

1A1 KEY TELEPHONE SYSTEM

CONNECTION DATA — DESCRIPTION AND USE

1. GENERAL

- 1.01 This section describes the purpose, scope, application, use, arrangement, and content of the succeeding twenty-one sections, which, together with this section, provide connection data for the 1A1 Key Telephone System. The master index for all connection data sections is shown in Section C66.200.
- 1.02 This section is reissued to include connection data for 565A Key Telephone Sets, 201B Key Telephone Units, 213A Key Telephone Units, arrangements of 44A connecting blocks and connection data for 440- and 460- Key Telephone Sets. Due to extensive changes, marginal arrows have been omitted.
- 1.03 Section C53.156 covers the description and use of the 1A1 Key Telephone System; Section C53.157, supplies; Section C53.158, installation procedures; and Section C53.159, maintenance instructions. It is advisable to gain a general knowledge of these practices, particularly of Section C53.156, "Description and Use," before using the connection data sections.
- 1.04 Connection data is furnished for a maximum of six lines. Key and running cable assignments are of two basic types, standard assignments and special assignments.
- (a) Standard assignments are the assignments which were made during the preparation of these sections, and are referred to as "preassignments." They cover all connection data, with the exception of running cable assignments for circuit and feature combinations which generally are not used. This data is shown in tabular form in the sections covering the respective circuits and features.
- (b) Special assignments are the running cable assignments which must be made individually for each system requiring circuit and feature combinations generally not used. A list of such combinations, together with instructions for preparation of their special assignments and associated key cable cross-connections, is shown in Section C66.215.
- 1.05 Wherever practicable, reference is made to the standard SD drawings which were used in preparation of the connection data. The data shown in these sections at the time of their issuance reflected the latest wiring connection arrangements. In some cases these arrangements are not consistent with those shown on existing drawings. It is planned to include these changes in future revisions of such drawings.
- 1.06 The number of the section which describes the connections at the apparatus cabinet should be shown on a small linen tag and fastened to the left front side of the equipment gate. A tag also should be fastened to the cross-connecting terminal and to the station connecting block showing the section number used in making the connections at these points. This data will be of help to the repairmen on maintenance visits in determining whether the installation was made in accordance with the connection sections or with locally prepared data.
- 1.07 The 565A key telephone set uses different colored cord conductors than other 540- and 560-series key telephone sets for certain of its features; it is necessary to terminate the key cable and cord for a 565A key telephone set on the station connecting blocks in a special manner. See Table 1.01.
- 1.08 The 201B key telephone unit is the same as the 201A key telephone unit except for the internal wiring arrangement. See Fig. 6.
- 1.09 The 213A key telephone unit is a **joint-use line circuit** for use with any combination of stations of the 1A1 and 1A key telephone systems and the 100, 101A, 101B, and 102A key equipments. Circuit information and description are contained in SD-69230-01 and CD-69230-01.

1.10 **213A Key Telephone Unit Used with 209A Key Telephone Unit (Section C66.203):** Connection of incoming, key, and running cable is the same for the 213A unit as for the 202B unit. Strapping between the 213A unit and 209A unit is the same as shown for the 202B unit and the 209A unit, except that the R, T, R1, and T1 straps are not required with the 213A unit. Strapping to the 210A unit (wink circuit) is the same for the 213A unit as shown for the 202B unit.

1.11 **213A Key Telephone Unit Used with 212A Key Telephone Unit (Section C66.205):** Connection of incoming, key, and running cable is the same for the 213A unit as for the 202B unit. Strapping between the 213A and 212A units is the same as shown for the 212A and 202B units, except that the R, T, R1, and T1 straps are not required with the 213A unit. Strapping to the 210A unit (wink circuit) is the same for the 213A unit as shown for the 202B unit.

1.12 The following figures and tables are included in this section:

Fig. 1—Typical Mounting of Key Telephone Units—Front View of Equipment Gate

Fig. 2—Typical Mounting of Key Telephone Units—Rear View of Equipment Gate

Fig. 3—Arrangement of 44A Connecting Blocks Used with 400- and 500-series Key Telephone Sets Equipped with Vinyl Jacketed or Modified Fabric Covered Mounting Cords

Fig. 4—Arrangement of 44A Connecting Blocks Used with 400-series Key Telephone Sets Equipped with Unmodified Fabric Covered Mounting Cord

Fig. 5—Arrangements for Five 44A Connecting Blocks

Fig. 6—Connections for Fuse Unit When Used with Rectifier or Transformer

Fig. 7—Connections for Fuse Unit When Used with Central Office, Private Branch Exchange, or Building Battery

Table 1.01—Current Drain Data for 1A1 Key Telephone System Equipment

Table 1.02—540- and 560-series Key Telephone Sets—Key Cables, Connecting Block Terminals, Set Terminals, and Cord Conductor Colors

Table 1.03—440- and 460-series Key Telephone Sets—Key Cables, Connecting Block Terminals, Set Terminals, and Cord Conductor Colors

2. ARRANGEMENT

2.01 The connection data is separated into three main divisions:

(a) Connections at Apparatus Cabinet—this division covers the following:

- (1) All wiring between key telephone units located in the apparatus cabinet.
- (2) All wiring (incoming and running cable) between feeder or distribution telephone plant and key telephone units located in the apparatus cabinet for:

Incoming lines from the central office or private branch exchange switchboard for central office or private branch exchange lines.

Incoming lines from the distant terminal of tie and station lines.

Battery supply from central office, private branch exchange, building, or local battery.

Generator supply from central office or private branch exchange sources.

- (3) All wiring (local wiring, incoming cable, or running cable) between 101G power plants, transformers, subcycle ringers (static ringing generators), and the apparatus cabinet, for battery and/or generator supply. Connections to be made at the power plant, transformer, and/or static ringing generator also are shown in this division.

(4) All wiring (key and running cable) between key telephone stations and key telephone units located in the apparatus cabinet. Only connections to be made on key telephone units are shown in this division.

(b) Connections at System Cross-connecting Terminals—this division covers the following:

(1) All connections between incoming and/or key cables and running cables at such terminals.

(c) Connections at Key Telephone Stations—this division covers the following:

(1) All wiring (key cable) between key telephone stations and key telephone units located in the apparatus cabinet or between key telephone stations and the running cable cross-connecting terminal. Only connections to be made at key telephone stations are covered in this division. The term "key telephone stations" as used in these sections is defined as key telephone sets, external ringers, external keys, lamp indicators, and other equipment located at the station.

2.02 The master index, Section C66.200, shows the three major divisions and lists the individual sections included in each. Opposite each section number on the index is a black arrow extending to the right-hand edge of the page. This directs attention to the "smudge" shown in the same position on each page of an individual section, i.e., the smudge is shown in the first position on Section C.66.201, in the second position on Section C66.202, etc. Smudging permits ready reference to sections.

2.03 An index listing information contained in the section, table numbers on which the information is covered and page numbers of the individual tables, is shown at the beginning of the majority of sections.

2.04 The numbers assigned to the tables consist of the last two digits of the section number, followed by a decimal point, and two digits to indicate the table number within the section. As an illustration, the third table in Section C66.216 is numbered 16.03.

2.05 In general, all tables shown in a section index are filed with the section. However, there are a few exceptions where identical information is required in two or more sections. In order to avoid duplication, the information is shown only in one section. The indexes of other affected sections show table and page numbers referring to the section in which the data is filed.

3. DEFINITION OF TERMS

3.01 The following terms, which are used in these sections, are defined as follows:

(a) Line number in key telephone set, abbreviated in connection tables as "Line No. in Key Tel. Set"—the number of the line circuit within key telephone sets. The first line the set is associated with the first pickup key, etc. This refers to the key cable pairs associated with the respective line terminals in key telephone sets.

(b) Line number in system, abbreviated in connection tables as "Line No. in Sys."—the number of the line circuit within the apparatus cabinet, regardless of the type of line. The first line in the system corresponds to the first horizontal circuit line on the work sheet for key telephone systems, the second line in the system corresponds to the second horizontal circuit line, etc. The work sheet usually is issued by the commercial department along with the service order.

(c) Incoming cable—the cable running directly between distribution cable terminal, station protectors, or connecting blocks (used instead of protectors), and key telephone units located in the apparatus cabinet.

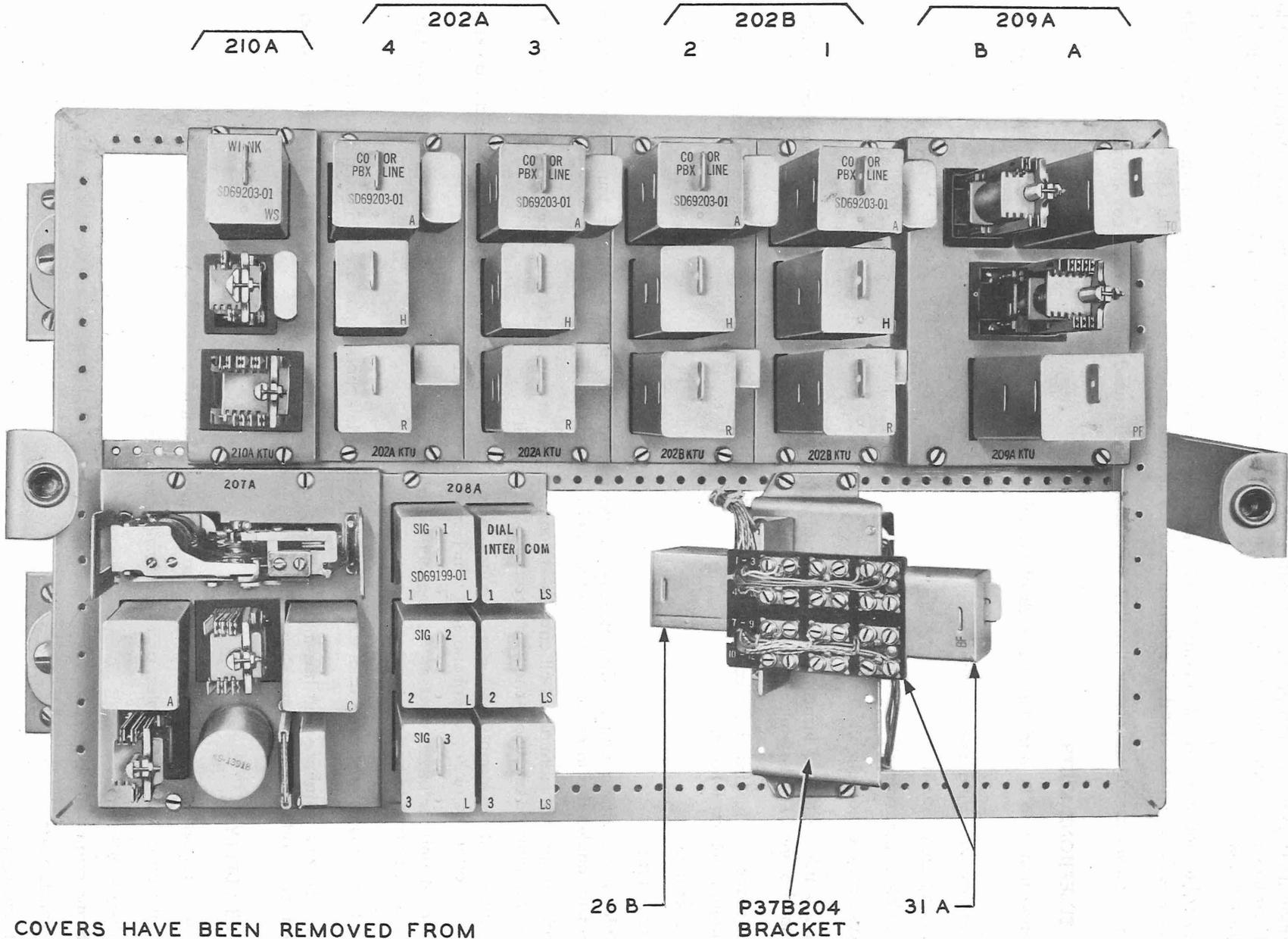
(d) Key cable—the cable running directly between connecting blocks located at key telephone stations and key telephone units located in the apparatus cabinet, or between key telephone station connecting blocks and the running cable cross-connecting terminals.

(e) Running cable—the cable from the apparatus cabinet to cross-connecting terminals where other running cables, key cables, and in some cases incoming cables, are connected. This cable is used to extend key and incoming cable circuits to key telephone units located in the apparatus cabinet.

- (l) "Tailored" running cables—running cables whose pairs cannot be "preassigned" but must, of necessity, be assigned locally for individual systems. See Section C66.215.
- (f) Amplified talking circuits—2A and 2B Key Telephone Systems, Webster Electric Teletalk Systems, Loud-speaker Paging Systems, and Receivers for Impaired Hearing.
- (g) Interim 440- and 460-series key telephone sets—those 440- and 460-series key telephone sets, listed in Section C66.217, which are equipped with an additional switchhook contact that can be used for "A" lead control.
- (h) Terminal, abbreviated in connection tables as "Term."—the screw terminals mounted on terminal strips on the rear of key telephone units. The number shown beneath the word "Term." on connection tables indicates the number of the screw terminal to which the specific wire is to be connected. Fig. 1, page 5, shows the front view of the equipment gate and the arrangement of key telephone units. Fig. 2, page 7, shows the rear view of an equipment gate and the arrangement of key telephone units, and illustrates the location and numbering of screw terminals.

4. CABLE PAIR ASSIGNMENTS

- 4.01 Specific cord conductors, connecting block terminals, and key cable pairs are assigned to specific features in the 540- and 560-series key telephone sets. Cable pair assignments are the same for all types of 540- and 560-series sets.
- 4.02 Table 1.02, pages 17 and 18, shows the cord, key cable pair, and connecting block terminal assignments for all 540- and 560-series key telephone sets.
- 4.03 Specific **key cable pairs** are assigned to specific features of all interim 440- and 460-series key telephone sets. They are the same as those made for 540- and 560-series key telephone sets. These assignments permit the interchange of all 440, 460, 540, and 560-series key telephone sets (with the exception of 565A sets) without the necessity of making wiring changes at the apparatus cabinet or at the running cable cross-connecting terminal.
- 4.04 Specific **cord conductors and connecting block terminals** cannot be assigned to particular features of all interim 440- and 460-series key telephone sets since the cord conductors presently used are not of sufficient length to permit the termination of a specific color cord conductor on the same specific terminal in all 440- and 460-series key telephone sets. The length of the cord conductors also prohibits the termination of each specific cord conductor from all 440- and 460-series key telephone sets to the specific connecting block terminals assigned to each particular feature for the 540- and 560-series sets.
- 4.05 Specific cord conductors are assigned to specific terminals within the set as shown on SD-69206-01 and to specific connecting block terminals in accordance with Table 5 of Section C33.545, for each individual key telephone set of the interim 440- and 460-series.
- 4.06 Since the same feature always is connected to the same key cable pairs in the apparatus cabinet, and since the mounting cords of the 440- and 460-series interim key telephone sets must be terminated on the connecting blocks in a standard manner, key cables cannot be terminated in the numerical sequence shown on Table 5 of Section C33.545. They therefore must be terminated on connecting blocks in accordance with the connections shown in C66.217.
- 4.07 Specific key cable pairs are assigned to particular features of external switching keys, ringers, and lamp indicators, and are the same as those used for 440, 460, 540, and 560-series key telephone sets. This permits the interchange of key telephone sets and external equipment without the necessity of making wiring changes at the apparatus cabinet or at the running cable cross-connecting terminal.
- 4.08 Table 1.03, pages 19 through 25, indicates the 44A connecting block terminations for C and D inside wiring cable and the cord terminations for the 400-series key telephone sets equipped with vinyl jacketed or modified fabric covered mounting cords. Block arrangements for modified cords are shown in Fig. 3; when unmodified cords are used, arrange blocks as shown in Fig. 4.



COVERS HAVE BEEN REMOVED FROM SEVERAL UNITS FOR CLARITY.

Fig. 1—Typical Mounting of Key Telephone Units - Front View of Equipment Gate

SECTION C66.201

4.09 Incoming lines from the central office or private branch exchange, or from the distant terminal of tie and station lines, may be brought through either incoming or running cables from the distribution cable terminal, protector, or connecting block (used instead of protectors) to key telephone units located in the apparatus cabinet.

4.10 Key cable and running cable pairs 22, 23, and 24 are used for the sixth line with the 565A key telephone set to maintain standardization of color for feature assignment. See Table 1.02.

4.11 Fig. 5 shows arrangements for five 44A connecting blocks used with the 565 key telephone set.

5. KEY TELEPHONE UNITS

5.01 Connection data is furnished for each of the following four separate circuits of 211A key telephone units:

- (a) Intercommunicating line circuit
- (b) Ringing lamp circuit
- (c) Audible signal control circuit
- (d) Noise suppression circuit

5.02 Similar information is furnished for individual angle-type units which may be used for these circuits instead of the 211A key telephone unit.

5.03 Information is furnished for connecting the 201A and 201B key telephone units as a fuse and as a bridging unit as follows:

- (a) Feeder fuse
- (b) Circuit fuse
- (c) Additional bridging unit for dial selective intercommunicating lines whenever four or more key or running cables are to be connected to the line unit in the cabinet
- (d) Bridging unit for manual cut-off circuits—to connect key or running cable pairs from cut-off keys to line terminals of key telephone sets which may be cut off
- (e) Bridging unit for manual exclusion circuits—to connect key or running cable pairs from exclusion keys to line terminals of key telephone sets which may be excluded
- (f) Bridging unit for buzzer system—to connect signaling keys to code and selective signaling key telephone units and to buzzers

5.04 The fuses must be removed from all 201A and 201B key telephone units used as bridging units.

5.05 The 201B key telephone unit has internal strappings on terminals 8, 9, and 10; 18, 19, and 20. When used as a bridging unit, these straps should be removed.

6. POWER SUPPLY

6.01 Power supplies for the 1A1 System may be obtained through:

- (a) Local wiring, incoming cables, and/or running cables from:
 - (1) 101G power plants
 - (2) Static ringing generators
 - (3) Transformers
 - (4) Local batteries

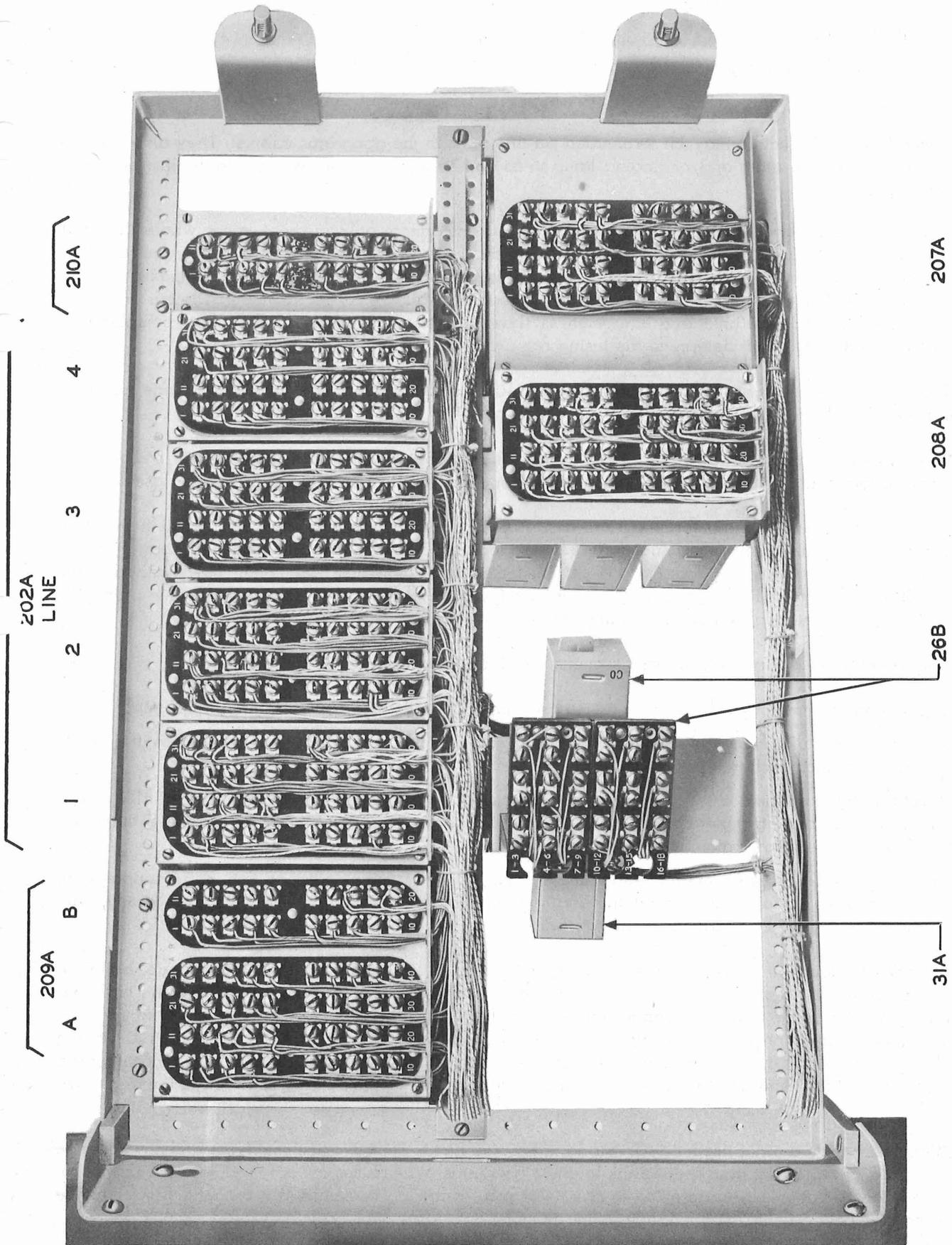


Fig. 2—Typical Mounting of Key Telephone Units - Rear View of Equipment Gate

(b) Incoming cables and/or running cables from:

- (1) Central offices
- (2) Private branch exchanges
- (3) Building power plants

6.02 Power feeder conductors may be terminated on line units in the apparatus cabinet. They also may be terminated on fuse units and/or ringing lamp units and strapped from these units to the line and control units.

6.03 Fuse units are required with 101G power plants and transformers only in those cases where the total number of lamps used in the system exceeds thirty-six. Fuse units may or may not be required with central office, private branch exchange, building, or local battery supply, depending upon the maximum current drain and whether the fuse at the power source is readily available for replacement. The current drain for the various key telephone units and equipment is shown in Table 1.01, page 16. This data, computed as shown in Section C53.511, will determine the fusing requirements.

6.04 When fuses are used with power supplied from a 101G power plant or transformer, only one fuse unit is necessary. This unit is utilized for the circuit fuses.

6.05 When fuses are used with power supplied from central office, private branch exchange, building, or local battery sources, two fuse units are required, one for circuit fuses and one for feeder fuses.

6.06 Specific battery and ground terminals are assigned for specific power supplies on circuit fuse units. Specific battery and ground terminals are assigned for lamp battery feeds and for general battery feeds on the feeder key telephone unit. Fig. 6, page 14, illustrates the circuit fuse unit when used with a 101G power plant or transformer. Fig. 7, page 15, illustrates the feeder fuse unit and circuit fuse unit when used with central office, private branch exchange, building, or local battery.

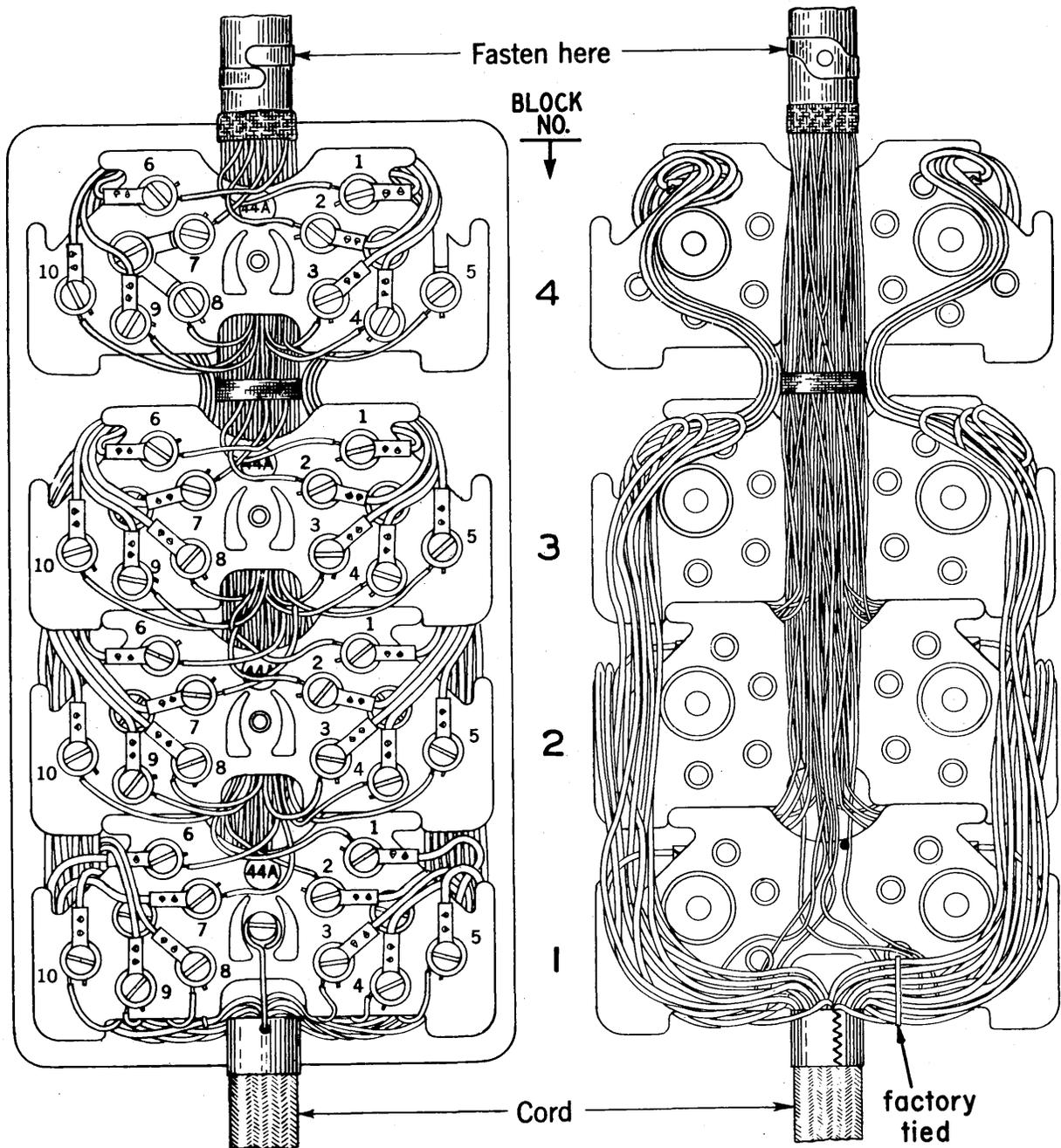
6.07 Connection data is furnished in these sections for all options listed in 6.01 through 6.06.

6.08 Connection information in these sections is based upon the following use of ringing lamp units:

- (a) A ringing lamp unit is used whenever ringing current (105 volt ac) is obtained from a central office or private branch exchange source.
- (b) A ringing lamp unit is not used whenever ringing current (105 volt ac) is obtained from a 101G power plant or static ringing generator used exclusively for each individual 1A1 Key Telephone System, except as shown in the following subparagraph.
- (c) Where a 211A key telephone unit is provided for use in an intercommunicating line, noise suppression, and/or audible signal control circuit, the ringing lamp circuit of this unit is used whenever ringing current (105 volt ac) is used, regardless of the source.

6.09 In order to eliminate duplication, the wiring from central office, private branch exchange, building, or local battery supplies to the feeder fuse unit and from the fuse unit to the circuit fuse unit is shown only in Section C66.202. Wiring from central office or private branch exchange generator supply to the ringing lamp also is shown only in this section. Reference is made in Sections C66.203 through C66.205 to the tables covering fuse unit and ringing lamp connections as shown in 6.01 through 6.08. Wiring connection data between the circuit fuse unit and the various line and control units is shown in sections covering the respective features.

6.10 When fuse units are not used, power wiring is brought first to central office or private branch exchange line units and bridged from these units to other type units. When fuses are not used, types of power not required for the operation of central office or private branch exchange line units are brought directly to the affected key telephone units. Data for such connections is shown in sections covering these circuits.



Notes:

1. Four 44A connecting blocks used with 400- and 500-series key telephone sets equipped with vinyl jacketed or modified fabric covered mounting cords—use 101D cover.
2. Early production models of vinyl jacketed mounting cords may have conductors of insufficient length for terminating on block No. 4 in the manner shown. Where this is encountered, run the cord conductors for block No. 4 with the cable conductors behind the center of the blocks.

Fig. 3—Arrangement of 44A Connecting Blocks Used with 400- and 500-series Key Telephone Sets Equipped with Vinyl Jacketed or Modified Fabric Covered Mounting Cords

7. CENTRAL OFFICE OR PRIVATE BRANCH EXCHANGE LINE UNITS

7.01 Connection data is furnished to cover all combinations of the two types of "lamp flashing and timing-out units," and of the two types of "central office or private branch exchange line units." The various combinations, as well as the numbers of the section in which the information is given, is shown in the master index, Section C66.200.

8. LAMP RESISTOR UNITS FOR USE WITH CENTRAL OFFICE, PRIVATE BRANCH EXCHANGE, BUILDING, OR LOCAL BATTERY SUPPLY

8.01^{*} Section C66.213 covers the connections for lamp resistors mounted in the apparatus cabinet. Section C66.221 covers the connections for lamp resistors located at the station.

9. PUSH-BUTTON AND BUZZER CONNECTIONS

9.01 Connection data is furnished for the following three basic types of push-button and buzzer circuits which may be provided with the 1A1 Key Telephone System:

- (a) Code signaling
- (b) Selective signaling
- (c) A combination of code and selective signaling where certain, or all, buzzers in the system can be signaled on a code basis using one button for all buzzers or on a selective basis using one button for each buzzer

9.02 Connection information for these arrangements is furnished in four sections. Section C66.214 covers connections to be made at the apparatus cabinet. Section C66.220 covers connections to be made at key telephone stations for external signaling (push-button) keys of the 551 and 549 types. Sections C66.217 and C66.218 cover push-buttons which are a part of interim 440- and 460-series key telephone sets and 540- and 560-series key telephone sets, respectively.

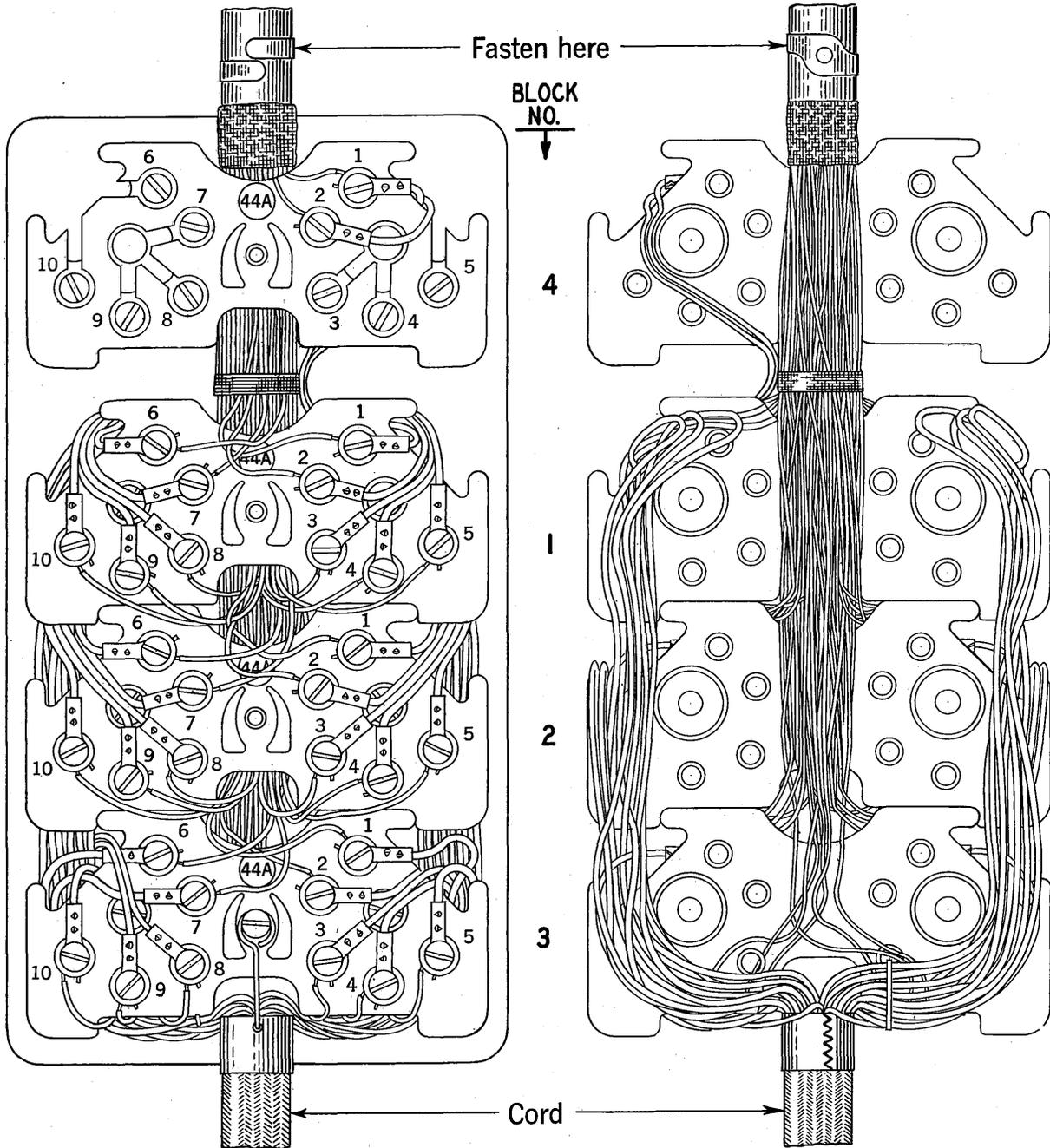
9.03 Sections C66.214 and C66.220 furnish information for assigning either a half pair for each push-button circuit and a half pair for each buzzer circuit with common ground and a common power supply; or a full pair for each push-button circuit and a full pair for each buzzer circuit. A wiring diagram for a typical small installation using half pairs is shown in Fig. 1, Section C66.214. A wiring diagram for the same installation using full pairs is shown in Fig. 2, Section C66.214.

9.04 Normally, half pairs will be used with common leads for ground and power supply. However, when amplified talking circuits are run through the same cable, it will be necessary to use full pairs for signaling and buzzer circuits.

10. SELECTION AND USE OF CONNECTION DATA

10.01 Specific tables required to provide connection data for any installation may be selected by following the procedure shown below:

- (a) Determine the features to be provided in the installation from the key system work sheet which usually is issued by the commercial department along with the service order.
- (b) Determine the type of power to be used for common audible signals, and where provided, for dial selective intercommunicating line station signals and/or buzzer system signals.
- (c) Plan the system cable distribution arrangement and determine whether running cables are required.
- (d) If running cables are required, refer to Section C66.215 and determine whether the combination of circuits and features provided are covered by "preassignments," or whether special assignments must be made in the running cable. Special assignments must be made locally for each installation.



Note: Four 44A connecting blocks used with 400-series key telephone sets equipped with unmodified fabric covered mounting cords—use 101D cover.

Fig. 4—Arrangement of 44A Connecting Blocks Used with 400-series Key Telephone Sets Equipped with Unmodified Fabric Covered Mounting Cord

- (e) Refer to the master index, shown in Section C66.200, and determine the section numbers which cover connections at the apparatus cabinet and at the key telephone stations for the features being provided.
- (f) If running cables are provided, and are covered by "preassignments," refer to the master index and determine the section number which covers the cross-connection data.

(g) If running cables are to be used, and more than one of the following listed features and/or circuits are to be used, refer to Section C66.215 for preparation of running cable assignments and cross-connection data;

Dial Selective Intercommunicating Lines

Push Buttons and Buzzers

Exclusion

Manual Cut-off

Automatic Cut-off

The Sixth Line in the Installation

Lamp Resistance Circuits From Lamp Resistor Key Telephone Units Mounted in the Apparatus Cabinet

Incoming Lines Brought Through Running Cable

Power Supply Feeders Brought Through Running Cable

(h) Refer to the section index of each section selected, and determine the specific tables required for the features provided and for the type of power and equipment used.

(i) Refer to the selected tables. Where tables are divided into subtables, select the subtable applicable to the specific installation.

10.02 The following is an example of the selection of connection tables for a typical installation:

(a) Features would be provided and equipment and power would be used as indicated:

(1) The service order and/or the key telephone system work sheet provides for:

3—central office lines (without wink, interrupted ringing, or second audible signal)

1—private branch exchange line (without wink, interrupted ringing, or second audible signal)

1—dial selective intercommunicating line (without either flashing line lamps or automatic cut-off)

9—stations

(2) A 101G power plant is to be used to supply all types of power.

(3) Bells using ringing current (105 volts ac) are to be used for common audible signal and are to be located outside key telephone sets.

(4) Buzzers using 18 volts ac are to be used for dial selective intercommunicating station signals and are to be located within key telephone sets.

(5) 560-series key telephone sets are to be used.

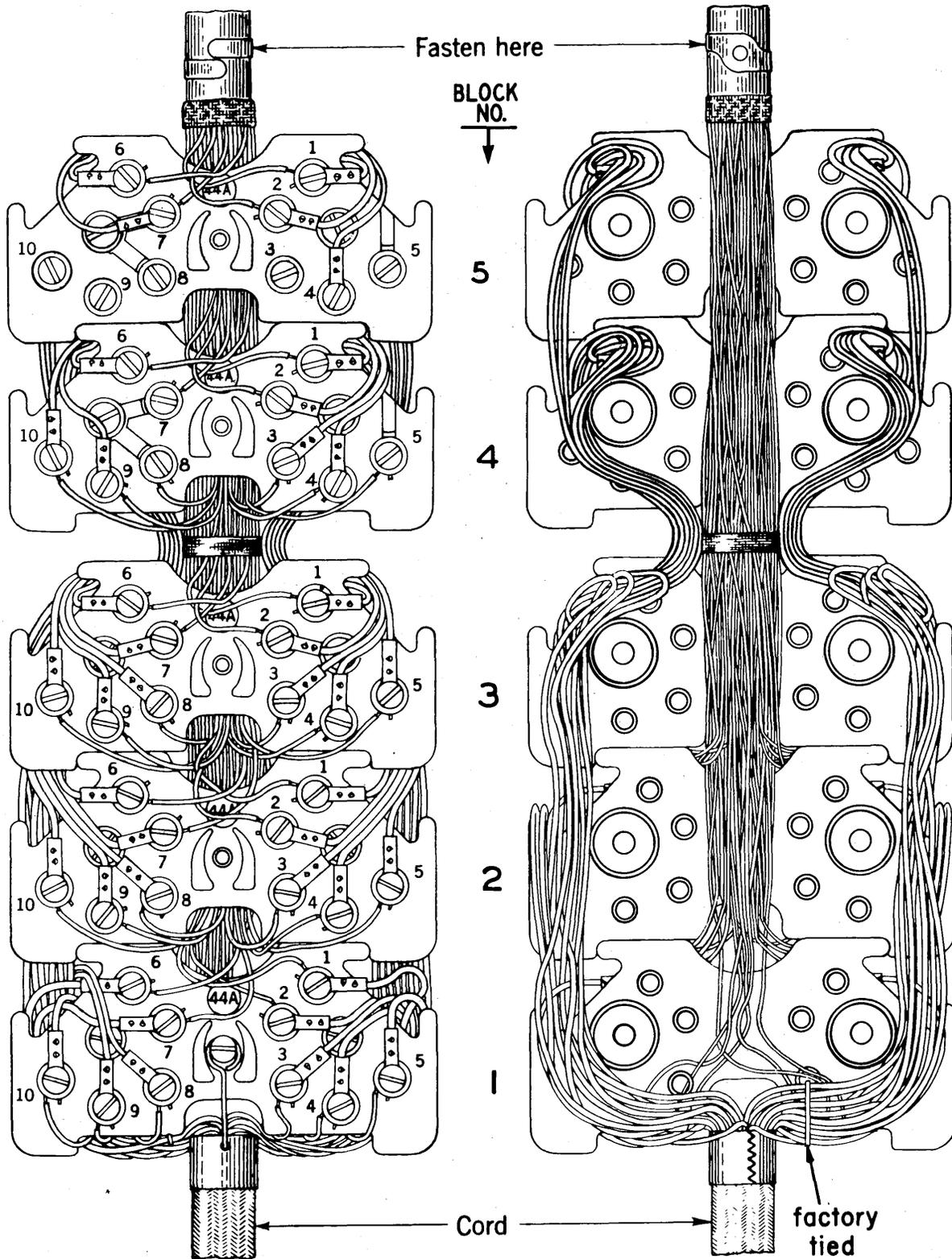
(6) A 209A key telephone unit is to be used as the system lamp flashing and timing-out unit, and 202A key telephone units are to be used for central office or private branch exchange lines. The 209A and 202A key telephone units are to be mounted locally in the apparatus cabinet by the installer.

(7) The incoming cable, used to bring incoming lines from the distribution cable terminal to the apparatus cabinet, runs directly between these points.

(8) Power is brought from the 101G power plant to the apparatus cabinet through local wiring.

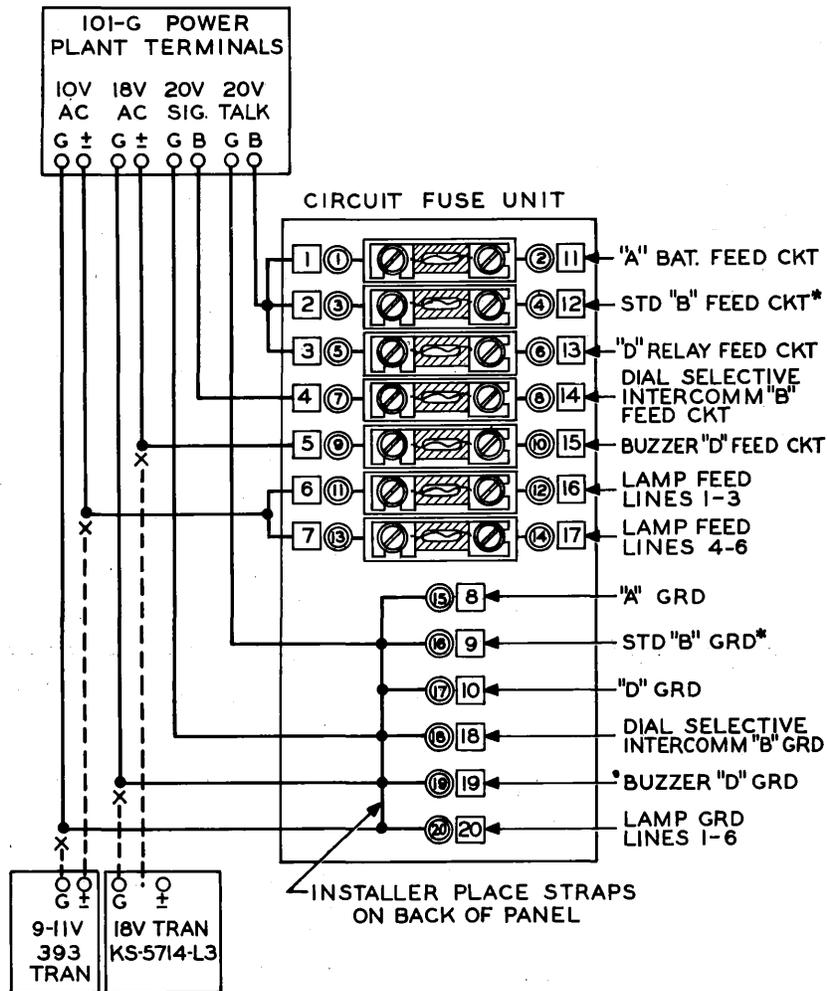
(9) Key cables from three stations are connected directly to key telephone units in the apparatus cabinet. Six stations are connected to the running cable at the cross-connecting terminals.

(10) Key and running cables are not to be arranged to carry amplified talking circuits.



Note: Five 44A connecting blocks used with 565 key telephone set for speakerphone system 1A. Two 101C covers will be required on this installation.

Fig. 5—Arrangements for Five 44A Connecting Blocks



201A OR 201B KEY TELEPHONE UNIT

- TERMINALS ON 201A K.T.U.
- TERMINALS ON 201B K.T.U.

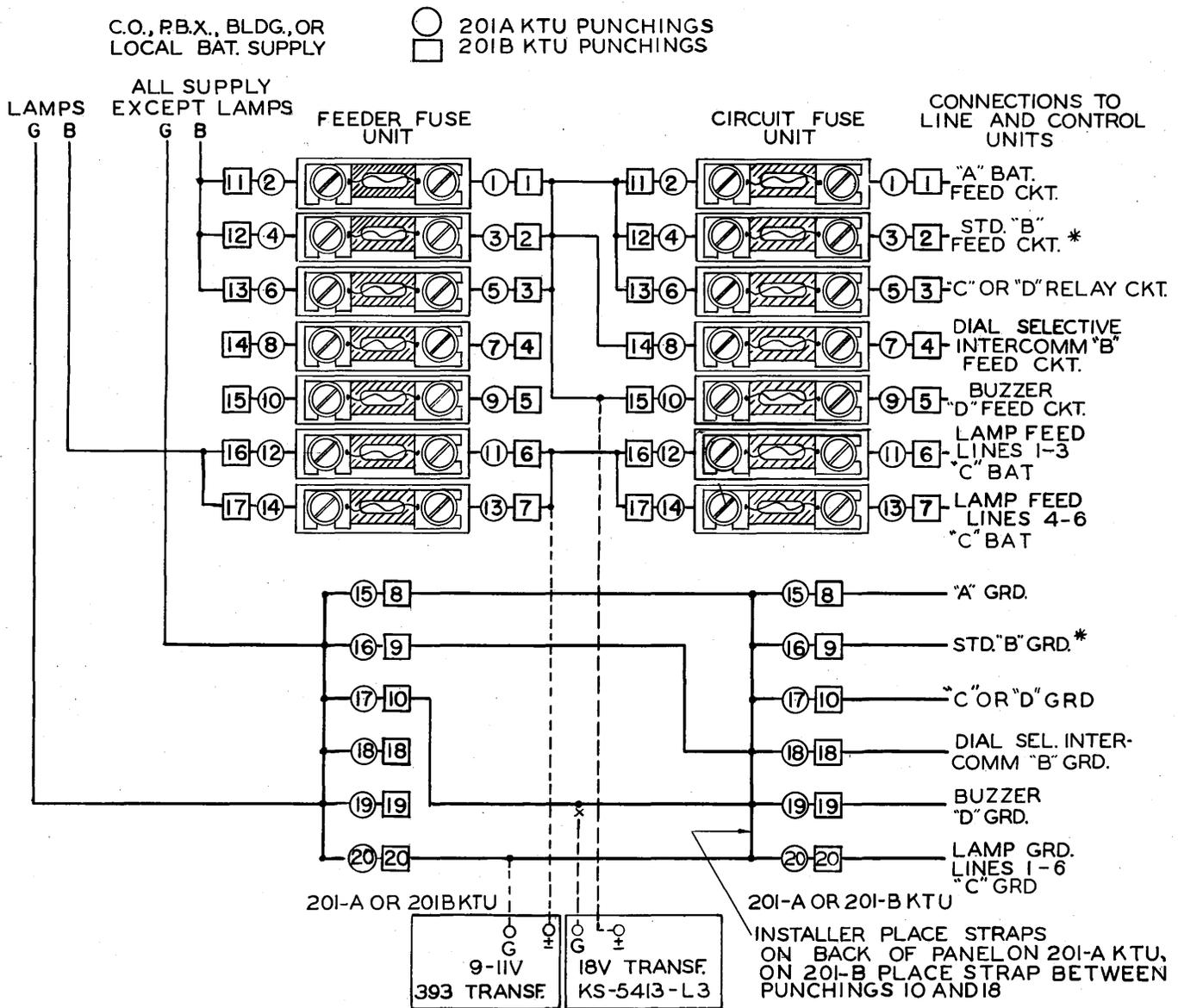
*EXCEPT DIAL SELECTIVE INTER-COMMUNICATING LINE CKTS

Note: Solid lines show connections to 101G power plant. Dotted lines show connections to transformers.

Fig. 6—Connections for Fuse Unit When Used with Rectifier or Transformer

(b) The connection data for the above features and factors is shown in Sections C66.202, C66.208, C66.216, C66.218, and C66.219, and on the following tables and subtables:

C66.202	C66.208	C66.216	C66.218	C66.219
2.01(a)(b)(c)(g)	8.02	16.03	18.01	19.01
2.05(a)	8.03	16.04	18.03	
2.10(c)(d)	8.04	16.14	18.12	
2.12(a1)	8.11	16.16		
2.20	8.13			
2.22	8.14(a)			
2.23(a1)(a2)				



* EXCEPT DIAL SELECTIVE INTERCOMMUNICATING LINE CKTS.

Note: Solid lines show straps between circuit fuse and feeder fuse unit. Dotted lines show connections between circuit fuse unit and transformers. Transformers are normally used when lamps and/or buzzers are operated from ac supply. If 201B K.T.U. is used, see Table 1.01 for terminal numbering.

Fig. 7—Connections for Fuse Unit When Used With Central Office, Private Branch Exchange, Building, or Local Battery

Table 1.01

Current Drain Data for 1A1 Key Telephone System Equipment

Compute the maximum possible current drain (ampere load) for the system ★ by multiplying the number of each type of key telephone unit, buzzer, and bell by the current drain for the respective items, with the exception of 208A key telephone units where the current drain is the same regardless of whether 1, 2, or 3 units are installed.

FEATURES	K.T.U. OR EQUIP. CODE NO.	CURRENT DRAIN IN AMPERES AT MINIMUM VOLTAGE
CO or PBX Line Units	202A K.T.U.	0.030
	202B K.T.U.	0.030
	212A K.T.U.	0.330
Automatic Tie Line Unit	203A K.T.U.	0.090
Ringdown Tie Line Unit	204A K.T.U.	0.120
Sta. Line Ckt. Unit	205A K.T.U.	0.140
Dial Sel. Intercom Line Units	207A K.T.U.	0.470
	208A K.T.U.	0.020
Flashing and Timing-Out Ckt. Unit	209A K.T.U.	0.240
Wink Ckt. Unit	210A K.T.U.	0.150
Intercom Line Ckt. Units	31A K.T.U.	0.065
	211A K.T.U.	0.065
Automatic Cut-Off Ckt. Unit	26B K.T.U.	0.050
Cut-through and Control Ckt. Unit	29A K.T.U.	0.030
Buzzers and Bells (DC Operation)	7A Buzzer	0.050
	7A Bell	0.055
All	A3 Lamps ✖	0.035
	51A and A3 Lamps ◆	0.042

Notes: ★ If lamps are operated from dc power and one or more lamps are located in key telephone sets, separate lamp power feeders are required and the loads must be computed separately.

✖ For A3 lamps using 14 to 26 volts dc supplied over the same conductors as power for relays, etc.

◆ For 51A and A3 lamps using 14 to 26 volts dc supplied over conductors other than those used to supply relays, etc.

TABLE 1.02

540- AND 560-SERIES KEY TELEPHONE SETS —
KEY CABLES, CONNECTING BLOCK TERMINALS,
SET TERMINALS, AND CORD CONDUCTOR COLORS

Connections					Reqd (Read Across)	Type of Key Telephone Set								
						540B	544B	545B	564C	544A	564B	565E	565B	
Pair No.	Key Cable		Conn Block	Set Conn	Features	HPPP	HPPP/s-L	HPPP/s-LE	HPPPPS-L	PPPP/s-L	HPPPPP-L	HPPPPP/sC/LE	HPPPP/sP/sP/s-LE	
	Inside Wiring				Term No.	Term Desig	Cord Cond	14	19	24	25	25	28	31
	Cond Color		C Type	D Type			Cable Pairs	12	21	21	21	21	21	21
							Conn Blocks	3	4	4	4	4	4	4
1	BL	BL	1	IR	1	R	R	R	R	R	R	R	R	
	W	W	2	IT		G	G	G	G	G	G	G	G	G
	O	O	4	1B		Y	Y	Y	Y	Y	Y	Y	Y	Y
	W	W	5	1H		BK	BK	BK	BK	BK	BK	BK	BK	BK
	G	G	6	2R		BL	BL	BL	BL	BL	BL	BL	BL	BL
2	W	W	7	2T	2	W	W	W	W	W	W	W	W	
	BR	BR	9	2H		(BR-R)	(BR-R)	(BR-R)	(BR-R)	(BR-R)	(BR-R)	(BR-R)	(BR-R)	(BR-R)
	W	W	10			BR-G	BR-G	BR-G	BR-G	BR-G	BR-G	BR-G	BR-G	BR-G
	S	S	3	3R		BR-Y	BR-Y	BR-Y	BR-Y	BR-Y	BR-Y	BR-Y	BR-Y	BR-Y
	W	W	8	3T		BR-BK	BR-BK	BR-BK	BR-BK	BR-BK	BR-BK	BR-BK	BR-BK	BR-BK
3	BL-W	BL	1	3H or S	3	(BR-BL)	(BR-BL)	(BR-BL)	(BR-BL)	(BR-BL)	(BR-BL)	(BR-BL)	(BR-BL)	
	W	R	2			BR-W	BR-W	BR-W	BR-W	BR-W	BR-W	BR-W	BR-W	BR-W
	BL-O	O	4			4R				R-G	R-G	R-G	R-G	R-G
	W	R	5			4T				R-Y	R-Y	R-Y	R-Y	R-Y
	BL-G	G	6			4H or S				(R-BK)	(R-BK)	(R-BK)	(R-BK)	(R-BK)
4	W	R	7		4				R-BL	R-BL	R-BL	R-BL		
	BL-BR	B	9	5R							R-W		R-W	
	W	R	10	5T							G-Y		G-Y	
	BL-S	S	3	5H or S							(G-BK)		(G-BK)	
	W	R	8						G-BL	(G-BL)	G-BL		G-BL	
5	O-W	BL	1	SG	5		G-W	G-W	G-W	G-W		G-W	G-W	
	W	BK	2	L2									Y-BK	Y-BK
	O-G	O	4	RR		Y-BL	Y-BL	Y-BL	Y-BL	Y-BL	Y-BL	Y-BL	Y-BL	Y-BL
	W	BK	5	RT		Y-W	Y-W	Y-W	Y-W	Y-W	Y-W	Y-W	Y-W	Y-W
	O-BR	G	6	ER				BK-BL					BK-BL	BK-BL
6	W	BK	7	ET	6			BK-W				BL-W	BL-W	
	O-S	BR	9	EB				BL-W				BL-W	BL-W	
	W	BK	10	EH				S				S	S	
	G-W	S	3	CR								S-R		
	W	BK	8	CT								S-G		
7	G-BR	BL	1	1	7		S-Y	S-Y	S-Y	S-Y	S-Y	S-Y	S-Y	
	W	Y	2	LG			S-BK	S-BK	S-BK	S-BK	S-BK	S-BK	S-BK	S-BK
	G-S	O	4	2			S-BL	S-BL	S-BL	S-BL	S-BL	S-BL	S-BL	S-BL
	W	Y	5	*										
	BR-W	G	6	3			S-W	S-W	S-W	S-W	S-W	S-W	S-W	S-W
8	W	Y	7	*	8				S-BR	S-BR	S-BR	S-BR	S-BR	
	BR-S	BR	9	4										
	W	Y	10	*										
	S-W	S	3	5								BR		BR
	W	Y	8	*										

* Lamp ground leads — strap terminal 2 (LG) of fourth block.

() Indicate conductors not terminated in set.

(Table 1.02 Continued on Page 18)

TABLE 1.02 (Contd)

**540- AND 560-SERIES KEY TELEPHONE SETS —
KEY CABLES, CONNECTING BLOCK TERMINALS,
AND CORD CONDUCTOR COLORS**

Connections					Reqd (Read Across)	564D
Pair No.	Key Cable		Conn Block	Set Conn	Features	HPPSS-L
	Inside Wiring				Term. No.	Term. Desig
	Cond Color		Cable Pairs	Conn Blocks		
	C Type	D Type				
1	BL	BL	1	IR	1	R
	W	W	2	IT		G
2	O	O	4	IB		Y
	W	W	5	IH		BK
3	G	G	6	2R		BL
	W	W	7	2T		W
4	BR	BR	9	2H		(BR-R)
	W	W	10			BR-G
5	S	S	3	3R		BR-Y
	W	W	8	3T		BR-BK
6	BL-W	BL	1			(BR-BL)
	W	R	2	3H		BR-W
7	BL-O	O	4			(R-G)
	W	R	5			(R-Y)
8	BL-G	G	6			(R-BK)
	W	R	7	1S		R-BL
9	BL-BR	BR	9			
	W	R	10			
10	BL-S	S	3			G-BL
	W	R	8	2S		
11	O-W	BL	1	SG	G-W	
	W	BK	2			
12	O-G	O	4	RR	Y-BL	
	W	BK	5	RT	Y-W	
13	O-BR	G	6			
	W	BK	7			
14	O-S	BR	9			
	W	BK	10			
15	G-W	S	3			
	W	BK	8			
16	G-BR	BL	1	1 LG	S-Y	
	W	Y	2		S-BK	
17	G-S	O	4	2 *	S-BL	
	W	Y	5			
18	BR-W	G	6	3 *	S-W	
	W	Y	7			
19	BR-S	BR	9		(S-BR)	
	W	Y	10			
20	S-W	S	3			
	W	Y	8			

Connections					Reqd (Read Across)	565A
Pair No.	Key Cable		Conn Block	Set Conn	Features	PPPP/sP/sP/s-LE
	Inside Wiring				Term. No.	Term. Desig
	Cond Color		Cable Pairs	Conn Blocks		
	C Type	D Type				
1	BL	BL	1	IR	1	R
	W	W	2	IT		G
2	O	O	4	IB		Y
	W	W	5	IH		BK
3	G	G	6	2R		BL
	W	W	7	2T		W
24[R] 4[T]	BR[R]	BR[V]	9	6L		BR-R
	W[BR]	W[BR]	10	2H		BR-G
5	S	S	3	3R		BR-Y
	W	W	8	3T		BR-BK
11[T] 6[T]	W[O-W]	BK[BL]	1	L2		BR-BL
	W[BL-W]	R[BL]	2	3H		BR-W
7	BL-O	O	4	4R		R-G
	W	R	5	4T		R-Y
33[T] 8[T]	R[G]	V[G]	6	6H or S		R-BK
	W[BL-G]	R[G]	7	4H or S		R-BL
9	BL-BR	BR	9	5R		R-W
	W	R	10	5T		G-Y
11[R] 10[T]	O-W[W]	BL[BK]	3	SG		G-BK
	W[BL-S]	R[S]	8	5H or S		G-BL
22	O	O	1	6R	G-W	
	R	V	2	6T	Y-BK	
12	O-G	O	4	RR	Y-BL	
	W	BK	5	RT	Y-W	
13	O-BR	G	6	ER	BK-BL	
	W	BK	7	ET	BK-W	
14	O-S	BR	9	EB	BL-W	
	W	BK	10	EH	S	
15	G-W	S	3	CR		
	W	BK	8	CT		
16	G-BR	BL	1	1 LG	S-Y	
	W	Y	2		S-BK	
17	G-S	O	4	2 *	S-BL	
	W	Y	5			
18	BR-W	G	6	3 *	S-W	
	W	Y	7			
19	BR-S	BR	9	4 *	S-BR	
	W	Y	10			
20	S-W	S	3	5 *	BR	
	W	Y	8			
24[T]	R[BR]	V[BR]	8	6*		

* Lamp ground leads — strap to terminal 2 (LG) of fourth block.
() Indicate conductors not terminated in set.

TABLE 1.03

440- AND 460-SERIES KEY TELEPHONE SETS —
KEY CABLES CONNECTING BLOCK TERMINALS,
SET TERMINALS, AND CORD CONDUCTOR COLORS

440AC		440BC		440CC		440DC		440EC		440FC		Dial IA		Key Cable	Set Conn	Dial IA		440GC		441AC		441BC		441CC		441DC		441EC	
AA		BA		CA		DA		EA		FA		Dial IA, IAI				Dial IA, IAI		GG		AA		BA		CA		DA		EG	
PPPP		PPPS		PPPC		PPSC		HPPP		HPPS		Manual IA				Manual IA		GA		AA		BA		CA		DA		EA	
D10D		D10D		D10D		D10D		D14A		D12A		Man. IA, IAI				Man. IA, IAI		GE		PPPP-E		PPPS-E		PPPC-E		PPSC-E		HPPP-E	
D10G		D23C		D27A		D27A		D14G		D17A		Fab Cord Mod		Fab Cord Mod		Vinyl Cord		D17A		D28B		D27A		D27A		D27A		D27A	
												44A Block		44A Block		44A Block													
												Term. No.		Term. Desig		Term. No.													
												Pair No.		Inside Wiring Color															
												C Type		D Type															
R	R	R	R	R	R	R	R	R	R	R	R	1	BL	BL	IR	1	R	R	R	R	R	R	R	R	R	R	R	R	
G	G	G	G	G	G	G	G	G	G	G	G	2	W	W	IT	2	G	G	G	G	G	G	G	G	G	G	G	G	
		Y		Y		Y		Y	Y	Y	Y	4	O	O	IB	4	Y	Y			Y		Y		Y		Y	Y	
		BK		BK		BK		BK	BK	BK	BK	5	W	W	IH	5	BK	BK			BK		BK		BK		BK	BK	
BL	Y	BL	Y	BL	Y	BL	Y	BL	BL	BL	BL	6	G	G	2R	6	BL	BL	BL	Y	BL	Y	BL	Y	BL	Y	BL	BL	
W	BK	W	BK	W	BK	W	BK	W	W	W	W	7	W	W	2T	7	W	W	W	BK	W	BK	W	BK	W	BK	W	W	
		BR-R		BR-R		BR-R		(BR-R)	(BR-R)	(BR-R)	(BR-R)	9	BR	BR	—	9	(BR-R)	(BR-R)	BR-R		BR-R		BR-R		(BR-R)	(BR-R)	(BR-R)	(BR-R)	
		BR-G		BR-G		BR-G		BR-G	BR-G	BR-G	BR-G	10	W	W	2H	10	BR-G	BR-G	BR-G		BR-G		BR-G		BR-G		BR-G	BR-G	
BR-Y	BL	BR-Y	BL	BR-Y	BL	BR-Y		BR-Y	BR-Y			3	S	S	3R	3			BR-Y	BL	BR-Y	BL	BR-Y	BL	BR-Y	BL	BR-Y	BR-Y	
BR-BK	W	BR-BK	W	BR-BK	W	BR-BK		BR-BK	BR-BK			8	W	W	3T	8			BR-BK	W	BR-BK	W	BR-BK	W	BR-BK	W	BR-BK	BR-BK	
		BR-BL		BR-BL		BR-BL		(BR-BL)	(BR-BL)	BR-W	BR-Y	1	BL	BL	—	1	BR-W				BR-BL		BR-BL		BR-BL		(BR-BL)	(BR-BL)	
		BR-W		BR-W		BR-W	BL	BR-W	BR-W			2	W	R	3H-S	2					BR-W		BR-W		BR-W	BL	BR-W	BR-W	
R-G	R-R	R-G										4	BL	O	4R	4			R-G	BR-R									
R-Y	G-G	R-Y										5	W	R	4T	5			R-Y	BR-G									
		R-BK										6	BL	G	—	6			R-BK										
		R-BL	R-R	R-BL		R-BL						7	W	R	4H-S	7			R-BL		R-BL	R-R	R-BL		R-BL		R-BL		
		R-W										9	BL	BR	5R	9			R-W										
		G-Y										10	BR	R	5T	10			G-Y										
		G-BK										3	BL	S	—	3			G-BK										
		G-BL		G-BL		G-BL						8	W	R	5H-S	8			G-BL		G-BL		G-BL		G-BL		G-BL		
		G-W	G-G	G-W		G-W	W			G-W	BR-BK	1	O	BL	G	1	G-W		G-W		G-W	BR-G	G-W		G-W	W	G-W		
												2	W	BK	—	2			Y-BK										
Y-BL	Y-Y	Y-BL	Y-Y	Y-BL	Y-Y	Y-BL	Y-Y	Y-BL	R-G	Y-BL	BR-BL	4	O	O	A	4	Y-BL	BR-BL	Y-BL	BR-BL	Y-BL	BR-BL	Y-BL	BR-BL	Y-BL	BR-BL	Y-BL	R-W	
Y-W	BK-BK	Y-W	BK-BK	Y-W	BK-BK	Y-W	BK-BK	Y-W	R-Y	Y-W	BR-W	5	W	BK	K*	5	Y-W	BR-W	Y-W	BR-W	Y-W	BR-W	Y-W	BR-W	Y-W	BR-W	Y-W	G-Y	
				BK-BL		BK-BL						6	O	G	E1	6			BK-BL	BR-Y	BK-BL	BR-Y	BK-BL	BR-Y	BK-BL	BR-Y	BK-BL	R-G	
				BK-W		BK-W						7	W	BK	E2	7			BK-W	BR-BK	BK-W	BR-BK	BK-W	BR-BK	BK-W	BR-BK	BK-W	R-Y	
				BL-W		BL-W						9	O	S	E3	9					BL-W		BL-W		BL-W		BL-W	R-BK	
				S		S						10	W	BR	E4	10			S		S		S		S		S	R-BL	
				S-R	R-R	S-R	R-R			S-R		3	G	S	CR	3	S-R	BR-Y	S-R		S-R		S-R	BR-R	S-R	BR-R	S-R		
				S-G	G-G	S-G	G-G			S-G		8	W	BK	CT	8	S-G	BR-BK	S-G		S-G		S-G	BR-G	S-G	BR-G	S-G		
				S-Y		S-Y				S-Y		1	G	BL	L1	1	S-Y		S-Y		S-Y		S-Y		S-Y		S-Y		
				S-BK		S-BK				S-BK		2	BR	Y	LG	2	S-BK		S-BK		S-BK		S-BK		S-BK		S-BK		
				S-BL		S-BL				S-BL		4	G	O	L2	4			S-BL		S-BL		S-BL		S-BL		S-BL		
												5	W	Y	—	5													
				S-W		S-W						6	BR	G	L3	6			S-W		S-W		S-W		S-W		S-W		
												7	W	Y	—	7													
												9	BR	BR	L4	9													
												10	W	Y	—	10													
												3	S	S	L5	3			BR										
												8	W	Y	—	8													

★ Where common ringer is not used, connect cord conductor to A.

() Indicate conductors not terminated in set.
Light face indicates spare conductors.

TABLE 1.03 (Contd)

440- AND 460-SERIES KEY TELEPHONE SETS —
KEY CABLES CONNECTING BLOCK TERMINALS,
SET TERMINALS, AND CORD CONDUCTOR COLORS

441FC		441GC		444AC		444EC		444FC		445AC		Dial 1A		Key Cable	Set Conn	Dial 1A		445BC		445CC		445DC		445EC		445FC		445GC						
FA		GA		AA		EG		FG		AA		Dial 1A, 1A1				Manual 1A		BA		CA		DA		EA		FA		GA						
HPPS-E		HPPC-E		PPPP-L		HPPP-L		HPPS-L		PPPP-L-E		Man. 1A, 1A1				Features		Man. 1A, 1A1		PPPS-L-E		PPPC-L-E		PPSC-L-E		HPPP-L-E		HPPS-L-E		HPPC-L-E				
D27A	D16B	D27A	D16B	D19B	D16B	D18G	D18C	D17A	D16B	D28B	D18C	Fab Cord Mod				Vinyl Cord		Vinyl Cord		D27A	D16B	D27A	D16B	D27A	D16B	D27A	D22B	D27A	D20B	D27A	D20B			
R G		R G		R G		R G		R G		R G		1 2		Pair No.	Inside Wiring Color		Term. Desig	44A Block		Term. No.	R G		R G		R G		R G		R G					
Y BK		Y BK		Y BK		Y BK		Y BK		Y BK		4 5			C Type	D Type		44A Block			Y BK		Y BK		Y BK		Y BK		Y BK		Y BK			
BL W		BL W		BL W		Y BK		BL W		BL W		6 7		1	G W		2R 2T	6 7		1	BL W		Y BK		BL W		Y BK		BL W		Y BK			
(BR-R) BR-G		(BR-R) BR-G		(BR-R) BR-G		(BR-R) BR-G		(BR-R) BR-G		BR-R		9 10			2	BR W		— 2H	9 10		2	BR-R BR-G		BR-R BR-G		BR-R BR-G		(BR-R) BR-G		(BR-R) BR-G		(BR-R) BR-G		
BR-Y BR-BK		BR-Y BR-BK		BR-Y BR-BK		BL W		BR-Y BR-BK		BR-Y BR-BK		3 8		3		S W			3R 3T	3 8		3	BR-Y BR-BK		BL W		BR-Y BR-BK		BR-Y BR-BK		BR-Y BR-BK		BR-Y BR-BK	
BR-BL BR-W		BR-BL BR-W		BR-BL BR-W		(BR-BL) BR-W		(BR-BL) BR-W		BR-W		1 2			4	BL W		— 3H-S		1 2			4	BR-BL BR-W		BR-BL BR-W		BR-BL BR-W		BL		(BR-BL) BR-W		(BR-BL) BR-W
R-BL		R-BL		R-G R-Y		BR-R BR-G		R-G R-Y		BR-R BR-G		4 5		5		BL W			O R	4 5		5		R-BL		BR-R		R-BL		R-BL		R-BL		R-BL
G-BL		G-BL		R-W G-Y		R-W G-Y		R-W G-Y		R-W G-Y		6 7			6	BL W		G R		6 7			6	R-BL		BR-R		R-BL		R-BL		R-BL		
G-W		BR-BK		G-W		G-W Y-BK		R-Y		G-W		1 2		7		O-W W			BL BK	1 2		7		G-W		BR-G		G-W		G-W		W BR-W		G-W
Y-BL Y-W		R-BK R-BL		Y-BL Y-W		R-BK R-BL		Y-BL Y-W		R-W G-Y		4 5			8	O-G W		O BK		4 5			8	Y-BL Y-W		R-BK R-BL		Y-BL Y-W		R-BK R-BL		Y-BL Y-W		G-BK G-BL
BK-BL BK-W		BR-BL BR-W		BK-BL BK-W		BR-BL BR-W		BK-BL BK-W		BR-Y BR-BK		6 7		9		O-BR W			G BK	6 7		9		BK-BL BK-W		R-G R-Y		BK-BL BK-W		R-G R-Y		BK-BL BK-W		R-W G-Y
BL-W S		R-G R-Y		BL-W S		R-G R-Y		R-G R-Y		S-R S-G		3 8			10	O-S W		BR BK		9 10			10	BL-W S		BL-W S		BL-W S		G-BK G-BL		BL-W S		BR-BK BR-Y
S-R S-G		S-R S-G		BR-Y BR-BK		BR-Y BR-BK		S-R S-G		S-R S-G		1 2		11		G-W W			S BK	3 8		11		S-R S-G		BR-R BR-G		S-R S-G		BR-R BR-G		S-R S-G		S-R S-G
S-Y S-BK		S-Y S-BK		S-Y S-BK		BR-BK BR-Y		S-Y S-BK		R-Y R-G		1 2			12	G-BR W		BL Y		1 2			12	S-Y S-BK		BR-BK BR-Y		S-Y S-BK		BR-BK BR-Y		S-Y S-BK		R-Y R-G
S-BL		S-BL		S-BL		BR-BL		S-BL		R-BK		4 5		13		G-S W			O Y	4 5		13		S-BL		BR-BL		S-BL		BR-BL		S-BL		R-BK
S-W		S-W		S-W		BR-W		S-W		R-BL		6 7			14	BR-W W		G Y		6 7			14	S-W		BR-W		S-W		S-W		R-BL		S-W
				S-BR		R-G		S-BR		R-BL		9 10		15		BR-S W			BR Y	9 10		15												
								BR				3 8			16	S-W W		S Y		3 8			16											

★ Where common ringer is not used, connect cord conductor to A.
() Indicate conductors not terminated in set.
Light face indicates spare conductors.

**440- AND 460-SERIES KEY TELEPHONE SETS —
KEY CABLES CONNECTING BLOCK TERMINALS,
SET TERMINALS, AND CORD CONDUCTOR COLORS**

TABLE 1.03 (Contd)

460CC		460DC		460GC		460HC		460KC		460LC		Dial IA		Key Cable	Set Conn	Dial IA		461CC		461DC		461GC		461HC		461KC		461LC	
CA		DA		GA		HA		KA		LA		Manual IA				Manual IA		CA		DA		GA		HA		KA		LA	
PPPPPC		PPPPSC		HPPPPP		HPPPPS		HPPPPC		HPPPSC		Features				Features		PPPPPC-E		PPPPSC-E		HPPPPP-E		HPPPPS-E		HPPPPC-E		HPPPSC-E	
D28B	D14A	D28B	D14A	D23C	D22B	D23C	D20B	D35A	D20B	D27A	D18C	Fab Cord Mod	Vinyl Cord			Vinyl Cord	D28B	D16B	D28B	D16B	D35A	D26B	D35A	D24A	D35A	D24A	D35A	D27A	D22B
44A Block		44A Block		44A Block		44A Block		44A Block		44A Block		44A Block		44A Block		44A Block		44A Block		44A Block		44A Block		44A Block		44A Block		44A Block	
Term.	No.	Term.	No.	Term.	No.	Term.	No.	Term.	No.	Term.	No.	Term.	No.	Term.	No.	Term.	No.	Term.	No.	Term.	No.	Term.	No.	Term.	No.	Term.	No.	Term.	No.
Pair No.		Pair No.		Pair No.		Pair No.		Pair No.		Pair No.		Pair No.		Pair No.		Pair No.		Pair No.		Pair No.		Pair No.		Pair No.		Pair No.		Pair No.	
Color		Color		Color		Color		Color		Color		Color		Color		Color		Color		Color		Color		Color		Color		Color	
C Type		C Type		C Type		C Type		C Type		C Type		C Type		C Type		C Type		C Type		C Type		C Type		C Type		C Type		C Type	
D Type		D Type		D Type		D Type		D Type		D Type		D Type		D Type		D Type		D Type		D Type		D Type		D Type		D Type		D Type	
Term. Desig		Term. Desig		Term. Desig		Term. Desig		Term. Desig		Term. Desig		Term. Desig		Term. Desig		Term. Desig		Term. Desig		Term. Desig		Term. Desig		Term. Desig		Term. Desig		Term. Desig	
R	R	R	R	R	R	R	R	R	R	R	R	1	BL	BL	1R	1	R	R	R	R	R	R	R	R	R	R	R	R	
G	G	G	G	G	G	G	G	G	G	G	G	2	W	W	IT	2	G	G	G	G	G	G	G	G	G	G	G	G	
				Y	Y	Y	Y	Y	Y	Y	Y	4	O	O	1B	4					Y	Y	Y	Y	Y	Y	Y	Y	
				BK	BK	BK	BK	BK	BK	BK	BK	5	W	W	1H	5					BK	BK	BK	BK	BK	BK	BK	BK	
BL	Y	BL	Y	BL	BL	BL	BL	BL	BL	BL	BL	6	G	G	2R	6	BL	Y	BL	Y	BL	BL	BL	BL	BL	BL	BL	BL	
W	BK	W	BK	W	W	W	W	W	W	W	W	7	W	W	2T	7	W	BK	W	BK	W	W	W	W	W	W	W	W	
BR-R		BR-R		(BR-R)	(BR-R)	(BR-R)	(BR-R)	(BR-R)	(BR-R)	(BR-R)	(BR-R)	9	BR	BR	—	9	BR-R		BR-R		(BR-R)	(BR-R)	(BR-R)	(BR-R)	(BR-R)	(BR-R)	(BR-R)	(BR-R)	
				BR-G	BR-G	BR-G	BR-G	BR-G	BR-G	BR-G	BR-G	10	W	W	2H	10					BR-G	BR-G	BR-G	BR-G	BR-G	BR-G	BR-G	BR-G	
BR-Y	BL	BR-Y	BL	BR-Y	BR-Y	BR-Y	BR-Y	BR-Y	BR-Y	BR-Y	BR-Y	3	S	S	3R	3	BR-Y	BL	BR-Y	BL	BR-Y	BR-Y	BR-Y	BR-Y	BR-Y	BR-Y	BR-Y	BR-Y	
BR-BK	W	BR-BK	W	BR-BK	BR-BK	BR-BK	BR-BK	BR-BK	BR-BK	BR-BK	BR-BK	8	W	W	3T	8	BR-BK	W	BR-BK	W	BR-BK	BR-BK	BR-BK	BR-BK	BR-BK	BR-BK	BR-BK	BR-BK	
				(BR-BL)	(BR-BL)	(BR-BL)	(BR-BL)	(BR-BL)	(BR-BL)	(BR-BL)	(BR-BL)	1	BL-W	BL	—	1					(BR-BL)	(BR-BL)	(BR-BL)	(BR-BL)	(BR-BL)	(BR-BL)	(BR-BL)	(BR-BL)	
				BR-W	BR-W	BR-W	BR-W	BR-W	BR-W	BR-W	BR-W	2	W	R	3H-S	2					BR-W	BR-W	BR-W	BR-W	BR-W	BR-W	BR-W	BR-W	
R-G	BR-R	R-G	BR-R	R-G	R-G	R-G	R-G	R-G	R-G	R-G	R-G	4	BL-O	O	4R	4	R-G	BR-R	R-G	BR-R	R-G	R-G	R-G	R-G	R-G	R-G	R-G	R-G	
R-Y	BR-G	R-Y	BR-G	R-Y	R-Y	R-Y	R-Y	R-Y	R-Y	R-Y	R-Y	5	W	R	4T	5	R-Y	BR-G	R-Y	BR-G	R-Y	R-Y	R-Y	R-Y	R-Y	R-Y	R-Y	R-Y	
R-BK		R-BK		(R-BK)	(R-BK)	(R-BK)	(R-BK)	(R-BK)	(R-BK)	(R-BK)	(R-BK)	6	BL-G	G	—	6	R-BK		R-BK		(R-BK)	(R-BK)	(R-BK)	(R-BK)	(R-BK)	(R-BK)	(R-BK)	(R-BK)	
R-BL		R-BL		R-BL	R-BL	R-BL	R-BL	R-BL	R-BL	R-BL	R-BL	7	W	R	4H-S	7	R-BL		R-BL		R-BL	R-BL	R-BL	R-BL	R-BL	R-BL	R-BL	R-BL	
R-W	BR-Y	R-W		R-W	R-W	R-W		R-W				9	BL-BR	BR	5R	9	R-W	BR-Y	R-W		R-W	R-W	R-W		R-W				
G-Y	BR-BK	G-Y		G-Y	G-Y	G-Y		G-Y				10	W	R	5T	10	G-Y	BR-BK	G-Y		G-Y	G-Y	G-Y		G-Y				
G-BL		G-BL	BR-Y	G-BK	(G-BK)	G-BK	R-W	G-BK		G-BL		3	BL-S	S	—	3	G-BL		G-BL	BR-Y	(G-BK)	(G-BK)	G-BK	R-W	G-BK				
				G-BL	G-BL	G-BL		G-BL				8	W	R	5H-S	8					G-BL	G-BL	G-BL		G-BL				
G-W		G-W	BR-BK	G-W		G-W	G-Y	G-W		G-W	R-Y	1	O-W	BL	G	1	G-W		G-W	BR-BK	G-W		G-W	G-Y	G-W				
Y-BK		Y-BK										2	W	BK	—	2	Y-BK		Y-BK		Y-BK		Y-BK		Y-BK				
Y-BL	R-G	Y-BL	R-G	Y-BL	G-W	Y-BL	G-BK	Y-BL	G-BK	Y-BL	R-W	4	O-G	O	A	4	Y-BL	R-BK	Y-BL	R-BK	Y-BL	BK-W	Y-R	Y-R	Y-BL	Y-BL	Y-BL	G-W	
Y-W	R-Y	Y-W	R-Y	Y-W	Y-BK	Y-W	G-BL	Y-W	G-BL	Y-W	G-Y	5	W	BK	K*	5	Y-W	R-BL	Y-W	R-BL	Y-W	BL-W	Y-W	Y-W	Y-W	Y-W	Y-W	Y-BK	
BK-BL		BK-BL						BK-BL		BK-BL		6	O-BR	G	E1	6	BK-BL		BK-BL		BK-BL	G-W	BK-BL	G-BK	BK-BL	G-BK	BK-BL	R-W	
BK-W		BK-W						BK-W		BK-W		7	W	BK	E2	7	BK-W	R-Y	BK-W	R-Y	BK-W	Y-BK	BK-W	G-BL	BK-W	G-BL	BK-W	G-Y	
								BL-W		BL-W		9	O-S	BR	E3	9					BL-W	Y-BL	BL-W	G-W	BL-W	G-W	BL-W	G-BK	
								S		S		10	W	BK	E4	10					S	Y-W	S	Y-BK	S	Y-BK	S	G-BL	
S-R	BR-BL	S-R	BR-BL					S-R	R-W	S-R	R-BK	3	G-W	S	CR	3	S-R	BR-BL	S-R	BR-BL	S-R		S-R		S-R	R-W	S-R	R-BK	
S-G	BR-W	S-G	BR-W					S-G	G-Y	S-G	R-BL	8	W	BK	CT	8	S-G	BR-W	S-G	BR-W	S-G		S-G		S-G	G-Y	S-G	R-BL	
S-Y		S-Y						S-Y		S-Y		1	G-BR	BL	L1	1	S-Y		S-Y		S-Y		S-Y		S-Y		S-Y		
S-BK		S-BK						S-BK		S-BK		2	W	Y	LG	2	S-BK		S-BK		S-BK		S-BK		S-BK		S-BK		
S-BL		S-BL						S-BL		S-BL		4	G-S	O	L2	4	S-BL		S-BL		S-BL		S-BL		S-BL		S-BL		
												5	W	Y	—	5													
S-W		S-W						S-W		S-W		6	BR-W	G	L3	6	S-W		S-W		S-W		S-W		S-W		S-W		
												7	W	Y	—	7													
S-BR		S-BR						S-BR				9	BR-S	BR	L4	9	S-BR		S-BR		S-BR		S-BR		S-BR		S-BR		
												10	W	Y	—	10													
BR		BR						BR				3	S-W	S	L5	3	BR		BR		BR		BR		BR		BR		
												8	W	Y	—	8													

★ Where common ringer is not used, connect cord conductor to A.
() Indicate conductors not terminated in set.
Light face indicates spare conductors.

**440- AND 460-SERIES KEY TELEPHONE SETS —
KEY CABLES CONNECTING BLOCK TERMINALS,
SET TERMINALS, AND CORD CONDUCTOR COLORS**

Pair No.	Key Cable		Set Conn	Dial IA		460MC	461MC	464MC	465MC	460NC	461NC	465NC							
	Inside Wiring			Dial IA, IAI	460MC	461MC	464MC	465MC	460NC	461NC	465NC								
	Color			Manual IA	460MC	461MC	464MC	465MC	460NC	461NC	465NC								
	C Type	D Type		Man. IA, IAI	460MC	461MC	464MC	465MC	460NC	461NC	465NC								
				Features	HPPSS	HPPSS-E	HPPSS-L	HPPSS-L-E	HPPSS	HPPSS-E	HPPSS-L-E								
Term. Desig	Term. No.	Fab Cord Mod	D23C	D27A	D25B	D27A	D23C	D27A	D27A										
1	BL W	BL W	IR IT	1 2	1	R G	R G	R G	R G	R G									
2	O W	O W	IB IH	4 5		Y BK	Y BK	Y BK	Y BK	Y BK	Y BK								
3	G W	G W	2R 2T	6 7		BL W	BL W	BL W	BL W	BL W	BL W								
4	BR W	BR W	— 2H	9 10		(BR-R) BR-G	(BR-R) BR-G	(BR-R) BR-G	(BR-R) BR-G	(BR-R) BR-G	(BR-R) BR-G								
5	S W	S W	3R 3T	3 8		BR-Y BR-BK	BR-Y BR-BK	BR-Y BR-BK	BR-Y BR-BK	BR-Y BR-BK	BR-Y BR-BK								
6	BL-W W	BL R	— 3H-1S	1 2		(BR-BL) BR-W	BR-BL BR-W	BR-Y BR-W	BR-BL BR-W	BR-Y BR-W	BR-BL BR-W	BR-Y BR-W							
7	BL-O W	O R	4R 4T	4 5		R-G R-Y				R-G R-Y				R-G R-Y					
8	BL-G W	G R	— 1S-2S	6 7		R-BK R-BL	R-G R-BL	R-BL R-G	R-G R-BL	R-BK R-BL	R-W R-BL	R-BL R-G	R-G R-BL	R-BK R-BL	BR-BL R-BL	R-BL BR-BL	R-BL BR-BL	R-BL BR-BL	R-BL BR-BL
9	BL-BR W	BR R	5R 5T	9 10		R-W G-Y								R-W G-Y					
10	BL-S W	S R	— 2S-3S	3 8		G-BK G-BL	R-BK G-BL	G-BL R-BK	R-BK G-BL	G-BL G-BK	G-BL R-BK	R-BK G-BL	G-BL G-BL	G-BK G-BL	BR-W G-BL	G-BL BR-W	G-BL BR-W	G-BL BR-W	G-BL BR-W
11	O-W W	BL BK	G —	1 2	G-W R-BL	R-Y R-BL	G-W R-BL	R-Y R-BL	G-W G-BL	G-W R-BL	R-Y R-BL	G-W R-BL	BR-BK G-W	G-W BR-BK	G-W BR-BK	G-W BR-BK	G-W BR-BK	G-W BR-BK	
12	O-G W	O BK	A K*	4 5	Y-BL Y-W	R-W G-Y	Y-BL Y-W	G-W Y-BK	Y-BL Y-W	G-W Y-BK	Y-BL Y-W	BK-W BL-W	Y-BL Y-W	R-G R-Y	Y-BL Y-W	R-W G-Y	Y-BL Y-W	G-W Y-BK	
13	O-BR W	G BK	E1 E2	6 7			BK-BL BK-W	R-W G-Y			BK-BL BK-W	R-W G-Y			BK-BL BK-W	R-G R-Y	BK-BL BK-W	R-W G-Y	
14	O-S W	BR BK	E3 E4	9 10			BL-W S	G-BK G-BL			BL-W S	G-BK G-BL			BL-W S	R-BK R-BL	BL-W S	G-BK G-BL	
15	G-W W	S BK	CR CT	3 8			S-R S-G				S-R S-G				S-R S-G		S-R S-G		
16	G-BR W	BL Y	L1 LG	1 2			S-Y S-BK		S-Y S-BK	R-Y R-G	S-Y S-BK	Y-BK G-W			S-Y S-BK		S-Y S-BK	R-Y R-G	
17	G-S W	O Y	L2 —	4 5			S-BL		S-BL	R-BK	S-BL	Y-BL			S-BL		S-BL	R-BK	
18	BR-W W	G Y	L3 —	6 7	4		S-W		S-W	R-BL	S-W	Y-W			S-W		S-W		
19	BR-S W	BR Y	L4 —	9 10					S-BR										
20	S-W W	S Y	L5 —	3 8															

★ Where common ringer is not used, connect cord conductor to A.
() Indicate conductors not terminated in set.
Light face indicates spare conductors.

440- AND 460- SERIES KEY TELEPHONE SETS —
KEY CABLES CONNECTING BLOCK TERMINALS,
SET TERMINALS, AND CORD CONDUCTOR COLORS

Pair No.	Key Cable		Set Conn	Dial IA		464GC		464HC		465CC		465DC		465GC		465HC		465KC		465LC	
	Inside Wiring			Dial IA, IAI	GG		HG						GG		HG		KG		LG		
	Color			Manual IA	GA		HA		CA		DA		GA		HA		KA		LA		
	C Type	D Type		Man. IA, IAI	GE		HE						GE		HE		KE		LE		
Term. Desig	Term. No.	Features		HPPPPP-L		HPPPPS-L		PPPPPC-L-E		PPPPSC-L-E		HPPPPP-L-E		HPPPPS-L-E		HPPPPC-L-E		HPPPPS-L-E			
		Fab Cord Mod		D29A		D26B		D22B		D22B		D32A		D29A		D29A		D26B			
		Vinyl Cord		D28C		D25B		D28B		D28B		D35A		D35A		D35A		D27A			
44A Block		Term. No.																			
1	BL W	BL W	IR IT	1 2	R G	R G	R G	R G	R G	R G	R G	R G	R G	R G	R G	R G	R G	R G	R G	R G	
2	O W	O W	IB IH	4 5	Y BK	Y BK	Y BK	Y BK					Y BK								
3	G W	G W	2R 2T	6 7	BL W	BL W	BL W	BL W	BL W	Y BK	BL W	Y BK	BL W								
4	BR W	BR W	— 2H	9 10	(BR-R) BR-G	(BR-R) BR-G	(BR-R) BR-G	(BR-R) BR-G	BR-R		BR-R		(BR-R) BR-G								
5	S W	S W	3R 3T	3 8	BR-Y BR-BK	BR-Y BR-BK	BR-Y BR-BK	BR-Y BR-BK	BR-Y BR-BK	BL W	BR-Y BR-BK	BL W	BR-Y BR-BK								
6	BL-W W	BL R	— 3H-S	1 2	(BR-BL) BR-W	(BR-BL) BR-W	(BR-BL) BR-W	(BR-BL) BR-W					(BR-BL) BR-W								
7	BL-O W	O R	4R 4T	4 5	R-G R-Y	R-G R-Y	R-G R-Y	R-G R-Y	R-G R-Y	BR-Y BR-BK	R-G R-Y	BR-Y BR-BK	R-G R-Y								
8	BL-G W	G R	— 4H-S	6 7	(R-BK) R-BL	(R-BK) R-BL	(R-BK) R-BL	(R-BK) R-BL	R-BK R-BL		R-BK R-BL		(R-BK) R-BL	R-BL R-G							
9	BL-BR W	BR R	5R 5T	9 10	R-W G-Y	R-W G-Y			R-W G-Y	R-G R-Y	R-W G-Y		R-W G-Y	R-W G-Y	R-W G-Y		R-W G-Y				
10	BL-S W	S R	— 5H-S	3 8	(G-BK) G-BL	(G-BK) G-BL	G-BL	R-W	G-BL		G-BL	G-BL	(G-BK) G-BL	(G-BK) G-BL	G-BK G-BL	G-W	G-BK G-BL		G-BL		
11	O-W W	BL BK	G —	1 2		Y-BK	G-W	G-Y G-BK	G-W Y-BK		G-W Y-BK	G-BK R-BL	G-W		G-W	Y-BK	G-W		G-W	R-Y	
12	O-G W	O BK	A K*	4 5	Y-BL Y-W	Y-BL Y-W	Y-BL Y-W	BK-W BL-W	Y-BL Y-W	G-BK G-BL	Y-BL Y-W	G-W Y-BK	Y-BL Y-W	BK-W BL-W	Y-BL Y-W	Y-BL Y-W	Y-BL Y-W	Y-BL Y-W	Y-BL Y-W	Y-BL Y-W	
13	O-BR W	G BK	E1 E2	6 7				BK-BL BK-W	G-W Y-BK	BK-BL BK-W	R-W G-Y	BK-BL BK-W	G-W Y-BK	BK-BL BK-W	R-W G-Y	BK-BL BK-W	R-W G-Y	BK-BL BK-W	R-W G-Y	BK-BL R-W	
14	O-S W	BR BK	E3 E4	9 10									BL-W S	Y-BL Y-W	BL-W S	G-BK G-BL	BL-W S	G-BK G-BL	BL-W S	G-BK G-BL	
15	G-W W	S BK	CR CT	3 8				S-R S-G	R-W G-Y	S-R S-G	R-G R-Y	S-R S-G		S-R S-G		S-R S-G		S-R S-G	G-W Y-BK	S-R S-G	
16	G-BR W	BL Y	L1 LG	1 2	S-Y S-BK	BL-W BK-W	S-Y S-BK	Y-BK G-W	S-Y S-BK	BR-G BR-R	S-Y S-BK	BR-G BR-R	S-Y S-BK	S BK-BL	S-Y S-BK	BL-W BK-W	S-Y S-BK	BL-W BK-W	S-Y S-BK	Y-BK G-W	
17	G-S W	O Y	L2 —	4 5	S-BL	BK-BL	S-BL	Y-BL	S-BL	BR-BL	S-BL	BR-BL	S-BL	BR-S	S-BL	BK-BL	S-BL	BK-BL	S-BL	Y-BL	
18	BR-W W	G Y	L3 —	6 7	S-W	S	S-W	Y-W	S-W	BR-W	S-W	BR-W	S-W	R-S	S-W	S	S-W	S	S-W	Y-W	
19	BR-S W	BR Y	L4 —	9 10	S-BR	S-BR	S-BR	G-BL	S-BR	R-BK	S-BR	R-BK	S-BR	G-S	S-BR	BR-S	S-BR	BR-S	S-BR		
20	S-W W	S Y	L5 —	3 8	BR	G-W			BR	R-BL	BR		BR	Y-S	BR		BR				

★ Where common ringer is not used, connect cord conductor to A.
() Indicate conductors not terminated in set.
Light face indicates spare conductors.

(Table 1.03 Continued on Page 24)

440- AND 460-SERIES KEY TELEPHONE SETS —
KEY CABLES CONNECTING BLOCK TERMINALS,
SET TERMINALS, AND CORD CONDUCTOR COLORS

Key Cable		Set Conn	Dial IA		460EC	461EC	465EC	
			Manual IA	EA	EA	EA		
Features		PPSSS		PPSSS-E	PPSSS-L-E			
Pair No.	Inside Wiring		Term. Desig	Fab Cord Mod		D12A	D14A	D18C
	Color			Vinyl Cord	D23C	D28B	D28B	
C Type	D Type	44A Block	44A Block					
		Term.	Term.	No.				
1	BL W	BL W	IR IT	1 2	R G	R G	R G	R G
2	O W	O W		4 5	Y BK			
3	G W	G W	2R 2T	6 7	BL W	Y BK	BL W	Y BK
4	BR W	BR W		9 10	BR-R BR-G		BR-R	
5	S W	S W	3R 3T	3 8	BR-Y BR-BK	BL W	BR-Y BR-BK	BL W
6	BL W	BL R		1 2	BR-BL BR-W			
7	BL W	O R	4R 4T	4 5	R-G R-Y		R-G R-Y	
8	BL W	G R		+				
23	G R	G V	3S IS	6 7	R-BK R-BL	BR-BK BR-R	R-BK R-BL	BR-W BR-Y
9	BL W	BR R	5R 5T	9 10	R-W G-Y		R-W G-Y	
10	BL W	S R	2S	3 8	G-BK G-BL	BR-Y	G-BL	BR-BL
11	O W	BL BK	G —	1 2	G-W	BR-G	G-W Y-BK	BR-BK
12	O W	O BK	A K*	4 5	Y-BL Y-W	BR-BL BR-W	Y-BL Y-W	R-W G-Y
13	O W	G BK	E1 E2	6 7		BK-BL BK-W	BR-BL BR-W	BK-BL R-BL
14	O W	BR BK		9 10				
15	G W	S BK		3 8		S-R S-G	S-R S-G	
16	G W	BL Y	L1 LG	1 2		S-Y S-BK	S-Y S-BK	BR-G R-G
17	G W	O Y	L2 —	4 5		S-BL	S-BL	BR-R
18	BR W	G Y	L3 —	6 7		S-W	S-W	R-Y
19	BR W	BR Y	L4 —	9 10		S-BR	S-BR	
20	S W	S Y	L5 —	3 8		BR	BR	

Key Cable		Set Conn	Dial IA		460AC	460BC	461AC	461BC	465AC	465BC	
			Manual IA	AA	BA	AA	BA	AA	BA		
Features		PPPPP		PPPPPS	PPPPPS-E	PPPPPS-L-E	PPPPPS-L-E	PPPPPS-L-E			
Pair No.	Inside Wiring		Term. Desig	Fab Cord Mod		D14A	D14A	D16B	D16B	D23A	D22B
	Color			Vinyl Cord	D19B	D23C	D28B	D28B	D28B	D28B	D28B
C Type	D Type	44A Block	44A Block								
		Term.	Term.	No.							
1	BL W	BL W	IR IT	1 2	R G						
2	O W	O W		4 5		Y BK					
3	G W	G W	2R 2T	6 7	BL W	Y BK	BL W	Y BK	BL W	Y BK	BL W
4	BR W	BR W	+	+							
24	BR R	BR V	L6 —	9 10			BR-R BR-G		BR-R		BR-R Y-BL
5	S W	S W	3R 3T	3 8	BR-Y BR-BK	BL W	BR-Y BR-BK	BL W	BR-Y BR-BK	BL W	BR-Y BR-BK
6	BL W	BL R		1 2			BR-BL BR-W				
7	BL W	O R	4R 4T	4 5	R-G R-Y		R-G R-Y		R-G R-Y	BR-Y BR-BK	R-G BR-Y
8	BL W	G R		+							
23	G R	G V	S	6 7			R-BK R-BL	BR-BL	R-BK R-BL	BR-BL	R-BK R-BL
9	BL W	BR R	5R 5T	9 10	R-W G-Y	BR-Y BR-BK	R-W G-Y	BR-Y BR-BK	R-W G-Y	BR-Y BR-BK	R-G R-Y
10	BL W	S R		3 8	G-BK G-BL		G-BL		G-BL		G-BL
11	O W	BL BK	G —	1 2+	G-W	BR-W		G-W Y-BK	BR-W		G-W Y-BK
22	O R	O V	6R 6T	1 2	G-W Y-BK	BR-BL BR-W		G-W Y-BK	BR-BL BR-W		G-W Y-BK
12	O W	O BK	A K*	4 5	Y-BL Y-W	R-G R-Y	Y-BL Y-W	R-BK R-BL	Y-BL Y-W	R-BK R-BL	G-BK G-BL
13	O W	G BK	E1 E2	6 7				BK-BL BK-W	R-G R-Y	BK-BL BK-W	G-W Y-BK
14	O W	BR BK		9 10							
15	G W	S BK		3 8			S-R S-G	S-R S-G	S-R S-G	S-R S-G	S-R S-G
16	G W	BL Y	L1 LG	1 2	S-Y S-BK		S-Y S-BK	S-Y S-BK	S-Y S-BK	BR-G BR-R	S-Y S-BK
17	G W	O Y	L2 —	4 5	S-BL		S-BL	S-BL	S-BL	BR-BL	S-BL
18	BR W	G Y	L3 —	6 7	S-W		S-W	S-W	S-W	BR-W	S-W
19	BR W	BR Y	L4 —	9 10	S-BR		S-BR	S-BR	S-BR	R-BK	S-BR
20	S W	S Y	L5 —	3 8			BR		BR		BR R-BL

* Where common ringer is not used, connect cord conductor to A.
+ Key cable pairs 22, 23, and 24 are used to maintain standardization of color for feature assignment.
Light face indicates spare conductors.