

C-53405
SEE

101A AND 101B KEY EQUIPMENTS

IDENTIFICATION

1.00 INTRODUCTION

This section identifies 101-type key equipment relay units, key units, and associated equipment. This section is reissued to change Table A.

2.00 GENERAL

2.01 The 101A and 101B key equipment key units permit one or more attendants to answer, originate, intercept, or hold calls on groups of lines which include the following types:

- Central office (common battery).
- Private branch exchange.
- 1A and 1A1 key telephone systems.
- 100-type key equipment.
- Secretarial service.
- Order-receiving service.
- Private line service: automatic tie lines, ringdown tie lines, station lines (no hold).
- Intercommunicating lines (no hold).

2.02 The 101A and 101B key equipments provide identical operating features and differ only in the way key units are mounted. 101A key units are mounted in either wooden boxes (Fig. 1) or aluminum apparatus cases (Fig. 2). The 101B key units are recess-mounted so the faceplates are flush with the desk or table top (Fig. 3).

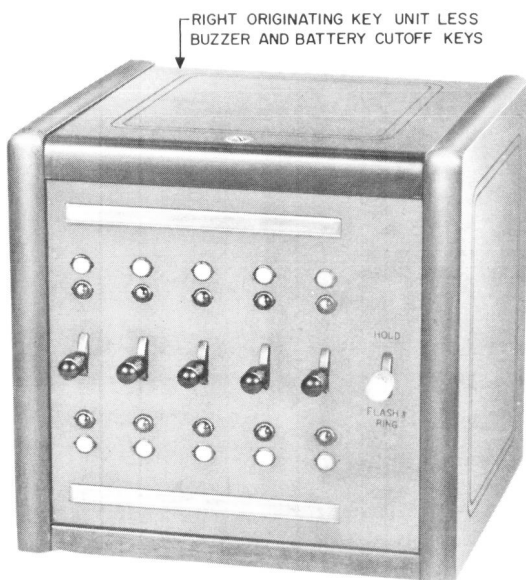


Fig. 1 - 101A Key Equipment, Wooden Box

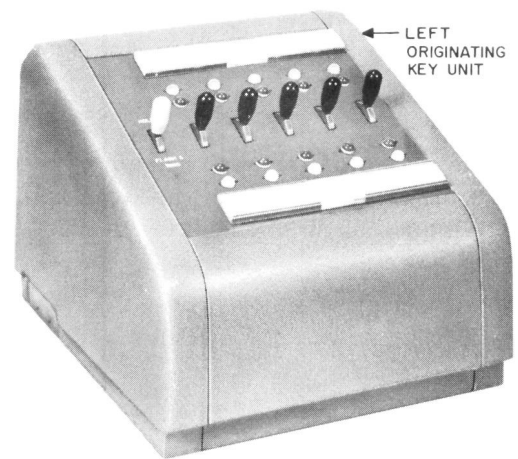


Fig. 2 - 101A Key Equipment, Aluminum Case

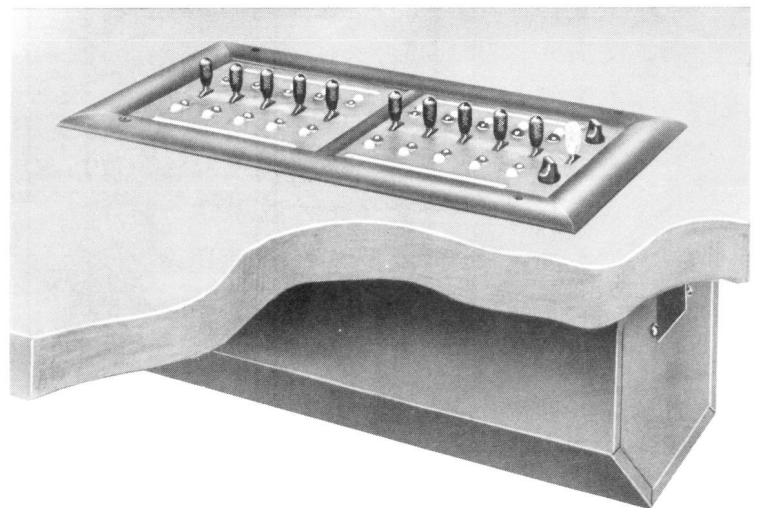


Fig. 3 - 101B Key Equipment, Flush-Mounted

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2.03 The 101A or 101B key equipment attendant telephone circuit features combined or head-type telephone sets. These may be equipped with or without a dial.

2.04 The 101A or 101B key equipment normally may be arranged to terminate a maximum of 40 lines at each attendant's position. Each key unit provides a 10-line capacity.

2.05 A framework is available for tilting flush-mounted key units about 25 degrees. Table C describes the framework for tilting key units.

3.00 KEY UNIT EQUIPMENT

3.01 The first unit for each attendant is known as an originating unit, and the additional units are known as supplementary units.

3.02 One right or left originating key unit (less buzzer and battery cutoff keys) is required for each additional position in order to provide the hold and flash or ring key functions for that position (Fig. 1 and 2).

3.03 One right originating key unit contains face equipment common to the installation. The face equipment consists of a combined hold and flash or ring key in addition to buzzer and battery cutoff keys (see Fig. 4). There is no comparable left originating unit.

3.04 Supplementary units (without the common keys) designed for either right-to-left or left-to-right growth are added for each additional ten lines or fraction thereof (Fig. 4).

3.05 Designation strip holders are located at the top and bottom of the key unit faceplate. They are designed to permit insertion or removal of designation strips from the front of key units.

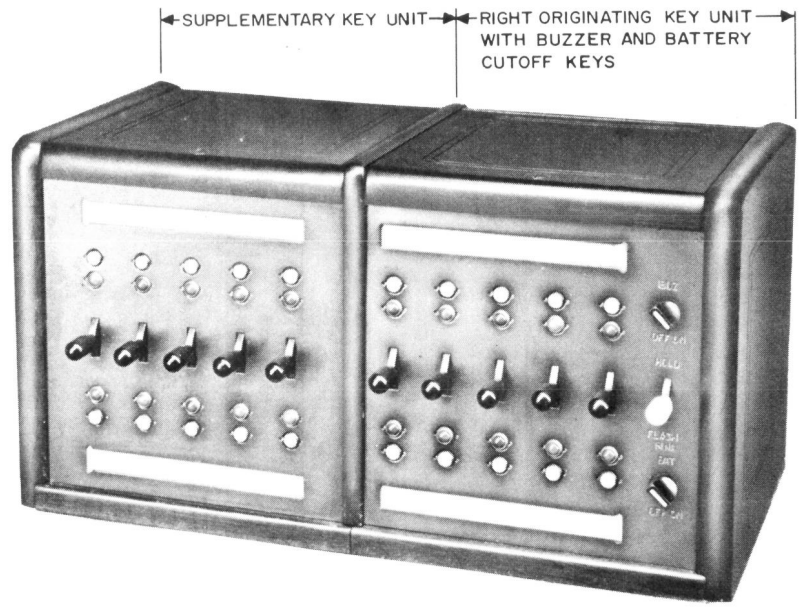


Fig. 4 — Wooden Key Boxes Mounted Side by Side

3.06 Detachable card holders with wider designation strips are available if more space is required. Fig. 5 shows 9A card holders installed on a 101A key unit with a wooden box. Fig. 2 shows 9B card holders installed on the 101A key unit with an aluminum case.

3.07 Lucite handles are available for replacement of existing handles. They are furnished in red or clear lucite. Red lucite is for the hold key; clear lucite for the pickup keys. (See Fig. 5.)

3.08 For description of key units, drawings, and number of parts required, see Table A.

4.00 101A KEY EQUIPMENT WOODEN BOXES

4.01 The 101A key equipment wooden key box consists of base (with framework for supporting key unit), side, top, and rear panels which are assembled as required to form single- or double-sided cabinets.

4.02 Double-sided 101A wooden key box assemblies are available for grouping two positions into a back-to-back arrangement.

4.03 For side-by-side installations of more than one key unit, wooden separators are used between key units. However, the top, side, and rear panels are the same as for a single 10-line unit. (See Fig. 4.)

4.04 In double-sided key box installations the side, separator, and top panels are large enough to accommodate two key units back to back. No rear panel is required.

4.05 Knockouts are located in the side panels to permit cable entrance to or between connecting key unit terminal plates.

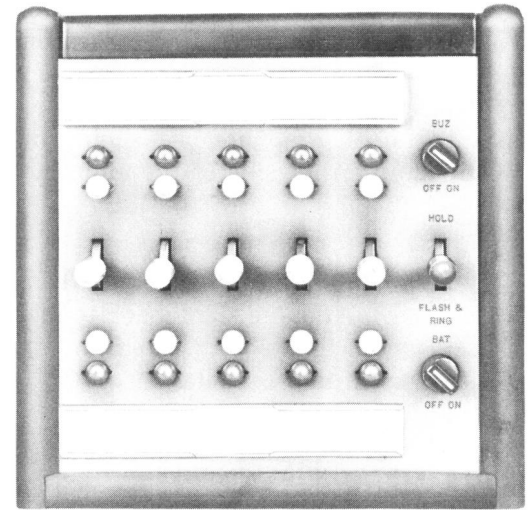


Fig. 5 — Lucite Handles Installed on 101A Key Equipment, Wooden Box

5.00 101A KEY EQUIPMENT ALUMINUM CASES

5.01 The aluminum apparatus case assembly is finished in beige-gray wrinkle finish and consists of the following assemblies (Fig. 6) :

- 700A apparatus case—center section.
- 701A apparatus case—right-hand end panel.
- 702A apparatus case—left-hand end panel.

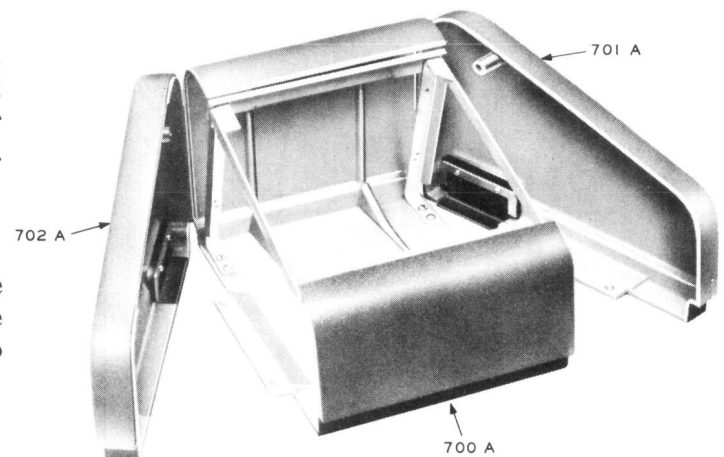


Fig. 6 — Aluminum Apparatus Case Components

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5.02 A 58A connecting block is available for connecting the associated telephone set directly to the aluminum key case (Fig. 7). The terminal block can be fastened to either side of the plate, permitting the telephone set mounting cord to be installed on either side of the aluminum key case.

5.03 No common aluminum shell or casing is provided for double-sided back-to-back key unit installations. Fig. 8 shows aluminum apparatus cases mounted side by side.

6.00 101A KEY BOX ASSEMBLIES

For description of key box assemblies and number of parts required, see Table B.

7.00 101B FLUSH-MOUNTED KEY UNITS

7.01 The 101B key units may be arranged to be operated from either side of a desk or table.

7.02 The angle-iron framework used for mounting key units flush with the top of desks or tables is furnished in 10-, 20-, 30-, and 40-line sizes.

7.03 Small metal tabs lock the key unit to the framework. Aluminum molding stile strips separate the key units from each other. A molding

overlaps the key units and desk or table top, giving the entire installation a finished appearance. The moldings are finished in old brass.

7.04 The key unit terminal plate is supported on bent steel brackets at an angle of about 30 degrees. The terminals project from the lower side and may be reached from beneath.

7.05 A metal cover protects the underside of the key units, terminal plates, and framework from damage and dust. Openings are provided at both ends of the cover to accommodate cables.

7.06 For description of units, drawings, and number of parts required, see Table C.

8.00 TELEPHONE SET EQUIPMENT FOR 101A AND 101B KEY EQUIPMENT

8.01 Normally, telephone sets equipped with A lead control are used with 101-type key units. When the 101A or 101B key equipment is used for terminating secretarial lines arranged for nonlocked-in line signals, various other telephone sets used with common battery lines may be employed. Refer to existing C Sections for selection of telephone sets.

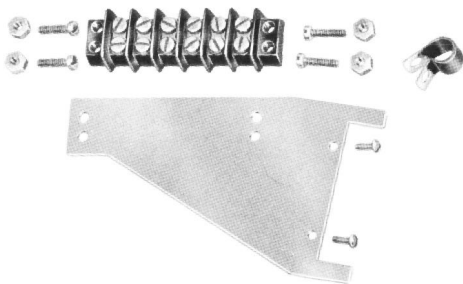


Fig. 7 — 58A Connecting Block



Fig. 8 — Aluminum Apparatus Cases Mounted Side by Side

8.02 The 52- and 53-type headsets are used with two 215A jacks mounted in 237A or 255A jack mountings. Use of the 32A key telephone unit is required as a transmitter current limiting network whenever the 52- or 53-type head telephone set is employed.

8.03 By the use of the 402- or 502-type telephone set's exclusion feature, the common audible signal may be temporarily silenced by the attendant.

9.00 RELAY EQUIPMENT

9.01 The relays, capacitors, etc for various circuits are mounted on 1-3/4 by 19 inch mounting plates which can be mounted in apparatus cabinets or on relay racks.

9.02 Apparatus cabinets and accessories used for housing relay units are covered in the C Section entitled Station System Cabinets.

9.03 The unit for secretarial service with non-locked-in signaling comes equipped for an ac buzzer circuit. Where a dc buzzer circuit is required, one 47N inductor and one 439A capacitor should be ordered and mounted on the unit locally.

9.04 When the attendant is to be cut off from a line which multiples to another station, provide the automatic cutoff unit. This unit cuts off the attendant only when the line is in use by the other station. To control supervision on an automatic tie line to a PBX, the automatic cutoff unit must be used. This equipment mounts a maximum of three automatic cutoff units per mounting plate.

9.05 The signal and intercommunicating circuit unit is wired for both ac and dc buzzer operation but is equipped only for the ac buzzer

circuit. Where the dc buzzer circuit is required, one 47N inductor and one 439A capacitor should be ordered and mounted on the unit locally. When the buzzer in the telephone set is used, the KS-14136 NS capacitor should be ordered separately and mounted on the unit locally.

9.06 An L-shaped bracket is available for mounting a UA141 SW relay in the 700A apparatus case (Fig. 9).

9.07 For description of relay units, drawings, and number of parts required, see Table D.

10.00 POWER SUPPLY

10.01 The 101-type key equipment circuits are designed to operate on 14- to 26-volt dc battery. For the selection of power equipment, refer to existing C Section entitled Station Systems, Power Supply.

10.02 The buzzer and cutoff key assembly per ED-69086-01 furnishes the fuse alarm equipment for certain types of power plants.

10.03 Ringing current is obtained from the central office, PBX, or local power plants.



Fig. 9 — 62A Bracket

TABLE A
101A AND 101B KEY UNITS AND ASSOCIATED EQUIPMENT

Item	Dwg No.	Description	Number Required
J53005S, L1 and L9 Key Unit	ED-69071-01 SD-69195-01	Right originating with battery cutoff and buzzer keys	1 per installation as required
J53005S, L1 Key Unit		Right originating	1 per additional position
J53005T, L2 Key Unit		Left originating	1 per additional position
J53005U, L3 Key Unit		Supplementary unit—right-to-left growth	As required
J53005W, L2 Key Unit		Supplementary unit—left-to-right growth	
Form E-4098		Designation card for 9A and 9B card holders	1 per card holder
Form E-2631		Designation cards for use without 9A and 9B card holders	2 per key unit
P-426501 Face Plate		Old brass finish for right originating units with battery cutoff and buzzer keys	1 per key unit
P-41F964 Face Plate		Gray enamel finish for right originating units with battery cutoff and buzzer keys	1 per key unit
P-41F965 Face Plate		Beige-gray enamel finish for right originating units with battery cutoff and buzzer keys	1 per key unit
P-412237 Face Plate		Old brass finish for right originating units	1 per key unit
P-41F349 Face Plate		Gray enamel finish for right originating units	1 per key unit
P-41F350 Face Plate		Beige-gray enamel finish for right originating units	1 per key unit
P-426502 Face Plate		Old brass finish for left originating units	1 per key unit
P-41F351 Face Plate		Gray enamel finish for left originating units	1 per key unit
P-41F352 Face Plate		Beige-gray enamel finish for left originating units	1 per key unit
P-426503 Face Plate		Old brass finish for supplementary units	1 per key unit
P-41F353 Face Plate		Gray enamel finish for supplementary units	1 per key unit
P-41F354 Face Plate		Beige-gray enamel finish for supplementary units	1 per key unit
Holder, Card, 9A		For larger designation strip area (zinc finish)	2 per key unit
Holder, Card, 9B		For larger designation strip area (cadmium finish)	
P-132717 Key Handle		For line keys (black)	1 per line key
P-140271 Key Handle		For flash or ring and hold key (white)	1 per originating unit
→ P-13C231 Key Handle		For line keys (clear lucite)	1 per line key
→ P-13C232 Key Handle		For flash or ring and hold key (red lucite)	1 per originating unit

TABLE B

**101A KEY EQUIPMENT WOODEN KEY BOXES,
ALUMINUM CASES, AND ASSOCIATED EQUIPMENT**

Item	Description	Number Required	
ED-69074-01 (Wooden Key Boxes)	G1	Framework for supporting key unit mounted on base of box	1 per 10-line box
	G2	One right panel for single box	1 per position
	G3	One left panel for single box	1 per position
	G4	One top panel for single box	1 per 10-line box
	G5	One rear panel for single box	1 per 10-line box
	G6	One right or left panel for boxes arranged back to back	2 per position
	G7	One top panel for boxes arranged back to back	As required
	G8	One separator for boxes arranged in single line-up	
	G9	One separator for boxes arranged in double line-up	
	G10	One single framework complete	
	G11	One double framework complete — side by side	
Case, Apparatus, Key Unit	One complete 700-type aluminum case	1 per 10-line key unit	
Case, Apparatus, 700A	Center assembly		
Case, Apparatus, 701A	Right-end assembly	1 per position	
Case, Apparatus, 702A	Left-end assembly	1 per position	
Block, Connecting, 58A	Terminal and bracket assembly for terminating telephone set at apparatus case	1 per position	
Bracket, 62A	Mounting a relay in the 700-type apparatus case	As required	
Pad P-10C376 (Rubber base friction)	Two strips of rubber 1 by 5 inches mounted on bottom of apparatus case		
Pad, Friction, KS-8035	Placed on each corner of key box where fastening of key box to desk or table is not permitted		

TABLE C

101B KEY EQUIPMENT AND ASSOCIATED EQUIPMENT

Framework Assembly		Feature	Number Required
Drawing	Group		
ED-69070-01	1	One framework assembly complete for flush-mounting four key units	1 per position
	2	One framework assembly complete for flush-mounting two key units	1 per position
	3	One blank panel for one unequipped key unit position	As required
	7	One framework assembly complete for flush-mounting one key unit	1 per position
	8	One framework assembly complete for flush-mounting three key units	1 per position
ED-69115-01	1	Framework for tilting one flush-mounted key unit	1 per 1 key unit
	2	Framework for tilting two flush-mounted key units	1 per 2 key units
	3	Framework for tilting three flush-mounted key units	1 per 3 key units
	4	Framework for tilting four flush-mounted key units	1 per 4 key units

TABLE D

101A AND 101B RELAY UNITS AND ASSOCIATED EQUIPMENT

Item	Drawings	Description	Number Required and Options Furnished
J53005P, L2 Line or Ring-down Tie Line Unit	ED-69063-01	Common battery line or ring-down tie line circuit	1 per 4 lines (S and V options)
J53005P, L3 Line or Ring-down Tie Line Unit	SD-69076-01	Same as L2 except position pilot lamp required	1 per 4 lines (S, V, and N options)
J53005R, L1 Signal and Intercommunicating Circuit Unit	ED-69063-01 SD-69078-01 SD-69121-01	Auxiliary signal circuit, flashing circuit, and intercommunicating circuit, refer to 9.05	1 per installation
J53005AA, L1 Automatic Cutoff Circuit Unit	ED-69063-01 SD-69195-01	Refer to 9.04	1 per attendant station when required
J53005AA, L2 Automatic Cutoff Circuit Unit		Assembly and equipment in addition to L1 for additional automatic cutoff circuits	1 per additional attendant station when required
J53005AB, L1 Battery Supply and Hold Relay Unit		Battery supply for use with tie lines and station lines; hold relay circuit	1 per position if required

TABLE D (Cont)

101A AND 101B RELAY UNITS AND ASSOCIATED EQUIPMENT

Item	Drawings	Description	Number Required and Options Furnished
J53005F, L1 Automatic Tie Line Unit	ED-69063-01 SD-69080-01	Used between 101-type key equipment and a PBX	1 per line
J53005N, L1 Line or Automatic Tie Line Unit	ED-69108-01 SD-69111-01	Line circuit between two or more stations; automatic tie line between key equipment	1 per 2 lines (X option)
J53005N, L2 Line or Automatic Tie Line Unit		Same as L1 except position pilot lamp required	1 per 2 lines (X option)
J53005M, L2 Automatic Line Unit	ED-69063-01 SD-69076-01	Automatic intercommunicating between two or more key equipment stations	1 per 4 lines (V option)
J53005M, L3 Automatic Line Unit	ED-69063-01 SD-69076-01	Same as L2 except position pilot lamp required	1 per 4 lines (V and N options)
J53005K, L1 Secretarial Line Relay Cabinet Unit (nonlocked-in line signal)	ED-69064-01 SD-69081-01	Apparatus cabinet, wiring, and ac buzzer circuit, refer to 9.03	1 per 20 lines
J53005K, L2 Secretarial Line Relay Cabinet Unit (nonlocked-in line signal)		Relay equipment for L1	1 per line
J53005H, L1 Secretarial Line Unit (locked-in line signal)	ED-69063-01 SD-69079-01	For secretarial service where either attendant or subscriber controls lamps	1 per 2 lines
ED-91786-01, G2 Fuse Panel	ED-91786-01	Used with 25- and 35-type fuses; equipped with ground terminals	1 per 25 fuses
ED-69086-01, G1 Buzzer and Cutoff Key Assembly	ED-69086-01 SD-69078-01 SD-69127-01	Fuse alarm, buzzer, and cutoff key	1 per installation if required
111A Resistor, 50-ohm	SD-69195-01 Fig. 8 and 9	Any other station is equipped with SD-69077-01 circuit	As required
17B Key Telephone Unit	SD-69195-01 Fig. 8	Required for hold circuit	1 per attendant