KS-19245, LISTS 1, 13, 24, AND 26 TELEPHONE ANSWERING SETS

IDENTIFICATION, INSTALLATION, OPERATION, AND CONNECTIONS

1. GENERAL

1.01 This section contains information on the KS-19245, List 1 (MD) (Fig. 1), List 13 (MD), List 24 (Fig. 2), and List 26 (Fig. 3) telephone answering sets.

1.02 The reasons for reissuing this section are listed below. Revision arrows are used to emphasize the more significant changes.

(a) Add List 26 telephone answering set

(b) Show List 24 telephone answering set MD.

2. IDENTIFICATION

2.01 The KS-19245, Lists 1 (MD), 13 (MD), and 24 (MD), and 26 telephone answering sets (Fig. 1, 2, and 3) are automatic answering sets for either answer and record, or answer only service.

- This answering set is used with individual lines, PBX extension lines, 2-party selective flat or message rate lines, and key telephone systems.

- The use of the KS-19245, Lists 13 (MD), 24 (MD), and 26 behind a DIMENSION® PRX equipped with a 120B ring generator is not recommended. The ring detector circuitry is not compatible with the level of distortion produced by this generator.

- Use of the telephone answering set in installations that have Dial Long Lines (DLL) circuits is nonstandard and not recommended. The dc calling party control features of the set are not compatible with a DLL circuit since DLL circuits do not regenerate disconnect signals toward the subscriber.

- The KS-19245, Lists 13 (MD), 24 (MD), and 26 telephone answering set replaces the KS-19245, List 1 (MD) telephone answering set and provides the same operational features plus calling party control (CPC) options, ring delay, and an input jack for modular mounting cord installations.

- The KS-19245, Lists 24 (MD) and 26 telephone answering set replaces the KS-19245, List 13 (MD) telephone answering set and provides a six terminal input jack for modular mounting cord installation.

Note: The Lists 13 (MD), 24 (MD), and 26 telephone answering sets will operate on either

20 or 30 Hz ringing. The List 1 (MD) telephone answering set is recommended only on 20 Hz ringing.

• Proper message playback volume and erasure cannot be guaranteed if the List 6 tape cartridge is moved from a List 1 (MD) telephone answering set to a List 13 (MD), 24 (MD), or 26 telephone answering set (or vice versa). This incompatibility does not exist between the Lists 13 (MD), 24 (MD), and 26 telephone answering sets. If a tape cartridge is to be moved between different vintage sets, it must be fully erased on both vintage sets before new recordings are made.

A. Design Features

2.02 The following are design features.

• Announcement recording on magnetic tape with capacity of 3 minutes.

• Adjustment for limiting announcement recording interval.

• Handset, for recording announcements, and for checking recorded announcements or playback of recorded incoming messages.

• Earphone jack, for use with KS-19245, List 9 earphone, for playback of recorded incoming messages.

• Tape cartridge, for recording of incoming messages, with maximum recording time of 2 hours.

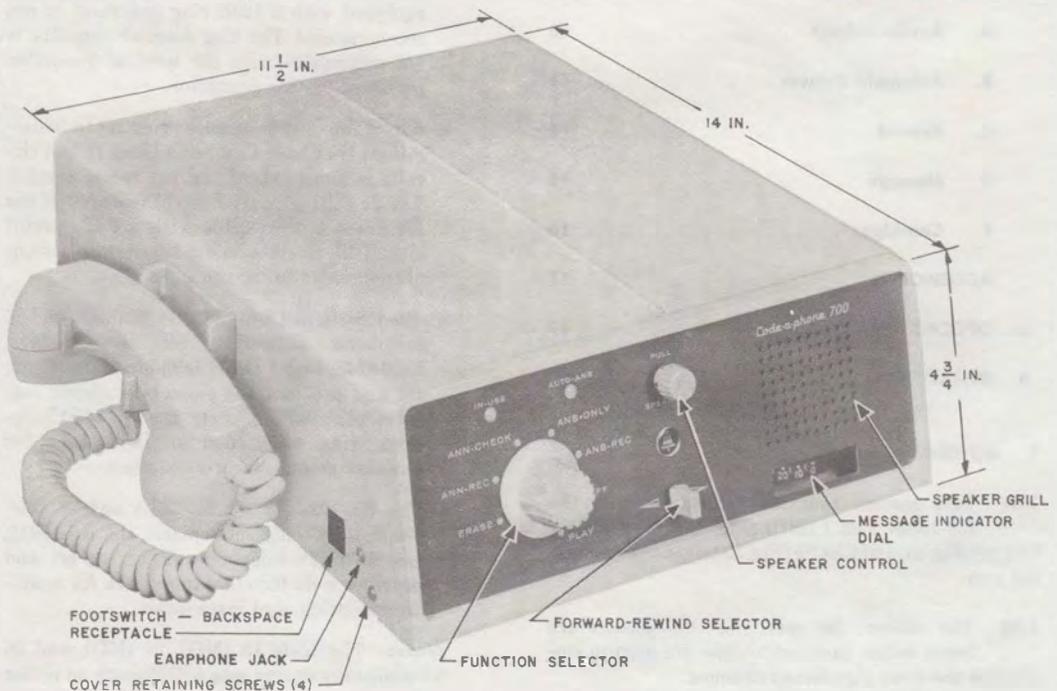• Adjustment for incoming message recording time for 1 or 2 hours.

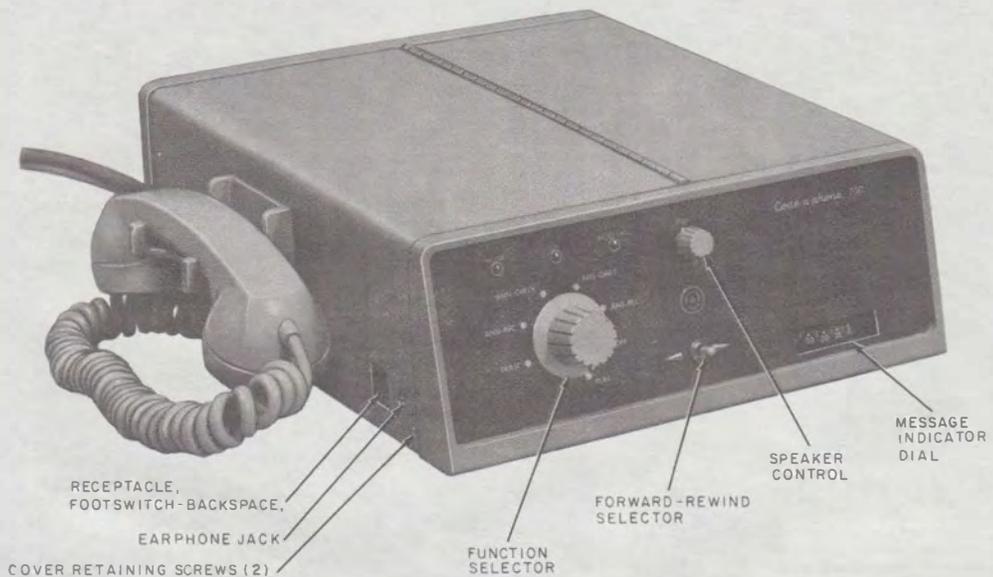Fig. 1—KS-19245, List 1 (MD) Telephone Answering Set

Fig. 2—KS-19245, Lists 13 (MD) and 24 (MD) Telephone Answering Sets

- Automatic switching to an auxiliary answering set when the messages on the main set exceed two hours.

- Voice control operation during incoming message recording.

- DC calling party control during automatic answer cycle.

- Answer only operation.

- Footswitch receptacle to be used with KS-19245, List 8 footswitch for operation during playback of recorded incoming messages.

- Message indicator dial to show position of message tape.

- Calling party control options provide selection of interrupt time from 0.5 to 450 milliseconds [Lists 13 (MD), 24 (MD), and 26 telephone answering sets only].

- Ring delay. Answer on first ring or after approximately 12 seconds of ringing [Lists 13 (MD), 24 (MD), and 26 telephone answering sets only].

- Modular connections [Lists 13 (MD), 24 (MD), and 26 telephone answering sets only].

- Housed in a metal case. The cover has a light olive gray textured finish and the front panel has a blue-gray enamel finish for the Lists 1 (MD), 13 (MD), and 24 (MD). The cover is ivory and the front panel is dark brown for the List 26 telephone answering set. Dimensions of the Lists 1 (MD), 13 (MD), 24 (MD), and 26 telephone answering sets are shown on Fig. 1. Weight of List 1 (MD) telephone set is 31 pounds and of Lists 13 (MD), 24 (MD), and 26 telephone answering sets is 24 pounds.

B. Optional Features

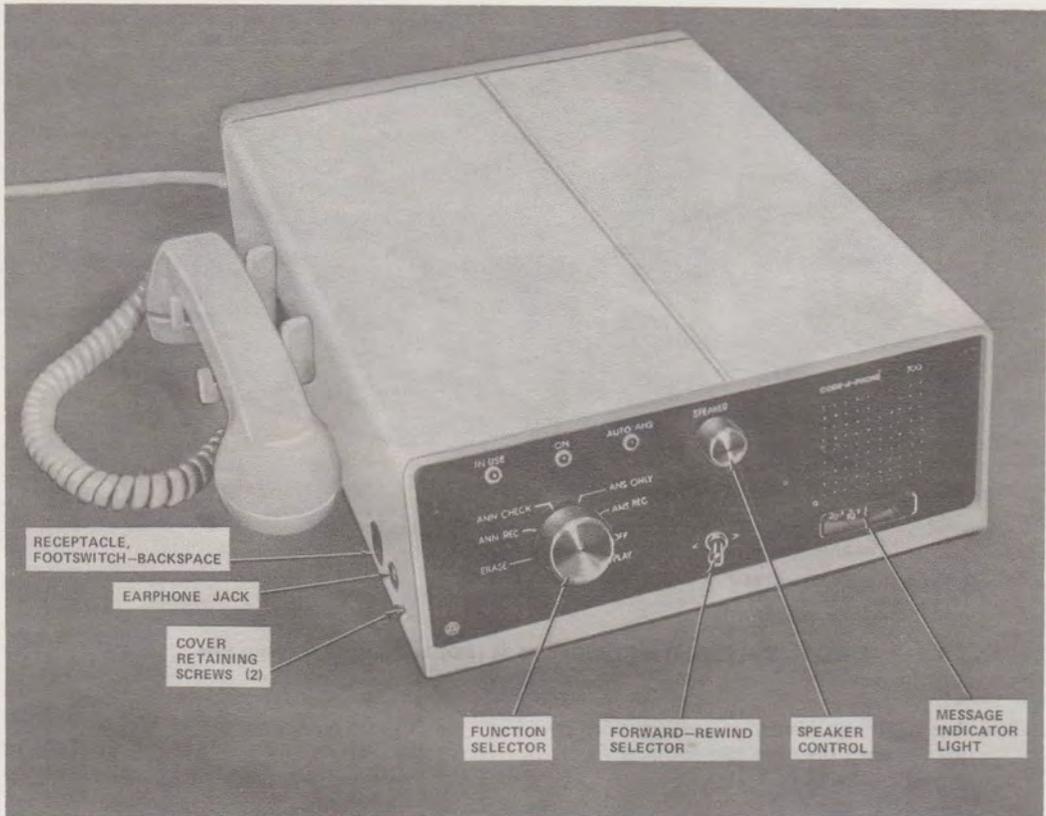2.03   The following are optional features:

- Voice Control Disable.

Fig. 3—◆KS-19245, List 26 Telephone Answering Set ◆

- Calling Party Control (CPC).

- Speak-up (Talk-down) Tone Disable.

- Ring Delay [Lists 13 (MD), 24 (MD), and 26 telephone answering sets only].

Note: The preceding options are implemented by soldering or removing a strap in the List 1 (MD) telephone answering set, or repositioning a jumper plug in the List 13 (MD), 24 (MD), or 26 telephone answering set.

- Exclusion of associated telephone when answering set is answering calls.

- Message Recording Capacity.

- Announcement Recording Capacity.

C. Ordering Guide

2.04 Order as follows.

(a) The KS-19245, List 26 telephone answering set:

- D4BU mounting cord and 267-type adapter (for standard installation)

SUPPLY AND TAKE-UP SPOOL — **REWIND ROLLER** — **PRESSURE ROLLER** — **TAPE** — **TAPE GUIDES** — **CAPSTAN** — **RECORD HEAD** — **PLUG** — **TAPE GUIDE** — **ERASE HEAD** — **PRESSURE PAD** — **REWIND SHAFT**

RS-19245-L2
RECORDER
MADE BY
a-a-phone Electronics inc.
PORTLAND, OREGON

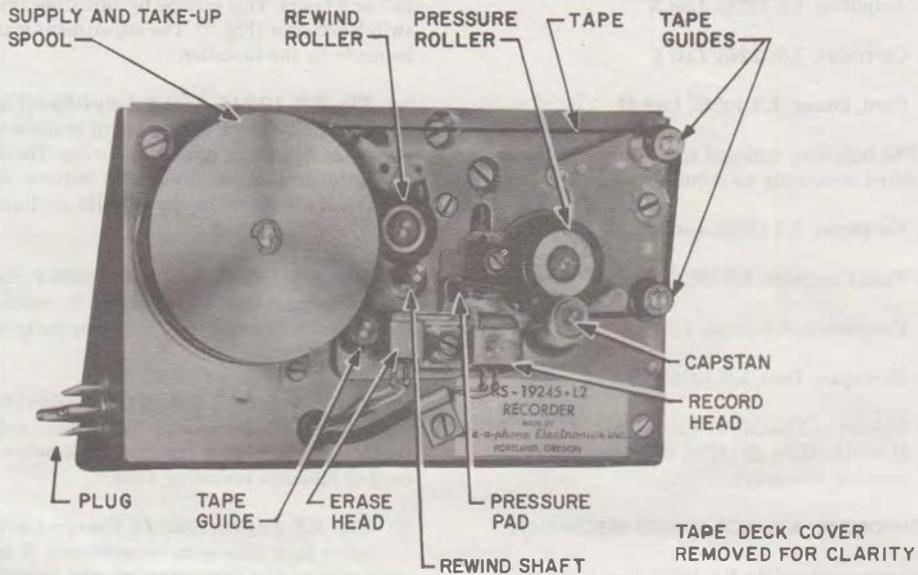**TAPE DECK COVER REMOVED FOR CLARITY**

Fig. 4—KS-19245, List 2 Recorder (Reel Side)

- D6AP mounting cord and KS-19245, List 25 adapter (when exclusion or overflow answering is provided)

  - Associated telephone set.

(b) The KS-19245, List 13 (MD), 24 (MD), or 26 telephone answering set replaceable components may be ordered as follows:

  - D4BU Mounting Cord

  - D6AP Mounting Cord

  - A3 Power Supply, KS-19245, List 19

  - A4 Amplifier Board, KS-19245, List 15

  - A5 Deck Control Board, KS-19245, List 16

  - A6 Logic Board, KS-19245, List 17

  - A8 Tape Deck, KS-19245, List 21 (MD) replaced by KS-19245, Lists 22 and 23 Tape Deck and Base Pan

- A8 Tape Deck, KS-19245, List 22 [List 24 (MD) and List 26 Telephone Answering Sets only. Only supplied with Ivory trim plates]

- Cord Power, KS-19245, List 14 [List 13 (MD) and List 24 (MD) only], Light Olive Gray in color

- Cord, Power, KS-19245, List 27 (List 26 Answering Set only) Ivory in color

- Cartridge, KS-19245, List 6.

Note: The Lists 13 (MD), 24 (MD), and 26 telephone answering sets come equipped with power cord.

(c) The KS-19245, List 1 (MD) telephone answering set replaceable components may be ordered as follows:

  - Recorder (Announcement), KS-19245, List 2

  - Recorder (Message), KS-19245, List 3

  - Amplifier, KS-19245, List 4

- Amplifier, KS-19245, List 5

- Cartridge, KS-19245, List 6

- Cord, Power, KS-19245, List 11.

(d) The following optional equipment may be ordered separately as required:

- Earphone, KS-19245, List 9

- Tape Cartridge, KS-19245, List 6

- Footswitch, KS-19245, List 8

- Backspace Unit, KS-19245, List 12

- Service Manual, KS-19245, List 18 [List 13 (MD), 24 (MD), or 26 telephone answering sets only].

3. COMPONENTS AND ACCESSORIES DESCRIPTION

3.01 Components of the KS-19245, List 1 (MD) telephone answering set are as follows.

(a) *The KS-19245, List 2 Recorder* (Fig. 4 and 5) is the announcement recording mechanism. It provides a maximum recording capacity of 3 minutes, and incorporates a variable cycle feature that limits the reproduce cycle to the duration of the recorded announcement only. This recorder is equipped with 1/4-inch wide plastic base magnetic recording tape installed on special reels. The tape and reels form an integral part of the recording mechanism and *cannot* be changed by the customer since replacement of either requires partial disassembly of the mechanism. Facilities are provided for limiting the maximum recording time to 15-second increments (from 15 seconds to 90 seconds) or 30-second increments (from 90 seconds to 180 seconds). This is done by adjusting the variable limit switch assembly. The adjustment may only be made by the installer.

(b) *The KS-19245, List 3 Recorder* (Fig. 6 and 7) is the incoming message recording mechanism. It provides a maximum recording capacity of 2 hours on 1/4-inch wide plastic base magnetic recording tape. This tape is contained in the KS-19245, List 6 cartridge which may be conveniently changed by the customer. Facilities are provided for limiting the message recording time

to 1 or 2 hours. This is done by adjusting the limit switch actuator (Fig. 7). The adjustment may only be made by the installer.

(c) *The KS-19245, List 4 Amplifier* (Fig. 8) is a printed circuit wiring board transistor amplifier for recording and reproducing. The amplifier incorporates an automatic volume control feature. It also contains the 1400-Hz oscillator and notch rejection filter.

(d) *The KS-19245, List 5 Amplifier* (Fig. 9) is a printed circuit wiring board. It contains the voice-operated circuit and the calling party control circuit.

(e) *The KS-19245, List 6 Cartridge* (Fig. 10) provides a 1/4-inch wide plastic base magnetic recording tape with a capacity for 2 hours of incoming message recording time.

(f) *The KS-19245, List 11 Power Cord* is an 8-foot light olive gray colored cord. It is plug-connected to the answering set and provides for connection to a 3-wire, 110-volt ac outlet.

3.02 Components of the KS-19245, Lists 13 (MD), 24 (MD), and 26 telephone answering sets are as follows.

(a) *The KS-19245, List 22 Tape Deck* (Fig. 11 and 12) contains both the announcement and message recording mechanism. The announcement record mechanism (Fig. 11) provides a maximum recording capacity of 3 minutes and incorporates a variable cycle feature that limits the reproduce cycle to the duration of the recorded announcement only. This recorder is equipped with 1/4-inch wide plastic base magnetic recording tape installed on special reels. The tape and reels form an integral part of the recording mechanism and *cannot* be changed by the customer since replacement of either requires partial disassembly of the mechanism. Facilities are provided for limiting the maximum recording time to 15-second increments (from 15 seconds to 90 seconds) or 30-second increments (from 90 seconds to 180 seconds). This is done by adjusting the timer cap. The adjustment may only be made by the installer. The incoming message recording mechanism (Fig. 12) provides a maximum recording capacity of 2 hours on 1/4-inch wide plastic base magnetic recording tape. This tape is contained in the KS-
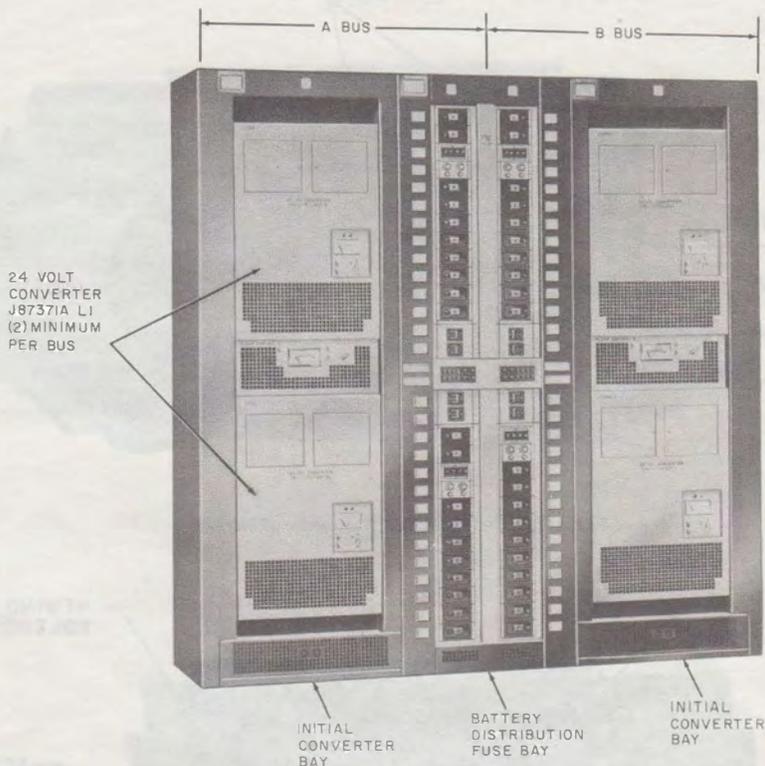
Fig. 5—KS-19245, List 2 Recorder (Motor Side)

19245, List 6 cartridge which may be conveniently changed by the customer. Facilities are provided for limiting the message recording time to 1 or 2 hours. This is done by adjusting the limit switch actuator (Fig. 11). The adjustment may only be made by the installer.

(b) *The KS-19245, List 19 Power Supply, A3* (Fig. 13) is a combination subchassis consisting of a power transformer, and a printed circuit wiring board containing the regulated power supply circuitry, and line connection terminals. This unit contains the A3 circuit board and List 27 power cord.

(c) *The KS-19245, List 15 Amplifier Board, A4* (Fig. 14) is a printed circuit wiring board

containing the record/playback amplifier, automatic gain control, tone generator, and relay driver circuitry.

(d) *The KS-19245, List 16 Deck Control Board, A5* (Fig. 15) is a printed circuit wiring board containing the necessary control circuitry for operating the tape recording and playback mechanism.

(e) *The KS-19245, List 17 Logic Board, A6* (Fig. 16) is a printed circuit wiring board containing the line seizure, ring-up circuitry, and installer options.

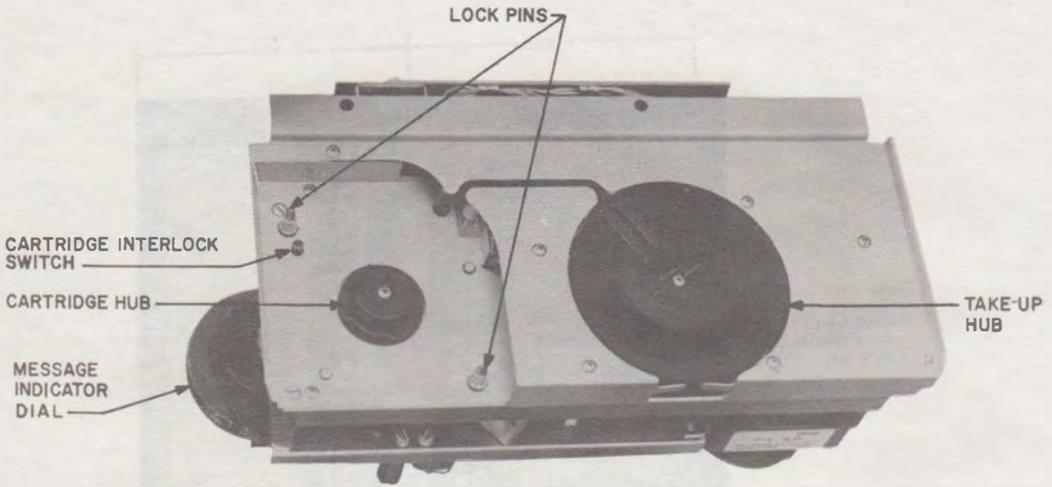(f) *The KS-19245, Lists 14 and 17 Power Cords* are Olive Gray and Ivory, respectively.
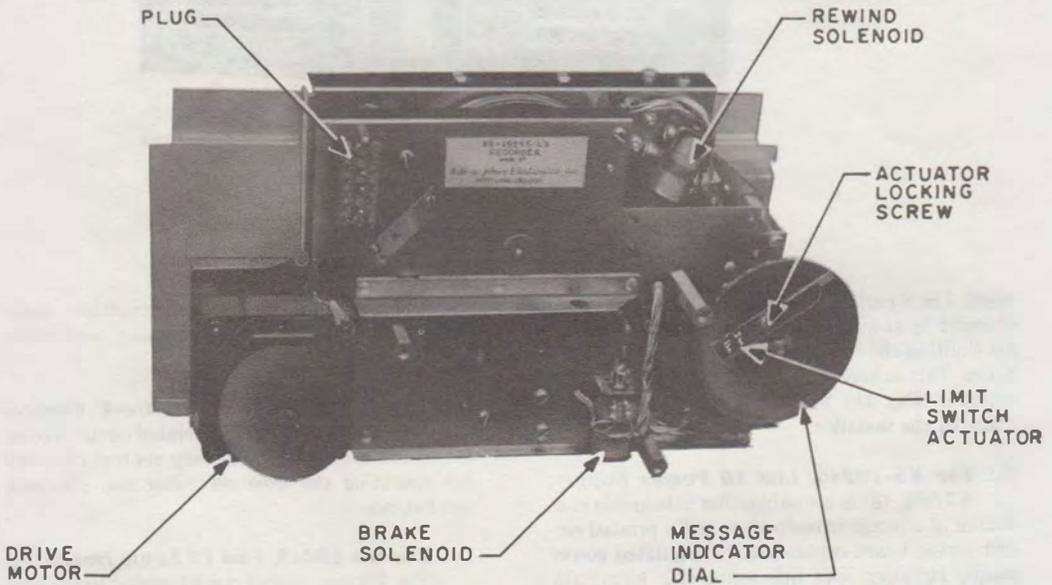
Fig. 6—KS-19245, List 3 Recorder (Reel Side)
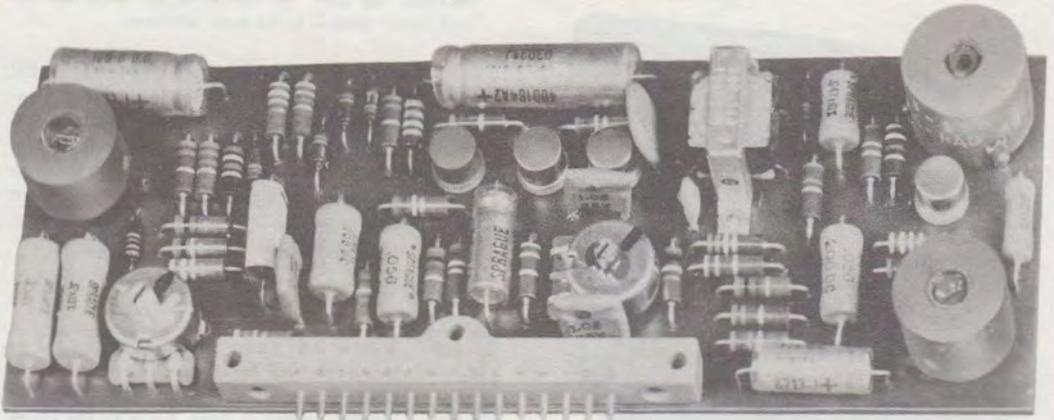

Fig. 7—KS-19245, List 3 Recorder (Motor Side)

Fig. 8—KS-19245, List 4 Amplifier

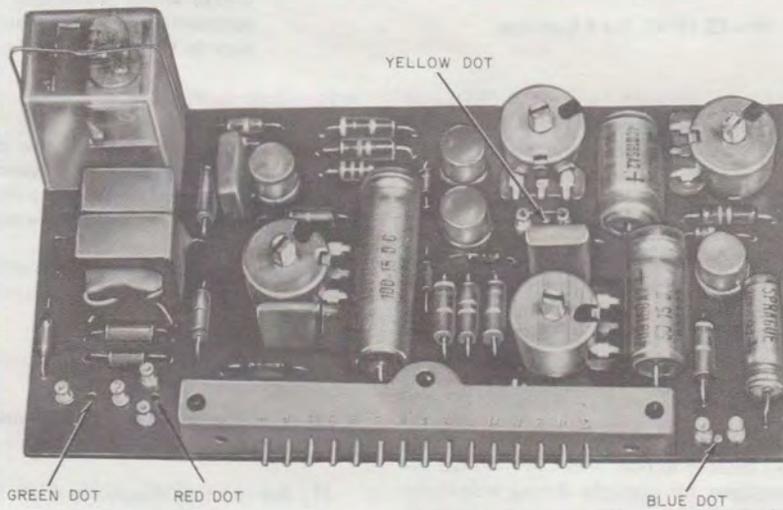YELLOW DOT

GREEN DOT   RED DOT

BLUE DOT

Fig. 9—KS-19245, List 5 Amplifier

TAPE END

Fig. 10—KS-19245, List 6 Cartridge

The List 14 is for use with the List 13 (MD) and List 24 (MD) telephone answering sets. The List 17 is for use with the List 26 telephone answering set.

3.03 Optional equipment is as follows.

(a) *The KS-19245, List 8 Footswitch* (Fig. 17) provides for foot control operation during playback of the recorded incoming messages. The footswitch pedal has two active positions, one for control of playback and the other for rewind.

(b) *The KS-19245, List 9 Earphone* (Fig. 18) enables listener to play back the recorded incoming messages; for example, during transcribing. The plastic holder on the ear piece may be of either version as shown in Fig. 18.

(c) *The KS-19245, List 12 Backspace Unit* (Fig. 19), allows automatic backspacing of the message tape a few words each time the playback activated control on the foot switch pedal is released. The user can control the amount of backspace (up to approximately 12 words) by adjusting the backspace control. Automatic

backspacing may be disabled by turning the backspace control to its zero position.

(d) *The KS-19245, List 25 Adapter* (Fig. 20) allows for exclusion of the associated telephone set (Fig. 36) when the List 24 (MD) or 26 telephone answering set is answering calls or the connection of an auxiliary answering set to automatically answer calls and record messages when the 2 hour tape on the first List 24 (MD) or 26 telephone answering set is full.

4. OPERATION

When an answering set that has been stored in a cool or air conditioned area is first installed in a warm office it may be a little sluggish in the fast forward and rewind mode due to moisture condensation. It is recommended that set be left in its original shipping cartons and be warm when installed. If this is not possible allow 30 minutes of operation in the PLAY mode.

4.01 Refer to Fig. 1 or 2.

Warning: Damage to the message tape and answering set will result if the message tape end is not properly secured in the snap retainer of the answering set.

Note: The answering set will not function properly unless the tape cartridge is properly seated.

A. Announcement

4.02 Perform the following to record an announcement:

(1) Set function selector to ANN-REC

(2) Lift handset, depress and hold handset button. Commence dictating announcement when IN-USE lamp lights.

Note: As new announcement is recorded, old announcement will be erased. Release handset button immediately after announcement is complete. If announcement is too long, IN-USE lamp will extinguish and the announcement
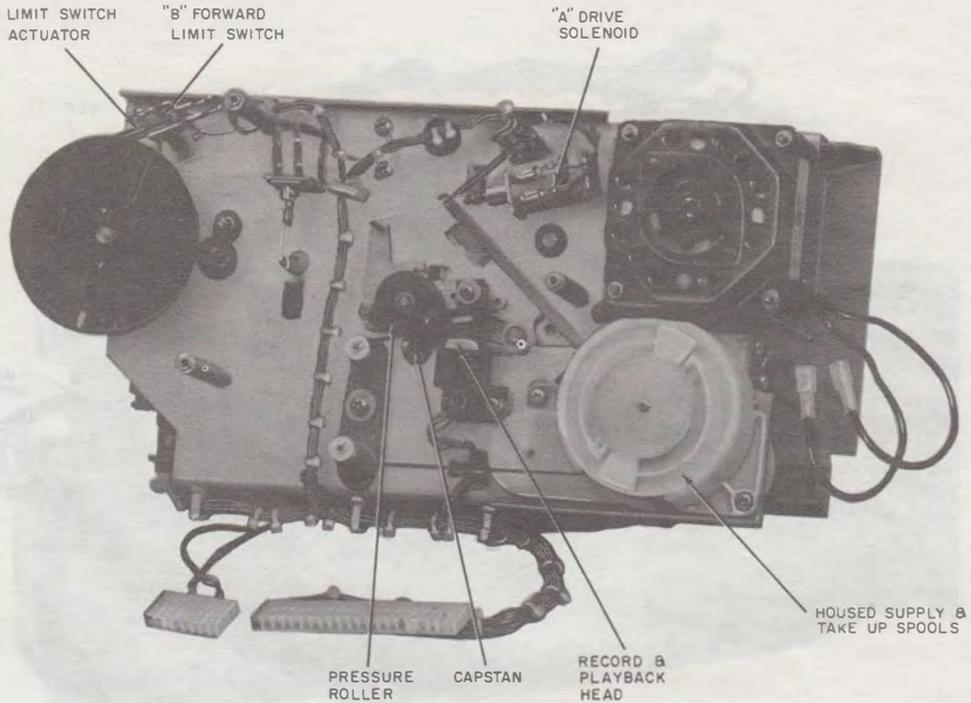
LIMIT SWITCH ACTUATOR "B" FORWARD LIMIT SWITCH "A" DRIVE SOLENOID

HOUSED SUPPLY & TAKE UP SPOOLS

PRESSURE ROLLER   CAPSTAN   RECORD & PLAYBACK HEAD

Fig. 11—KS-19245, List 21 Tape Deck With Trimplate Removed (Announcement Side)

must then be shortened and rerecorded. (For optional announcement capacity, see paragraph 5.06.)

4.03 Perform an announcement check (using handset) as follows:

(1) Set function selector to ANN-CHECK

(2) Lift handset, depress and hold handset button.

Note: Announcement will be played repeatedly as long as a handset button is held depressed.

4.04 Perform announcement check (using speaker) as follows:

(1) Set function selector to ANN-CHECK

(2) Pull out SPEAKER control knob

(3) Depress and hold handset button [List 1 (MD) telephone answering set only]

(4) Rotate SPEAKER control knob to adjust volume.

Note: Announcement will be played back repeatedly as long as handset button is held depressed or speaker control knob is pulled out.

B. Automatic Answer

4.05 *Automatic Answer and Record:* After announcement has been recorded and checked, set is ready to be placed in automatic answer.

Note: The set will not operate in the automatic answer mode unless the List 6 cartridge is properly seated.
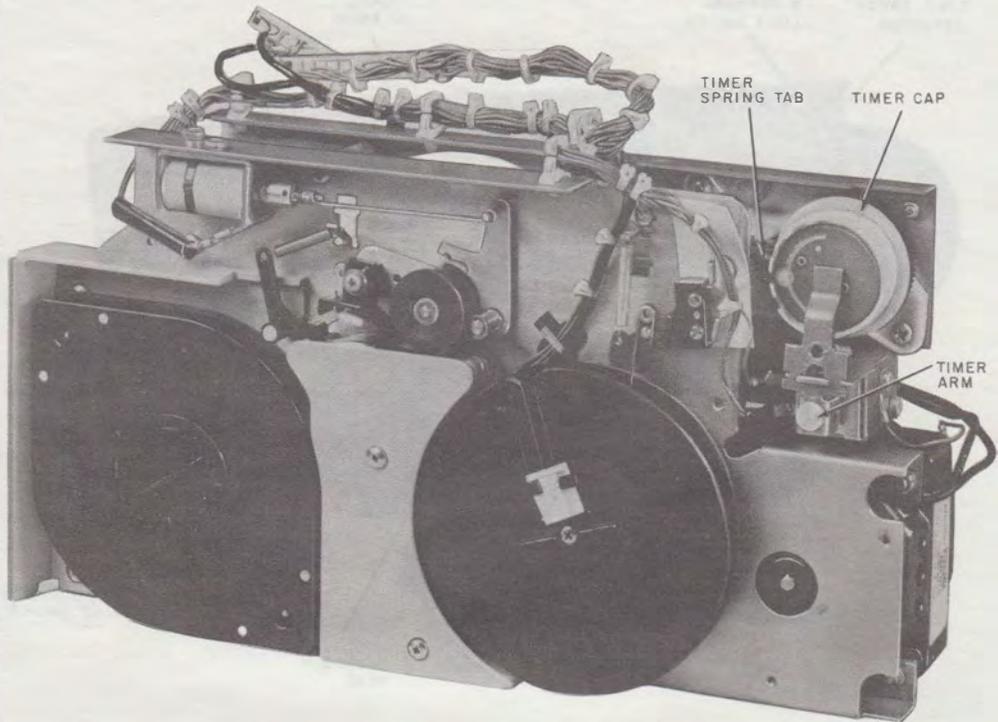
(1) Set function selector to ANS-REC.

Page 11

Fig. 12—KS-19245, List 21 Tape Deck With Trimplate Removed (Message Side)

(a) AUTO-ANS lamp lights.

(b) Ringing current starts automatic answer cycle.

(c) IN-USE lamp lights and AUTO-ANS lamp extinguishes, indicating incoming call.

(d) A dc termination which trips ringing is automatically placed across line.

(e) Recorded announcement is reproduced on line.

(f) At end of announcement, a single short beep tone will be transmitted to calling party as an indication for calling party to start talking.

(g) Message is recorded on message tape.

Note: Connection of telephone answering set to line is under control of a voice operated circuit and a calling party control circuit.

(h) The voice operated circuit will allow automatic recording of speech from line so long as speech of proper level is present on line, up to the capacity of tape. If for a period of approximately 4 seconds the level of speech has been lower than required for satisfactory recording, speak-up (talk-down) tone is transmitted to calling party as signal to speak louder. Tone is removed when speech level is raised. If speech level is not raised within approximately 8 seconds, the set will automatically disconnect.

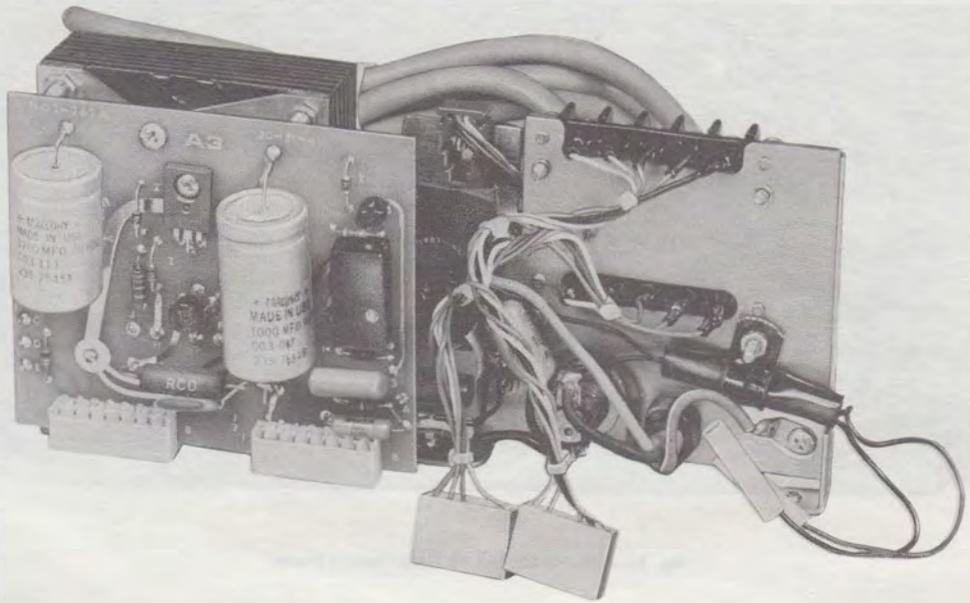(i) In installations where the central office provides a momentary interruption of central
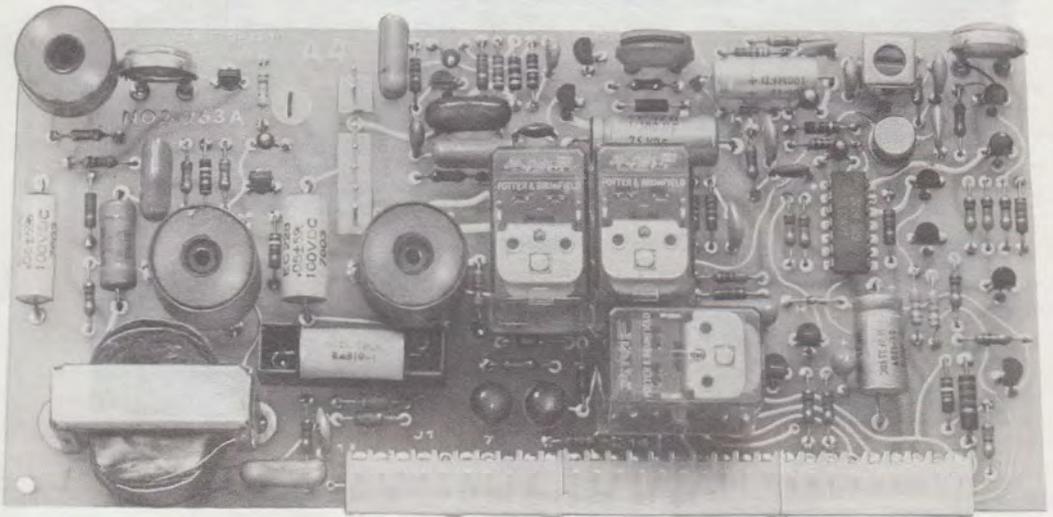
Fig. 13—KS-19245, List 19 Power Supply

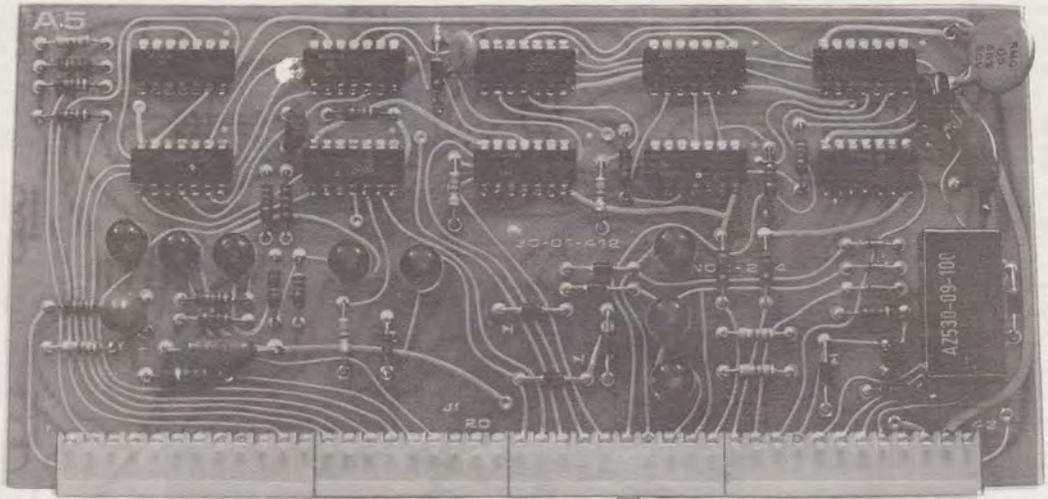
Fig. 14—KS-19245, List 15 Amplifier Board

Fig. 15—KS-19245, List 16 Deck Control Board

VOICE CONTROL
OPTION

RING DELAY
OPTION

TALK DOWN
TONE OPTION

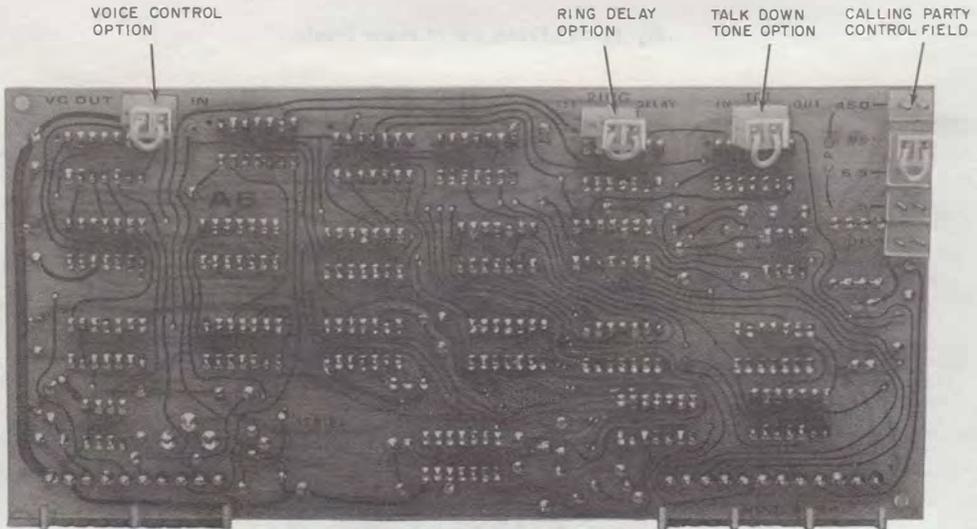CALLING PARTY
CONTROL FIELD

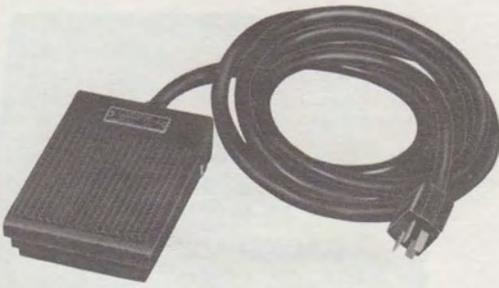Fig. 16—KS-19245, List 17 Logic Board

Fig. 17—KS-19245, List 8 Footswitch

Fig. 18—KS-19245, List 9 Earphones

office battery accompanying calling party hang-up, the calling party control circuit will disconnect the set from the line.

(j) The Lists 13 (MD), 24 (MD), and 26 telephone answering sets have calling party control (CPC) interrupt time options which are selected and set depending on the type of central office.

(k) Amount of tape recorded is indicated by message indicator dial.

4.06 *Automatic Answer Only:* After announcement has been recorded and checked, set is ready to be placed in automatic answer.

Note: The set will not operate in the automatic answer mode unless the List 6 tape cartridge is properly seated.

(1) Set function selector to ANS-ONLY.

(a) AUTO-ANS lamp lights.

(b) Ringing current starts automatic answer cycle.

(c) IN-USE lamp lights, and AUTO-ANS lamp extinguishes, indicating incoming call.

(d) A dc termination which trips ringing is automatically placed across line.

(e) Recorded announcement is reproduced on line.

(f) In installations where the central office provides a momentary interruption of central office battery accompanying calling party hang-up, the calling party control circuit will disconnect the set from the line. Lists 13 (MD), 24 (MD), and 26 telephone answering sets have CPC interrupt time options which are selected and set depending on the type of central office.

(g) At end of announcement, set disconnects from line.

C. Rewind

4.07 *Forward or Rewind:* Set function selector to PLAY.

(a) To rewind, operate forward-rewind lever to the left.

(b) To advance tape, operate forward-rewind lever to the right.

D. Message

4.08 *Erase Message:* Set function selector to ERASE.

(a) *Rewind erase:* Operate forward-rewind selector to the left.

(b) *Forward erase:* Operate forward-rewind selector to the right.

4.09 Perform message playback (using handset) as follows:

BACKSPACE
ADJUSTING
POTENTIOMETER

FRONT VIEW

KS-19245-L12
BACKSPACE UNIT
MADE BY
Code-a-phone Electronics, inc.
PORTLAND, OREGON

REAR VIEW

Fig. 19—KS-19245, List 12 Backspace Unit

(1) Set function selector to PLAY

(2) Rewind tape as outlined in paragraph 4.07

(3) Lift handset; depress and hold handset button.

4.10 Perform message playback (using speaker) as follows:

(1) Set function selector to PLAY

(2) Rewind tape as outlined in paragraph 4.07

(3) Pull out SPEAKER control knob

(4) Rotate SPEAKER control knob to adjust volume.

4.11 *Message Indicator Dial:* Message indicator dial is used to locate position of a particular message or to determine amount of tape available for message recording.

4.12 *Turning Telephone Answering Set Off:* Set the function selector to OFF. Set will be

disconnected from telephone line and dc power to internal circuitry will be removed.

E. Cartridge

4.13 Install cartridge as follows.

(1) Set function selector to OFF.

(2) Place cartridge (Fig. 10) over cartridge lock pins and hub (Fig. 26) and press down into place.

(3) Slide tape end (Fig. 10) through tape slot (Fig. 26) and into slot of take-up reel and lock into place. Make certain, by listening for a snap, that both the left and right sides of the tape end are locked in place.

Warning: Damage to the message tape and answering set will result if the message tape end is not properly secured in the snap retainer of the take-up reel before operating the set.
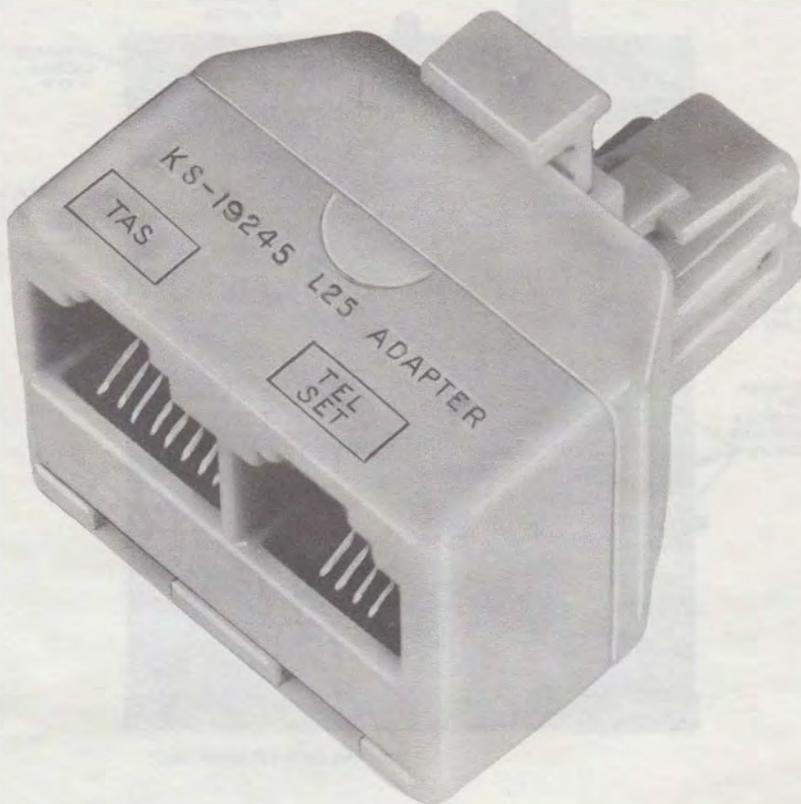
Fig. 20—KS-19245, List 25 Modular Adapter

Note: The answering set will not function properly unless the tape cartridge is properly seated.

4.14 Remove cartridge as follows (Fig. 26).

(1) Rewind tape into cartridge (0 setting on tape indicator). Refer to paragraph 4.07.

(2) Set function selector to OFF.

(3) Remove tape end from take-up reel by depressing and backing out of slot.

(4) Turn cartridge hub clockwise by hand to rewind remaining tape into cartridge.

(5) Grasp cartridge and lift up.

ACCESSORIES

4.15 *Footswitch KS-19245, List 8 (Fig. 17):* Perform the following.

(1) Insert footswitch plug into footswitch receptacle [List 1 (MD), Fig. 1; Lists 13 (MD) and 24 (MD), Fig. 2; and List 26, Fig. 3 telephone answering sets].
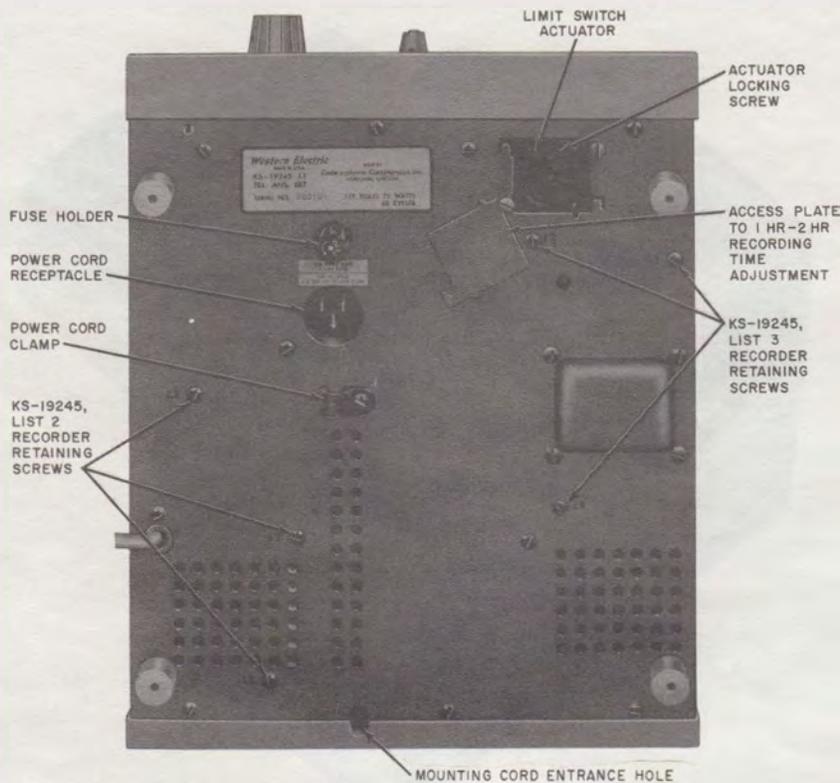
Fig. 21—KS-19245, List 1 (MD) Telephone Answering Set—Bottom View

(2) Set function selector to PLAY.

(3) For playback, depress footswitch to first position.

(4) For rewind, depress footswitch all the way down.

4.16 *Earphone KS-19245, List 9 (Fig. 18):* To monitor recorded message with earphone for transcribing in footswitch operation.

(1) Set function selector to PLAY.

(2) Insert footswitch plug into footswitch receptacle [List 1 (MD), Fig. 1; Lists 13 (MD) and 24

(MD), Fig. 2; and List 26, Fig. 3 telephone answering sets].

(3) Plug earphone into earphone jack [List 1 (MD), Fig. 1 and List 13 (MD), Fig. 2].

(4) Operate footswitch as described in paragraph 4.15.

(5) Rotate SPEAKER control knob to adjust volume.

4.17 *Backspace Unit KS-19245, List 12 (Fig. 19):* Perform the following.

(1) Set function selector to PLAY.

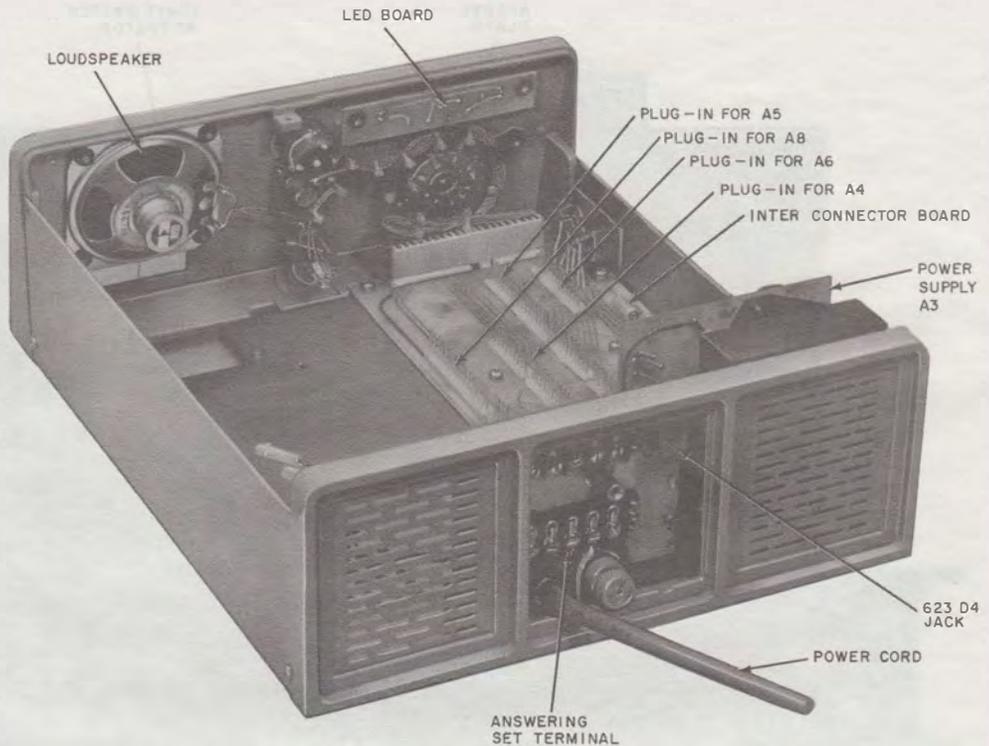(2) Push in speaker control knob.

Fig. 22—KS-19245, List 13 (MD), 24 (MD), or 26 Telephone Answering Set—Cover and Components Removed

(3) Insert backspace unit into receptacle on answering set [List 1 (MD), Fig. 1; Lists 13 (MD) and 24 (MD), Fig. 2; and List 26, Fig. 3 telephone answering sets].

(4) Insert footswitch plug into footswitch receptacle on backspace unit (Fig. 27).

(5) Insert earphone into earphone jack on backspace unit (Fig. 27).

(6) Adjust backspace control on backspace unit for automatic backspace of desired interval.

Note: Maximum backspace interval equivalent to approximately a dozen words may be obtained with the backspace control in maximum setting. Automatic backspace may be disabled by turning backspace control to its zero position.

5. OPTIONS

Caution: Do not use options listed in Part 5 without proper authorization.

Handle set components with care at all times to avoid damage.

5.01 *Voice Control (VC) Disable:* Perform the following.
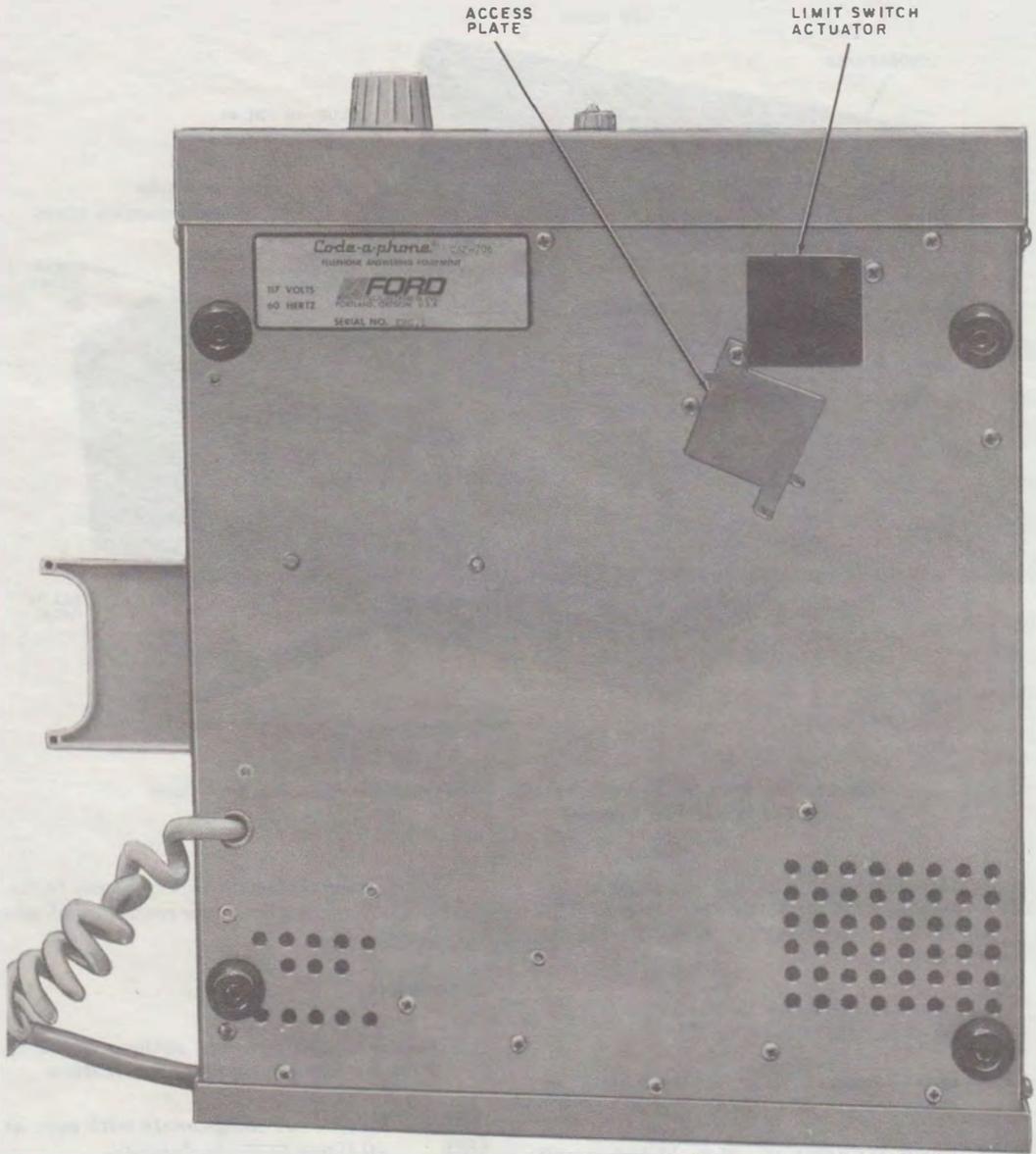
ACCESS
PLATE

LIMIT SWITCH
ACTUATOR

Fig. 23—KS-19245, List 13 (MD) Telephone Answering Set—Bottom View

Fig. 24—KS-19245, Lists 24 (MD) and 26 Telephone Answering Set—Bottom View

TRIM PLATE
RETAINING SCREWS (4)
TRIM PLATE
TAKE-UP HUB
TAPE END CATCH
TAPE SLOT
LOCK PIN
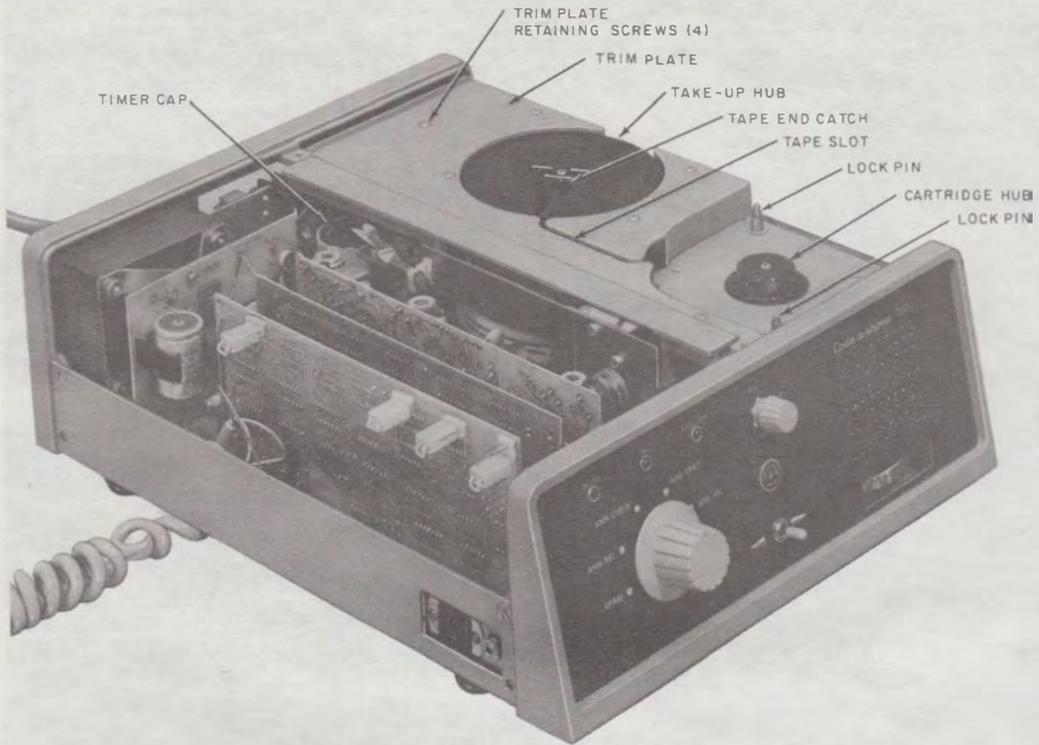CARTRIDGE HUB
LOCK PIN
TIMER CAP
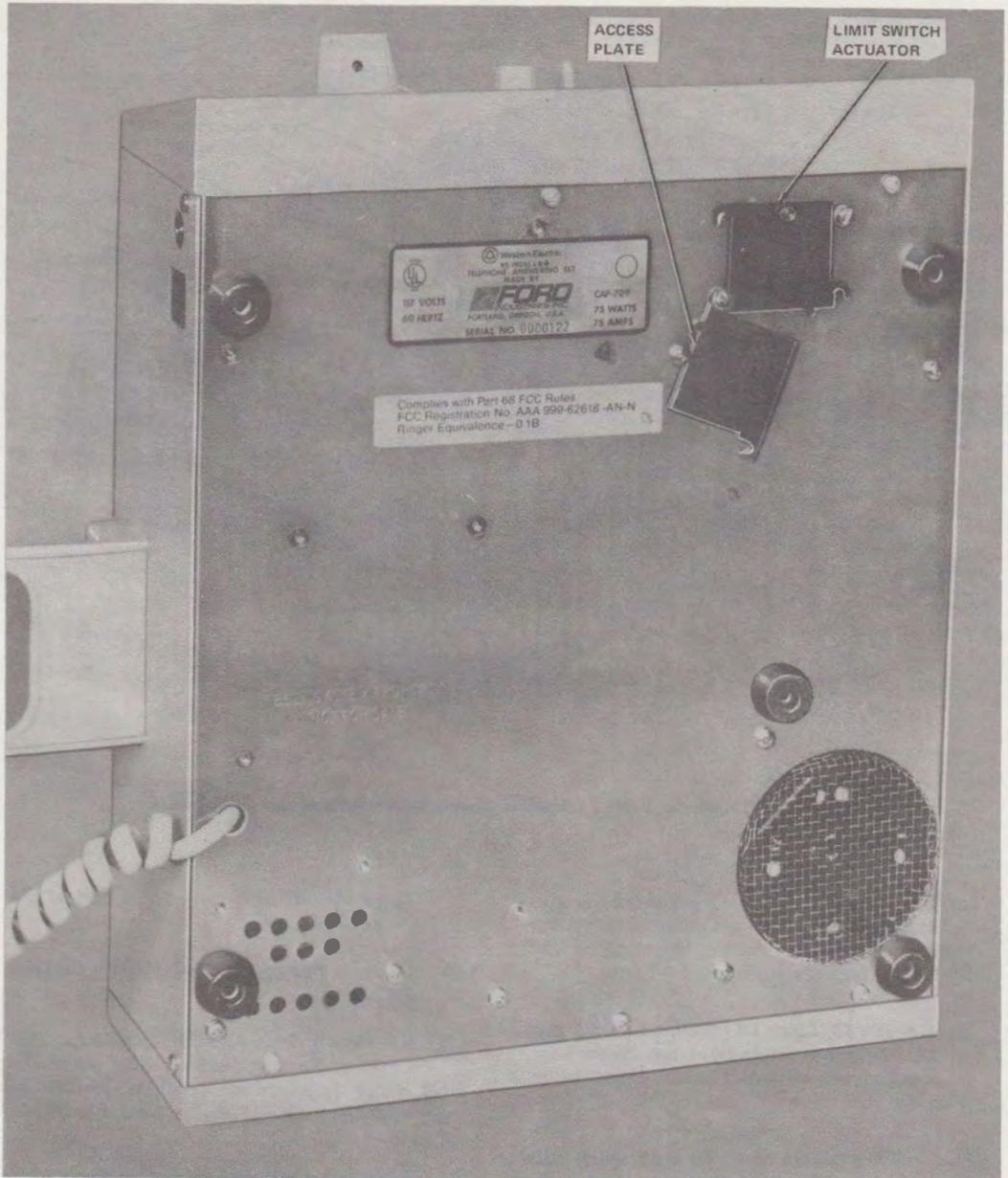
Fig. 25—KS-19245, List 1 (MD) Telephone Answering Set—Cover and Components Removed

(a) *KS-19245, List 1 (MD) Telephone Answering Set:* Solder a strap between the terminals identified with a blue dot on the KS-19245, List 5 amplifier board (Fig. 9).

(b) *KS-19245, Lists 13 (MD), 24 (MD), and 26 Telephone Answering Sets:* Move voice control from IN to OUT on List 17 logic board (Fig. 16).

This option may be employed only when other means are available for disconnecting the set at the end of a call or when provisions are made for turning the function selector switch to the off position at the end of the recording.

5.02 *Calling Party Control (CPC):* Perform the following.

(a) *KS-19245, List 1 (MD) Telephone Answering Set:* To disable calling party control, solder strap between terminals identified by a green dot on the KS-19245, List 5 amplifier board (Fig. 9).

(b) *KS-19245, Lists 13 (MD), 24 (MD), and 26 Telephone Answering Sets:* Move calling party control plug to required position per Table B (Fig. 16).
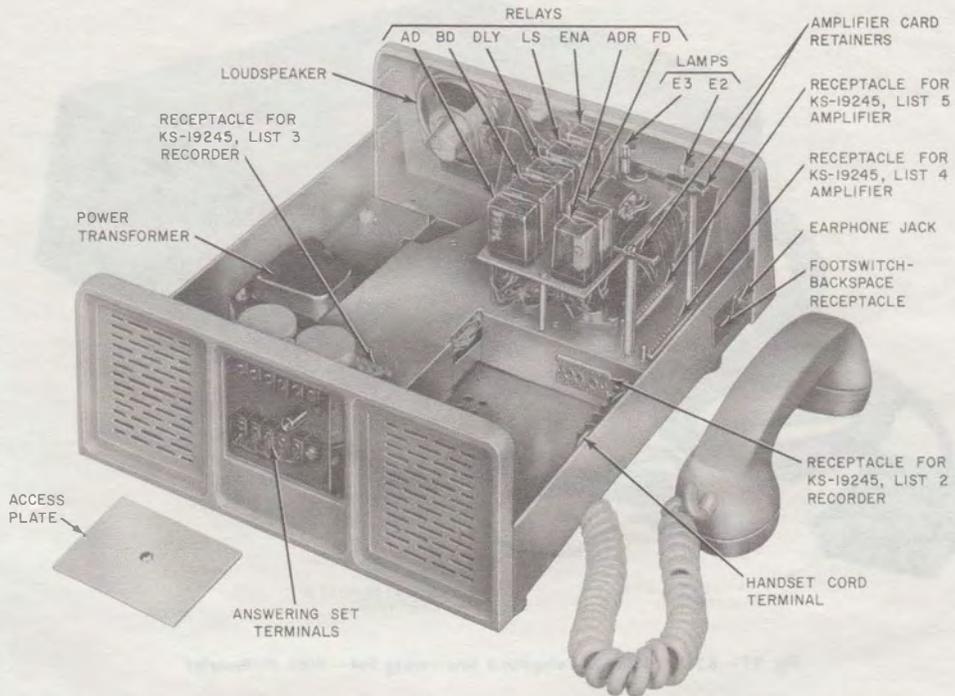
Fig. 26—KS-19245, List 13, (MD) 24 (MD), or 26 Telephone Answering Set—Cover Removed

Calling party control is provided on this set to disconnect when momentary interruption of line current occurs due to calling party disconnect. CPC options [Lists 13 (MD), 24 (MD), and 26 telephone answering sets only) are used to hold set on line during momentary interruptions due to CO or PBX reswitching (Table B).

5.03 *Speak-up (Talk-down) Tone Disable:* Perform the following.

(a) *KS-19245, List 1 (MD) Telephone Answering Set:* Remove the strap between the terminals identified by a yellow dot on the KS-19245, List 5 amplifier board (Fig. 9).

(b) *KS-19245, Lists 13 (MD), 24 (MD), and 26 Telephone Answering Set:* Move talk-down tone plug from IN to OUT on List 17 logic board (Fig. 16).

Use of this option does not affect the one second start and disconnect beep tones.

5.04 *Ring Delay Option:* KS-19245, Lists 13 (MD), 24 (MD), and 26 Telephone Answering Sets: Move ring delay plug from 1ST to DELAY on List 17 logic board (Fig. 16).

5.05 *Message Recording Capacity Option:* Adjust message recording capacity [Lists 1 (MD), Fig. 20; 13 (MD), Fig. 22; 24 (MD), Fig. 23; and 26, Fig. 24 telephone answering sets].

Warning: Damage to the message tape and answering set will result if the mes-

Page 23

KS-19245, LIST 12
BACKSPACE UNIT

KS-19245, LIST 8
FOOTSWITCH

KS-19245, LIST 9
EARPHONE

Fig. 27—KS-19245 Type Telephone Answering Set—With Accessories

sage tape end is not properly secured in the snap retainer of the take-up reel before operating set.

Note: ◆The Lists 1 (MD), 13 (MD), and 24 (MD) telephone answering sets should be shipped with the recording capacity adjusted to 2 hours. The List 26 telephone answering set is shipped with the recording capacity set for 2 hours. The maximum recording capacity is 2 hours. To adjust recording capacity proceed as follows.◆

(1) Insert plug of power cord into ac outlet.

(2) Run the set in rewind to obtain an elapsed message indicator dial reading of 0 (set will stop automatically).

Danger: Before proceeding with any further adjustments or connections, remove power cord from ac outlet.

(3) Remove access plate.

(a) Loosen two access plate mounting screws.

(b) Move plate aside.

(4) Adjust limit switch actuator (List 1 set only, Fig. 20).

(1) The List 1 (MD) telephone answering set only, Fig. 21:

(a) Loosen actuator locking screw

(b) Slide actuator to 2hr position

(c) Tighten actuator locking screw.

(2) The List 13 (MD), Fig. 23; List 24 (MD) or 26, Fig. 24 telephone answering sets. Slide the actuator to desired position. A detent will lock actuator in position (Fig. 23).

(5) Replace access plate.

5.06 Announcement Recording Capacity Option: Adjust announcement recording capacity. The List 26 telephone answering set is
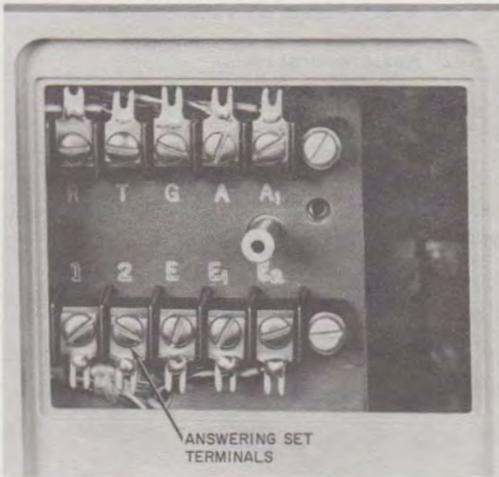
Fig. 28—KS-19245, List 1 (MD) Telephone Answering Set—Terminal Board

shipped with an announcement capacity setting of 180 seconds. Lists 1 (MD), 13 (MD), and 24 (MD) telephone answering sets should be shipped with an announcement capacity setting of 180 seconds. Announcement capacity may be adjusted for 15, 30, 45, 60, 75, 90, 120, 150, or 180 seconds. To change setting proceed as follows.

(1) Remove top cover (Fig. 1 and 25):

    (a) Remove four cover retaining screws

    (b) Remove cover.

(2) *List 1 telephone answering set only:*

    (a) Loosen amplifier board retainers (2) (Fig. 25)

    (b) Remove List 4 amplifier board.

(3) *Lists 13 (MD), 24 (MD), and 26 telephone answering sets only:*

    (a) Remove the four trimplate retaining screws (Fig. 26)

    (b) Remove trimplate.

(4) Release timer cap by carefully depressing time arm [List 1 (MD), Fig. 4; Lists 13 (MD), 24 (MD), and 26, Fig. 12 telephone answering sets).

> *Caution: Do not rotate recorder motor or tape reels by hand.*

(5) Adjust recording capacity by carefully lifting tab of timer spring from slot and rotate to position of desired interval [List 1 (MD), Fig 4; Lists 13 (MD), 24 (MD), and 26 Fig. 12 telephone answering sets].

> *Caution: Do not lift tab over raised portion of timer cap. To increase interval, rotate tab clockwise. To reduce interval, rotate tab counterclockwise.*

(6) *List 1 (MD) telephone answering set only:* Replace List 4 amplifier board and tighten retainers.

(7) *Lists 13 (MD), 24 (MD), and 26 telephone answering sets only:* Replace trimplate and secure with retaining screws.

(8) Replace top cover.

6. INSTALLATION

6.01 *Location:* Locate as follows.

    (a) Locate telephone answering set where it will be convenient for customer.

    (b) Do not place set where it will be exposed to weather or extreme heat. The supporting surface should be able to support more than 31 pounds for List 1 (MD) and 24 pounds for Lists 13 (MD), 24 (MD), and 26 telephone answering sets.

6.02 *Power:* Power provisions are as follows.

    (a) The KS-19245, Lists 1 (MD), 13 (MD), 24 (MD), and 26 telephone answering sets are designed to operate on 110/125-volt ac 60 Hz power source.

> *Warning: In no case should the answering set be connected to DIRECT CURRENT. This would result in serious damage to the answering set.*

    (b) If direct current is the only available power source, a KS-15662, List 1 inverter must be

used. Installation of this inverter is described in Section 514-112-100.

(c) A 1-ampere (3AG1) fuse is provided in these answering sets for protection.

Danger: Disconnect power cord from ac outlet before checking fuse.

(d) A List 11 power cord (shipped loose) connects to receptacle on List 1 (MD), set only (Fig. 21). Lists 13 (MD), 24 (MD), and 26 telephone answering set power cord is wired to set (Fig. 22).

(e) Customer must provide and maintain a standard ac outlet for operation of the Lists 1 (MD), 13,(MD), 24 (MD), and 26 telephone answering set. Outlet should not be controlled by a switch.

(f) In locations where only a two prong ac outlet is available, a power cord adapter, with its grounding lead connected to a ground, must be used (refer to Section 167-400-210).

6.03 *Line Connections:* Remove terminal board access plate located at the rear of the answering set (Fig. 28 or 29) and perform the following:

(a) For List 1 (MD) telephone answering set only, insert suitable mounting cord through hole provided in base of answering set (Fig. 21) and make connections for type of service required as shown in Table A.

(b) For List 13 (MD) telephone answering set only, insert a D4BU mounting cord (ordered separately) into the 623D4 jack at rear of set (Fig. 29).

(c) ◆For List 24 (MD) or 26 telephone answering set only, insert D6AP mounting cord (ordered separately) into the 623D6 jack in rear of answering set (Fig. 29).◆

(d) For List 24 (MD) or 26 telephone answering set only, to wire answering set for exclusion or overflow answering, see Fig. 37 or 38.

(e) For Lists 1 (MD), 13 (MD), 24 (MD), and 26 telephone answering set replace access plate.

6.04 *Test at Time of Installation.* Insert the power cord into ac outlet. Refer to Part 4 and check the following:

(1) Announcement recording and erasure

(2) Announcement check:

  (a) With handset

  (b) With speaker.

(3) Automatic answer - ANS and REC:

  (a) Automatic answer ready lamp

  (b) Ring-up

  (c) In-use lamp

  (d) Announcement monitoring in speaker

  (e) Transfer beep tone

  (f) Message monitoring in speaker

  (g) Talk-down tone

  (h) Voice control—timeout

  (i) Disconnect beep tone.

(4) Automatic answer - answer only:

  (a) Ring-up

  (b) Announcement monitoring in speaker

  (c) Disconnect at end of announcement.

(5) Message playback:

  (a) With handset

  (b) With speaker

  (c) With earphone (optional accessory).

(6) Fast forward and rewind of message tape

(7) Erase message

(8) Footswitch (optional accessory)

(9) Backspace unit (optional accessory).

6.05 The set should now be ready for operation. Instruct the subscriber of proper operation of set and accessories (Part 5).
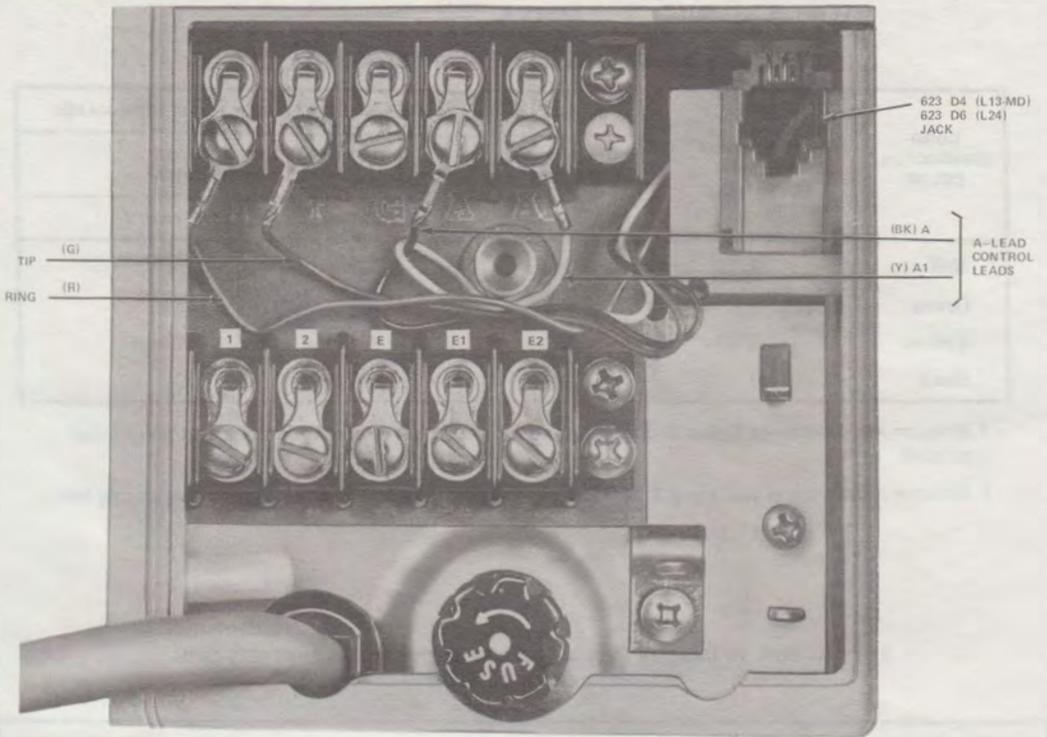
Fig. 29—KS-19245, List 13 (MD) Telephone Answering Set—Terminal Board
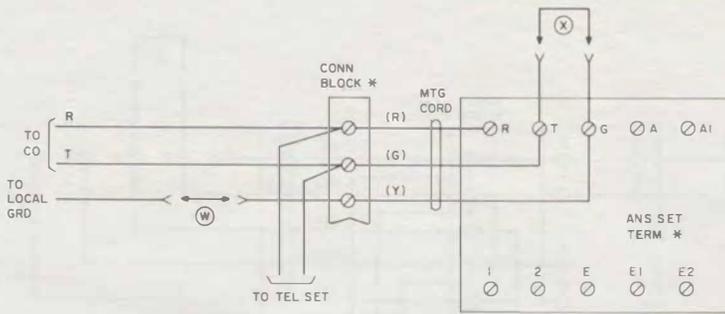
TABLE A

MOUNTING CORD CONNECTIONS

CORD CONDUCTOR COLOR	AT CONNECTING BLOCK ON TEL ANS SET	SIDE OF LINE WIRE TO WHICH CORD CONDUCTOR IS TERMINATED		
		INDIVIDUAL, PBX, OR BRIDGED SERVICE†	2-PARTY SELECTIVE OR MESSAGE RATE SERVICE*	
			RING PARTY	TIP PARTY
Red	R	Ring	Ring	Tip
Green	T	Tip	Tip	Ring
Yellow	G	NC	Ground	Ground
Black	B	NC	NC	NC

* Remove strap between T and G on telephone answering set connecting block and place local ground on G.

† Remove local ground and strap T and G punchings on telephone answering set connecting block.

TABLE B

KS-19245 LISTS 13 (MD), 24 (MD), AND 26 TELEPHONE ANSWERING SETS CALLING PARTY CONTROL SELECTIONS

| PLUG POSITION CPC FIELD (A6)	FUNCTION	TYPE CENTRAL OFFICE AND PBX
450	Set disconnects when line current is interrupted for approximately 450 milliseconds (350 to 600 ms)	Lines originating in No. 1 ESS and No. 2 ESS, or 812 PBX.
95	Set disconnects when line current is interrupted for approximately 95 milliseconds (50 to 140 ms)	Lines originating in No. 5 Crossbar, Centrex, 770, 800, 801, or 805 PBX.
6.5	Set disconnects when line current is interrupted for approximately 6.5 milliseconds (5 to 8 ms)	Standard setting. Lines originating in all electromechanical switching systems except those specified above.
0.5	Set disconnects when line current is interrupted for approximately 0.5 milliseconds.	Not normally used.
DIS	Disables Calling Party Control option. Set will not disconnect when line current is interrupted.	Use only when special arrangements do not provide line current. Disconnect arrangements must be provided.

* SEE TABLE A FOR MOUNTING CORD CONNECTIONS
OPTIONS:
(X) METALLIC RINGING
(W) GROUNDED RINGING

Fig. 30—KS-19245, List 1 (MD) Telephone Answering Set—Connections With Telephone Set Only
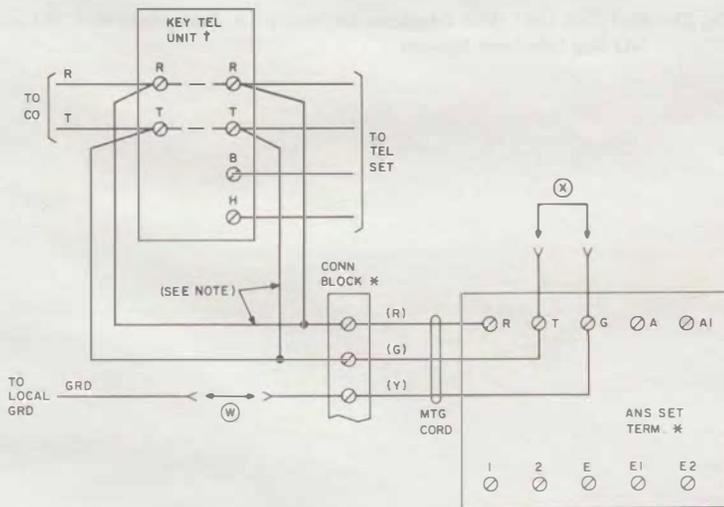
NOTE:
   ANSWER SET MAY BE CONNECTED ON EITHER SIDE OF KTU
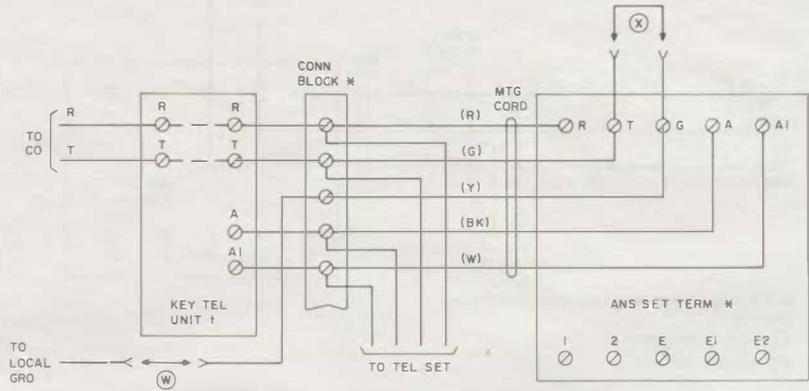
* SEE TABLE A FOR MOUNTING CORD CONNECTIONS
† FOR TERMINAL NUMBERS, SEE SECTION ON 1A KEY TELEPHONE SYSTEMS
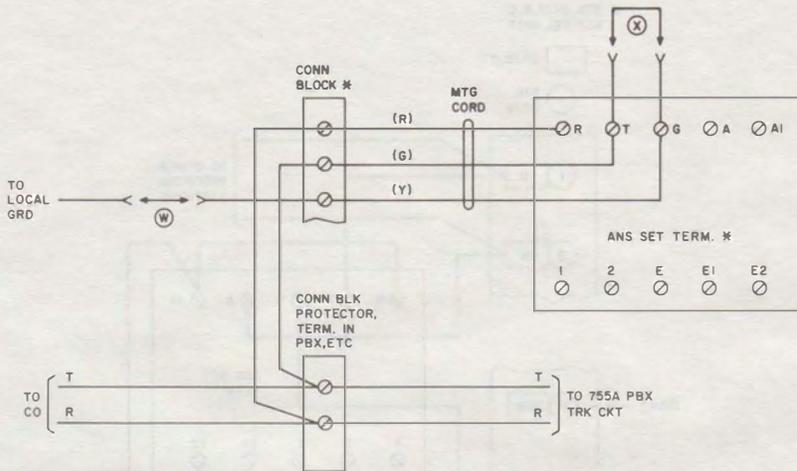OPTIONS:
(X) METALLIC RINGING
(W) GROUNDED RINGING

Fig. 31—KS-19245, List 1 (MD) Telephone Answering Set, Connections With 1A Key Telephone System

OPTIONS:
(X) METALLIC RINGING
(W) GROUNDED RINGING

Fig. 32—KS-19245, List 1 (MD) Telephone Answering Set, Connections With 1A1 and 1A2 Key Telephone Systems

* SEE TABLE A FOR MOUNTING CORD CONNECTION.
OPTIONS:
(X) METALLIC RINGING
(W) GROUNDED RINGING

Fig. 33—KS-19245, List 1 (MD) Telephone Answering Set, Connections With 755A
PBX

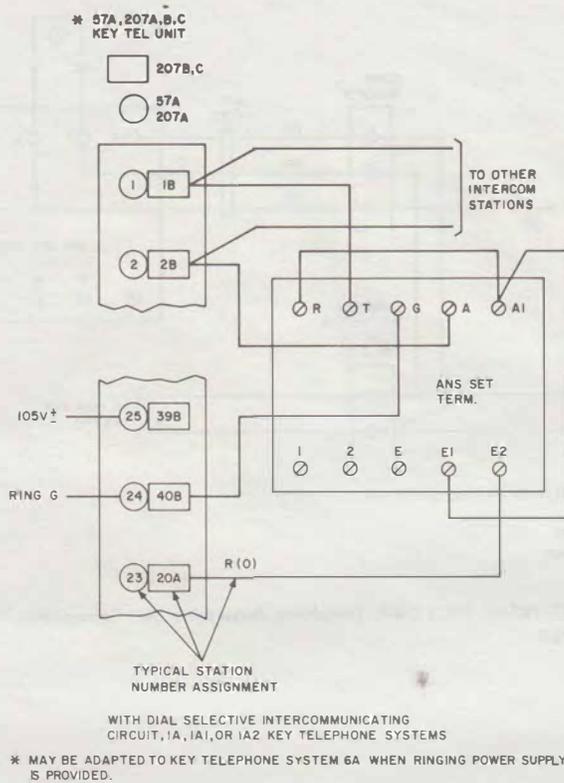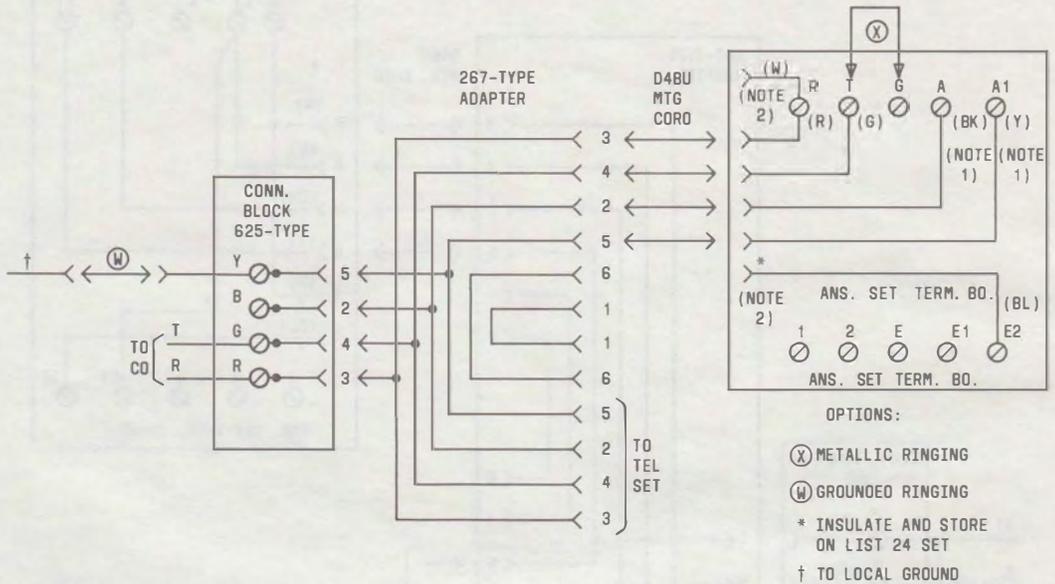Fig. 34—KS-19245, List 1 (MD) Telephone Answering Set, Connections With Dial Selective Intercom Circuit, 1A, 1A1, or 1A2 Key Telephone System

NOTES:
1. THE SET IS RECEIVED EQUIPPED FOR METALLIC RINGING AND A-LEAD CONTROL. IF A-LEAD CONTROL IS NOT REQUIRED THE BLACK (BK) ANO YELLOW (Y) LEADS MUST BE REMOVED FROM THE A AND A1 TERMINALS, INSULATED AND STORED. FOR GROUNDED RINGING, INSULATE AND STORE BLACK (BK) LEAD. CONNECT YELLOW (Y) LEAD TO TERMINAL G AND REMOVE STRAP BETWEEN TERMINALS T AND G.
2. 623D4 JACK L13, 623D6 JACK L24.

Fig. 35 — KS-19245, Lists 13 (MD), 24 (MD), and 26 Telephone Answering Sets, Connections (Four Terminal Modular)
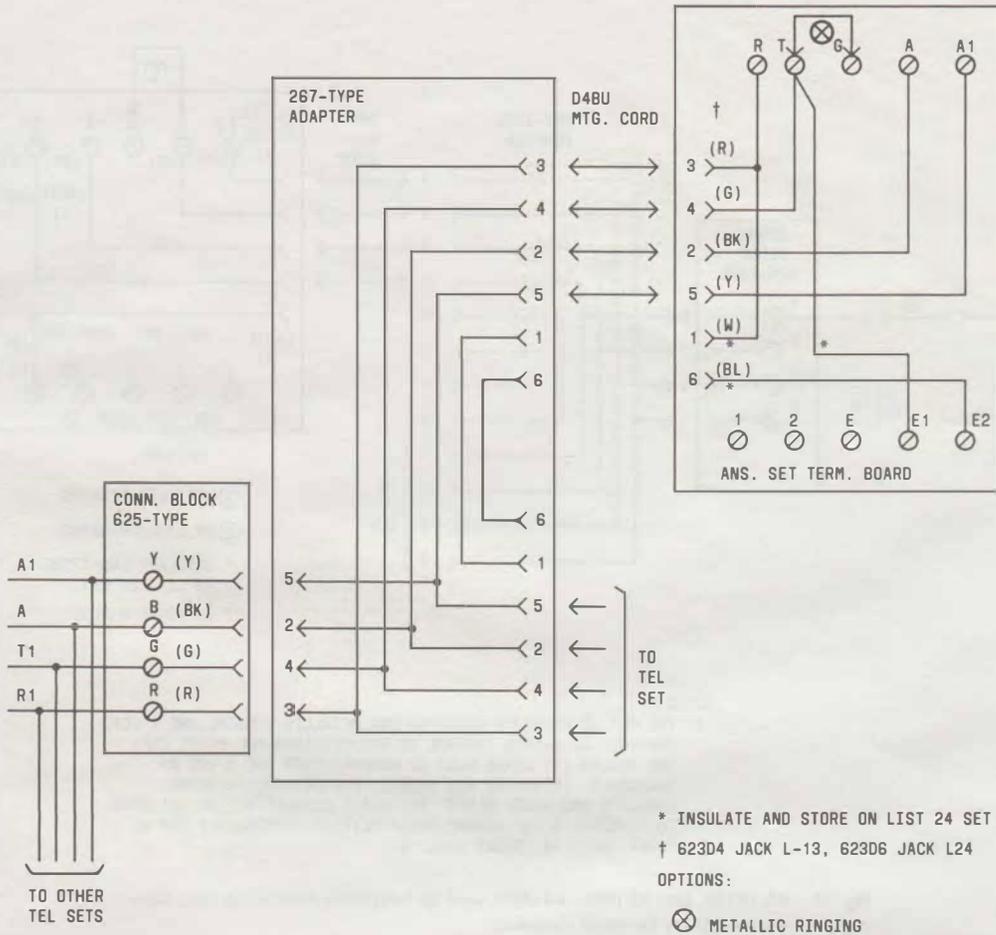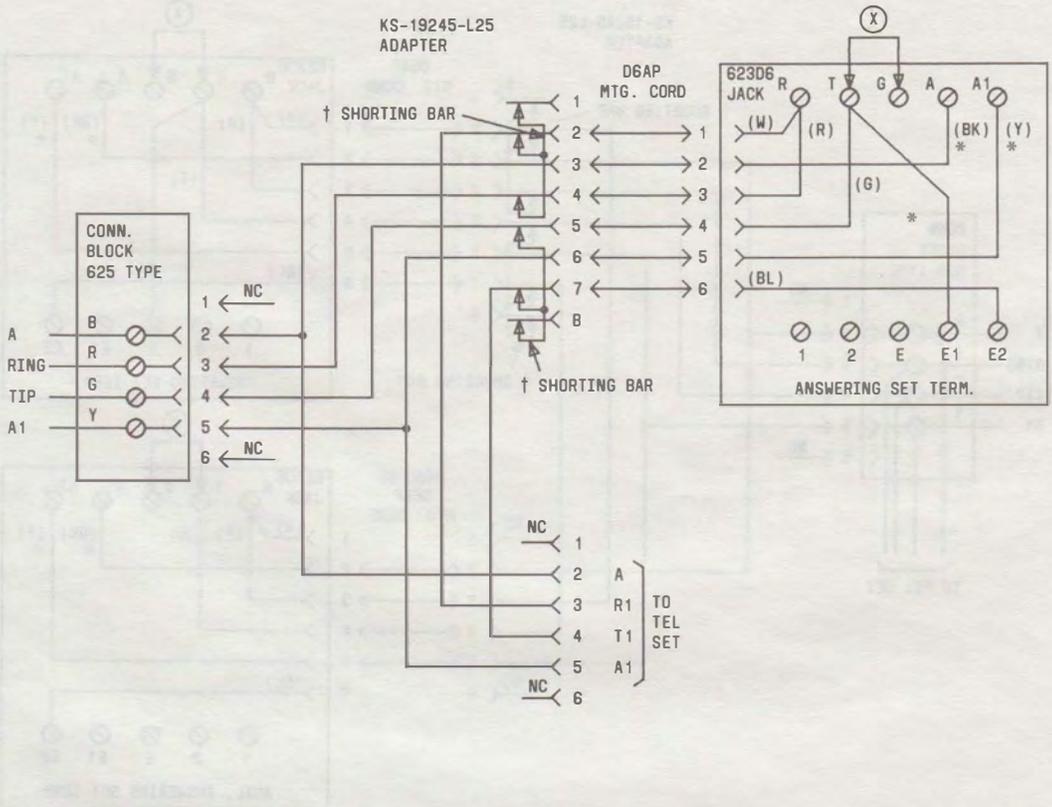
Fig. 36—KS-19245, Lists 13 (MD), 24 (MD), and 26 Telephone Answering Sets, Con-
nections for Key Telephone Systems (Four Terminal Modular)
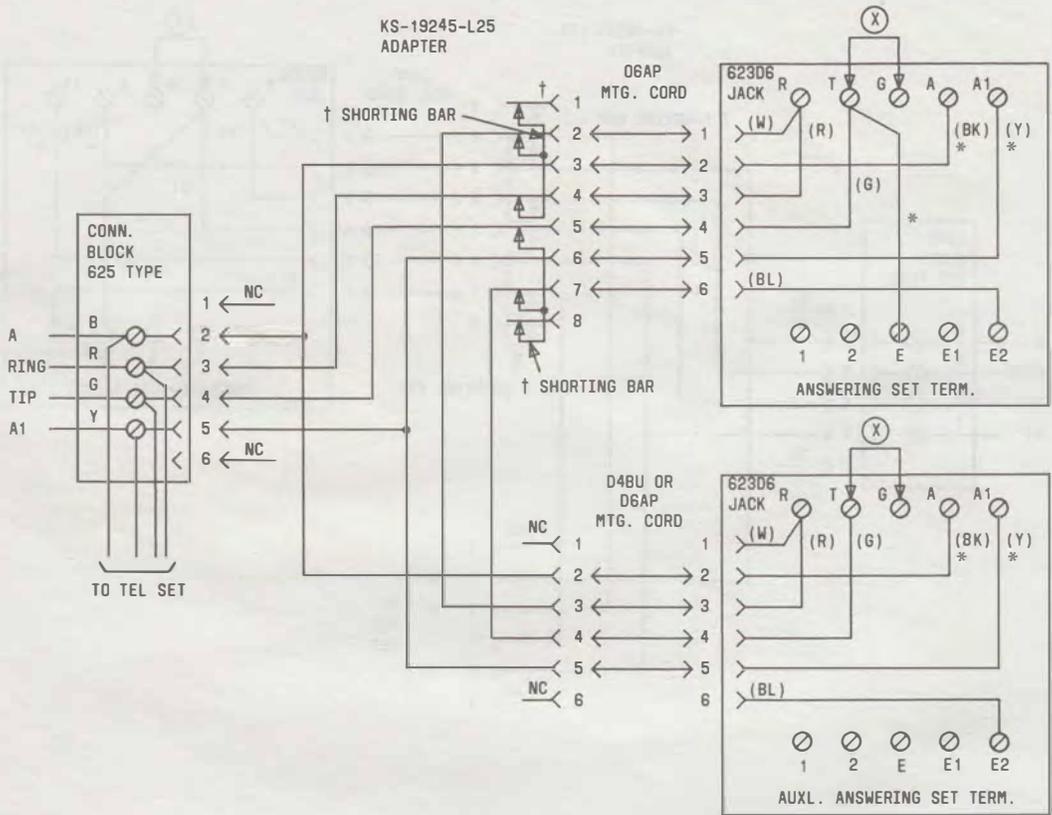
OPTIONS:

(X) METALLIC RINGING

*   IF A LEAD CONTROL IS NOT REQUIRED, THE BLACK (B) AND YELLOW (Y) LEADS MUST BE REMOVED FROM THE A AND A1 TERMINALS, INSULATED AND STORED. THE T-E CONNECTION IS AN INSTALLER SUPPLIED STRAP.

†   WHEN PLUG IS NOT INSERTED IN THE L25 ADAPTER PINS 1 AND 2 ARE SHORTED TO PIN 4 AND PIN 5 IS SHORTED TO PINS 7 AND 8. WHEN THE PLUG IS INSERTED THE SHORT IS REMOVED.

Fig. 37—KS-19245, Lists 24 (MD) and 26 Telephone Answering Sets, Connections for Telephone Set Exclusion

OPTIONS:

(X) METALLIC RINGING

* IF A LEAD CONTROL IS NOT REQUIRED, THE BLACK (B) AND YELLOW (Y) LEADS MUST BE REMOVED FROM THE A AND A1 TERMINALS, INSULATED AND STORED. THE T-E CONNECTION IS AN INSTALLER SUPPLIED STRAP.

† WHEN PLUG IS NOT INSERTED IN THE L25 ADAPTER PINS 1 AND 2 ARE SHORTED TO PIN 4 AND PIN 5 IS SHORTED TO PINS 7 AND 8. WHEN THE PLUG IS INSERTED THE SHORT IS REMOVED.

Fig. 38—KS-19245, Lists 24 (MD) and 26 Telephone Answering Sets, Connections for Overflow Messages on Auxiliary Answering Set