STATION SYSTEMS

KEY TELEPHONE SYSTEM NO. 1A KEY AND TELEPHONE CIRCUIT ARRANGED FOR PICKUP AND HOLDING ON ONE CENTRAL OFFICE OR PBX LINE AND PICKUP ON 3 PRIVATE OR INTERCOMMUNICATING LINES WITH COMMON SIGNALING KEY

0. CHANGES

0.1 CHANGED AND ADDED FUNCTIONS

None.

0.2 CHANGES IN APPARATUS

Superseded Cord	Superseded by Cord	Used in Telephone Set
D20B	D35A	460JA, JB, JC
D24A	D35A	461JA, JB, JC
D29A	D35A	465JA, JC

0.3 CHANGES IN CIRCUIT REQUIREMENTS
(Not Associated with 0.2 Above)

None.

0.4 **DESCRIPTION OF CIRCUIT CHANGES**

(a) The table in Note 101 has been modified to provide for the connection of vinyl-jacketed cords.

(b) Note 307 is expanded to cover termination of spare conductors at both ends.

1. PURPOSE OF CIRCUIT

This circuit provides a means for associating the talking and dialing circuit of a station with a number of central office, PBX, private, or intercommunicating lines of a Key Telephone System No. 1A by means of pickup keys. It also provides for holding a bridge on one central office or PBX line, excluding other stations, and for signaling intercommunicating stations or pricate line stations.

2. WORKING LIMITS

None.

3. FUNCTIONS

3.1 CENTRAL OFFICE OR PBX LINES

This circuit provides for:

(a) Picking up one central office or PBX line.
(b) Holding one central office or PBX line.
(c) Dialing.
(d) An audible signal on incoming calls.
(e) An exclusion key which may be operated when the handset is off the mounting to disconnect one or more extension stations from the first line, and which will be restored to normal when the handset is replaced on the mounting.

3.2 PRIVATE OR INTERCOMMUNICATING LINES

This circuit provides for:

(a) Picking up any of three private lines.
(b) Signaling a private line station.
(c) Picking up any of three intercommunicating lines.
(d) Signaling an intercommunicating station.

4. CONNECTING CIRCUITS

When this circuit is listed on the key sheet, the connecting information thereon is to be followed. The following are typical connecting circuits:

(a) Line and signaling circuit of Key Telephone System No. 1A.
(b) Key telephone circuit of Key Telephone System No. 1A.

5. DESCRIPTION OF OPERATION

5.01 ANSWERING OR ORIGINATING A CALL

To answer or originate a call, the pickup key associated with the desired line must be operated. When the pickup key is operated and the handset removed from the mounting, the station is connected to the central office, PBX, private, or intercommunicating line in the usual manner. When originating a call on a private line or intercommunicating line, it will be necessary to operate the signaling key to signal the called party except when the intercommunicating automatic signaling circuit is used for intercommunicating service.

5.02 DIALING

In the case of an outgoing call that requires dialing, the dial is operated in the usual manner.

5.03 EXCLUSION

The exclusion key is only associated with the first line. When it is desired to exclude other stations from this line, the exclusion key is operated. This opens the line to all excluded stations. When the handset is replaced on the mounting at the end of the call, the exclusion key is automatically restored to normal reconnecting the excluded stations to the line.

If it is desired to flash the operator while the exclusion key is in the operated position, the mounting plunger which is not associated with the exclusion key is operated in the usual manner for flashing. This does not disturb the position of the exclusion key.

5.04 RINGER IN SET

The ringer in the set may be used either as a line ringer or a common ringer. When it is used as a line ringer, it will operate on all incoming calls on the line with which the ringer is associated when ringing current is applied to the line at the central office or PBX. When it is used as a common ringer, it will operate when the ringing current is applied to any line at the central office or PBX with which the common ringer is associated.

5.05 BUZZER IN SET

The installer may replace the ringer that is provided in the key telephone set by a buzzer mounted on a 36A bracket. In this case the buzzer may be used as a signal common to the PBX or central office line and the private and intercommunicating lines.

5.06 HOLDING

Line 1 may be held by the operation of the hold key in the telephone set. The hold key, when operated, opens the

operating patch for the (L) relay, shown on the line and signaling circuit of the Key Telephone System No. 1A releasing it, and closes a circuit for operating the (H) relay also shown on the line and signaling circuit, through its primary winding in series with the central office or PBX loop and station telephone set. When the (H) relay operates, its holding tertiary winding will be connecting across the line in series with its noninductive quarternary winding and in parallel with its primary winding. When the hold key is released, the operated pickup key will release, the operating primary winding circuit of the (H) relay will be opened, the (H) relay will be held operated by its tertiary winding, and the set will be disconnected from the line.

5.07 TRANSFERRING CALLS

If the call is to be transferred to another station and an intercommunicating line is provided, the line is held as described in 5.06. The pickup key associated with the intercommunicating line is then operated and the desired station is reached over the intercommunicating line described in 5.09. The transferred call is picked up at the second station by operating the pickup key associated with the desired line. In case the call is to be transferred to a station which does not have intercommunicating service, it is necessary to employ some other means of communication with the desired station.

5.08 SIGNALING ON PRIVATE LINE

To signal on a private line the pickup key associated with the private line must be operated. The signaling key is then operated which operates the (PL) relay in the line and signaling circuit. This connects ringing current to the line to signal the distant end of the private line.

5.09 INTERCOMMUNICATING SIGNALING

The intercommunicating signaling arrangement of Key Telephone System No. 1A provides for both code and selective signaling. When code signaling alone is employed, the operation of the signal key in the telephone set will operate all the buzzers of the system directly. When selective signaling alone is employed, a separately mounted 549A key or equivalent shown on the line and signaling circuit is required and the operation of any signal key will operate the desired buzzer. When both code and selective signaling are required at any station, it will be necessary to provide a relay shown on the line and signaling circuit which will operate whenever a signaling key is operated to operate the buzzer on a code signaling basis. The operation of a signaling key to signal on a selective basis is provided for by connecting the signaling leads directly to the buzzer leads without operating the relay. When the intercommunicating auto-

matic signaling circuit is used in connecting with an intercommunicating line, the buzzer at the called station operates when the handset at the calling station is removed from the mounting. The pickup key associated with the intercommunicating line must be operated to operate the buzzer when the signal key in the set is operated.

5.10 PURPOSE OF THE TABLE UNDER NOTE 101

The table provides the information necessary for selecting the proper key telephone set required for a given type of service. It also provides the informataion required to make the necessary wiring changes at the terminals in the set to secure certain optional features.

The table shows the key top diagram of the key, the code number of the sets, and the code number of the cords used with the sets. It also shows the color of the cord conductors and the terminals in the set to which these conductors terminate. The notes associated with the table explain the variation in connections that is employed to secure the combination of features.

5.11 61P FILTER AND 152A CAPACITOR

The 61P filter is used to suppress radio induction from the dial and is furnished only when specified. The 152A capacitor is also furnished only when specified and is used to suppress radio induction from the 7-type buzzer when it is operated on direct current.

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