

KEY SERVICE UNITS  
300, 301, 302, 310, AND 311 TYPES  
IDENTIFICATION AND DESCRIPTION

1.00 GENERAL

CODE

1.01 This section covers the identification and description of 1A1 and 6A (selector only) key service unit packages.

1.02 Key service units are complete packages made up of individual panel-type key telephone units, mounted and factory-wired on various apparatus mountings.

1.03 These key service units may be obtained with or without:

- 66-type connecting blocks
- Rectifier-transformer power plant
- Dial selective intercommunicating

1.04 The 300 series key service units provide the basic requirements for 1A1 and 6A (selector only) key telephone systems. They consist of various combinations of 202D, 230B, 232B, 238A, 207C, and 216A key telephone units. They may be obtained as a complete unit when ordered by the appropriate code number.

1.05 The KS-15900, List 1 electromechanical interrupter is furnished with each key service unit and is plugged into either the 232B or the 238A key telephone unit, as appropriate.

1.06 Basic coding information, supplemented by additional numbers and letters added to the code (number 3), designates different arrangements of the 300-type key service units. For example, 301A3D identifies a specific packaged unit, as follows:

- *First character (digit)*—indicates assembly uses wire spring relay line circuit key telephone units interwired with other components.

3 3—only number used.

- *Second character (digit)*—indicates type apparatus mounting:

0 0—indicates 31B apparatus mounting.

1 1—would indicate 16C apparatus mounting.

- *Third character (digit)*—indicates type of cable-terminating facilities:

0 0—would indicate screw terminals only on rear of interwired key telephone units.

1 1—indicates 66-type connecting blocks.

2 2—would indicate A75A connector cable stub plus 66-type connecting blocks.

- *Fourth character (letter)*—indicates version of key service unit in manufacture:

A A—indicates first version of package.

B B—would indicate second version of package.

- *Fifth (and Sixth) character(s) (digit)*—indicates circuit- and service-feature combinations of packages:

3 3 See Tables A and B.

- *Last letter*—when used, indicates dial selective intercommunicating circuit.

D D—only letter used.

**TABLE A**  
**300 SERIES KEY SERVICE UNITS**  
**INTERWIRED KEY TELEPHONE UNITS MOUNTED ON 31B APPARATUS MOUNTING AND 177A BACKBOARD**

Services Supplied by Individual Key Service Units	Lines & Common Equipment		Intercom	Cover	Floor Stand With Unit Cover	Trans/Rect Power Plant 101G	Interwired KTU Without 66-Type Conn Blocks	Interwired KTU With 66-Type Conn Blocks	Interwired KTU With 66-Type Conn Blocks and Triple Conn Cable
	232B & KS	Interrupter							
	230B KTU	202D KTU	207C	116A					
4 Lines, Manual Intercom, Wall Mounted, Without Cover	1						300A1	301A1	
4 Lines, Manual Intercom, Wall Mounted, With Cover	1			1			300A2	301A2	
4 Lines, Manual Intercom, Floor Stand, Without Power	1				1		300A3	301A3	
4 Lines, Manual Intercom, Floor Stand, With Power	1				1	1	300A4	301A4	
4 Lines, Manual & Dial Intercom, Wall Mounted, Without Cover	1		1				300A1D	301A1D	
4 Lines, Manual & Dial Intercom, Wall Mounted, With Cover	1		1	1			300A2D	301A2D	
4 Lines, Manual & Dial Intercom, Floor Stand, Without Power	1		1		1		300A3D	301A3D	302A3D
4 Lines, Manual & Dial Intercom, Floor Stand, With Power	1		1		1	1	300A4D	301A4D	302A4D
5 Lines, Manual Intercom, Wall Mounted, Without Cover	1	1					300A5	301A5	
5 Lines, Manual Intercom, Wall Mounted, With Cover	1	1		1			300A6	301A6	
5 Lines, Manual Intercom, Floor Stand, Without Power	1	1			1		300A7	301A7	
5 Lines, Manual Intercom, Floor Stand, With Power	1	1			1	1	300A8	301A8	
6 Lines, Manual Intercom, Wall Mounted, Without Cover	1	2					300A9	301A9	
6 Lines, Manual Intercom, Wall Mounted, With Cover	1	2		1			300A10	301A10	
6 Lines, Manual Intercom, Floor Stand, Without Power	1	2			1		300A11	301A11	
6 Lines, Manual Intercom, Floor Stand, With Power	1	2			1	1	300A12	301A12	

**TABLE B**

**310 SERIES KEY SERVICE UNITS**

**INTERWIRED KEY TELEPHONE UNITS MOUNTED ON 16C APPARATUS MOUNTING WITH 117A COVER**

Services Supplied by Individual Key Service Units	Lines & Common Equipment			Power J86731D List 1	Interwired KTU Without 66-Type Conn Blocks	Interwired KTU With 66-Type Conn Blocks	Dial Intercom Key Service Units				
	230B KTU	KS Interrupter					202D	Interwired KTU Without 66-Type Conn Blocks	207C (First 9 Codes)	216A (Second 9 Codes)	Interwired KTU With 66-Type Conn Blocks
		232B	238A								
4 Lines, Manual Intercom, Without Power	1	1			310A1	311A1	310A1D	•		311A1D	
4 Lines, Manual Intercom, With Power	1	1		•	310A2	311A2	310A2D	•		311A2D	
5 Lines, Manual Intercom, Without Power	1	1		1	310A3	311A3	310A3D	•		311A3D	
5 Lines, Manual Intercom, With Power	1	1		1	•	310A4	311A4	310A4D	•	311A4D	
6 Lines, Manual Intercom, Without Power	1	1		2	310A5	311A5	310A5D	•		311A5D	
6 Lines, Manual Intercom, With Power	1	1		2	•	310A6	311A6	310A6D	•	311A6D	
7 Lines, Manual Intercom, Without Power	1	1		3	310A7	311A7	310A7D	•		311A7D	
7 Lines, Manual Intercom, With Power	1	1		3	•	310A8	311A8	310A8D	•	311A8D	
*8 Lines, Manual Intercom, Without Power	1	1		4	310A9	311A9					
*8 Lines, Manual Intercom, With Power	1	1		4	•	310A10	311A10				
9 Lines, No Manual Intercom, Without Power			1		310A11	311A11	310A11D	•	•	311A11D	
9 Lines, No Manual Intercom, With Power			1		•	310A12	311A12	310A12D	•	311A12D	
13 Lines, No Manual Intercom, Without Power	1		1		310A13	311A13	310A13D	•	•	311A13D	
13 Lines, No Manual Intercom, With Power	1		1		•	310A14	311A14				

\* These key service units recognize field growth situation for accounting purposes. NOT A FACTORY PACKAGE.

## SECTION 518-240-100

**1.07** Aluminum foil pressure-sensitive tapes, preprinted with the feature layout, are supplied on all 66-type connecting blocks associated with key service units.

**1.08** See sections entitled (1) Equipment Cabinets and Apparatus Mountings, Identification and (2) Equipment Cabinets and Apparatus Mountings, Installation for identification and installation procedures for the following:

- 177A Backboard
- 31B Apparatus Mounting
- 16C Apparatus Mounting
- ED-69462-01, Group 1 Cabinet Assembly (floor stand only)
- ED-69462-01, Group 2 Cabinet Assembly (cover assembly only)
- ED-69462-01, Group 3 Cabinet Assembly (wood base only)

**1.09** See section entitled Connecting Blocks, 66 Type for information pertaining to:

- 66B1-25 Connecting Block
- 66C4-25 Connecting Block

### **2.00 DESCRIPTION**

**2.01** This series of key service units provides for:

- Pickup and hold on 4 to 13 central office or PBX lines with or without a 9- or 18-station dial selective intercommunicating circuit.

- Electromechanical interrupter, flashing and winking lamps, interrupted audible signal, manual intercommunicating, and time-out.

### **300- and 301-Type Key Service Units (4 to 6 Lines)**

**2.02** These key service units are 4 to 6 central office or PBX line units. They are factory mounted and interwired and are comprised of various combinations of the following:

- 177A Backboard
- 31B Apparatus Mounting
- 232B KTU (with KS-15900, List 1 Interrupter)
- 230B KTU
- 202D KTU
- 207C KTU
- ED-69462-01, Group 1, 2, and 3 Cabinet Assembly
- 66-Type Connecting Blocks

**2.03** The 300-type key service units are not equipped with the 66-type connecting blocks.

**2.04** The 66-type connecting blocks are mounted on the 177A backboard behind the gate of the 31B apparatus mounting. They are arranged as follows:

- Block A includes the station leads and power connection terminations.
- Block B includes the manual intercommunicating line, audible signal, dial selective intercommunicating line, and incoming central office or PBX line terminations.

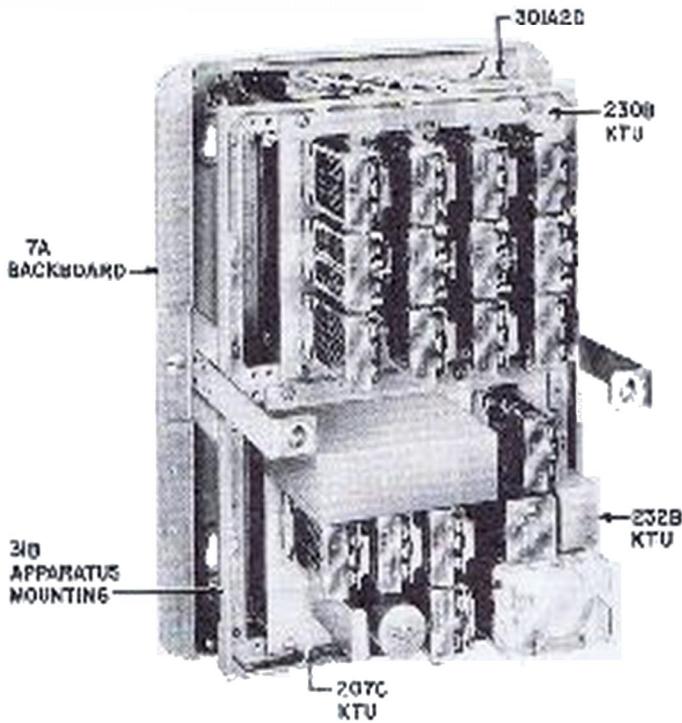


Fig. 1 — 301A2D KSU, Cover Removed

**2.05** These key service units can be mounted as follows:

- 177A backboard with 31B apparatus mounting, wall mounted. It may or may not use 116A cover.
- 177A backboard with 31B apparatus mounting, enclosed in an ED-69462-01 cabinet assembly, wall or floor mounted.

**2.06** The 300-type key service units may be ordered by using the appropriate code (see Table A). Follow local ordering instructions.

**2.07** Fig. 1 shows a 301A2D key service unit arranged for wall mounting.

**2.08** Fig. 2 shows a 301A4D key service unit with 177A backboard and 66-type connecting blocks.

### 302-Type Key Service Unit

**2.09** The 302-type packages are comprised of the 302A3D and 302A4D key service units. An ED-69462-01 cabinet assembly is supplied as part of the unit.

**2.10** A length of A75A connector cable terminated on 66-type connecting blocks is furnished as part of the 302 packages. These are terminated as follows:

- Four station lines—terminals 1 through 24, A Block.
- Dial intercom T, R, LG, and L—terminals 17 through 20, B Block.
- Common audible B1 and R1—terminals 5 and 6, B Block.
- See section entitled Key Service Units, 300, 301, and 302 Types, Connections and Maintenance for connection data.

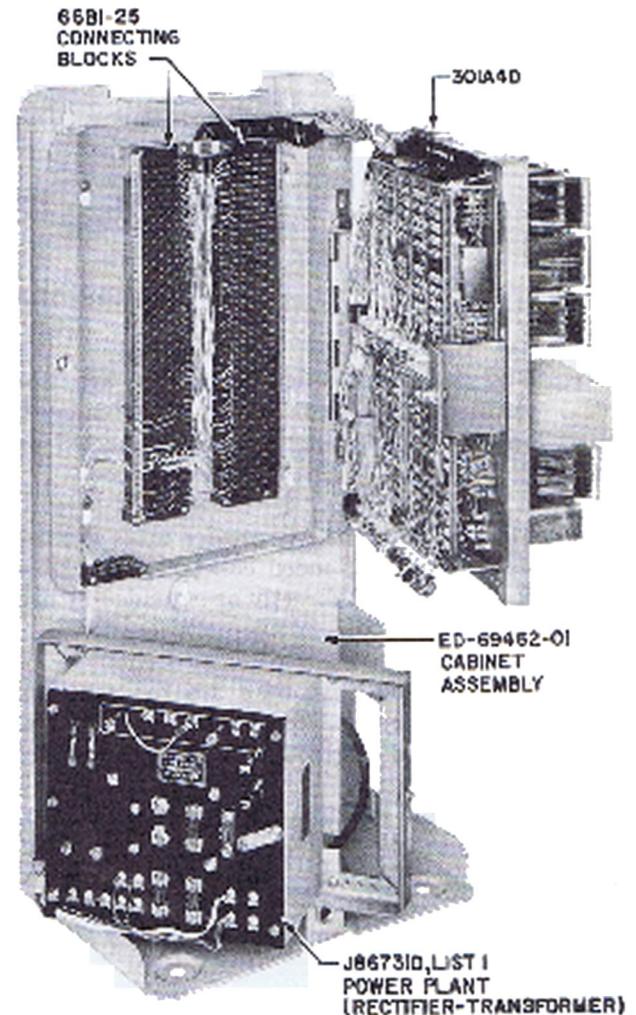
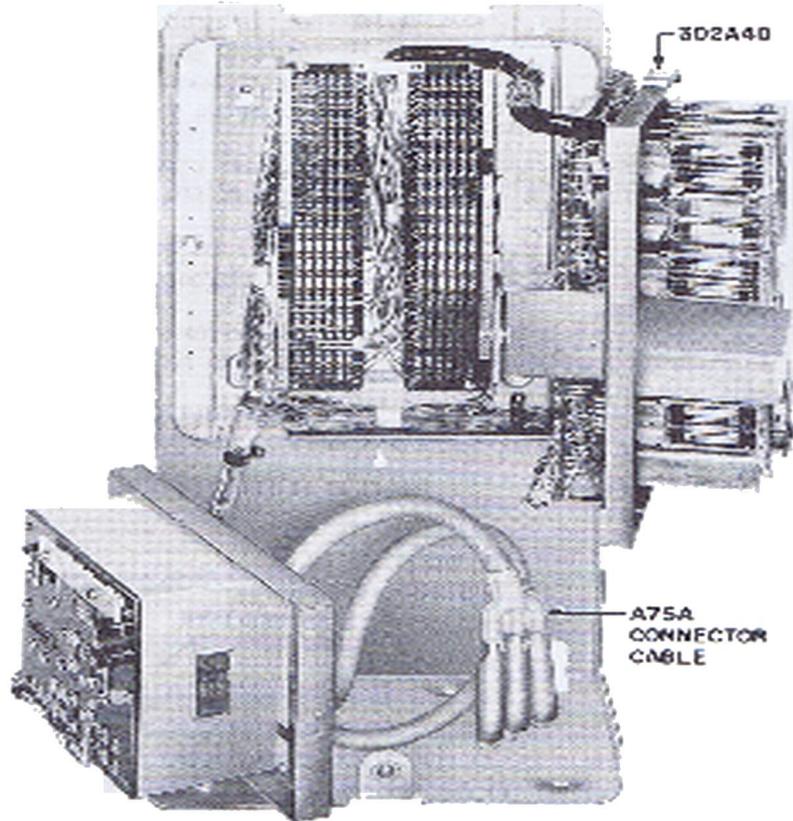


Fig. 2 — 301A4D KSU, Cover Removed



**Fig. 3 – 302A4D KSU, Cover Removed**

**2.11** Dial intercommunicating codes are not terminated to allow for local assignment. Miscellaneous circuits may also be connected as required.

**2.12** The two 302-type key service units are designed for plug-ended concept. Telephone sets may be plugged in directly or extended by use of connector cables and/or adapters.

**2.13** The two 302-type units are the same as their equivalent 301-type counterparts, with the exception of the A75A connector cable.

**2.14** Fig. 3 shows a 302A4D key service unit in an open position. This shows the length of A75A cable.

**310- and 311-Type Key Service Units (4 to 7 Lines)**

**2.15** The 310- and 311-type key service units, 4 to 7 central office or PBX line packages, are factory mounted on 16C apparatus mountings.

They are comprised of combinations of the following units:

- 232B KTU (with KS-15900, List 1 Interrupter)
- 230B KTU
- 202D KTU
- 207C KTU

**2.16** The 311-type packages have three 66-type connecting blocks mounted on the backboard of the 16C apparatus mounting. These blocks are arranged as follows:

- Block A—includes terminations for the station key cable leads, manual intercom leads, and dial intercom leads.
- Block B—includes the audible signal leads associated with the dial intercom and the audible signal leads associated with the line circuits.
- Block C—is not supplied.
- Block D—includes the central office and/or PBX lines and the power connection terminations.

2.17 The 310- and 311-type key service units differ only in that the 310-type key service units are not equipped with 66-type connecting blocks.

2.18 These key service units are designed for wall mounting, but may be associated with the ED-95023-01 metal stand described in the section entitled Equipment Cabinets and Apparatus Mountings, Identification.

2.19 Fig. 4 shows the 311A8D key service unit with the gate closed.

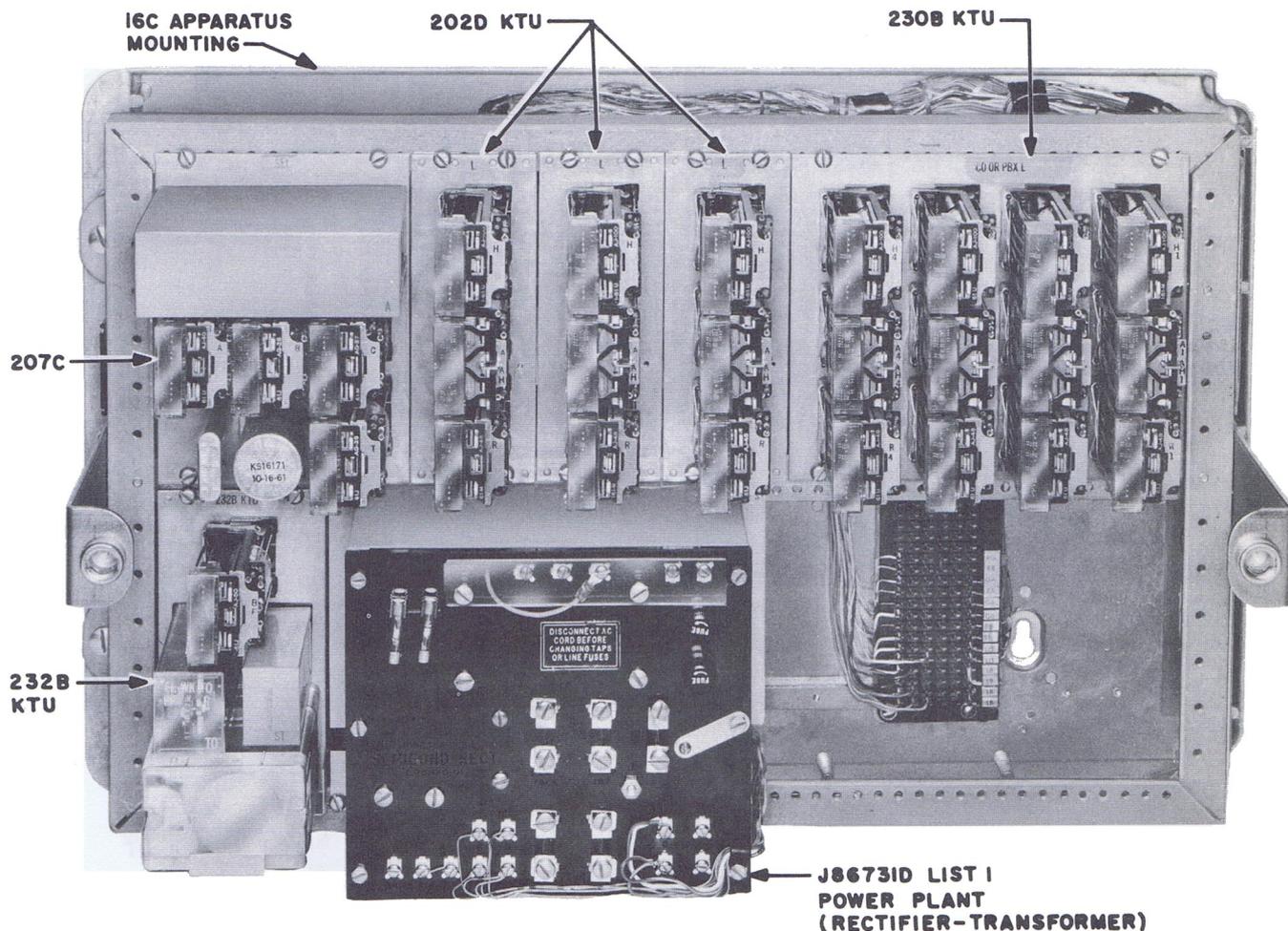


Fig. 4 — 311A8D KSU, Gate Closed

**SECTION 518-240-100**

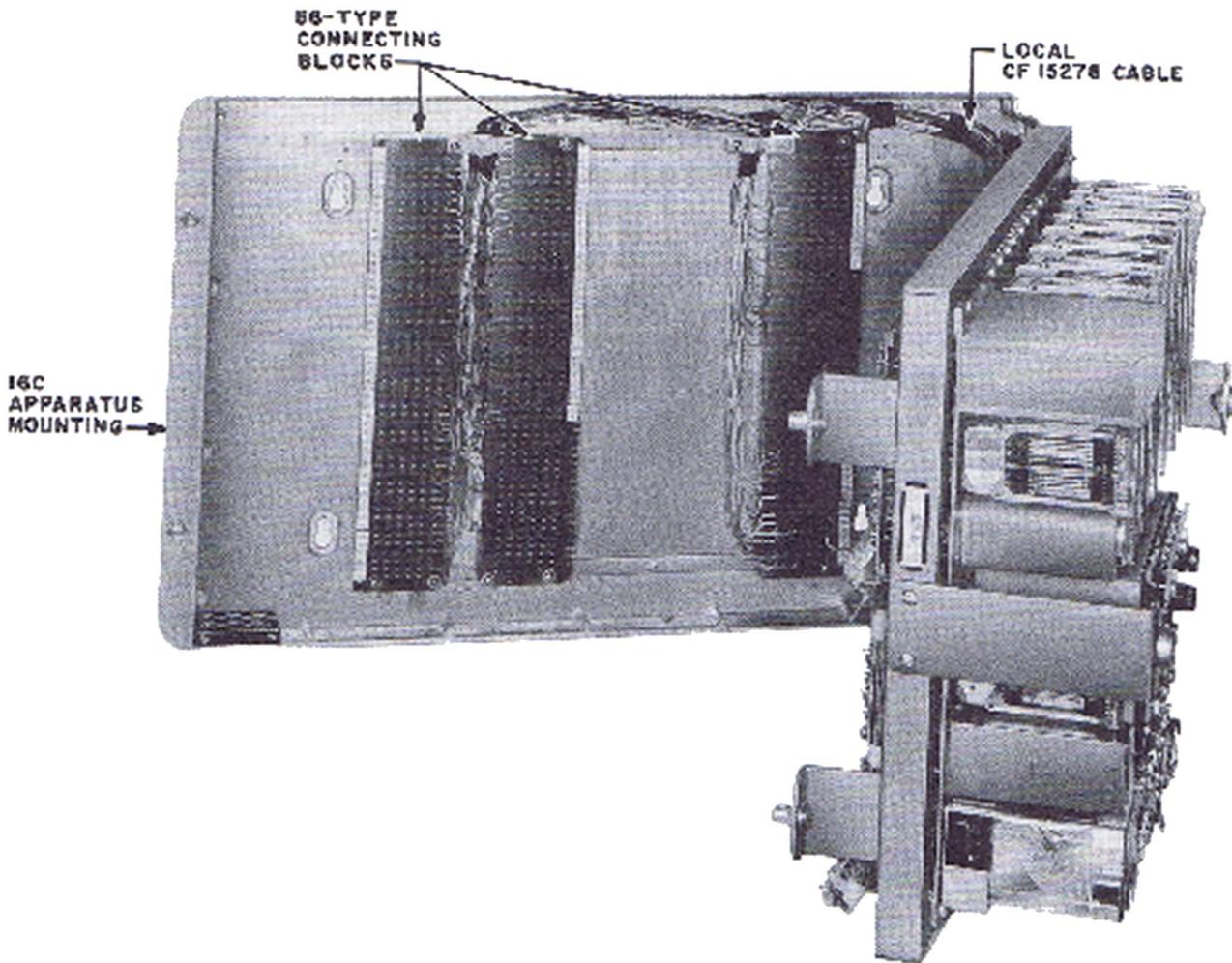
**2.20** Fig. 5 shows the 311A8D key service unit with the 66-type connecting blocks.

**310- and 311-Type Key Service Units (9 to 13 Lines)**

**2.21** The 310- and 311-type key service units, 9 to 13 central office or PBX line packages, are factory mounted on 16C apparatus mountings. They are comprised of combinations of the following units:

- 238A KTU (with KS-15900, List 1 interrupter)
- 230B KTU
- 207C KTU
- 216A KTU

**2.22** The 311-type packages have four 66-type connecting blocks mounted on the back-board of the 16C apparatus mounting. These blocks are arranged as follows:

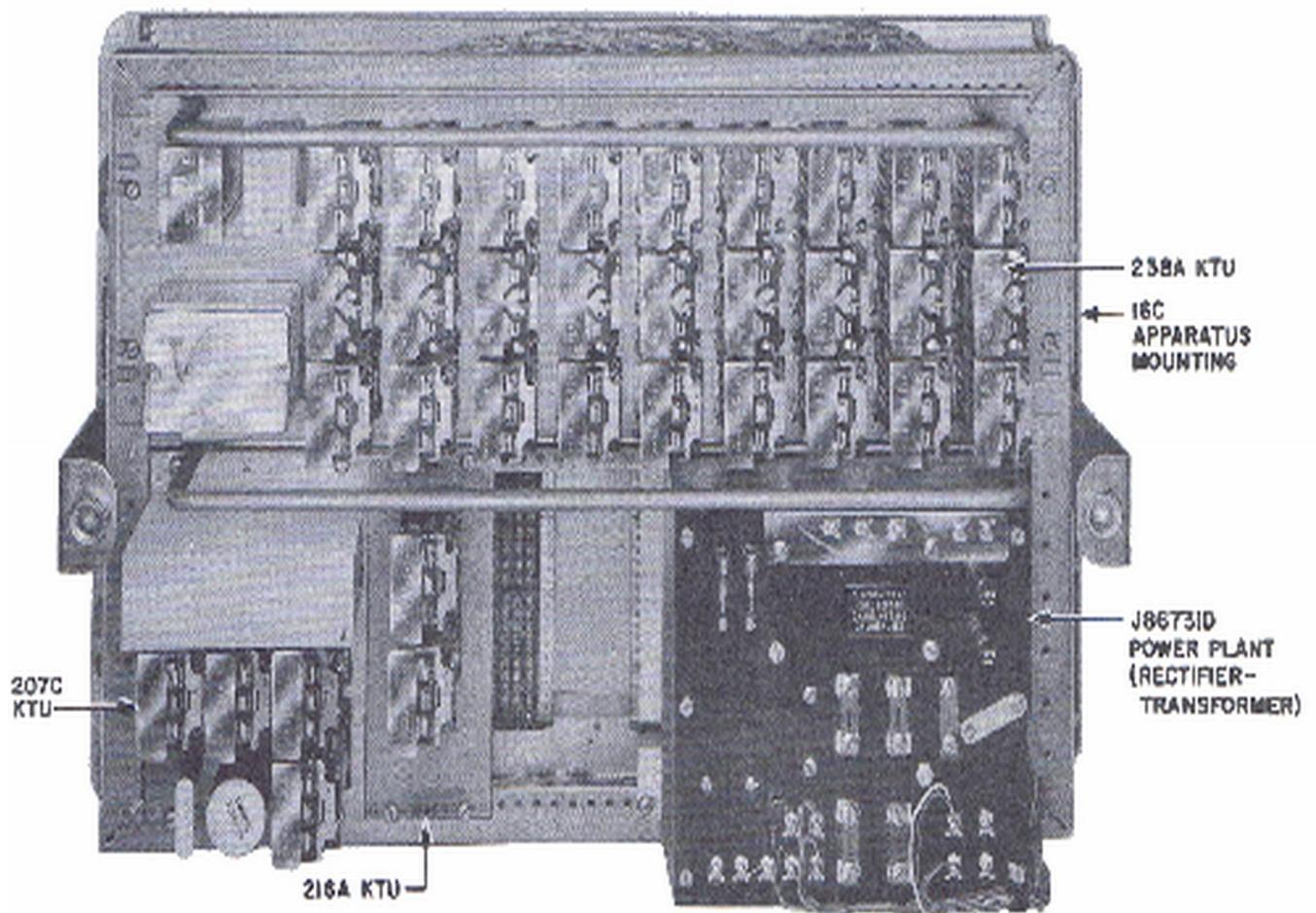


**Fig. 5 – 311A8D KSU, Gate Open**

- Block A—includes station key cable lead terminations.
- Block B—includes station key cable leads, dial intercom line, and audible signal lead associated with dial intercom line terminations.
- Block C—includes audible signal leads associated with dial intercom, and audible signal leads associated with line circuit terminations.
- Block D—includes central office and/or incoming PBX lines and power connection terminations.

**2.23** The 310- and 311-type key service units differ only in that the 310-type key service units are not equipped with 66-type connecting blocks.

**2.24** Fig. 6 shows the 311A12D key service unit with the gate closed.



**Fig. 6 — 311A12D KSU, Gate Closed**

**SECTION 518-240-100**

**2.25** Fig. 7 shows the 311A12D key service unit with the 66-type connecting blocks.

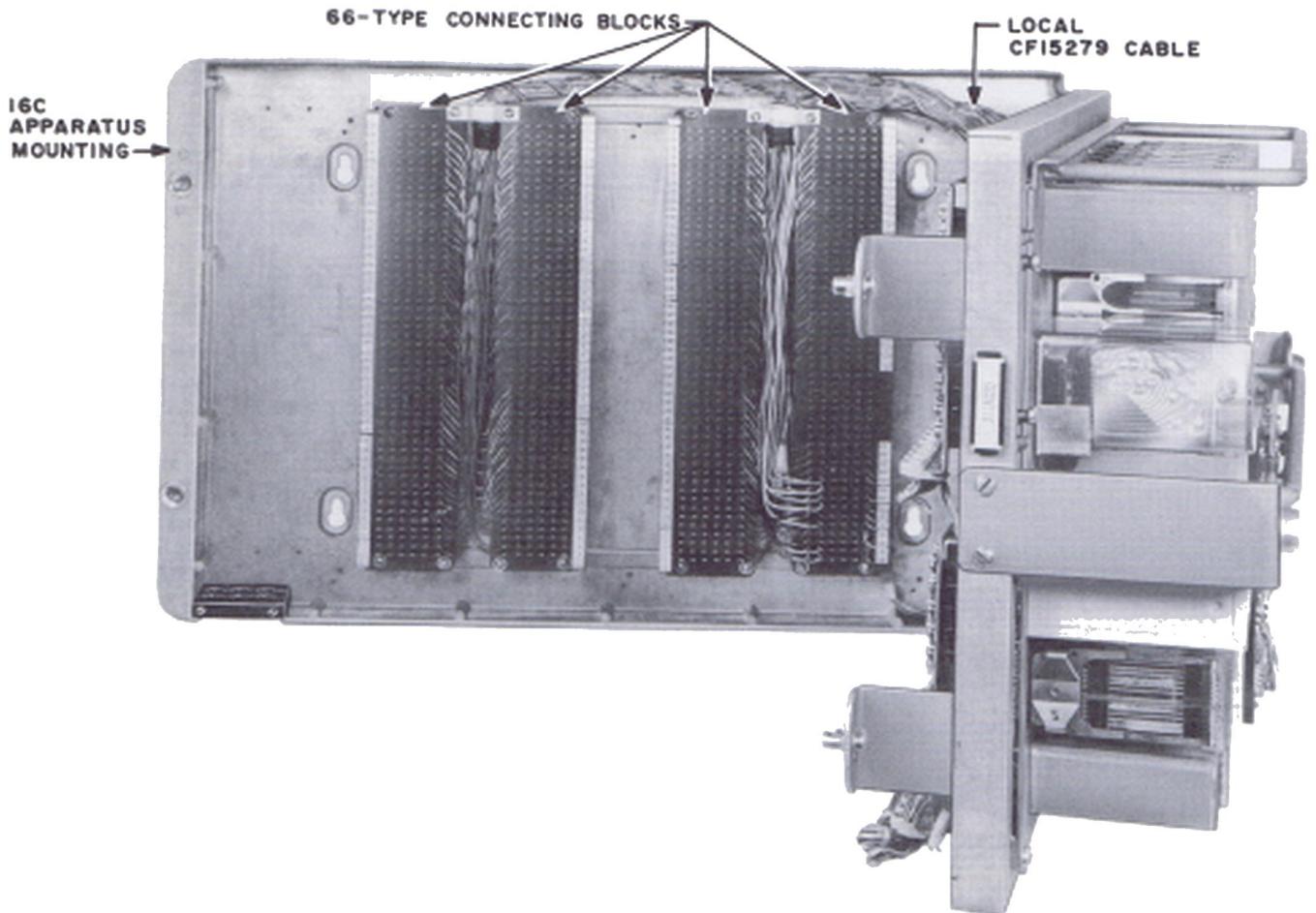
**2.26** These units are designed for wall mounting, but may be associated with the ED-95023-01 metal stand.

**2.27** Fig. 8 shows the arrangement of key telephone units used in the various 300 series key service units.

**2.28** See section entitled Key Service Units, 310 and 311 Types, Connections and Maintenance for connection and maintenance data.

**3.00 HANDLING OF 300-, 301-, 302-, 310-, AND 311-TYPE KEY SERVICE UNITS**

Wire spring relays are used almost exclusively in the above named packages. These relays will not stand rough or unusual handling, espe-



**Fig. 7 – 311A12D KSU, Gate Open**

cially without adequate packing protection. Therefore, the following rules should apply when transporting and handling package units:

- Follow directions printed on cartons.
- Do not drop cartons.
- Ship in suitable cartons, adequately packed.

**4- to 6-Line Package\***

230B			
1st 202D	2nd 202D	232B	

**4-Line Package With Dial Intercom\***

230B			
	207C	232B	

**4- to 7-Line Package With or Without Dial Intercom or Rectifier**

207C	3rd 202D	2nd 202D	1st 202D	230B
232B	Metallic Rectifier			Vacant

**9-Line Package With or Without Dial Intercom or Rectifier**

238A			
207C	216A	Vacant	Metallic Rectifier

**13-Line Package With or Without Rectifier**

238A		
230B	Vacant	Metallic Rectifier

**13-Line Package With or Without Dial Intercom**

238A			
230B	216A	207C	Vacant

\* Available with rectifier on separate mounting (see Table A).

**Fig. 8 – KSU Block Diagram**