

## KS-19134, LIST 1 CONFERENCE SET INSTALLATION AND MAINTENANCE

### 1. GENERAL

- 1.01** This section is reissued to add microphone gain adjustment information.
- 1.02** Due to extensive changes marginal arrows have been omitted.
- 1.03** The KS-19134, List 1 conference set must be installed on individual lines. No provision has been made for use on party lines or on key systems requiring A lead control.
- 1.04** The telephone line on which this set is used should be quiet and free of extension stations that could interfere with conference calls.
- 1.05** The set is equipped with an E-type ringer wired for bridged ringing. For ringing limitations it may be considered as one high-impedance bridge.



*In any installation including a microphone, an amplifier, and a loudspeaker, a certain amount of sound from the loudspeaker reenters the microphone. This sound, when sufficiently amplified, becomes a continuous ringing tone commonly referred to as feedback.*

**1.06** Feedback may be reduced by:

- Decreasing amplifier gain
- Proper orientation of the loudspeaker(s) in relation to the microphone(s)
- Increasing the separation between microphone and loudspeaker
- Reduction of the number of microphones and/or loudspeakers

**1.07** Since the acoustics of the various rooms where the KS-19134, List 1 conference set may be used will vary widely, the following suggestions may aid in obtaining optimum performance:

- For small audiences and/or rooms, use one loudspeaker.
- Use one microphone for one or two persons at the conference table; for three or more persons use two microphones.
- Always place the loudspeaker(s) at the back of the microphone(s) with the front of the loudspeaker(s) aimed away from the microphone(s).

**1.08** The cords connecting the apparatus should be placed to avoid aisles, furniture, and work areas in the conference room.

**1.09** Fig. 1 is a block diagram of a typical installation.

### 2. INSTALLATION

**2.01** Install KS-19134, List 1 conference set as follows:

- (1) Turn all controls and switches to OFF position.
- (2) Terminate telephone line on TB1 terminals 6 and 7 on the amplifier control unit (Fig. 2). A two-conductor mounting cord or station wire may be used.
- (3) Connect speaker plugs to jacks 3 and 4 (Fig. 3).
- (4) Plug operator set into jacks 5 and 6 (Fig. 3).
- (5) Plug microphone cord into jack 2 (Fig. 3). A "Y" adapter is provided for connecting two microphones.

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(6) Plug power cord into 115- to 120-volt 60 cps receptacle.

(4) Set function switch to REPRODUCE IN-  
COMING AND OUTGOING.

**2.02 Operation Test Using 53-Type Operator Telephone Set:**

(5) Dial call using dial on front panel.

(1) Set LIMITER and SPEAKER VOLUME controls to maximum counterclockwise position.

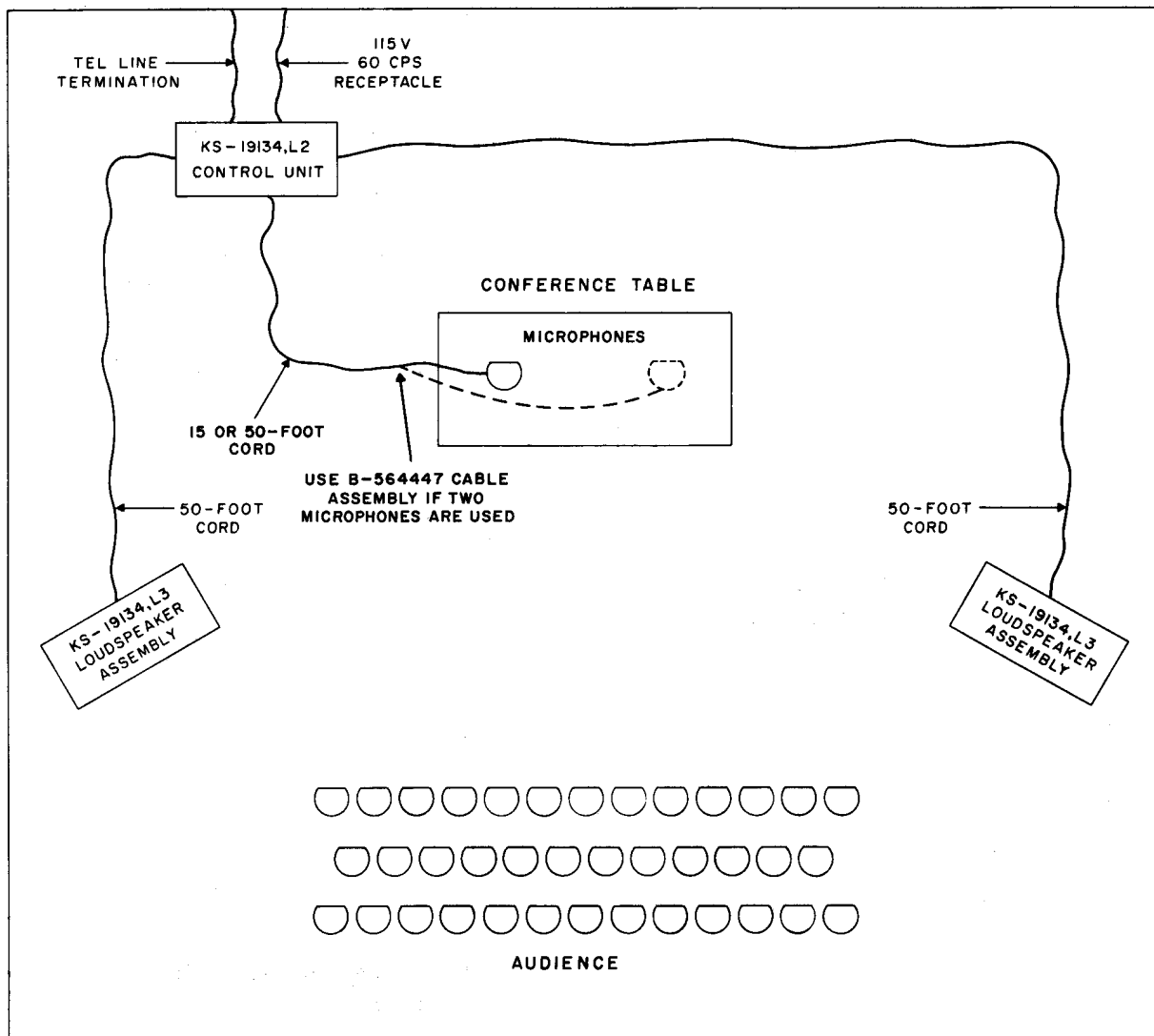
**2.03 To Use Loudspeaker System After Call Is Established:**

(2) Set OPERATOR SET key to TALK.

(1) Set TEL LINE switch to ON.

(3) Operate LOUDSPEAKER key to OFF.

(2) Set OPERATOR SET key to OFF or MON.



**Fig. 1 — Block Diagram**

(3) Adjust LIMITER control clockwise until weakest received speech causes volume unit (vu) meter pointer to kick to the red line (approximately 10 vu).

(4) Operate LOUDSPEAKER key to ON.

(5) Adjust SPEAKER VOLUME control to obtain desired level from loudspeakers.

**2.04 To Place a Call Using Modified 701B Telephone Set:**

(1) Plug modified 701B telephone set into jack 2.

(2) Set OPERATOR SET key to OFF or MON.

(3) Set function switch to REPRODUCE INCOMING AND OUTGOING.

(4) Set TEL LINE switch to ON.

(5) Remove handset from cradle and dial call, using dial on telephone set.

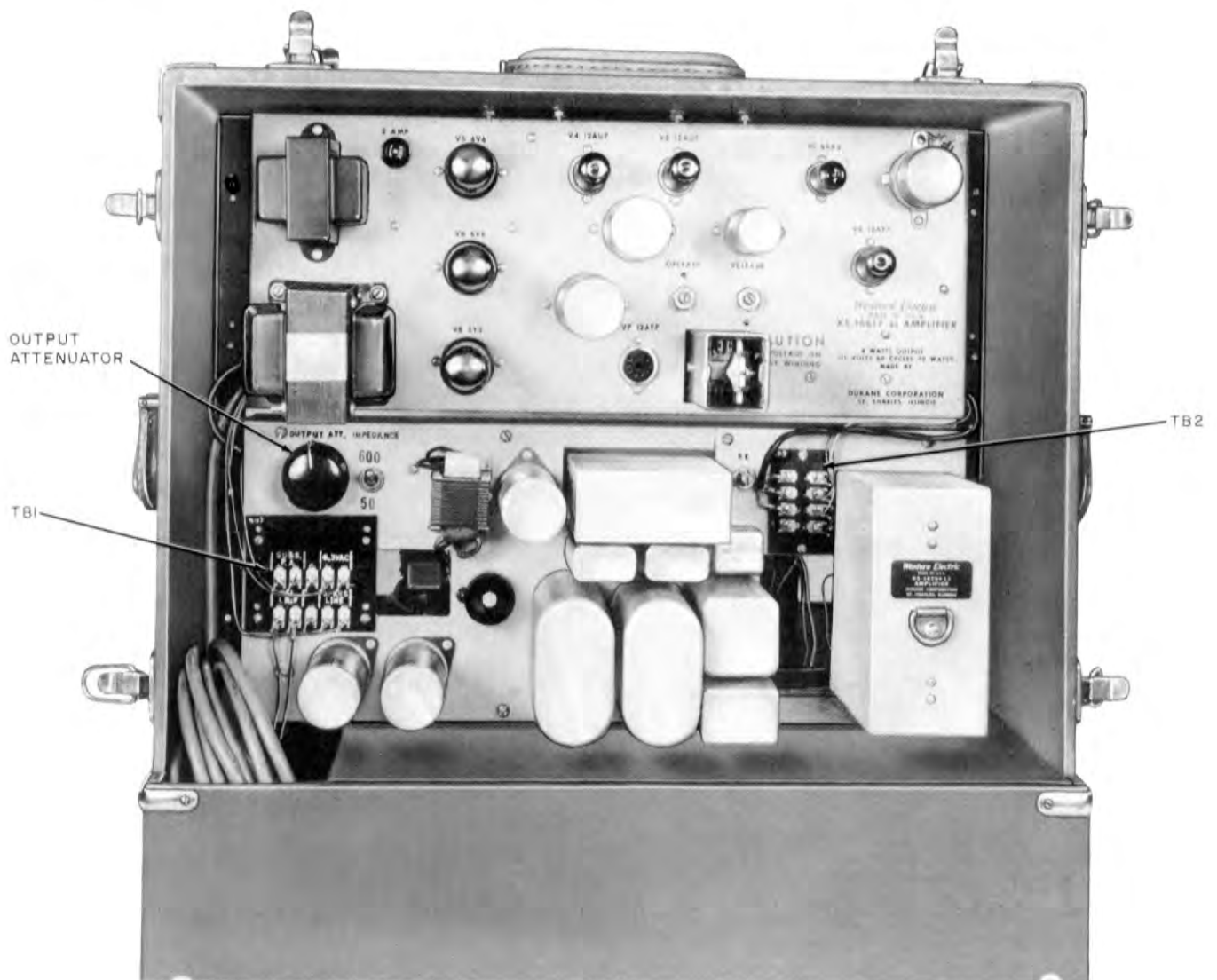


Fig. 2 — KS-19134, List 1 Conference Set (Rear View)

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(6) To use loudspeaker equipment, follow same procedure as in 2.03.

**2.05 To Receive Incoming Calls:**

- (1) Set function switch to **REPRODUCE INCOMING AND OUTGOING**.
- (2) Set **TEL LINE** switch to **ON** and remove handset from cradle, if telephone set is to be used.
- (3) Calls may be answered with operator set by setting **OPERATOR SET** key to **TALK**.
- (4) To use loudspeaker system after call is answered proceed as in 2.03.

**2.06** To disconnect after incoming or outgoing calls, set **TEL LINE** switch and **OPERATOR SET** key to **OFF**.

**2.07** To instruct the subscriber in the use of this equipment, use 2.04 through 2.09 inclusive as a guide.

**2.08 Installation With Subscriber-Owned Public Address or Paging Systems:**

- (1) Connect input of subscriber equipment to **KS-19134, List 1** conference set with shielded wire. Terminate conductors to **TB1** terminals 1 and 2. The shield must be connected only at the subscriber equipment. **The**



**Fig. 3 — KS-19134, List 1 Conference Set (Front View)**

*shield should be insulated from the control unit chassis to avoid possible interference between the units.*

- (2) Set LOUDSPEAKER key on control unit to EXT.
- (3) Set IMPEDANCE switch on rear of control chassis to 600 $\Omega$  or 50 $\Omega$  to match subscriber equipment.
- (4) Adjust OUTPUT ATT. control for best operation of subscriber amplifier.
- (5) Control loudspeaker level from subscriber amplifier.

### 2.09 Installation With Subscriber-Owned Loudspeakers:

**Note:** The speakers must be equipped with matching transformers connected for 70-volt line operation.

- (1) Connect subscriber speakers to TB1 terminals 9 and 10 on control unit. Use two-conductor station wire or equivalent.
- (2) The speaker system should be capable of handling at least 8 watts of audio power to avoid damage to the speakers.

## 3. MAINTENANCE

**3.01** Except for gain adjustment described in 3.02, field maintenance of the KS-16617, List 1 amplifier should be limited to the correction of obvious defects such as loose or broken connections, the replacement of defective vacuum tubes, and the replacement of fuses.

**3.02** Low speech level from the local microphone or modified 701B telephone set to the telephone line as evidenced by inadequate loudspeaker volume in reproducing outgoing speech, or excessively high speech level as evidenced by system singing (feedback) should be corrected by adjusting the microphone amplifier gain control on the KS-16617, List 1 amplifier as follows:

- (1) Complete a test call following the procedure in 2.02 or 2.04.

- (2) Transfer the call to the loudspeaker system as in 2.03.

- (3) Set function switch to REPRODUCE INCOMING AND OUTGOING.

- (4) Remove plug button to the left of SPEAKER VOLUME CONTROL (Fig. 3) on the front panel of the KS-16617, List 1 amplifier. The exposed screwdriver adjustment controls the speech level from the conference set to the telephone line. Turn this control to its maximum counterclockwise position.

- (5) An announcement of as low a level as would normally be expected should be originated at the conference set microphone. During the announcement, the screwdriver adjustment should be turned clockwise *only as far as necessary* to produce a comfortable listening level at the distant end. With the microphone gain adjusted properly, the incoming and outgoing speech should be of approximately equal volume as heard over the loudspeakers.

- (6) Replace the plug button covering the screwdriver adjustment.

- (7) The microphone gain is preset at the factory and should not, *under normal conditions, require attention. DO NOT* perform this adjustment unless there is sufficient evidence to warrant it.

**3.03** The component parts of the control unit, such as dials, jacks, keys, and coils, should be maintained in accordance with the practices covering the particular item.

**3.04** The modified 701B telephone set should be maintained in accordance with the section entitled Telephone Sets 701-, 702-, 711-Type, Maintenance.

**3.05** Field maintenance of the 682A Altec microphone and the KS-16504, List 3 handset transmitter is not recommended.

**3.06** Field maintenance of the List 3 loudspeaker assembly is not recommended.

**3.07** Fig. 4 is a schematic of KS-19134, List 1 conference set.

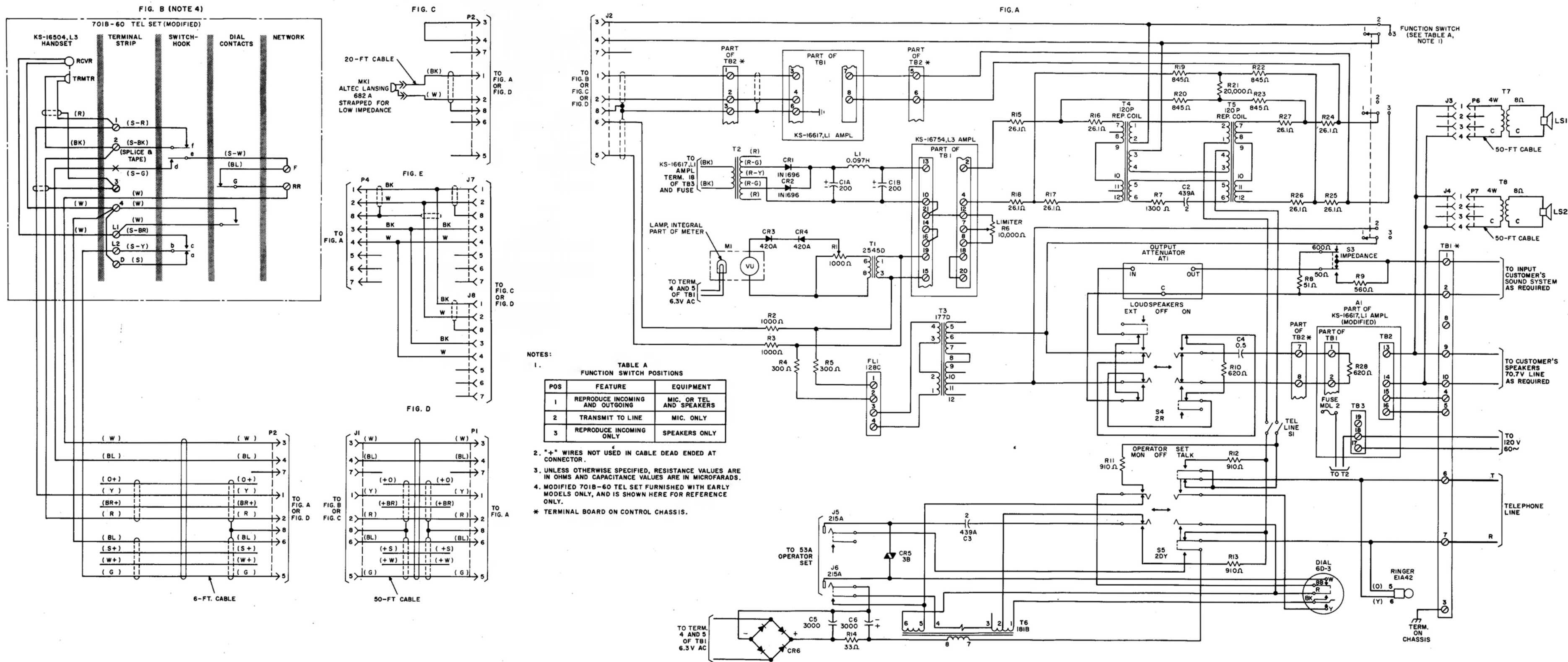


Fig. 4 — KS-19134, List 1 Conference Set, Schematic