

7A ANNOUNCEMENT SYSTEM

MACHINE INTERCEPT

GENERAL DESCRIPTIVE INFORMATION

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1. GENERAL

A. Purpose

1.01 This section describes the 7A announcement system which is used to provide recorded announcements in various intercept situations. Some of the typical uses of the 7A announcement system are for vacant number, overflow, vacant selector levels, or insufficient deposit announcement for dial-tone-first calls. System arrangements are provided for panel, step-by-step, No. 1, No. 5, and No. 5A crossbar offices. Announcements of the type required for each situation are automatically reproduced on a call demand basis. Provisions for transfer to operator, and for alarm on voice failure are optionally provided.

1.02 This section is reissued because of the increased number of applications using the 7A announcement system. Originally, the 7A announcement system was intended for machine intercept applications in small step-by-step and No.

5 crossbar offices. Its use has since been expanded to include other applications in these and also panel, No. 1 and No. 5A crossbar offices. The use of the 7A announcement system in these offices should be limited to "light duty" applications which require an announcement to be reproduced only a limited number of hours each day.

This section is also updated to contain information on the optional controlled transfer to operator features, voice alarm features and information on its use for dial-tone-first coin intercept, all of which are now provided.

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

B. System Arrangements

1.03 General: The 7A announcement system may be arranged, by the use of appropriate connecting circuits, to operate with any of the following type central offices: panel; step-by-step; No. 1, No. 5, and No. 5A crossbar.

1.04 7A announcement system: The basic 7A announcement system (Fig. 1) includes the KS-16765 L3 recorder and the KS-16765 L4 or L6 amplifier which together make up the KS-16765 L2 announcement set (SD-95283-01) (Fig. 1 and 10). The announcement set and the KS-16754 L4 (SD-95281-01) or KS-20449 L1 (SD-99531-01) amplifier (Fig. 1 and 9) in turn comprise the system. The addition of the proper connecting circuits for the particular application then provides the connecting system.

1.05 The various applications of the 7A announcement system are shown in Fig. 2 through 8.

2. METHODS AND PRINCIPLES OF OPERATION

2.01 By means of cross-connections, calls to changed, unassigned, or disconnected numbers and vacant selector levels are routed to intercept

trunks. In offices equipped for dial-tone-first operation, coin calls with insufficient initial deposits are routed to intercept trunks arranged for dial-tone-first operation. Overflow calls are routed to overflow trunks. These trunks, when seized, provide an automatic start for the announcement set and connect the intercepted or overflow call to the set. Auxiliary trunks arranged to restrict service also provide this start and connection feature when the call placed over the trunk circuit is such as to be denied service. A recorded announcement of the proper type is reproduced for the calling customer. The recorded announcement may be checked locally by means of a control key and telephone set jack located on the announcement set.

2.02 The system will service more than one call at a time depending on the number of connecting trunk circuits provided with a particular installation. The announcement set does not run continuously and the first call connected to the set will begin the reproduce cycle. Additional calls may break in on the announcement at a random point or may optionally wait until the beginning of the next announcing cycle. In some cases, such as the insufficient deposit announcement for dial-tone-first, audible ringing is provided for the customer from cut-through until the beginning of the announcement cycle. The maximum duration of a recording is two minutes (optional 3 minutes). The reproduction cycle, however, is automatically controlled by the actual length of the recording.

2.03 When intercepting trunk circuits are not provided with a controlled transfer to operator feature (SXS or No. 5 crossbar) or disconnect from announcement feature (No. 1 crossbar), as long as an intercepted call is connected to the system, the set will recycle at the end of an announcement and begin another reproduction. The set will continue to run as long as an intercepted call is connected to the set. When the last customer connected to the set disconnects, the system will begin the recycling process regardless of the point in the announcement at which this occurs, will return to the starting point, and come to rest awaiting a new call.

2.04 When intercepting trunk circuits are equipped with transfer to operator feature, the intercepted call will be transferred to an operator. In SXS this is accomplished after one or two complete announcement cycles. This will provide

a minimum of two or a maximum of four announcements, since in SXS with transfer to operator feature, two identical messages are recorded in sequence for each announcement cycle. In No. 5 crossbar the transfer is made after one or two complete announcement cycles (one or two messages). When the transfer to an operator is made, the start and transmission paths to the set are broken; if no other calls are connected at this time, the set will restore to normal. In the case of the insufficient deposit announcement for dial-tone-first (in No. 1 or No. 5 crossbar), the intercepted call is released in every case after two complete announcement cycles. The released customer is reverted to a new dial tone connection and may now redial. With the same type of call in a step-by-step office the customer is disconnected from the announcement set in two to four minutes.

2.05 In applications where the voice alarm feature is provided, the voice alarm circuit monitors the announcement bus for presence of voice during the announcement cycle. If voice is absent from the announcement bus for a period of time as determined by timing options, the voice alarm circuit will:

- (a) Activate a major alarm
- (b) Signal the intercept trunk circuits to transfer to operator or optionally connect reorder tone to the announcement bus if no transfer to operator feature is provided.

The alarm may be released either at the voice alarm and control circuit or from a remote location via the alarm sending circuit.

2.06 A key is provided at the voice alarm circuit to take the announcement set out of service. When this key is operated, the circuit functions in the same manner as when a voice failure occurs except that no alarm is activated. A lamp on the unit is provided to indicate when the circuit is out of service.

2.07 A telephone set is provided whereby recordings may be erased and new announcements recorded, as required, by an operator either under local or remote control. Play back monitoring features allow the operator to check the new recordings for satisfactory quality.

3. EQUIPMENT ELEMENTS

A. Trunks (Intercept, Overflow, or Auxiliary)

3.01 All the connecting trunks to the 7A announcement system perform the same basic operations. When seized by an intercepted, overflow, or restricted service call, they provide an automatic start of the recorder and connect the call to the announcement system. As many calls may be serviced simultaneously as there are connecting trunk circuits provided. The system is designed to prevent conversations between parties simultaneously connected to the announcement set.

3.02 The various type connecting trunk circuits shown in Fig. 2 through 8 have operational differences relating to the 7A announcement system as follows.

Fig. 2—Vacant code or overflow trunk circuit for panel or No. 1 crossbar offices

Immediate cut-through to announcement.

No automatic disconnect.

Fig. 3—Announcement trunk for dial-tone-first coin calls in No. 1 crossbar offices

Audible ring before announcement cycle.

Cut in on beginning of announcement cycle.

Automatic disconnect after two announcement cycles.

Fig. 4—Step-by-step intercept trunk-without transfer to operator

Immediate cut-through to announcement.

No automatic disconnect.

Fig. 5—Step-by-step intercept trunk, with controlled transfer to operator

Immediate cut-through to announcement.

Transfer to operator after a minimum of two and a maximum of four announcements. One or two cycles. (See 2.04)

Fig. 6—Step-by-step auxiliary trunk to restrict service

Immediate cut-through to announcement.

Transfer to operator after a minimum of two and a maximum of four announcement cycles.

Fig. 7—Step-by-step announcement for dial-tone-first coin calls

Immediate cut-through to announcement.

Timed release from announcement after 2 to 4 minutes.

Fig. 8—Intercept trunk—for No. 5 or No. 5A crossbar offices

Immediate cut-through to announcement or optional cut-through at beginning of announcement cycle.

Transfer to operator after one or two announcement cycles.

When used to provide the dial-tone-first coin call announcement, the connection to the announcement is disconnected after two complete announcement cycles and the customer is reverted to dial tone.

3.03 With these trunks, it is possible to serve calls from any of the following sources:

Panel

(a) Intercept calls or overflow calls from panel district selectors or office selectors

No. 1 Crossbar

(b) Intercept calls or overflow calls from office link

No. 5 or No. 5A Crossbar

(c) Intercept calls from the line link or trunk link and dial-tone-first calls from the trunk link

Step-by-Step

- (d) Vacant terminal per station connector terminals
- (e) Vacant terminal per line connector terminals
- (f) Vacant stations of terminal per line connector terminals when an intercept trunk is provided to identify a particular party on a multiparty line.
- (g) Vacant levels of local selectors
- (h) Vacant levels of toll selectors including toll-preceding-type switches
- (i) Vacant levels of intertoll selectors
- (j) Auxiliary trunks arranged to restrict service.

B. Voice Alarm

3.04 The voice alarm circuits Fig. 2 through 6 and 8 are furnished on an optional basis. The voice alarm circuits provide for detection of absence of voice on the announcement bus. If voice is absent for a specified time period during the announcement cycle, alarms are activated. Provisions are made for connections to central office alarm systems. An alarm indication at the alarm circuit may also be provided. The voice alarm circuit may optionally activate transfer to operator features and return reorder tone to the intercepted call via the connecting trunk circuit.

C. System Announcement Facilities

3.05 The 7A announcement system includes the KS-16765 L2 announcement set and the KS-16754 L4 or KS-20449 L1 amplifier mounted together on a KS-16765 L7 mounting bracket. The apparatus can be mounted on a 23-inch relay rack occupying 10 inches of vertical space (see Fig. 9).

3.06 The KS-16765 L2 announcement set consists of a power supply, control circuitry, a KS-16765 L3 recorder, and a KS-16765 L4 or L6 amplifier (see Fig. 10).

3.07 The recorder contains a drive motor, magnetic recording drum and head, erase coil, control solenoid, and various switches. The recorder is capable of producing a recording having a maximum duration of 2 minutes (optional 3 minutes). The

extended 3-minute announcement cycle may be obtained by use of an optional 3-minute drive pulley. The actual reproduction cycle will be automatically controlled by the length of the recording being reproduced and further controlled as described in (2.02-2.04). A variable cycle feature is provided in the form of an adjustable limit switch stop which automatically adjusts the length of the cycle to the length of the announcement. The limit switch stop may be set as desired to any portion of the 2-minute (optional 3-minute) maximum cycle length.

3.08 The KS-16765 L4 or L6 amplifier, part of the announcement set, is of printed wiring board construction and provides amplification for both recording and reproducing. The amplifier contains an automatic volume control feature for minimizing variations in level of speech being recorded and also contains a high-frequency oscillator which provides the bias current required for magnetic recording.

3.09 The KS-16754 L4 or KS-20449 L1 amplifier increases the voice announcement output signal from the announcement set to a level sufficient to service the connecting trunk circuits which may be connected to the system.

3.10 The announcement set is powered from a commercial 115-volt 60 Hz supply and the power supply in the announcement set provides +48-volt dc, 48-volt ac, and 10-volt ac for operation of the set and the amplifiers.

3.11 A twin jack, accommodating a 52-, 60-, or 61-type head telephone set, a dictate-check key, and a dictate lamp are provided on the announcement set as a means for recording and monitoring the set locally.

D. Recording Requirements

3.12 Any quiet area suitable for making recordings may be used to produce the announcements.

3.13 A voice of fairly low pitch, good volume, and reasonably constant level is desirable for recording.

3.14 Recordings may be made locally using a 52-, 60-, or 61-type head telephone set plugged into the twin jack on the announcement set, or from a 500-type telephone set at a suitable remote location.

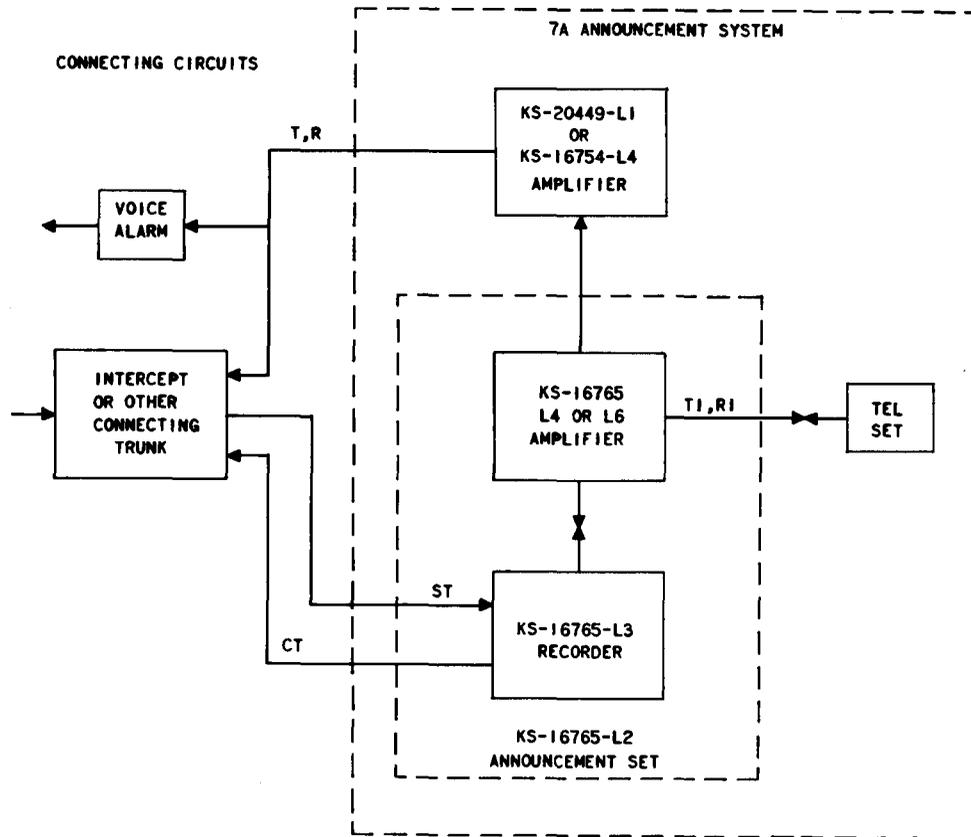


Fig. 1—7A Announcement System

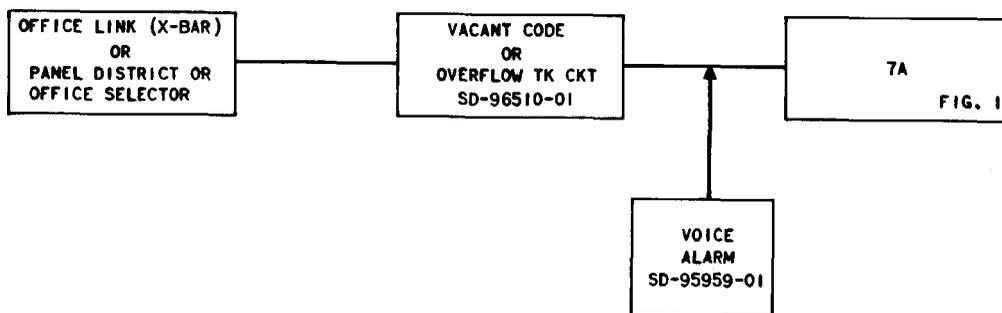


Fig. 2—Panel or No. 1 Crossbar Announcement for Vacant Code or Overflow

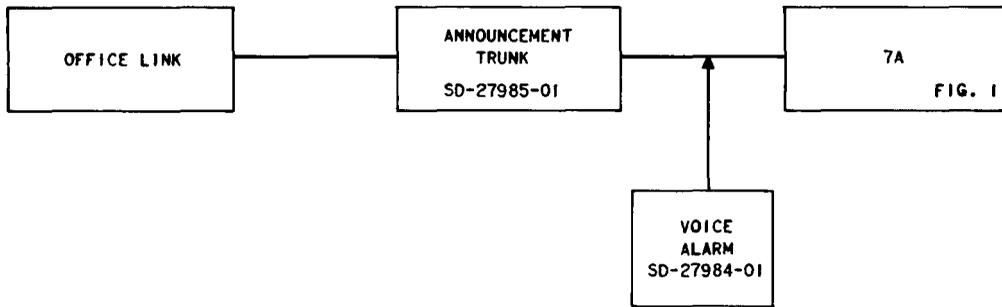


Fig. 3—No.1 Crossbar Announcement for Dial-Tone-First Coin Calls With Insufficient Deposit

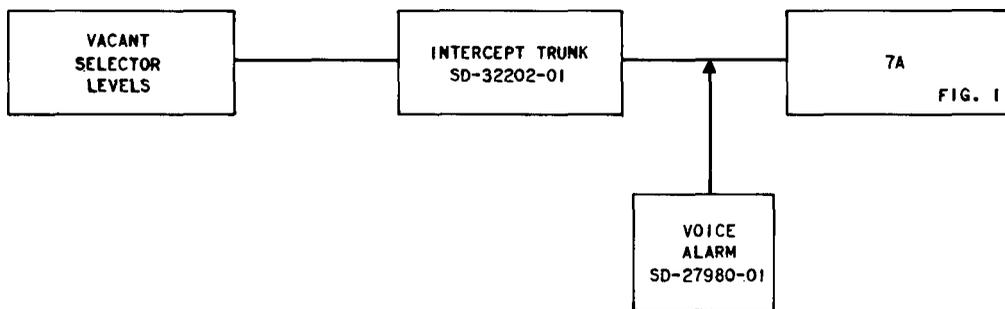


Fig. 4—Step-by-Step Intercept Without Transfer to Operator

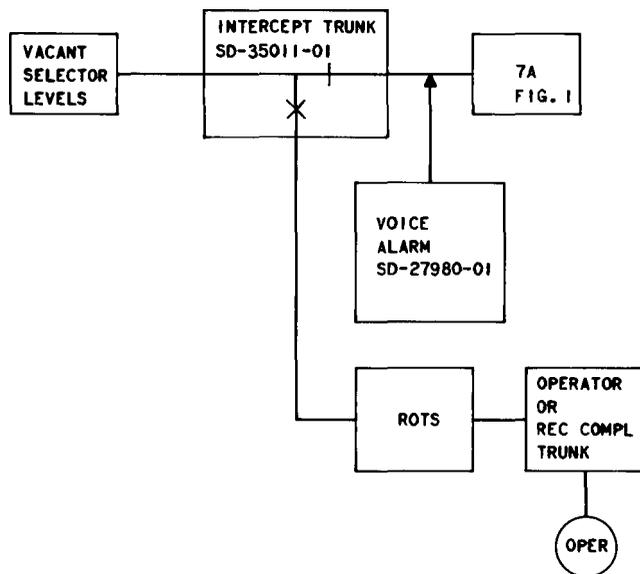


Fig. 5—Step-by-Step Intercept With Controlled Transfer to Operator

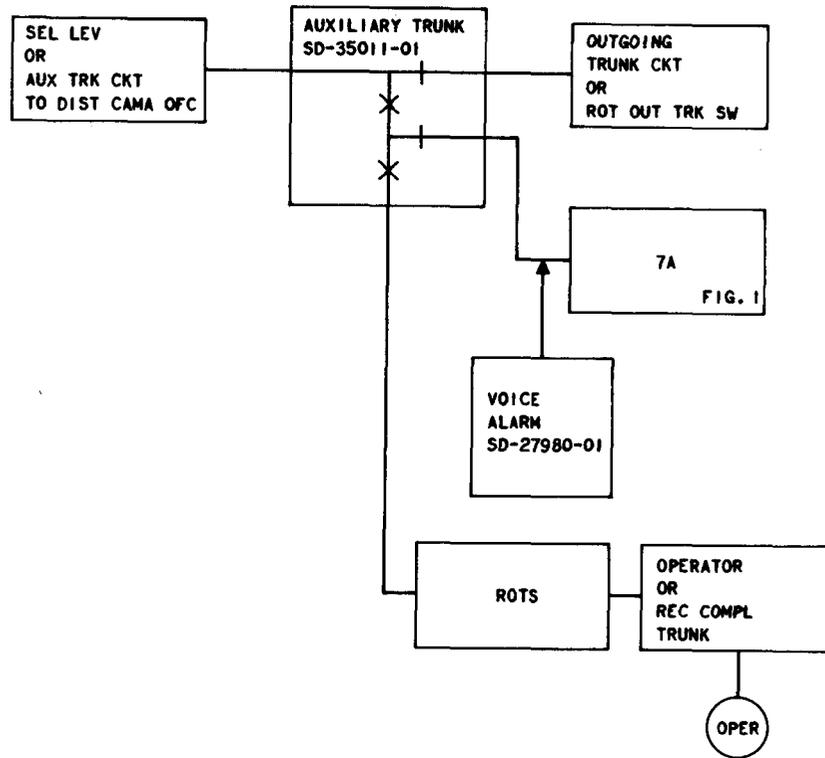


Fig. 6—Step-by-Step Auxiliary Trunk to Restrict Service With Recorded Announcement

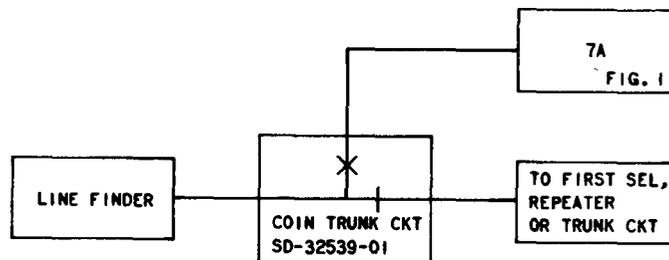
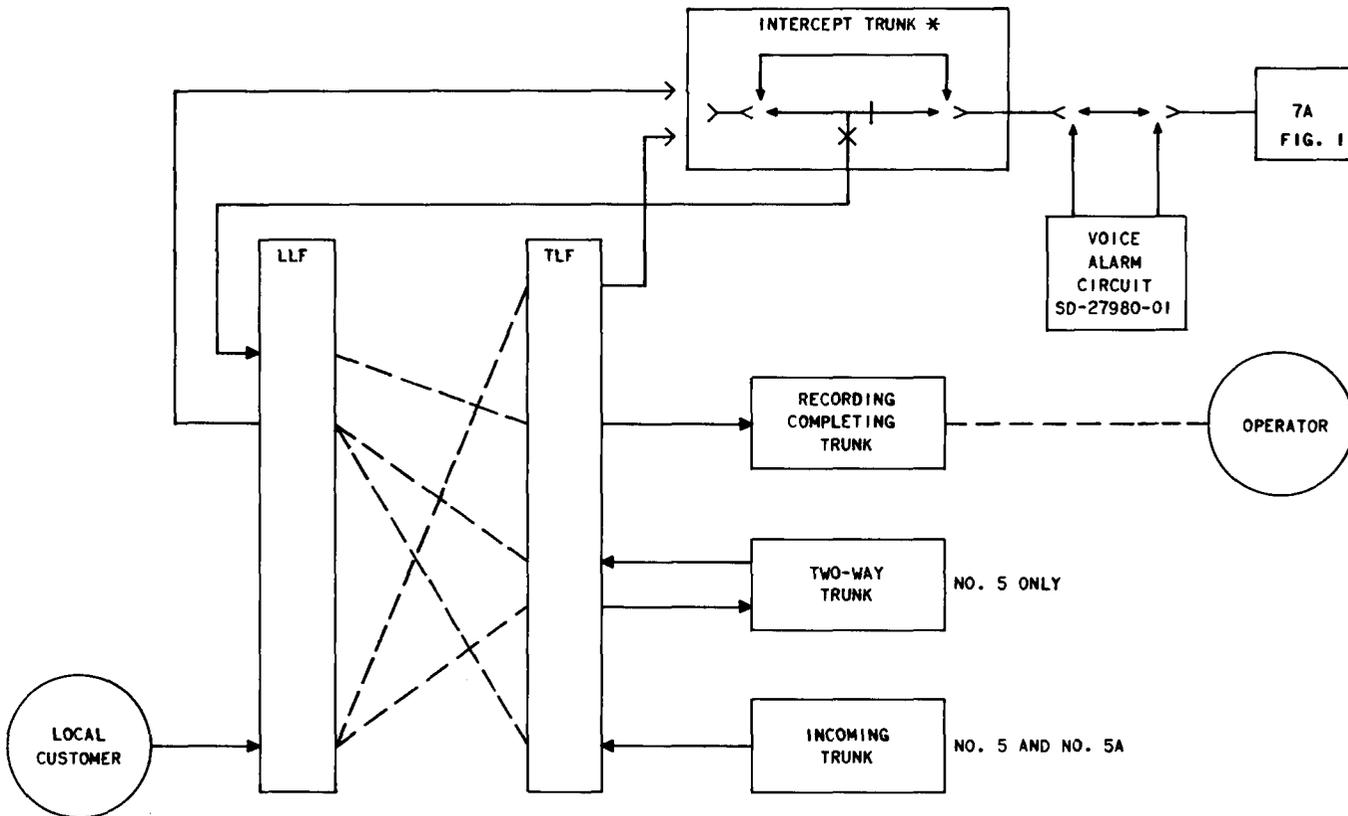


Fig. 7—Step-by-Step Recorded Announcement for Dial-Tone-First Coin Call With Insufficient Deposit



* SD-26121-01 - NO. 5 CROSSBAR
 SD-26121-05 - NO. 5A CROSSBAR

Fig. 8—7A Announcement System Equipment Arrangement No. 5 or No. 5A Crossbar

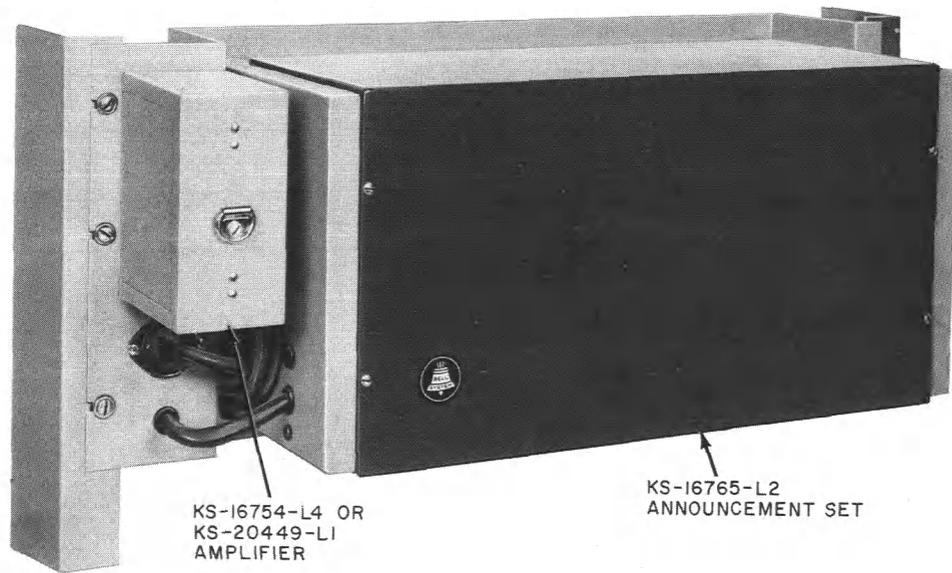


Fig. 9—KS-16765-L2 Announcement Set and KS-16754-L4 or KS-20449-L1 Amplifier Arranged For Central Office Rack Mounting

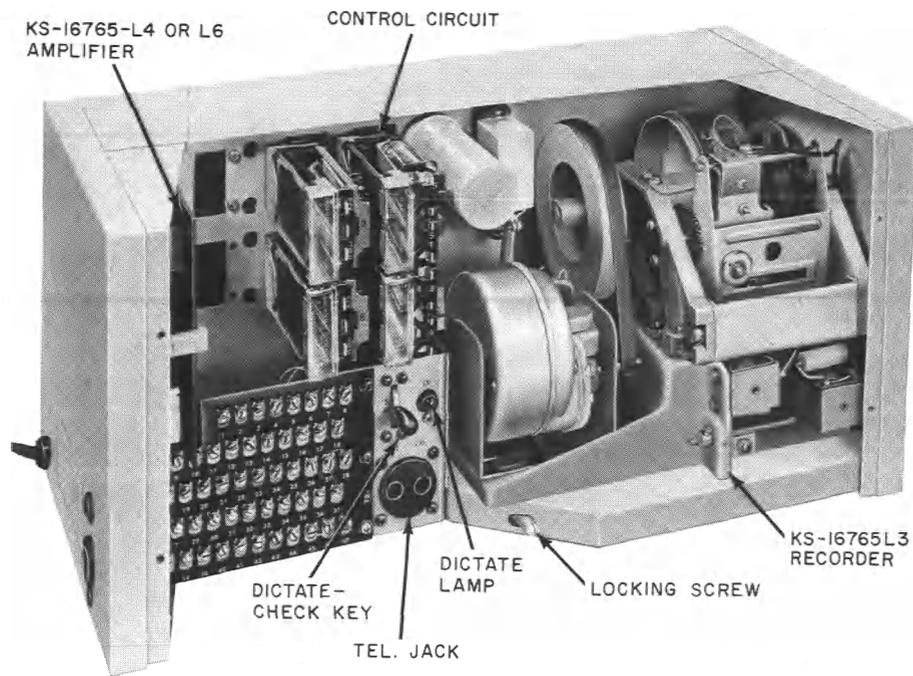


Fig. 10—KS-16765-L2 Announcement Set (Uncovered)