

SWITCHING SYSTEM NO. 400

IDENTIFICATION

1. GENERAL

1.01 This section is reissued to:

- Add two new cabinet assemblies, J53035A, Lists 10 and 11.
- Show J53035A, Lists 5 and 6 direct station selection (DSS) conversion kits rated Additions and Maintenance Only (A&M Only).
- Show J53035A, List 7 TOUCH-TONE® calling (TTC) conversion kit rated Manufacture Discontinued (MD).
- Show J53035A, Lists 8 and 9 cabinet assemblies rated Manufacture Discontinued (MD).
- Add J53035CK, Lists 1 and 2 station make-busy units.
- Add J53035 CK, Lists 3 and 4 cabling for station make-busy units.
- Add 404C tone generator for TOUCH-TONE calling application.
- Add KS-19642 Lists 1 and 2 rectifiers which replace Manufacture Discontinued (MD) J87205B-1 rectifier.

Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

1.02 For general description information concerning the No. 400 Switching System refer to Section 981-224-100.

1.03 A set of schematic drawings and circuit description sheets are furnished in a binder and stored in the cabinet crown. Drawings for other features which may be provided on an optional basis must be ordered separately.

2. IDENTIFICATION

2.01 The No. 400 Switching System is a 20- to 40-station line packaged crossbar switching unit designed for customers with calling patterns that are intercommunicating in nature. Calls between stations associated with the system are made by 2-digit dial selection over six talking paths. Exchange calls to and from stations not having direct termination of central office (CO) lines, may be made through a primary answering station (key telephone set or the CALL DIRECTOR® set) by use of an add-on feature.

2.02 Each CO line terminated in the answering station requires an associated access line off the No. 400 Switching System for completion of CO calls to and from keyless stations.

2.03 The basic 20-line system is expandable to 30- or 40-station lines by adding plug-in, 10-line supplementary units. The basic package also contains equipment for two CO lines arranged with an add-on feature that is similar to that used in the 1A1 key telephone system.

2.04 The plan provides for numbering station lines from 20 through 39 for the 20-line system, 20 through 49 for the 30-line system, and 20 through 59 for the 40-line system. Unassigned lines must be cross-connected to reach busy tone trunks at the line, link, and connector unit. Line 39 is wired as a test line but may be used as a regular station line.

2.05 The system has a self-contained batteryless power plant operating on 115-volt ac; it supplies +48, -48, and 10 volts ac. Dial tone, busy tone, automatic ringing, and audible ringing are also furnished.

2.06 The system provides miscellaneous signaling leads in the crown for use with external add-on and key telephone line circuits. However, the 24-volt supply necessary for these external circuits, requires the use of a separate externally mounted 24-volt dc power unit.

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2.07 Three universal line circuits are provided which may be used for:

- 2-way tie trunks
- Recorded telephone dictation trunks
- Loudspeaker paging trunks
- Interface trunks
- 3A code call

Two universal line circuits are required for one 3A code call. The above trunk circuits must be located in an external equipment cabinet. Connection to a universal line is completed by dialing only one digit: 6, 7, 8, 9 or 0.

2.08 Direct station selection (DSS) facilities are optional in No. 400 Switching System. There is space in the cabinet for mounting additional DSS units when the system is equipped with 20 or 30 station lines. Space is also provided for additional add-on and key telephone line circuits. The cabinet contained add-on circuits are limited to six. Two add-on units are provided and the additional four units may be any combination of add-on and key telephone units.

2.09 Two TOUCH-TONE calling receivers are required per system. Space is provided to mount two C1 receivers on slide 1. When range capabilities of the C1 receivers (1 mile) are exceeded, two A3 receivers are required. The A3 receivers and their associated translator unit (applique circuit) must be mounted external to the cabinet. The applique circuit converts the two-out-of-seven output of the A3 receivers to the one-out-of-ten code required by the dial pulse registers. A 404C tone generator is available to provide precision dial tone required for TOUCH-TONE calling.

2.10 An optional station make-busy feature is available which causes one or two lines of the No. 400 Switching System appearing in a key telephone set to be made busy, whenever one or more of a group of CO lines appearing in the same telephone set is being rung, is in the talking condition, or has been selected for an outgoing call by operation of an associated CO line key. The station make-busy units must be externally mounted.

2.11 Group hunting is available in any group of lines having the same tens digit. Two or more lines within each tens group may be arranged for one or 2-way consecutive or nonconsecutive line hunting (optional). For one-way hunting, a diode must be used instead of a strap. Hunting can be sequential or nonsequential and in ascending or descending order.

2.12 Two 426A diodes are furnished with each line, link, and connector unit for line hunting. They are wired to a plug-in assembly on the unit for ease of installation. Additional 426A diodes must be ordered separately as required.

3. CAPACITY

3.01 Cabinet assemblies Lists 1, 2, 3, 4, 8, and 9 have been furnished in similar cabinets. Lists 10 and 11 cabinets have been changed slightly to incorporate a new slide mechanism and connector facilities in the cabinet crown for the station make-busy feature. Each list may be enlarged in the field by adding equipment as shown in Table A.

4. EQUIPMENT

4.01 The switching system is contained in a single cabinet (Fig. 1). The J53035A, Lists 1 and 2 equipment cabinets are 27-1/4 inches wide, 30-1/2 inches deep and 63-5/8 inches high (with the top raised to the open position it is 92-1/2 inches high).

4.02 The J53035A, Lists 3, 4, 8, 9, 10, and 11 cabinets have the same dimensions as Lists 1 and 2 except that they are equipped with a removable cover for access to the crown wiring and are 68-1/8 inches high.

4.03 The 20-line cabinet weighs 740 pounds. The 40-line cabinet weighs 820 pounds. Fig. 2 shows floor space requirements. Refer to Section 460-110-180 for selection of location information.

4.04 Lift-off panels on the sides and front of the cabinet are removable for installation and maintenance operations.

4.05 Clip-type terminal connecting blocks are provided in the cabinet crown (Fig. 3 and 13) which eliminate the need for a separate cross-connecting terminal. Multiple bridging involves the installation of separate house or wall terminals.

TABLE A
CAPACITY OF SWITCHING SYSTEM NO. 400

FEATURE	CABINET ASSEMBLIES LIST 1*, 3*, 8*, OR 10			CABINET ASSEMBLIES LIST 2*, 4*, 9*, OR 11		
	FURNISHED	MAX CAPACITY	NOTES	FURNISHED	MAX CAPACITY	NOTES
Station Lines	20	40	—	20	40	—
Universal Lines	3	3	1	3	3	1
Add-on Lines	2	6	2	2	6	2
Key Telephone Lines	—	12	2	—	12	2
DSS Stations (Max. ten keys per station)	—	40	3(c), 4, 8	8	40	3
TOUCH-TONE Calling Receivers	—	2	5, 6	—	2	5, 8
Station Make Busy Units	—	4	7	—	4	7

* Manufacture Discontinued (MD)

- NOTES: 1. Optional items such as 2-way tie trunks, recorded telephone dictation trunks, loudspeaker paging trunks, interface trunks, and 3A code call, associated with universal lines must be mounted externally.
2. Slide No. 2 mounting spaces 1-4, reserved for additional facilities and may be equipped as follows:
- (a) Four add-on lines (four 1-circuit units) or
 - (b) Twelve key telephone lines (four 3-circuit units) or
 - (c) Any combination of (a) and (b) totaling four units.
3. May be expanded to provide total combinations as follows:
- (a) 20-station lines — 20 DSS stations (five units maximum capacity 20 stations)
 - (b) 30-station lines — 16 DSS stations, or
 - (c) 40-station lines — 4-40 DSS stations. DSS equipment is all mounted externally. (See note 4).
4. Two DSS conversion kits for internal equipment mounting in the field are available as follows:
- (a) J53035A, List 5 (A & M only) — for converting List 1 cabinet assembly.
 - (b) J53035A, List 6 (A & M only) — for converting List 3 cabinet assembly.
5. Slide No. 1 mounting spaces 13-14 reserved for 2 TTC receivers (C1 type). J53035A, List 7 (MD) for field conversion of Lists 1 and 3 cabinet assemblies. List 11 cabinet is not wired for TTC.
6. List 8 (MD) and List 10 cabinet assemblies wired for TTC. Two type C1 receivers may be mounted internally (order separately). When required, the A3 TTC receivers and associated applique units must be ordered separately and mounted externally.
7. (a) Station make busy unit J53035 CK, List 1 provides for a maximum of six lines of the No. 400 Switching System or up to six combinations with a maximum of 2 lines per combination using up to 18 CO pickup keys.
- (b) J53035 CK, List 2, required in addition to List 1, provides for 8 additional lines of the No. 400 Switching System and up to 24 CO pickup keys.
- (c) A maximum of three list 2 units may be used in addition to one List 1. All units must be ordered separately and mounted externally.
8. Locally engineered by telephone company.

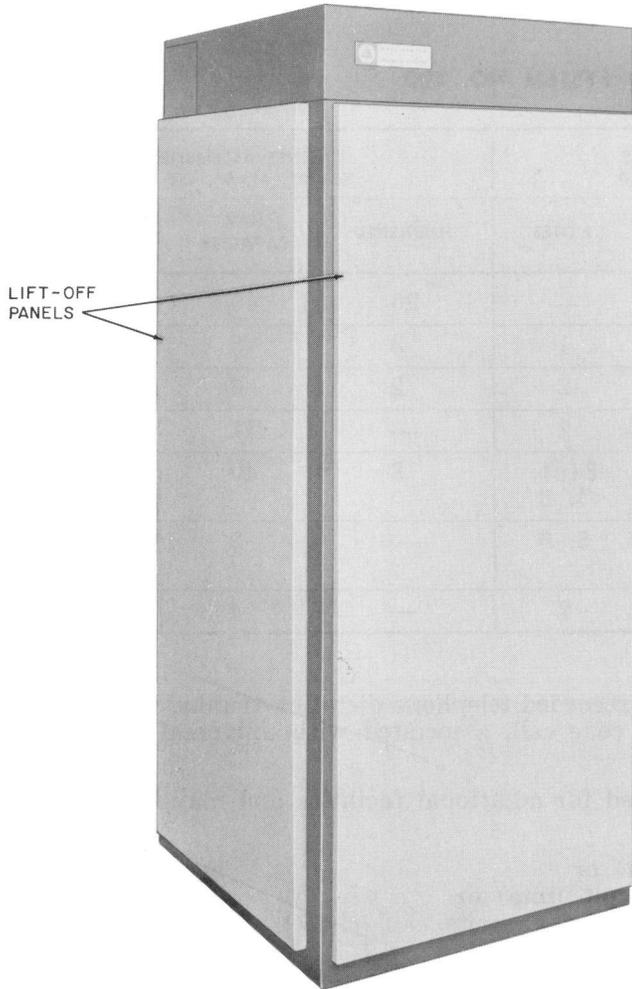
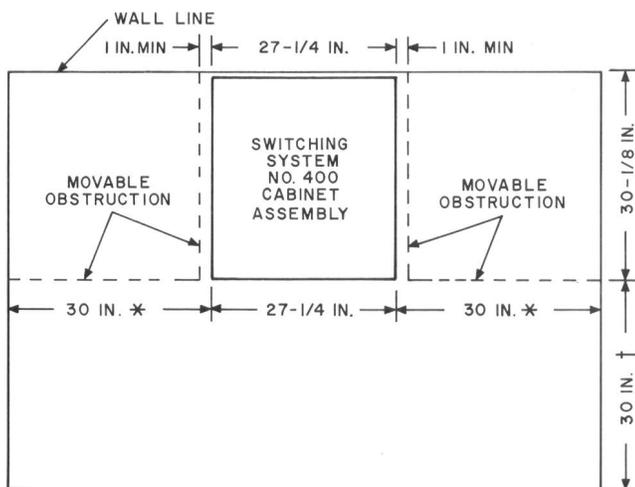


Fig. 1—Equipment Cabinet



* SPACE REQUIRED ON SIDES AS MAINTENANCE AREA.
 † SPACE REQUIRED FOR WITHDRAWING SLIDES (MAY BE AISLE SPACE).

Fig. 2—Floor Space Requirements

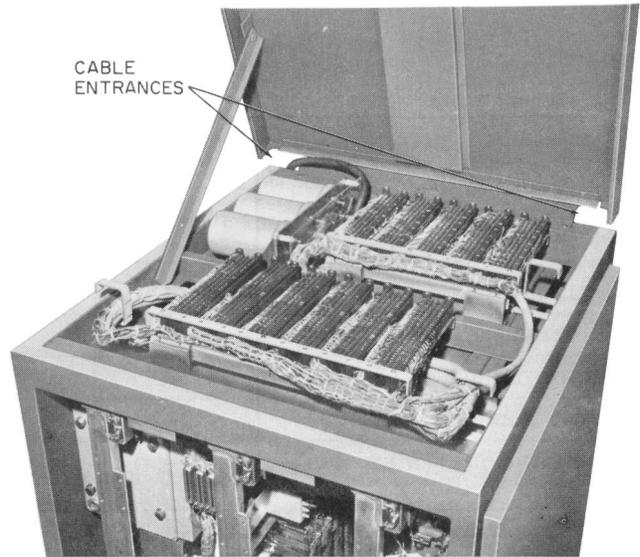


Fig. 3—Cabinet Crown for Lists 1 and 2 Cabinet Assemblies

4.06 The equipment within the cabinet is mounted on three vertical sliding-type racks. The three slides are provided with an interlocking device so that only one slide may be pulled out at a time, thus the weight distribution is such that the cabinet need not be anchored to prevent tipping. Each slide has a capacity for twenty-six 2- by 23-inch mounting plates. Plug-in cables are furnished to interconnect the three slide units within the cabinet (Fig. 4).

4.07 J53035A, Lists 1, 2, 3, 4, 8, and 9 cabinet assemblies have been rated Manufacture Discontinued (MD). The current AT&T Standard Cabinet Assemblies are J53035A, Lists 10 and 11.

4.08 Description of the various equipment list numbers follows:

- (a) **J53035A, List 1 Cabinet Assembly (MD):**
 Fig. 5 shows the equipment layout for each of the three slides in a List 1 cabinet.
- (b) **J53035A, List 2 Cabinet Assembly (MD):**
 Same as List 1 Cabinet Assembly with the following exceptions:

- Two J53035BC, List 1 (DSS) auxiliary relay units furnished on slide 1, mounting positions 12, 13, 14, and 15.

- One J53035CB, List 1 (DSS) auxiliary register unit furnished on slide 2, mounting position 10.
- DSS terminal strip provided in crown.

Note: TOUCH-TONE calling is not available with DSS, it must be engineered locally if required.

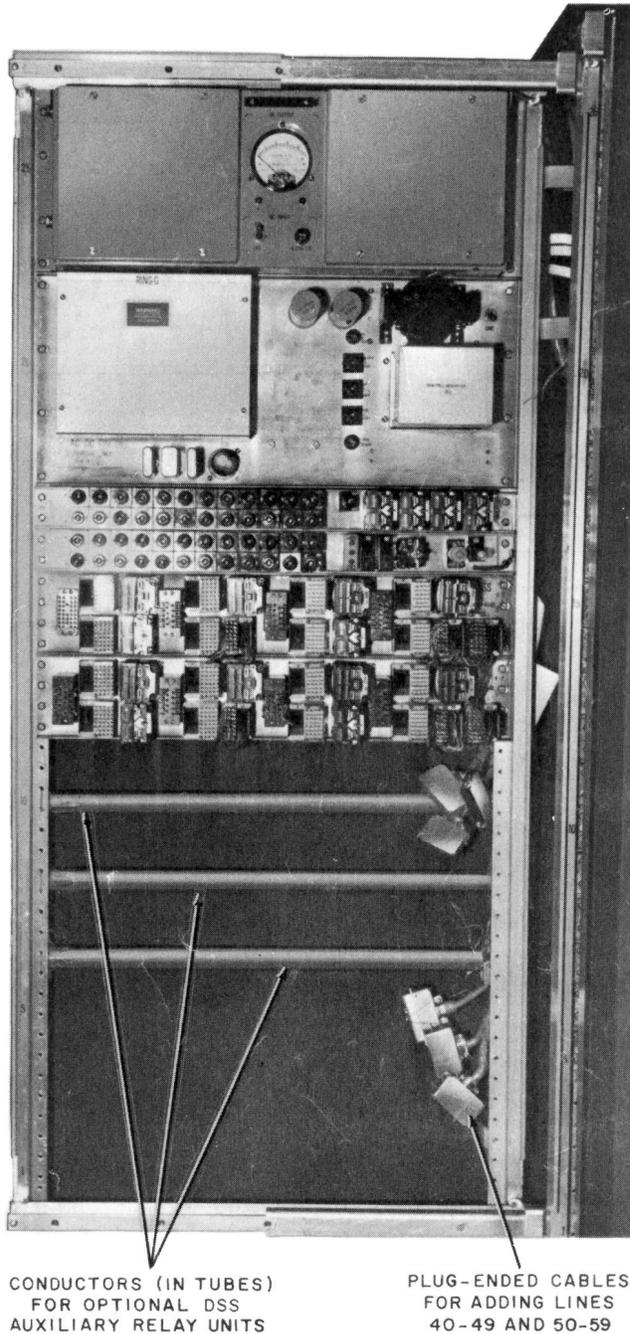


Fig. 4—Slide No. 1 (Extended)

(c) **J53035A, List 3 Cabinet Assembly (MD):** Same as List 1 Cabinet Assembly with the following exceptions:

- Add-on and key telephone line units (slide No. 2) arranged for plug-in connections.
- Crown wiring revised to provide optional use of external 10-volt ac power source when internal capacity is exceeded (50 lamps).
- Three solderless wire wrap-type terminal strips in the crown for optional use when internal 10-volt ac supply is exceeded by bridging on the internal add-on and key telephone line units.

(d) **J53035A, List 4 Cabinet Assembly (MD):** Same as List 2 cabinet assembly except the add-on and key telephone line units are arranged to plug into coded connector cables.

(e) **J53035A, List 5 (A&M Only):** Wiring and equipment required for the List 1 cabinet assembly to provide for internal DSS (see Note under (f)).

(f) **J53035A, List 6 (A&M Only):** Wiring and equipment required for the List 3 cabinet assembly to provide for internal DSS (see Note).

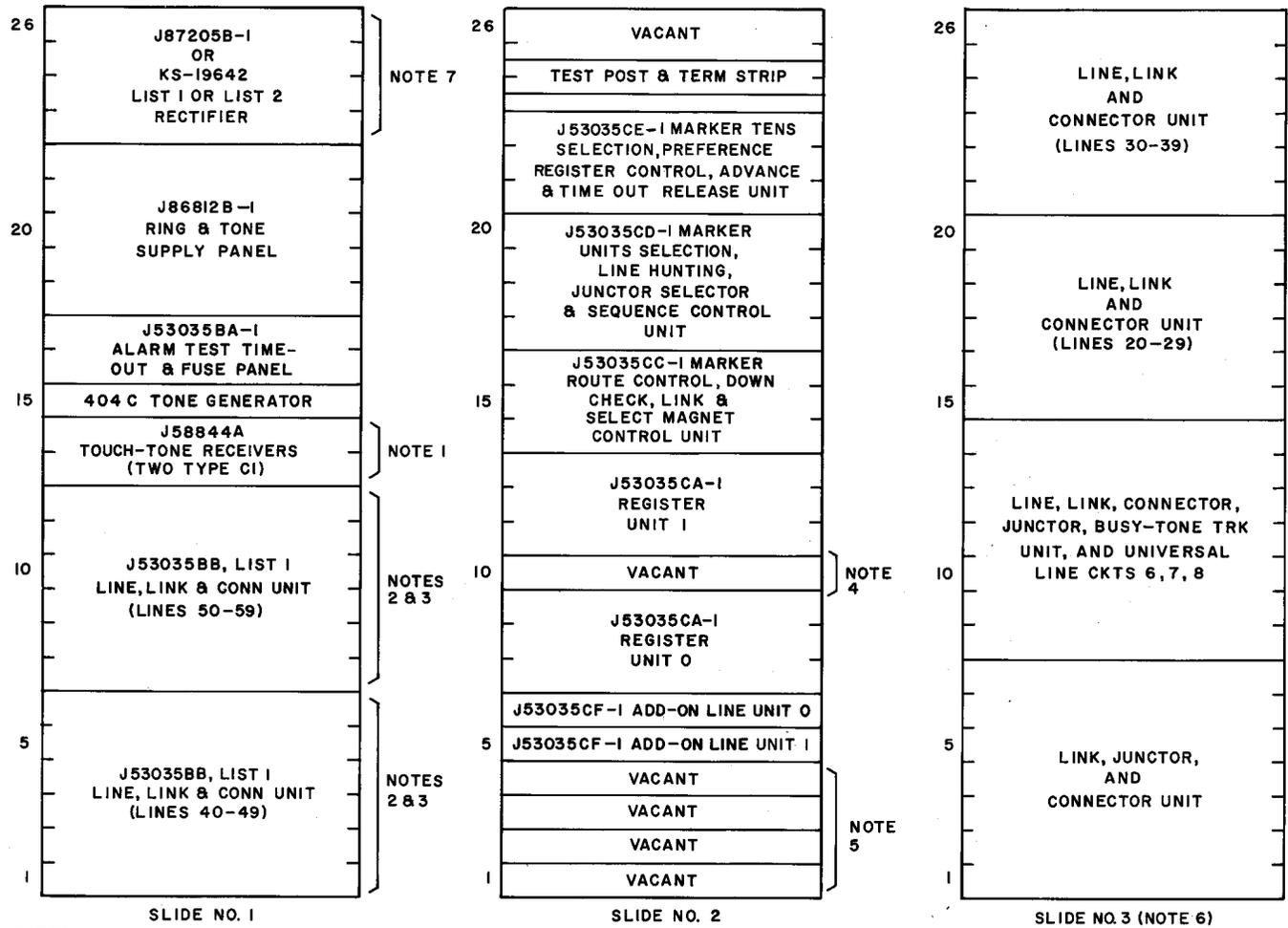
Note: Lists 5 and 6 are to be installed in the field (telephone company or distributing house). Equipment furnished with List 5 or 6 is as follows:

- Five 66E1-32 connecting blocks
- One J53035CB-1 auxiliary register unit
- Associated wiring and mounting hardware (difference between Lists 5 and 6 is the associated wiring)

In addition the following must be ordered separately:

- J53035BC, List 1 auxiliary relay units (one per 4-line circuit required with DSS).
- J53035BC, List 2 plug-in DSS tens and units diode assembly (one required per line circuit equipped with DSS; up to a maximum of four per auxiliary relay unit).

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- NOTES:**
1. TOUCH-TONE CALLING IS OPTIONAL. WHEN REQUIRED, J99289B TTC RECEIVER (TYPE A3) AND ASSOCIATED J58847AE (APPLIQUE UNIT) MUST BE EXTERNALLY MOUNTED.
 2. PLUG-ENDED CABLES ARE PROVIDED ON SLIDE 1 FOR CONNECTING THE OPTIONAL 10-LINE SUPPLEMENTARY UNITS (FIG. 7 AND 8) INTO THE SYSTEM.
 3. J53035A, LIST 5 (A AND M ONLY) MAY BE INSTALLED ON AN OPTIONAL BASIS TO PROVIDE AUXILIARY RELAY UNITS FOR DSS. SYSTEM CAPACITY WILL THEN BE LIMITED TO 20 OR 30 STATION LINES.
 4. J53035CB-1 AUXILIARY REGISTER UNIT FOR DSS OPTIONAL IN THIS POSITION.
 5. FOUR ADDITIONAL ADD-ON AND KEY TELEPHONE UNITS ARE OPTIONAL IN THESE POSITIONS, SEE TABLE A AND NOTE 2.
 6. NO SPACE IS PROVIDED ON SLIDE 3 FOR OPTIONAL EQUIPMENT.
 7. THE J87205B-1 (MD) RECTIFIER IS REPLACED WITH THE KS-19642 LIST I OR LIST 2 RECTIFIER IN THE LIST 10 AND LIST 11 CABINET ASSEMBLIES.

Fig. 5—J53035A, List 1 Cabinet Assembly Slide Arrangement

(g) **J53035A, List 7 (MD):** Wiring and equipment required for List 1 or 3 cabinet assembly to provide for TOUCH-TONE calling (TTC). List 7 is for field installation and contains the following:

- One 404C tone generator
- Two J58844A, List 1 (Type C1) receivers
- Two AF 156 (P2A) relays to replace the existing "P2A" relay in each of the dial pulse registers.
- One 16-pair cable equipped on one end with KS-14671, List 2 connectors.

(h) **J53035A, List 8 Cabinet Assembly (MD):** Same as List 3 cabinet assembly except wiring and equipment is provided for internal application of TOUCH-TONE calling. Two J58844A, List 1 (Type C1) receivers must be ordered separately (404C Tone Generator is furnished).

(i) **J53035A, List 9 Cabinet Assembly (MD):** Same as List 4 cabinet assembly. Equipped for DSS and not arranged for TOUCH-TONE calling.

(j) **J53035A, List 10 Cabinet Assembly:** Provides the framework, assembly, wiring and equipment for one No. 400 Switching System arranged for internal or external application of TOUCH-TONE calling, and external application of station make busy. See Table B and Fig. 6 for equipment (furnished and optional) associated with List 10 cabinet assembly.

(k) **J53035A, List 11 Cabinet Assembly:** Same as List 10 cabinet assembly except wiring and equipment is provided for DSS but not for TOUCH-TONE calling. See Table B. and Fig. 6 for equipment (furnished and optional) associated with List 11 cabinet assembly.

(l) **J53035BB, List 1 Line, Link, and Connector Unit:** The 10-line supplementary unit required to expand the basic 20-line system to 30 or 40 lines (Fig. 7 and 8).

(m) **J53035CF, List 1 Add-on Line Unit (A&M Only)**

(n) **J53035CH, List 1, Add-on Line Unit (Plug-in Type):** A single mounting plate unit made up of three parts; CO or PBX line circuit, a bridging circuit, and a station line circuit. This unit is required to provide the add-on feature on one CO or PBX line in Lists 3, 4, 8, 9, 10, and 11 cabinet assemblies.

(o) **J53035CG, List 1 Key Telephone Unit (A&M Only)**

(p) **J53035CJ, List 1 Key Telephone Unit (Plug-in Type):** A single mounting plate unit containing three line circuits identical in service and features to 1A1 or 1A2 KTS line circuits, the only difference being -48 volt dc operation rather than -24 volt dc. This unit can be used to terminate auxiliary CO or No. 400 Switching System lines where the add-on feature is not required, and is arranged for plug-in connection in Lists 3, 4, 8, 9, 10, and 11 cabinet assemblies.

(q) **J53035BC, List 1 DSS Auxiliary Station Relay Unit:** A double mounting plate unit equipped for DSS. All stations may be arranged for this feature by ordering the proper number of units (one unit per four calling stations). Two units are provided with Lists 2, 4, 9, and 11 cabinet assemblies.

Lists 2, 4, 9, and 11 cabinet assemblies, equipped for 20 lines, provide mounting space for up to five DSS relay units in slide No. 1. When equipped for 30 lines, space is available for only four DSS relay units. When equipped for 40 lines, all DSS relay units must be mounted in an external equipment cabinet. Ten DSS relay units are required in an external equipment cabinet to equip all stations for DSS service.

(r) **J53035BC, List 2 Diode Assembly for DSS:** A separate plug-in diode assembly (one for each calling station) consisting of twenty 400J diodes (10 tens and 10 units). Eight assemblies are furnished with the two DSS auxiliary relay units when Lists 2, 4, 9, and 11 cabinet assemblies are ordered.

TABLE B
J53035A, LISTS 10 AND 11 CABINET ASSEMBLIES
COMPONENT UNITS

CABINET ASSEMBLY		LOCATED ON SLIDE NUMBER		OPTIONAL AND MOUNTED EXTERNAL	APPARATUS OR EQUIPMENT CODES	LIST NO.	QUANTITY	APPARATUS OR EQUIPMENT	REMARKS
LIST 10	LIST 11	FURNISHED	OPTIONAL						
•	•	1			J53035B	3	1	Slide No. 1	Frame, Equip. & Wiring
	•	1			J53035B	2	1	Slide No. 1 Equipment	8 ckts of DSS Equip.
	•	1			J53035BC	1	2	DSS Aux Sta Relay Unit	Equipped for 4 Sta Lines
	•	1			J53035BC	2	8	DSS Aux Sta Relay Unit	Diode Assembly
•	•	1			KS-19642	1 or 2	1	Rectifier	Replaces J87205B-1 (MD)
•	•	1			J53035BA	1	1	Alarm, Test, Time-Out & Fuse Panel	
•	•	1			J86812B	1	1	Ring and Tone Supply Panel	J86812A Includes J86812B & KS-19642
•	•	1			SD-81719-01		1	404C Tone Generator	
•	•		1		J53035BB	1	(2 (Max))	Line, Link & Conn Unit	One unit for Sta Lines (40-49) or (50-59)
	•	1			J53035BC	1	2	DSS Aux Sta Relay Unit	Equipped for 4 Sta
	•		1		J53035BC	1	3 (Max)	DSS Aux Sta Relay Unit	Per Unit
	•		1		J53035BC	2	12 (Max)	DSS Aux Sta Relay Unit	Diode Assembly
•			1		J58844A	1	2 (Max)	C1 TTC Receiver	Two Required (Note 1)
•	•	2			J53035C	5	1	Slide No. 2	Framework, Equip & Wiring
	•	2			J53035C	2	1	Slide No. 2 Equipment	Req'd in Addition to List 5 for DSS
	•	2			J53035CB	1	1	Aux. Register Unit for DSS by Stations	
•	•	2			J53035CA	2	2	Dial Pulse Register Unit	
•	•	2			J53035CC	1	1	Marker Route Control, Down Check, & Select Magnet Control Unit	
•	•	2			J53035CD	1	1	Marker Units Selection, Line Hunting, Junctor Selector, and Sequence Control Unit	

TABLE B (Cont)
J53035A, LISTS 10 AND 11 CABINET ASSEMBLIES
COMPONENT UNITS

CABINET ASSEMBLY		LOCATED ON SLIDE NUMBER		OPTIONAL AND MOUNTED EXTERNAL	APPARATUS OR EQUIPMENT CODES	LIST NO.	QUANTITY	APPARATUS OR EQUIPMENT	REMARKS
LIST 10	LIST 11	FURNISHED	OPTIONAL						
•	•	2			J53035CE	1	1	Marker Tens Selection and Preference, Register Control, Advance, & Time-Out and Release Unit	
•	•	2			J53035CH	1	2	Add-On Line Unit	
•	•		2		J53035CH	1	4 (Max)	Add-On Line Unit	One unit for Ckts 2, 3, 4, or 5
•	•		2		J53035CJ	1	4 (Max)	Key Tel Line Unit	Arranged for Station Make Busy
•	•	3			J53035D	2	1	Slide No. 3	Framework, Equip & Wiring
•	•	3			—		6	Junctor Circuit	
•	•	3			—		1	Busy Tone Trunk Ckt	
•	•			•	J53035CK	1	1	Station Make Busy Unit	For Max of 6 SS No. 400 Sta Lines
•	•			•	J53035CK	2	3 (Max)	Station Make Busy Unit	Req'd in Addition to List 1 for 8 Additional SS No. 400 Sta Lines
•	•			•	J53035CK	3	1	Cabling for Station Make Busy Unit	Three 25 Pair, 30 Ft, Plug Ended Connector Cables
•	•			•	J53035CK	4	1	Cabling for Station Make Busy Unit	One 24 Pair, 20 Ft Plug Ended Connector Cable
•	•			•	Piece Part 43J265	—	1	Terminal Strip Mounting Assembly	Required when CO or PBX lines have multiple appearances in key telephone sets
•	•			•	Piece Part 43D316	—	1	Fanning Strip Assembly	
•	•			•	281A	—	3 (Max)	Terminal Strip	
•	•			•	446F	—	144 (Max)	Diode	
•	•			•	J58847AE	1	1	TTC Receiver (Type A3) Applique Circuit	Required When Operating Range of C1 Receiver (1 Mile) is Exceeded
•	•			•	J99289B	1	2 (Max)	TTC A3 Receiver	
•	•			•	J88289A	1	1	Mounting Shelf for A3 Receivers	

Note 1: When required, two J99289B TTC receivers (Type A3) and associated J58847AE (applique unit) must be ordered separately and mounted externally.

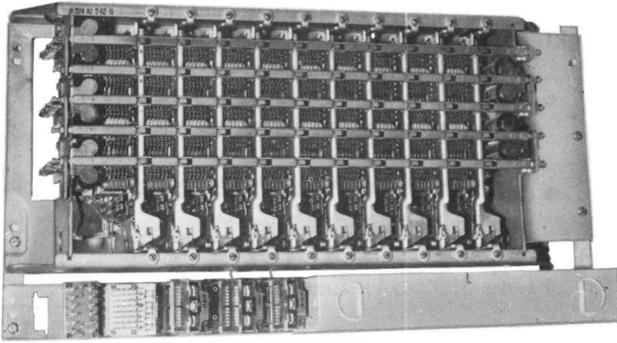


Fig. 7—Line, Link, and Connector Unit for Lines 40 to 49 or 50 to 59, Front View

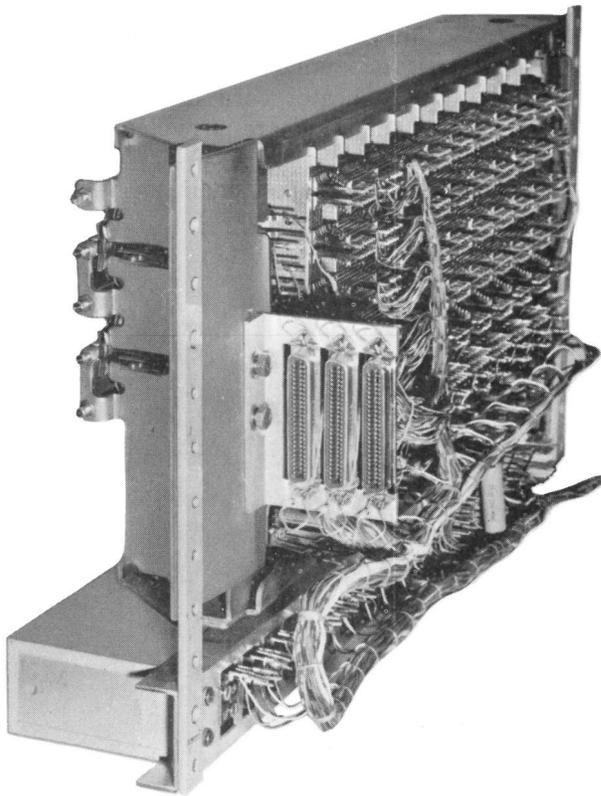


Fig. 8—Line, Link, and Connector Unit for Lines 40 to 49 or 50 to 59 Rear View

(s) **J53035CB, List 1 Auxiliary Register Unit for DSS:** Contains relay equipment designed to supplement the dial pulse register circuits. It operates in conjunction with DSS auxiliary relay units and DSS signaling keys. This unit is furnished with Lists 2, 4, 9, and 11 cabinet assemblies, but must be ordered separately, and field mounted when adding DSS to Lists 1, 3, 8, and 10 cabinet assemblies.

(t) **J53035CK, List 1 Station Make-Busy Unit:**

The basic unit consisting of a double mounting plate equipped with six (MB) relays, seven terminal strips, and six connectors. List 1 unit provides the station make busy feature for six station lines, or six combinations of two station lines each from various groups of CO lines using up to a total of 18 CO line pickup keys. List 1 unit must be externally mounted.

(u) **J53035CK, List 2 Station Make-Busy Unit:**

A supplementary unit consisting of a single mounting plate equipped with eight (MB) relays, six terminal strips, one connector, and a terminated connector cable for connecting List 2 unit to List 1 unit. List 2 unit provides station make busy feature for eight additional station lines or pairs of station lines from CO lines using up to 24 additional pickup keys. Three List 2 units may be associated with each List 1 so that a total of 30 station lines or pairs of station lines may be made busy from a combination of CO lines using up to 90 pickup keys. List 2 units must be externally mounted.

(v) **J53035CK, List 3 Station Make Busy Unit (Connector Cables):** Two 30-foot, 25-pair connector cables with plugs on both ends and one 30-foot, 25-pair connector cable with a plug on one end, required in addition to List 1 unit to connect the externally mounted station make-busy unit to No. 400 Switching System.

Note: Manufacture Discontinued (MD) cabinet assemblies 1, 2, 3, 4, 8, and 9 are not internally wired for station make busy. Three A25C connector cables should be used in lieu of the J53035CK, List 3 connector cables.

(w) **J53035CK, List 4 Station Make Busy Unit (Connector Cable):** One 20-foot, 24-pair connector cable with a plug on one end, required in addition to List 2 unit to connect the station make busy unit with externally mounted key telephone units.

4.09 TOUCH-TONE Calling

(1) When internal application of TOUCH-TONE calling (mounted within the cabinet assembly) is required for cabinet assemblies List 1 (MD) and List 3 (MD), the following equipment and

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cabling must be ordered separately and installed locally:

- One 404C tone generator (Fig. 9)
 - Two J58844A, List 1, receivers (type C1) (Fig. 10)
 - One KS-14528, List 2 connector
 - Two KS-14672, List 2 connectors
 - Two AF 156 (P2A) relays
- (2) When internal application of TOUCH-TONE calling is required for cabinet assemblies, Lists 8 (MD) and 10, two J58844A, List 1 (type C1) receivers must be ordered separately and installed in mounting plate positions 13 and 14 on Slide 1.
- (3) When external application of TOUCH-TONE calling is required, the following equipment

must be ordered separately and installed locally (external to the cabinet assembly)

- Two J99289B, List 1 receivers (type A3) (Fig. 11)
 - One J58847AE, List 1 TTC receiver applique unit (Fig. 12)
 - One J99289A, List 1 mounting shelf
- (4) When TOUCH-TONE calling is required in addition to DSS, it must be engineered and installed locally as required.

4.10 A J53035E call progress indicator (portable test set), is available for locating trouble conditions. The indicator cord is plug-ended and matching test connectors are provided on slide 2 (Fig. 13). Refer to Section 518-710-506 for operating methods of the call progress indicator.

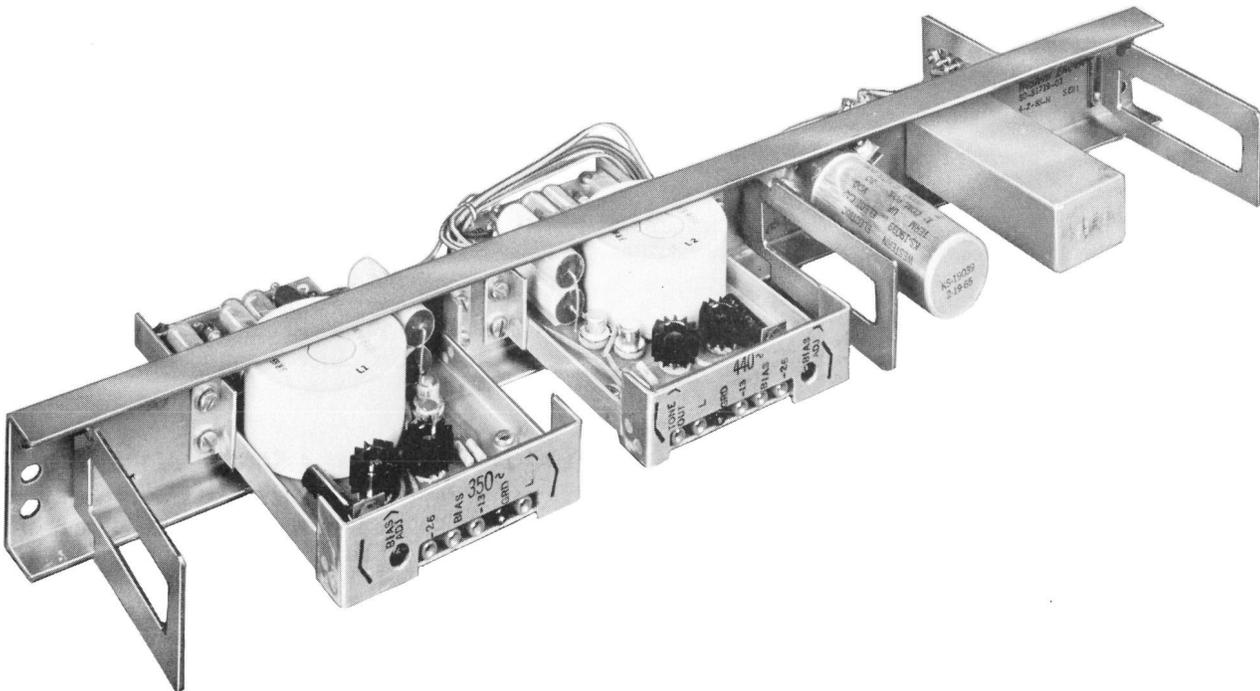


Fig. 9—404C Tone Generator, Front View (Covers Removed)

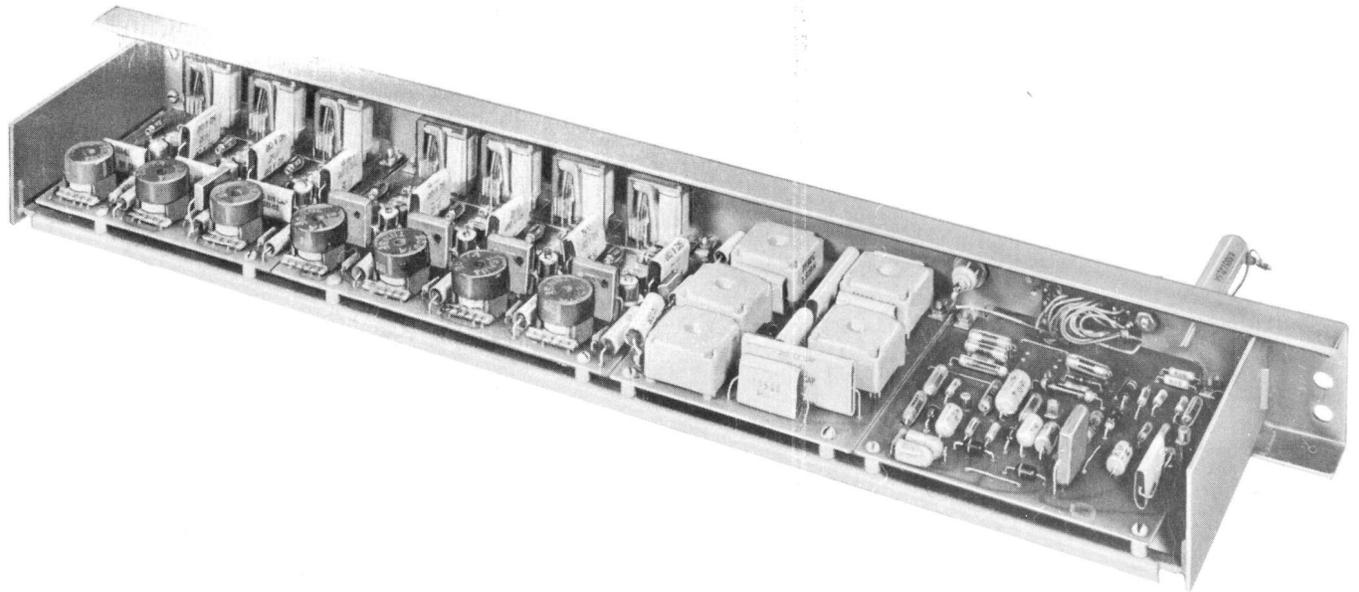


Fig. 10—J58844A, List 1 TOUCH-TONE Calling Receiver, Type C1, Front View (Cover Removed)

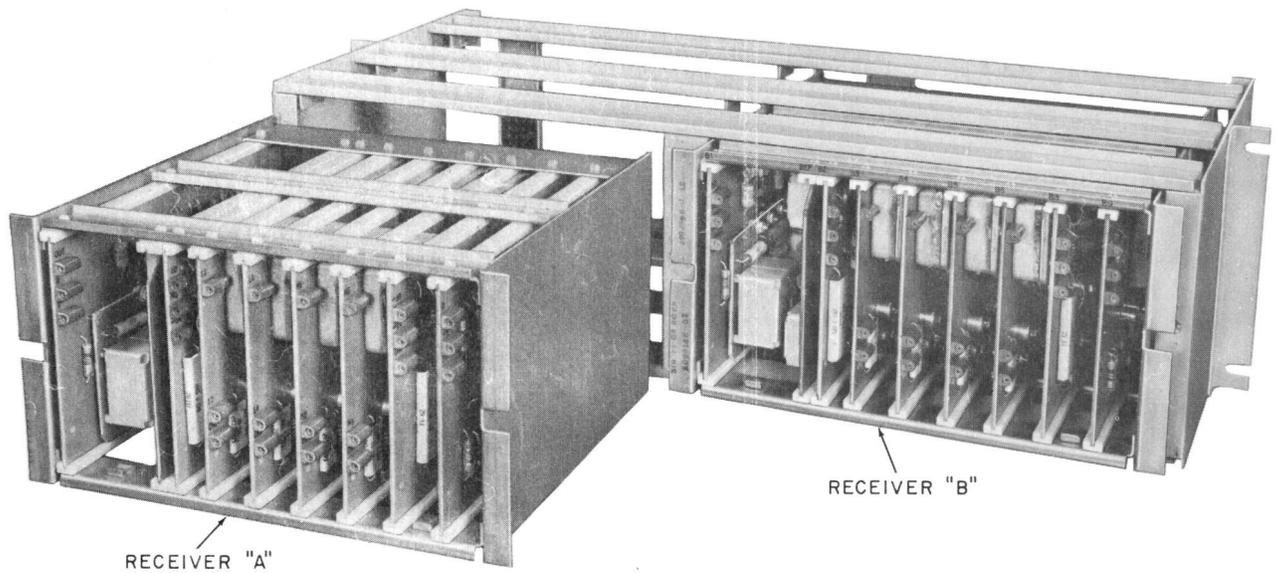


Fig. 11—J99289B, List 1 TOUCH-TONE Calling Receiver, Type A3, Front View (Cover Removed)

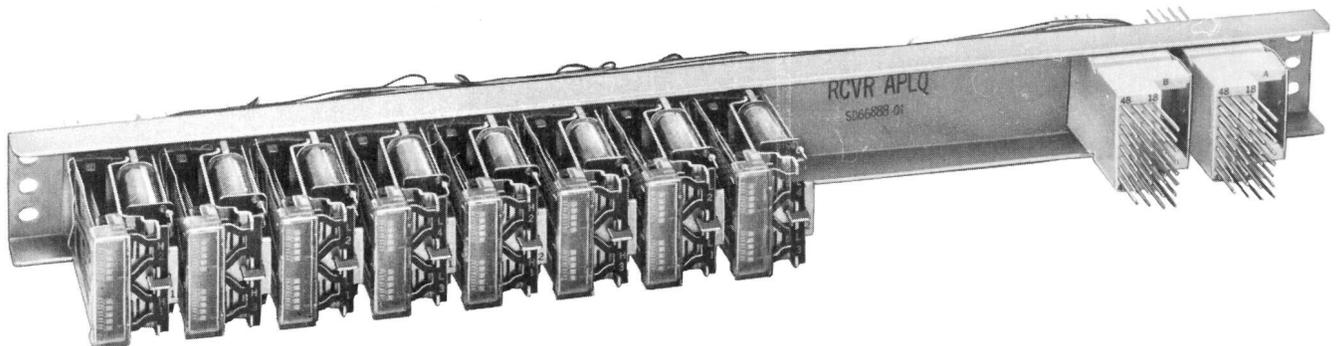


Fig. 12—J58847AE, List 1 TOUCH-TONE Calling Applique Circuit

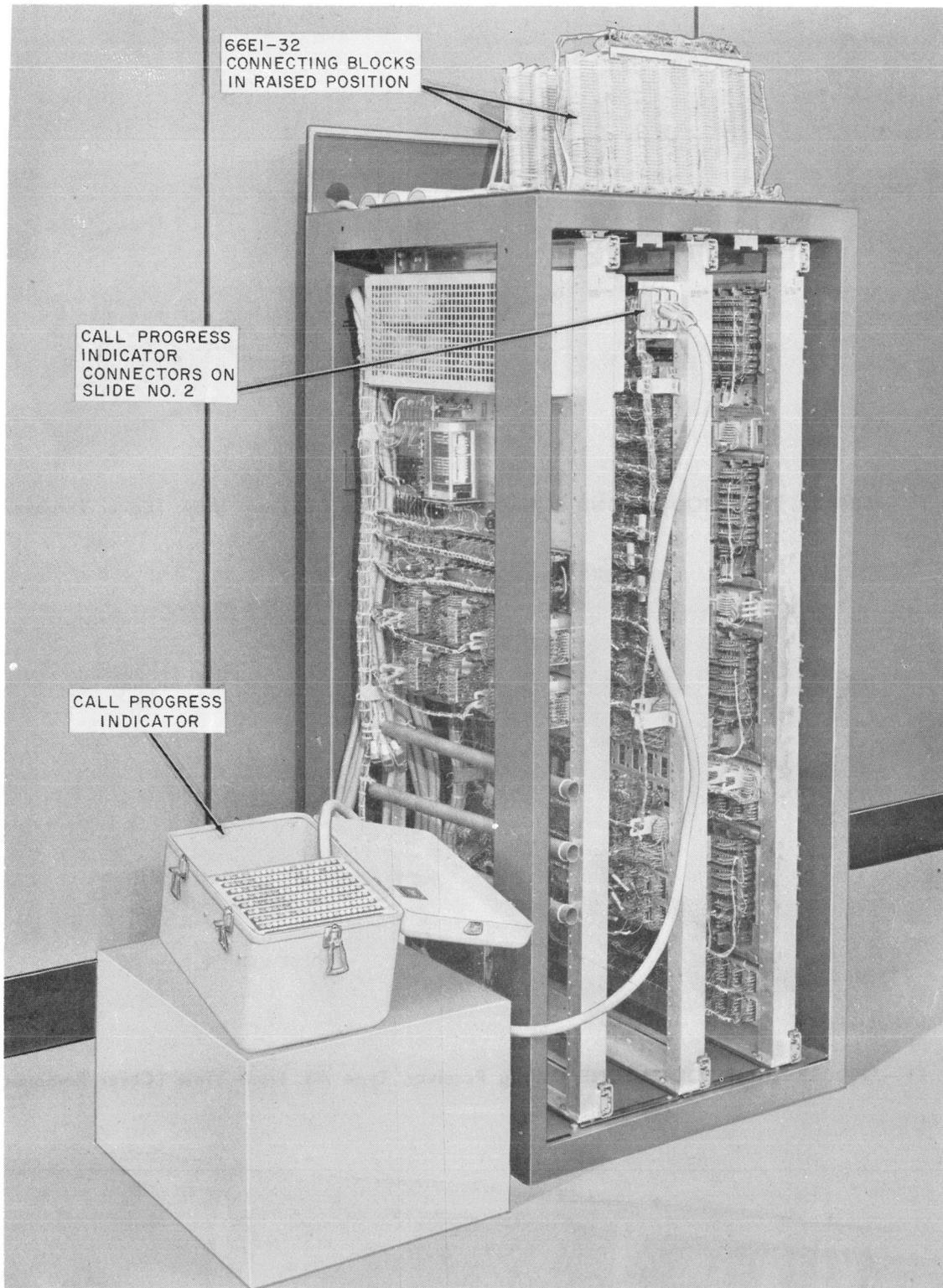


Fig. 13—J53035E Call Progress Indicator (Connected to Slide No. 2)