check entrance stop for clearance.		Entrance stop rubs front cover or does not close entrance to coin chute properly.	Entrance stop bent or not adjusted correctly.	Adjust as necessary.
7	Lift handset, deposit 10 cents and call local operator.	Operator on line, 10 cents returned.	No transmission. Coin(s) not returned.	Defective transmitter. Defective coin trunk.	Replace handset. Refer to test center.
8	Request operator to call station and verify that set is working correctly.	Ringling heard.	No ringling.	Gong not positioned correctly. Defective ringer. Defective network.	Position gong for maximum volume. Replace ringer. Replace chassis.
9	Call the dial test number and verify all TOUCH-TONE frequencies.				
10	Hang up handset properly.				



SIDE VIEW



BACK VIEW

Fig. 21 — Bias Margin Gauge in Position for Collect Test

**5. OPERATION TESTS AND TROUBLE ANALYSIS
(DIAL TONE FIRST MODE)**

Note: These operation tests should be performed when a 1A-, 2A-, 1C-, or 2C-type coin telephone set in the prepay mode has been converted to the dial tone first mode or when maintenance checks are made.



On trouble reports of coins collected or returned in error, try to obtain area code and telephone number of called party to facilitate tracing trouble in central office.

5.01 Tests Include

- A. Dial Tone Test**
- B. Totalizer and Coin Relay Operation**
- C. Coin Tone Signaling**
- D. Coin Relay Bias Margin Test**
- E. Returning Set to Normal Operation**

5.02 Apparatus Required

- (a) P11C Cord (Fig. 6)
- (b) 1011B Test Set or equivalent
- (c) Coins: 1 penny, 2 nickels, 1 dime, 1 quarter
- (d) 146B Bias Margin Gauge (Fig. 19)



In the following tests, readout refers to operation of totalizer and generation of beeps by coin signal oscillator. Initial rate set for 10 cents.

5.03 Preparation

STEP	ACTION	VERIFICATION
Tests A, B, C, and D		
1	Invert handset on switchhook. (1C-type only) (Fig. 20) <i>Note:</i> Prevents armored cord from pushing handset off switchhook when cover is removed.	
2	Remove cover unit assembly (1C-type) or open door and faceplate assembly (2C-type) and disconnect plug P1. Place cover unit assembly (1C-type) on firm level surface.	
3	Connect P11C cord between plug P1 and jack J1 of coin chassis.	
4	Ensure that plug on the totalizer is in the DTF position.	

5.04 Method

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
A. Dial Tone Test					
5	Lift handset.	Dial tone heard.	No dial tone or reduced level.	Plugs P1 and P2 reversed. Totalizer plug in PP position. Central office overload.	Reconnect properly. Reconnect properly. An overload in the central office may appear to be a failure in some instances. Before assuming failure allow CO adequate time to provide line.
				TB2 not wired correctly.	See Tables K and M and Fig. 26 or 27.
				TB3 not wired correctly.	See Table L.
				Switchhook contacts SH1 (NO), SH2 (NO), or SH4 (NO) not making.	Clean contacts or replace dial and housing assembly.
				Defective totalizer	} Replace defective apparatus.
				Defective chassis	
				Defective wiring in dial and housing assembly	
				Defective handset	
B. Totalizer and Coin Relay Operation					
5	With handset lifted deposit quarter.	Totalizer operates and then steps back to home position.	No readout.	TB3 not wired correctly.	See Table L.
				Defective totalizer	} Replace defective apparatus.
				Defective chassis	
6	Hang up handset.	Quarter is returned.	No return.	Switchhook contacts SH2 (NO) and SH4 (NO) not breaking.	Replace dial and housing assembly.
				Defective coin relay	} Replace defective apparatus.
				Defective chassis	
				Defective totalizer	
7	Lift handset and deposit nickel.	Totalizer cam rotates 1 step; does not read out.	Totalizer reads out.	Initial rate set for 5 cents.	Reset totalizer rate.

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
7 (Cont)				Tip, ring, or ground reversed.	Reconnect as required.
				TB2 not wired correctly.	See Tables K and M and Fig. 26 or 27.
				TB3 not wired correctly.	See Table L.
				Totalizer contact T1 not making.	Replace totalizer.
				Defective chassis.	Replace chassis.
				Switchhook contact SH3 (NO) not making.	Clean contacts or replace dial and housing assembly.
8	Dial coin test line — <i>Note:</i> Coin test line should be a line that requires deposit for connection.	Dial tone breaks.	Dial tone does not break.	Faulty dial.	Replace dial.
		Recording states that insufficient deposit was made.	Call goes through; Recording not heard.	Defective chassis.	Replace chassis.
				TB3 not wired correctly.	See Table L.
				Totalizer contacts T1 making for nickel deposit.	Reset totalizer rate or replace totalizer.
				Defective chassis.	Replace chassis.
9	Hang up handset. two nickels.	Totalizer returns to home position and coin relay refunds nickel.	No return.	Same as Step 6.	Same as Step 6.
10	Lift handset and deposit 2 nickels.	Totalizer reads out and steps back to home position.	No readout.	Initial rate set for more than 10 cents.	Reset totalizer for correct initial rate.
				Defective contacts T1 in totalizer.	} Replace totalizer.
				Defective F contacts in totalizer.	
11	Dial coin test line. See Note in Step 8.	Tone ringing heard in handset.	Insufficient deposit recording heard.	Totalizer contacts T1 not making.	} Refer to Test Center.
12	Hang up handset.	Nickels are returned.	No return.	Defective central office trunk.	

C. Coin Tone Signaling

- 5 Connect leads of 1011B test set to tip and ring terminals on TB1.
- 6 Place TALK-MONITOR switch of test set in MONITOR position.

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
7	Lift handset and dial any digit but "0" or "1" with coin telephone set dial.	Dial tone breaks.			
8	While monitoring with test set, deposit dime.	Two beeps heard in test set. <i>Note:</i> Beeps should not be heard in handset of coin telephone.	No beeps heard in test set. Beeps heard in coin telephone handset. <i>Note:</i> A slight tone may be heard on long loops but may not necessarily be a failure. Dime tones too fast. Too many coin tones.	TALK-MONITOR switch in TALK position. Defective totalizer. Defective chassis. Totalizer transfer contacts CS (NC) not making, or CS cam not resetting. Totalizer not stepping properly — T2 (NC) not making.	Operate to MONITOR position. Replace defective apparatus. Replace totalizer.
9	Deposit nickel.	One beep heard in test set.			
10	Deposit quarter.	Five rapid beeps heard in test set.	Quarter tones too slow.	Totalizer transfer contacts CS (NC) not breaking.	Replace totalizer.
11	Hang up handset.	Coin relay refunds all coins.			
12	Disconnect 1011B test set.				

D. Coin Relay Bias Margin Test

- 1 Refer to 4.04 (Test D)

E. Returning Set to Normal Operation

- 1 Check ringer for maximum volume position of gong.
- 2 Remove P11C test cord.
- 3 Connect P1 to J1 and install cover unit assembly (1C-type) or close door (2C-type).
- 4 Deposit penny.

STEP	ACTION	VERIFICATION	FAILURE	POSSIBLE CAUSE	REMEDIAL ACTION
5	Operate coin release lever.	Penny is returned.			
6	Operate coin release lever, and check entrance stop for clearance.		Entrance stop rubs front cover or does not close entrance to coin chute properly.	Entrance stop bent or not adjusted correctly.	Adjust or replace as necessary.
7	Lift handset and call local operator.	Operator on line.	No transmission.	Defective transmitter. Defective coin trunk.	Replace handset. Refer to test center.
8	With operator on line, deposit nickel.	Operator verifies 5 cents deposit.	No readout.	Defective coin trunk. TB3 not wired correctly. Defective totalizer. Defective chassis.	Refer to test center. See Table L. Replace totalizer. Replace chassis.
9	Request operator to call station and verify that set is working correctly.	Ring heard.	No ringing.	Gong not positioned correctly. Defective ringer. Defective network.	Position gong for maximum volume. Replace ringer. Replace chassis.
10	Call the dial test number and verify all TOUCH-TONE frequencies.				
11	Hang up handset properly.				

6. MAINTENANCE

6.01 Maintenance of the 1C- and 2C-type coin telephone sets is limited to cleaning switch hook contacts, clearing of foreign objects or stuck coins from chute, cleaning coin relay (HT) contacts, and replacement of the major components listed in Part 2.

6.02 Refer to Part 3 for the removal and replacement of the following components:

- 1AA chute
- 1A chute
- 1A totalizer
- 1A coin chassis
- Instruction cards
- Number cards

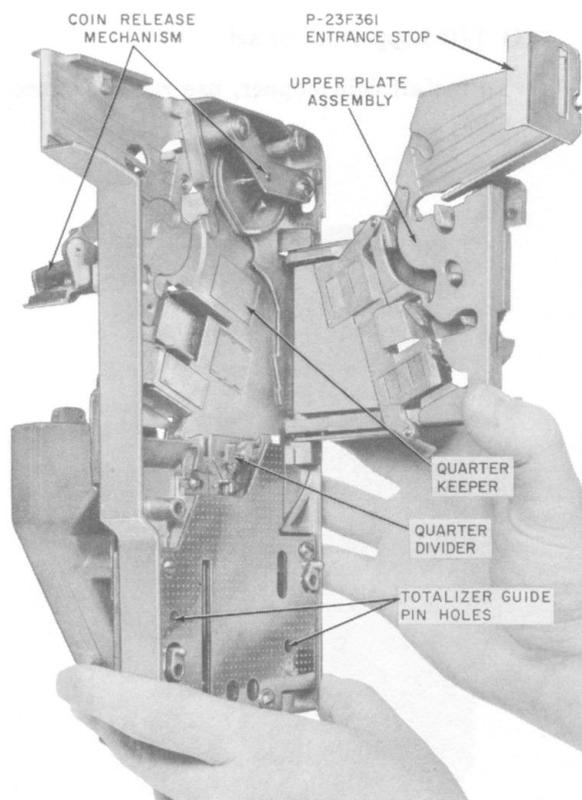


Fig. 22 — Chute

Clearing Chute

- (a) When troubles indicate foreign objects or stuck coins in chute.
- (1) Operate coin release lever in attempt to clear coins in return chute.
 - (2) If trouble does not clear:
 - Remove cover unit assembly (1C-type) or open door and faceplate assembly (2C-type).
 - Remove 1AA chute
 - Swing upper plate assembly open (Fig. 22)



Exercise extreme care when closing the upper plate assembly. It should not make contact with the quarter divider or the quarter divider will become damaged when the upper plate assembly is closed against it.

- Remove any foreign objects or stuck coins with an orange stick. Do not use screwdriver.
 - Clean off any foreign material adhering to chute magnets.
- (3) If trouble cannot be cleared, replace 1AA chute.



When returning 1AA chutes to service center, reuse packing material from which the new item was removed.

- (4) Chute should be tested by depositing coins with cover unit assembly both off and on housing (1C-type) or with door and faceplate assembly both open and closed (2C-type).

Electrical Troubles

- (a) If electrical troubles are indicated, refer to Parts 4 and 5 (Operation Tests and Trouble Analysis) and Part 7 (Connections).

6.03 Components other than those listed in 6.02 can be removed as follows:

1AA Coin Relay

Note: The 1AA coin relay, which includes the 1A coin relay and P-15E717 coin hopper

SECTION 506-329-100

assembly, can be removed as a complete unit or the 1A coin relay can be removed without removing hopper assembly.

- (a) To remove 1AA coin relay:
 - (1) Disconnect (BK) and (Y) leads.
 - (2) Remove vault door and coin receptacle.
 - (3) Remove two P-10E809 special screw assemblies from inside vault.
 - (4) Lift 1AA coin relay out of set.
- (b) To install 1AA coin relay use reverse procedure and connect (Y) lead to terminal G and (BK) lead to terminal 3.

1A Coin Relay

- (a) To remove 1A coin relay without removing hopper assembly:
 - (1) Disconnect (BK) and (Y) leads.
 - (2) Remove two relay mounting screws on top front of coin relay (Fig. 12 and 13).
 - (3) Remove two hex head screws on sides of coin relay.
 - (4) Check that hopper trigger (Fig. 23) is in horizontal (up) position and pull off coin relay. **Do not damage hopper trigger.**



When returning 1A coin relays to service center, reuse packing material from which the new item was removed.

- (b) To install 1A coin relay:
 - (1) Move vane on hopper to left (or collect) position.
 - (2) With hopper trigger in nonoperated (or horizontal) position, move relay into position until trigger enters T-shaped slot in hopper and trap lever tab just enters opening in selector card.
 - (3) Press down slightly on ear on left side of selector card and manually move armature forward to its operated position. Hold armature in this position.
 - (4) Move coin relay forward until square stem on vane enters hole in cam and mounting screw holes line up.

Note: Do not attempt to install relay if trigger support bracket (Fig. 23) is so distorted that mounting holes do not engage hopper bosses.

- (5) Place and tighten evenly two mounting screws in top of coin relay and two hex head mounting screws in each side of relay.
- (6) Make sure that trigger, armature, trap, and vane operate without binding.
- (7) Reconnect (Y) lead to terminal G and (BK) lead to terminal 3.

Coin Hopper

- (a) To remove coin hopper:
 - (1) Remove 1A coin relay.
 - (2) Remove vault door and coin receptacle.
 - (3) Remove two P-10E809 special screw assemblies from inside vault.
 - (4) Lift hopper out of set.
- (b) To install coin hopper, use reverse procedure.

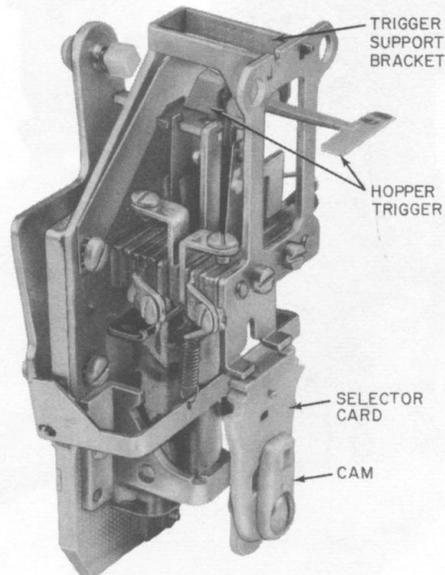


Fig. 23 — Coin Relay

Return Chute Assembly

- (a) To remove return chute assembly:
- (1) Remove 1AA chute.
 - (2) Loosen return chute screw (Fig. 12 and 13).
 - (3) Lift assembly up and off.
- (b) To replace return chute assembly, reverse procedure.

Coin Return Assembly

- (a) To remove coin return assembly:
- (1) Remove 1AA chute.
 - (2) Remove return chute assembly.
 - (3) Remove coin return assembly locking screw (Fig. 12 and 13).
 - (4) Insert finger in coin return and tilt top forward.
 - (5) Lift coin return. Pull coin return assembly out and up.
- (b) To install coin return assembly:
- (1) Tilt top of coin return assembly toward set.
 - (2) Push coin return assembly into set.
 - (3) Push in and down on bottom of coin return assembly until flush with front of housing.
 - (4) Install coin return assembly locking screw. Tighten screw only enough to hold return assembly in place. Further tightening will bend screw.
 - (5) Replace return chute assembly.
 - (6) Replace 1AA chute.

Ringer

- (a) To remove C4A ringer:
- (1) Remove 1AA chute.
 - (2) Remove 1A coin chassis.
 - (3) Disconnect four ringer leads; two from TB1 and two from network.
 - (4) Remove two ringer mounting screws and lift off ringer.

- (b) To install C4A ringer, reverse procedure making sure that locating pin on bottom of ringer is in grommet on chassis assembly. Make connections per Table H.

TABLE H
RINGER CONNECTIONS

WIRE COLOR	CONNECT TO
BK	TB1-T
R	TB1-R
S-R	Term. A (Network)
S	Term. K (Network)

Handset

- (a) To remove handset:
- (1) Disconnect handset leads from terminal board (TB2) on rear of dial housing.
 - (2) Remove P-181678 BHM screw, and P-15E444 cover plate which secure handset cord to dial housing.
 - (3) Loosen stay-hook screw and remove handset cord.
- (b) To install handset, reverse procedure. Make connections per Table J.

TABLE J
HANDSET CONNECTIONS

WIRE COLOR	CONNECT TO	
	ROTARY	TOUCH-TONE
W	TB2-2	TB2-7
R	TB2-3	TB2-3
BK	TB2-6	TB2-5
W	TB2-8	TB2-8

Dial and Housing Assembly

- (a) To remove dial and housing assembly:
 - (1) Remove handset.
 - (2) Remove four mounting screws and remove dial and housing assembly from cover.
- (b) To install dial and housing assembly, reverse procedure.
- (c) To remove dial:
 - (1) Remove dial and housing assembly.

Note: It will not be necessary to remove handset when removing dial.

- (2) Disconnect dial leads from TB2.
- (3) Loosen two mounting screws on sides of dial through access holes in housing.
- (4) Lift dial off.

Note: Before installing a new 8S dial, remove and discard the dust cover.

**TABLE K
DIAL CONNECTIONS**

TYPE DIAL	WIRE COLOR	CONNECT TO	
		PP	DTF
Rotary	BL	TB2-9	TB2-9
	G	TB2-10	TB2-10
	W	TB2-2	TB2-2
	W	TB2-3	TB2-3
	Y	TB2-9	TB2-9
	Y	TB2-9	TB2-13
TOUCH-TONE	G	TB2-4	TB2-4
	W	TB2-2	TB2-2
	R	TB2-5	TB2-5
	R-G	TB2-6	TB2-6
	BK	TB2-1	TB2-1
	O-BK	TB2-11	TB2-11
	O-R	TB2-12	TB2-12
	BL	TB2-3	TB2-3
	W-BL	TB2-7	TB2-7
	O-W	TB2-10	TB2-9
	V	TB2-10	TB2-13

- (d) To install dial, reverse procedure making sure that dial is properly seated on four locating pins. Make connections per Table K.

CLEANING

6.04 When necessary, the external surface of the coin telephone set may be cleaned with KS-7860 petroleum spirits or a suitable liquid wax such as Johnson's No. 7700 cleaning and polishing wax emulsion.

Warning: Use safety precautions while using highly flammable KS-7860 petroleum spirits.

7. CONNECTIONS

7.01 Refer to Fig. 24 through 27 for connecting diagrams.

7.02 Refer to Fig. 28 through 31 for schematic diagrams.

8. CONVERSIONS

8.01 To convert a prepay set to dial tone first or a dial tone first set to prepay:

- (a) Connect leads per Tables L and M.
- (b) Connect plug on totalizer to the appropriate position (PP or DTF).

**TABLE L
COIN CHASSIS CONNECTIONS**

CONNECT TO	WIRE COLOR	
	PP MODE	DTF MODE
TB3-1	G	R
TB3-2	G-BK	G
TB3-3	R, S-R	G-BK
TB3-4	BL, S-W	BK
TB3-5	G-W	—
TB3-6	V	BL, V-O
TB3-7	BK	—
TB3-8	—	S-R, R-G
TB3-9	—	W-BR
Insulate and store	W-BR, V-O, R-G	S-W, G-W, V

TABLE M
DIAL HOUSING CONNECTIONS

TYPE DIAL	WIRE COLOR	CONNECT TO		OTHER END CONNECTED TO
		PP MODE	DTF MODE	
Rotary	Y	TB2-9	TB2-13	DON-2 contact on 8S Dial
	G	TB2-13	TB2-9	SH3
TOUCH-TONE	V	TB2-10	TB2-13	t contact on 35T3A Dial
	O-W	TB2-10	TB2-9	s contact on 35T3A Dial
	G	TB2-13	TB2-9	SH3

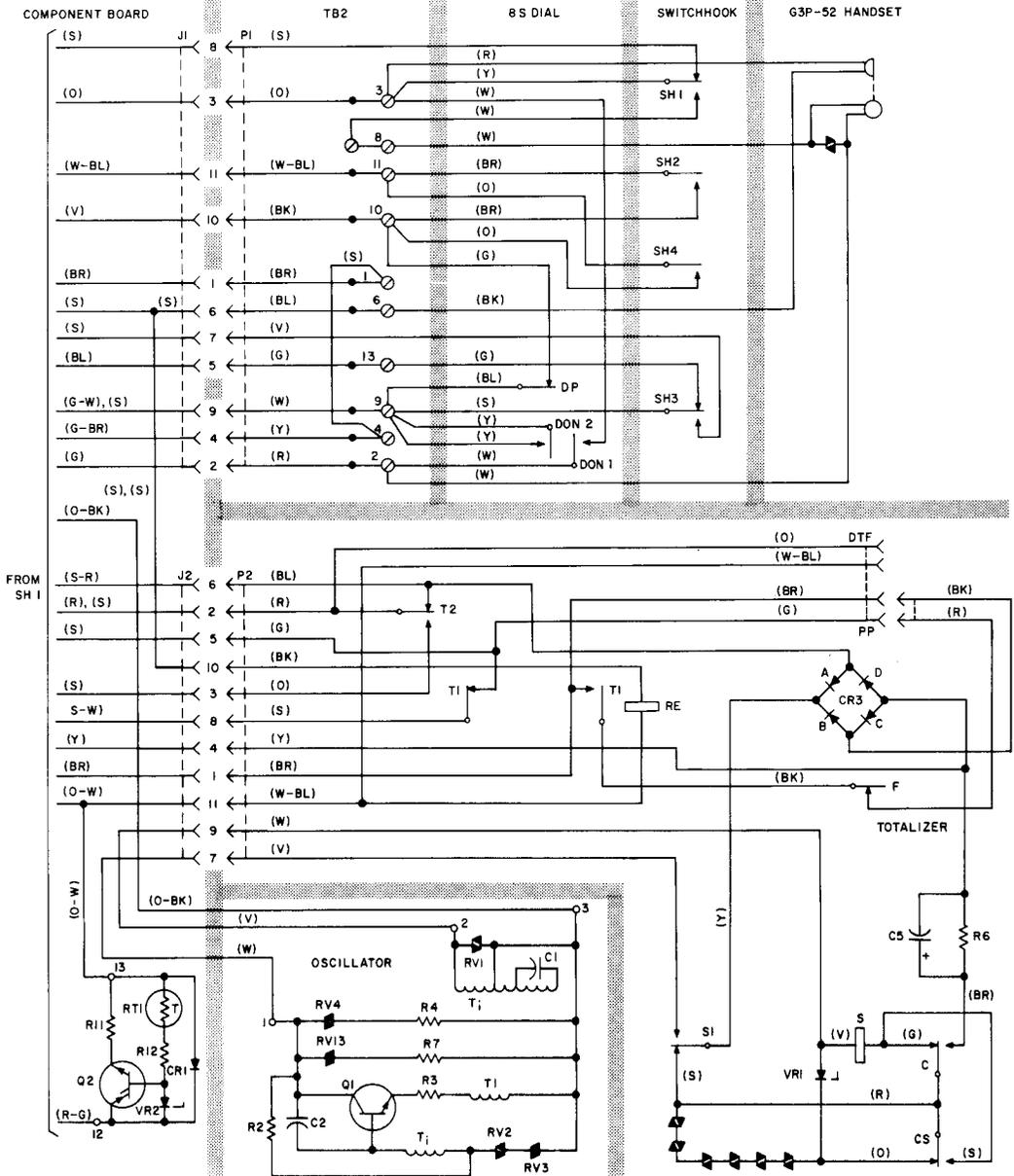


Fig. 24 — 1C1 and 2C1 Prepay Coin Telephone Sets — Connections (Sheet 2)

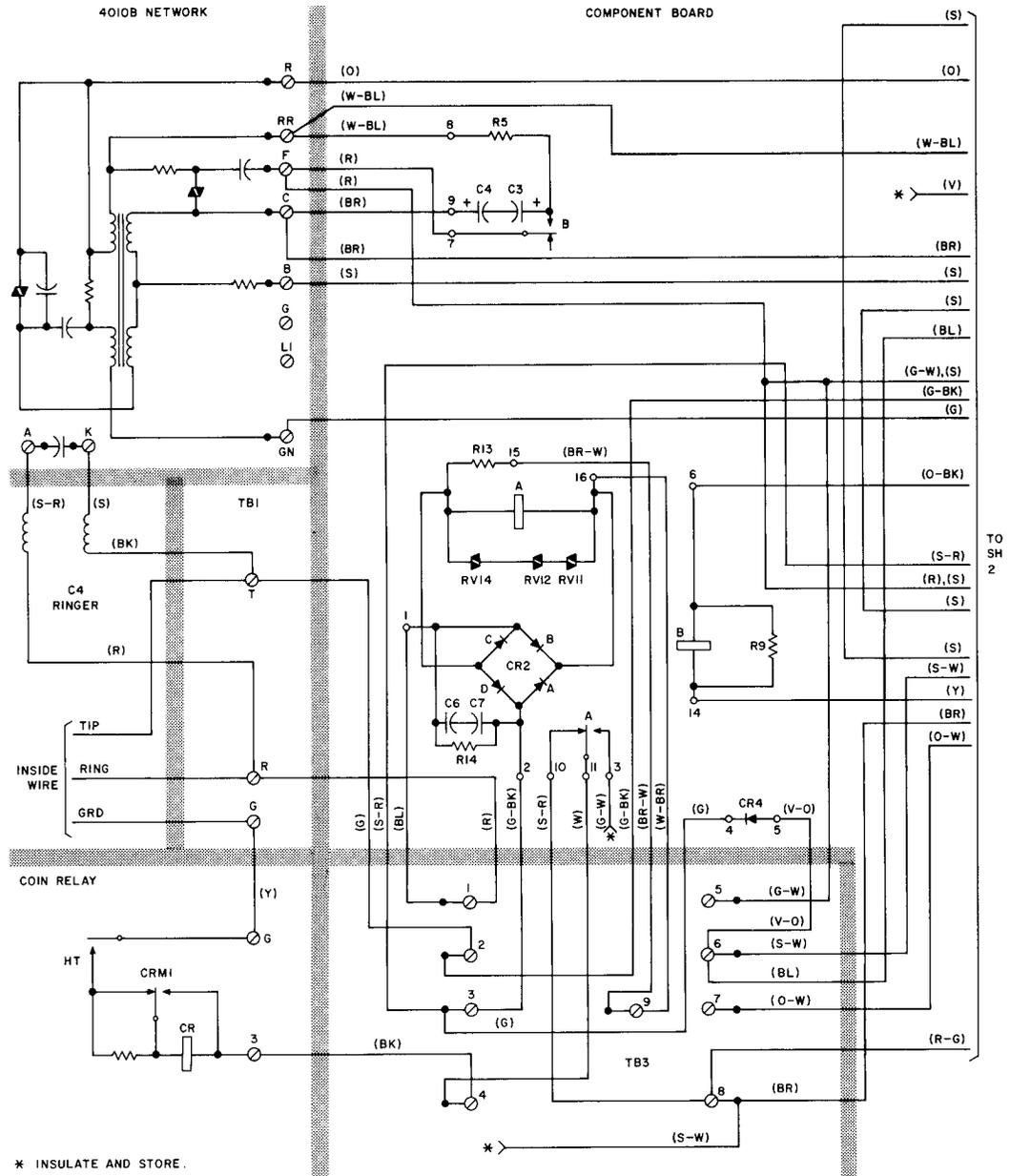


Fig. 25 — 1C1 and 2C1 Dial Tone First Coin Telephone Sets — Connections (Sheet 1)

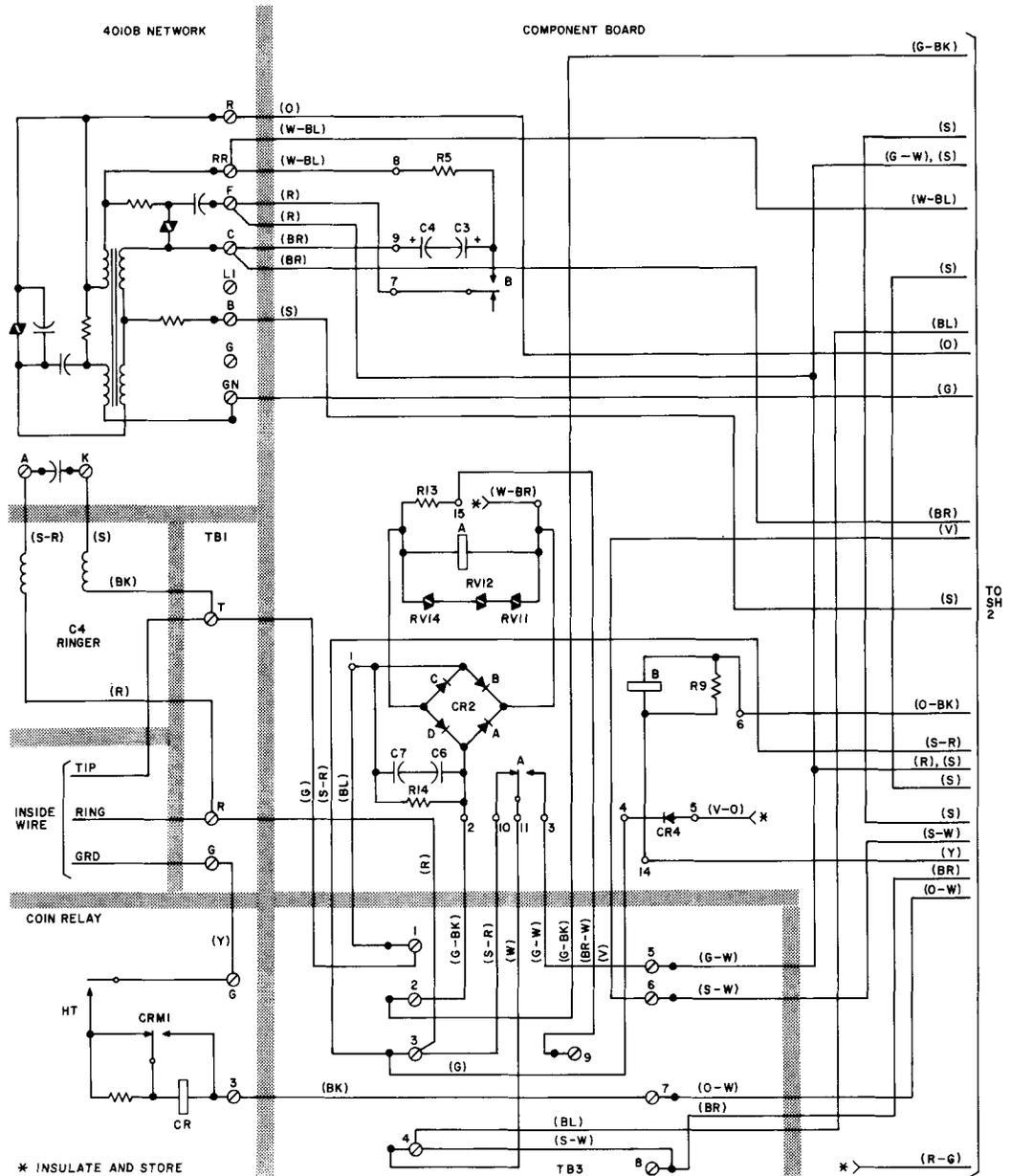


Fig. 26 — 1C2 and 2C2 Prepay Coin Telephone Sets — Connections (Sheet 1)

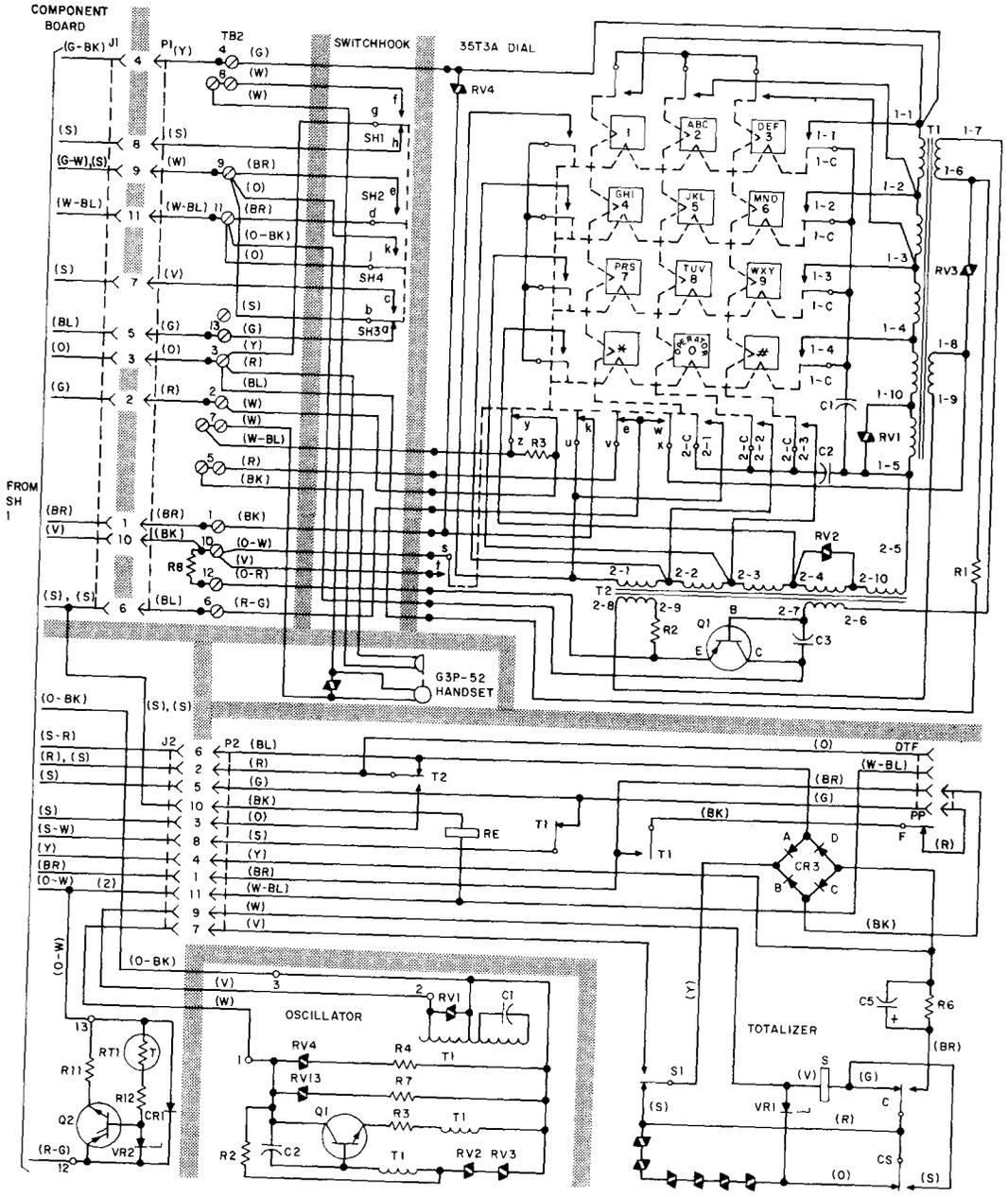


Fig. 26 - 1C2 and 2C2 Prepay Coin Telephone Sets — Connections (Sheet 2)

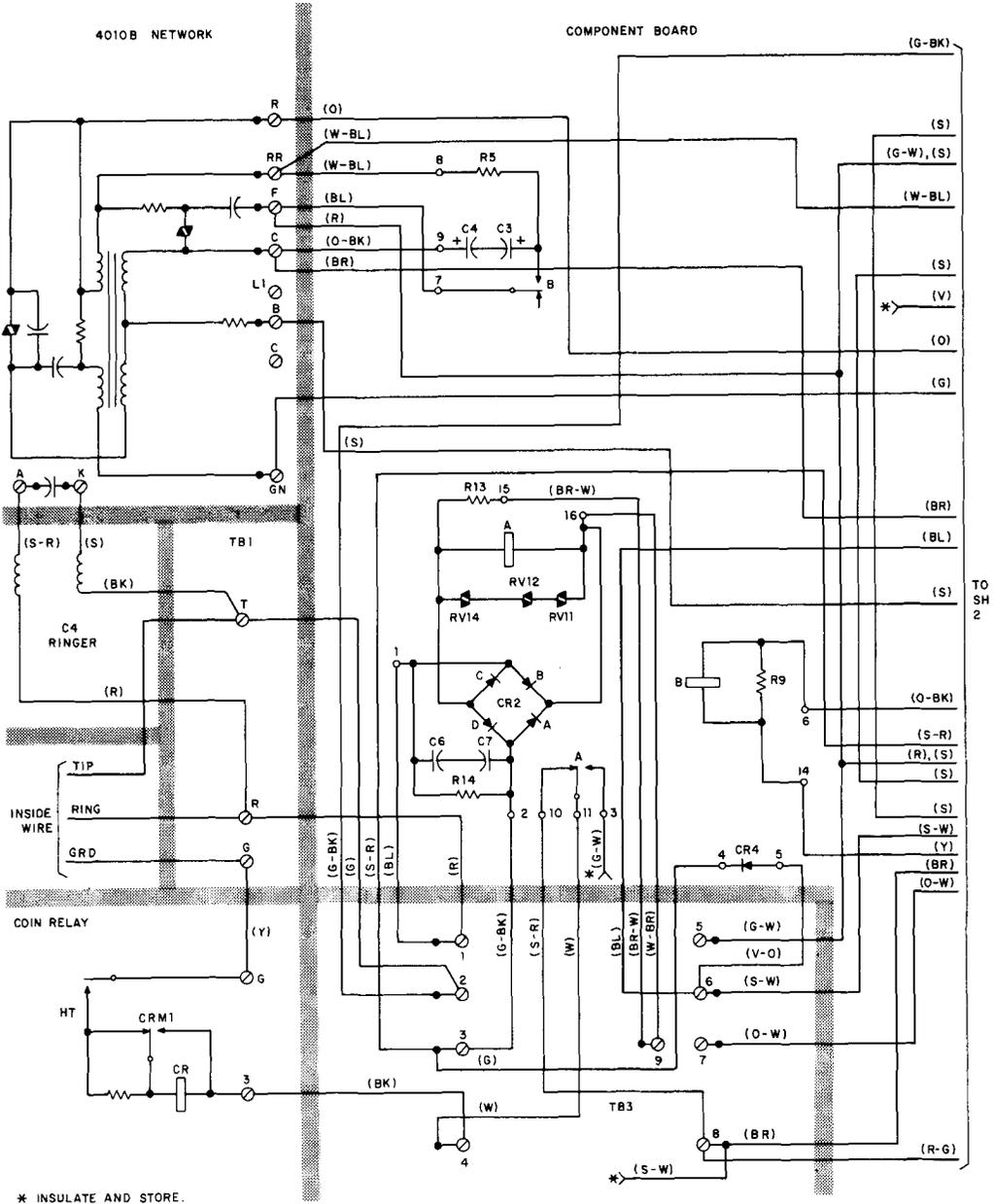


Fig. 27 — 1C2 and 2C2 Dial Tone First Coin Telephone Sets — Connections (Sheet 1)

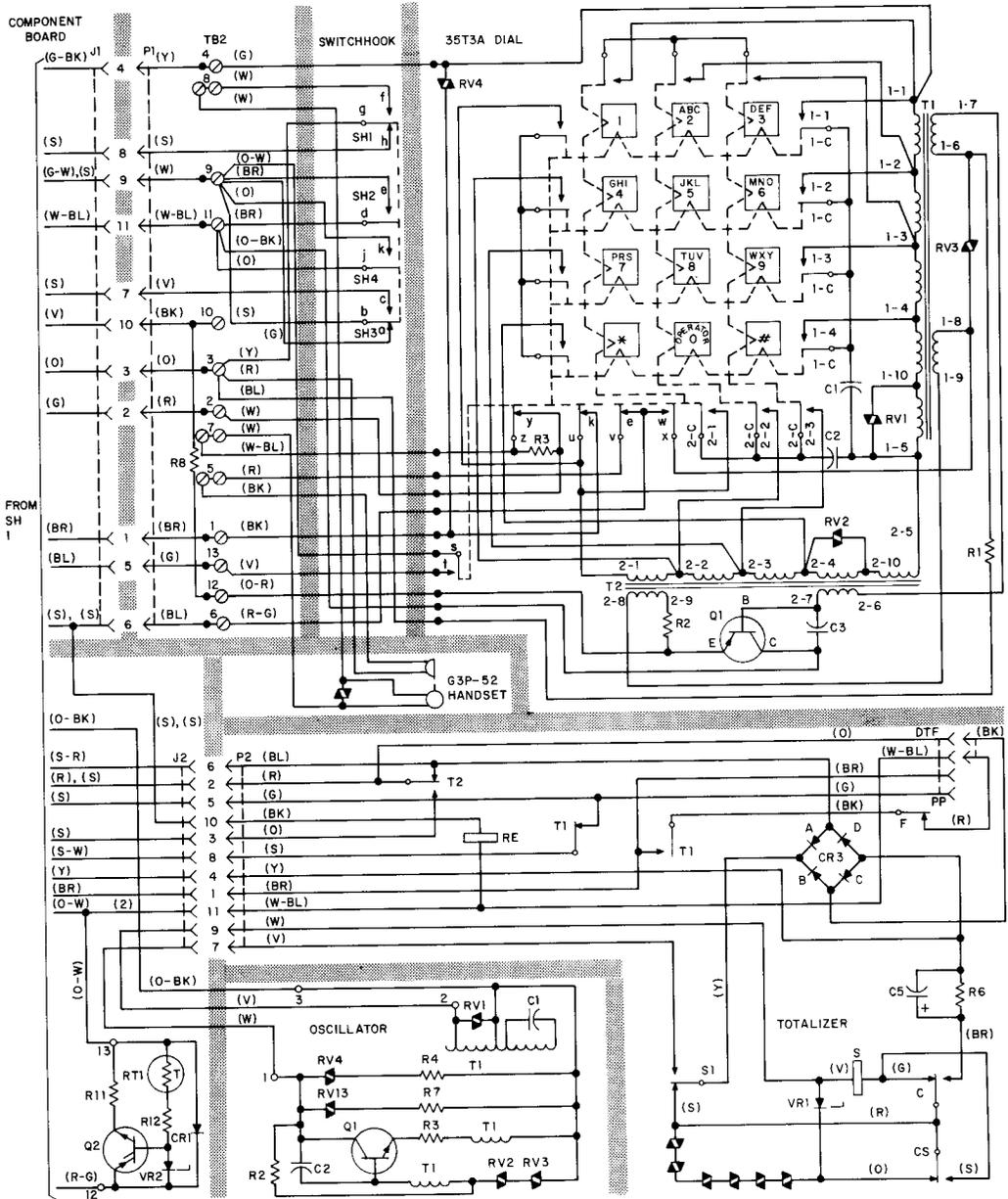


Fig. 27 — 1C2 and 2C2 Dial Tone First Coin Telephone Sets — Connections (Sheet 2)

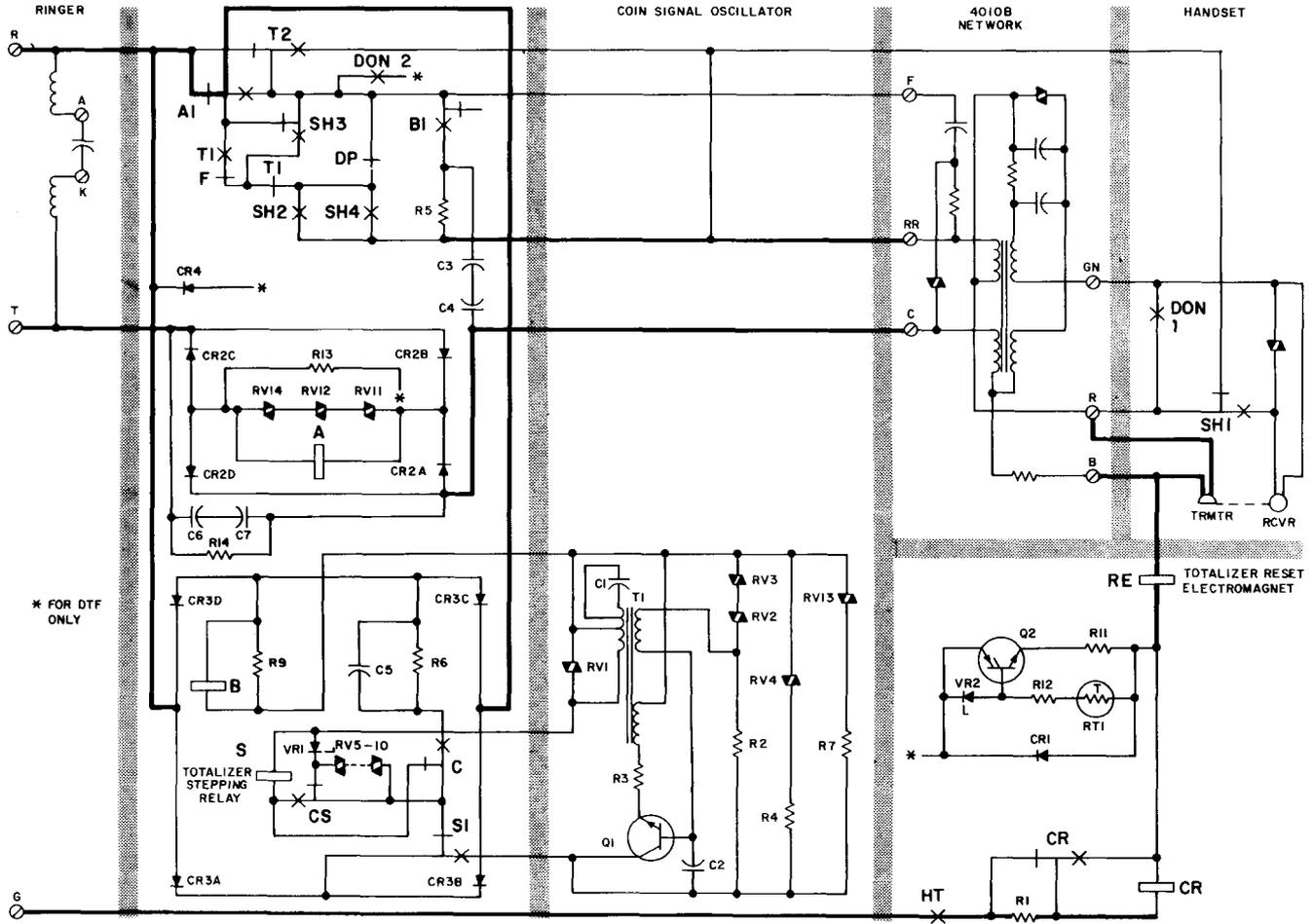


Fig. 28 - 1C1 and 2C1 Prepay Coin Telephone Sets — Schematic

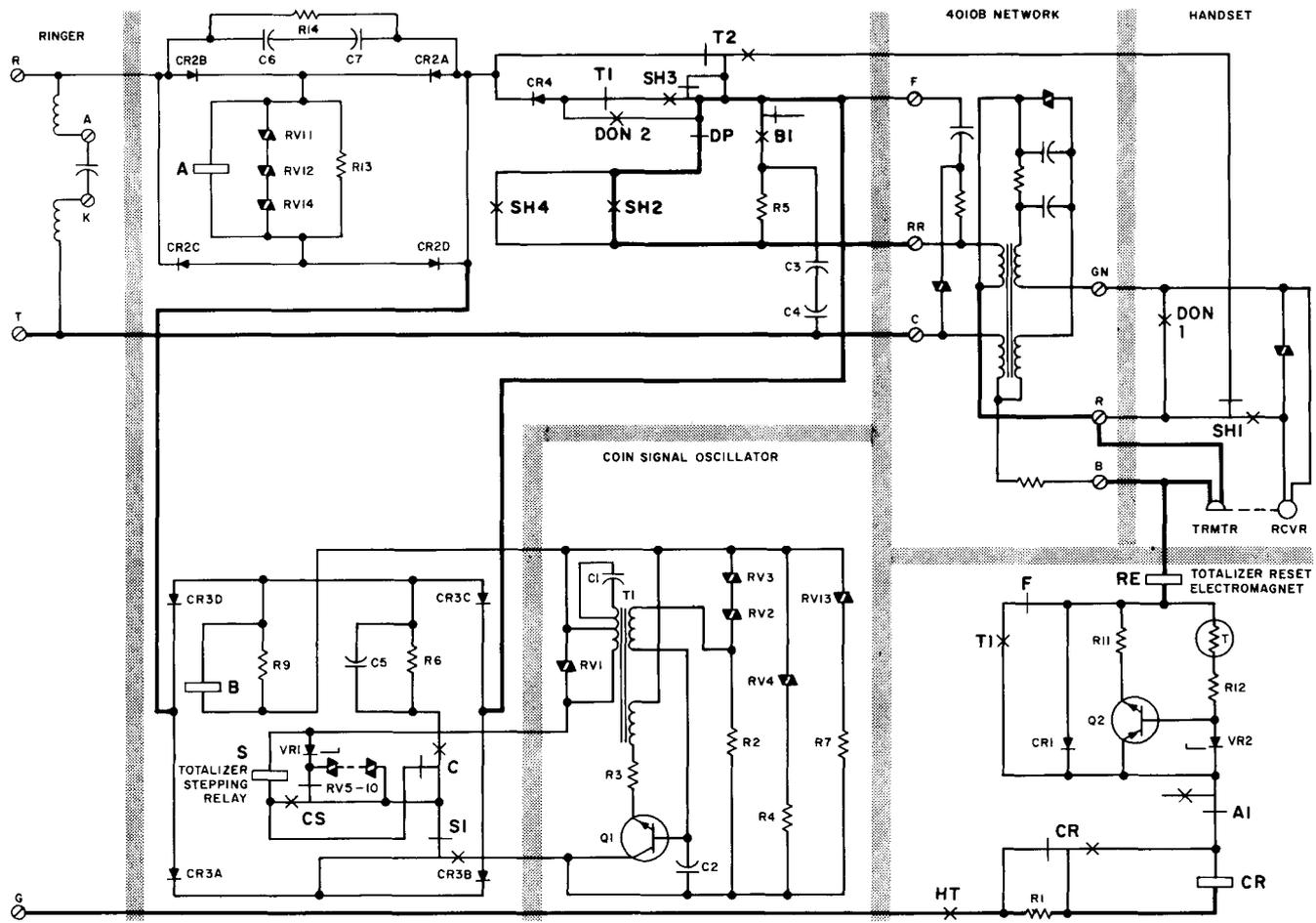


Fig. 29 — 1C1 and 2C1 — Dial Tone First Coin Telephone Sets — Schematic

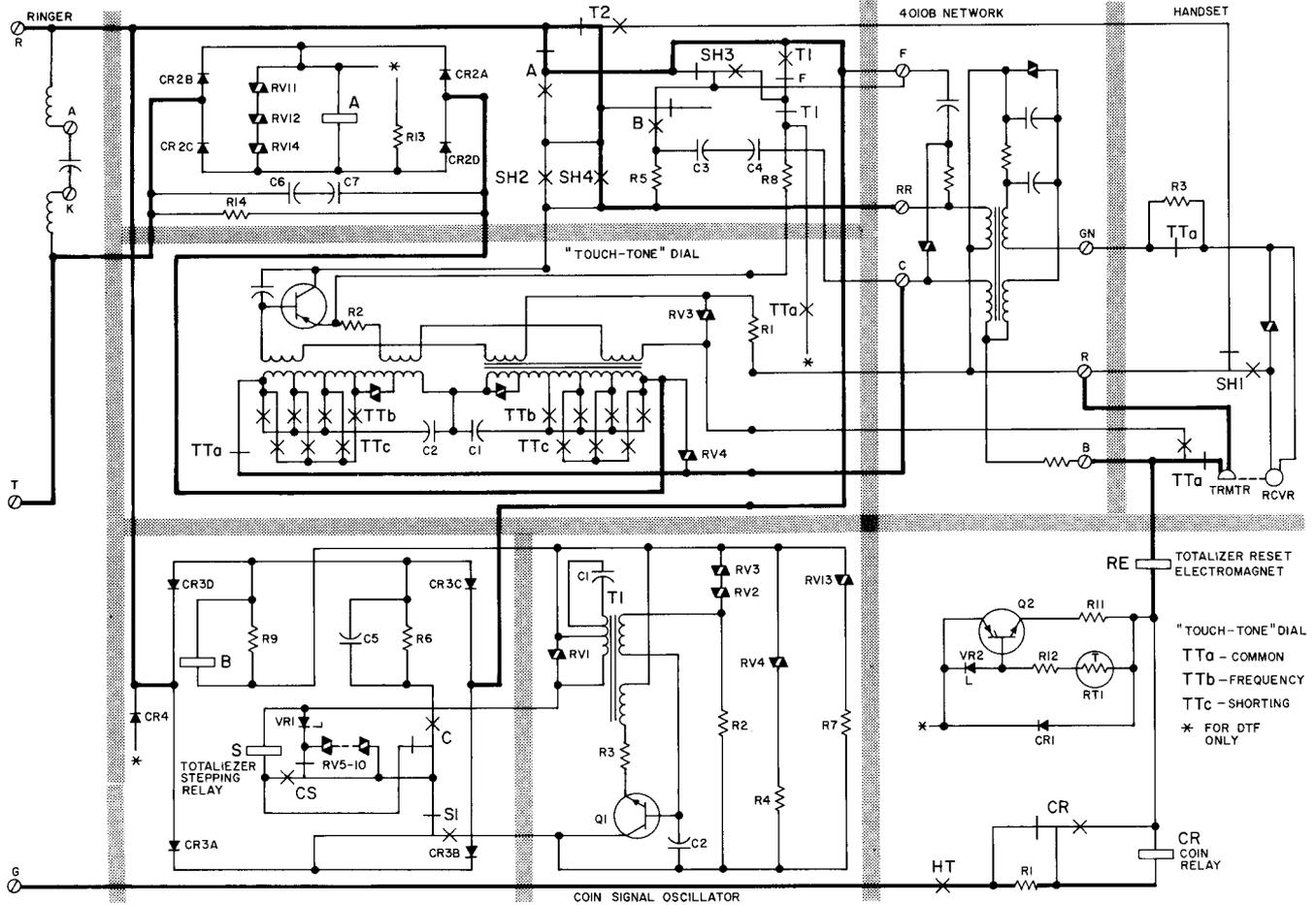


Fig. 30 — 1C2 and 2C2 Prepay Coin Telephone Sets — Schematic

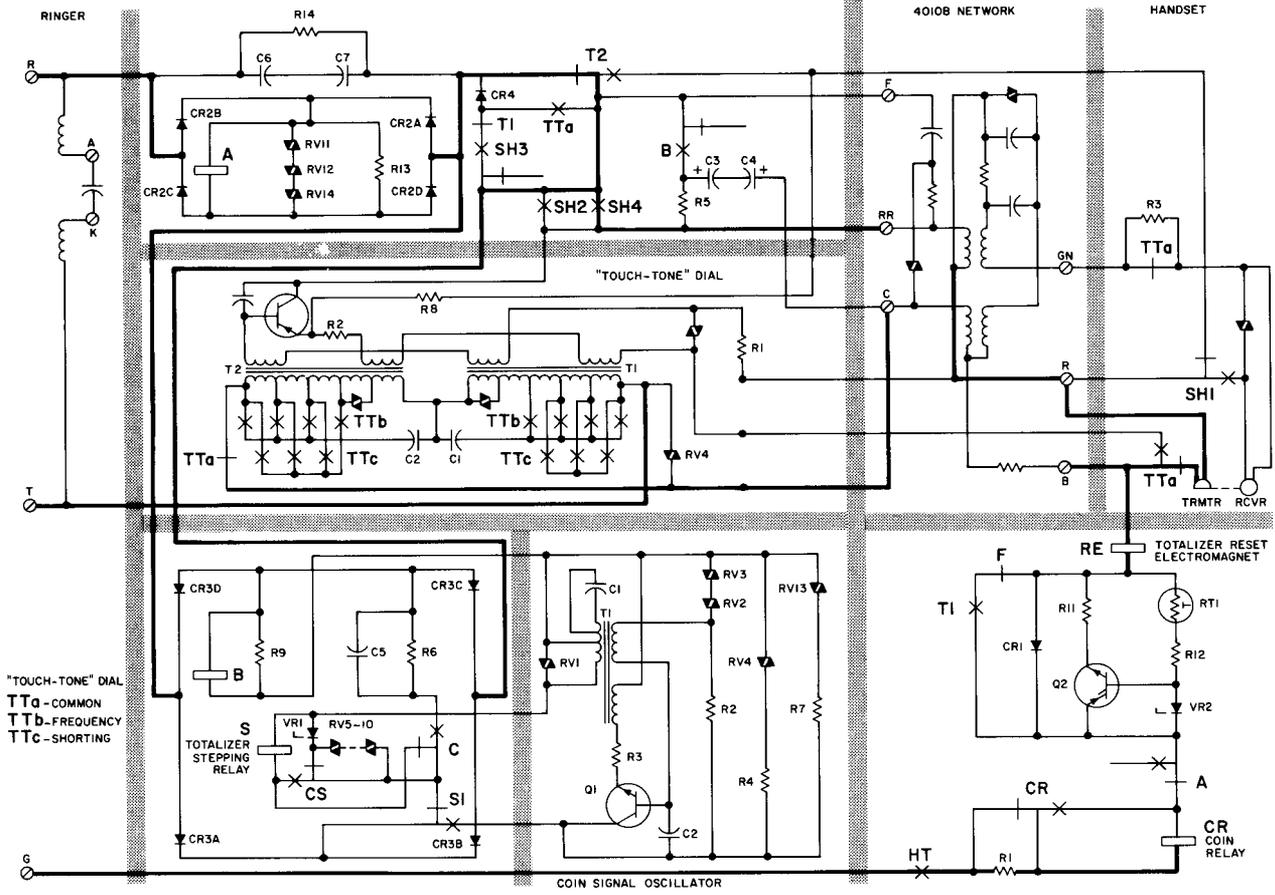


Fig. 31 - 1C2 and 2C2 Dial Tone First Coin Telephone Sets - Schematic