

100A CONFERENCE SYSTEM USED WITH A 50A1 CONFERENCE SET

IDENTIFICATION, INSTALLATION, OPERATION, AND MAINTENANCE

1. GENERAL

1.01 This section contains information on the 100A conference system when connected to a 50A1 conference set (Fig. 1). The 100A conference system consists of a 1A (linear array) microphone, 106A control unit (controller), an optional 114A loudspeaker set, KS-21239L5 transformer, and a 122A connecting unit. The M9K and M15L cords are used to connect the units together (Fig. 1).

1.02 Whenever this section is reissued, the reason(s) for reissue will be listed in this paragraph.

Warning: *The 1A microphone, 114A loudspeaker set, and 106A control unit are portable and can be moved between conference rooms and/or buildings containing a telephone company installed 122A connecting unit. To assure safe transportation of the 1A microphone, it must be transported in the specially designed telephone company provided carrying case. The 1A microphone should never be picked up by the vertical mast. Microphone should be handled and carried from base only.*

1.03 The 100A conference system has been designed as an adjunct to enhance the capabilities of the present teleconferencing equipment. The 1A microphone is designed so that speech from persons either seated or standing within a 1.5- to 12-foot radius of the 1A microphone will be picked up at approximately the same voice level. At the same time it will shun reflected noise from walls and ceiling. These characteristics permit a single 1A microphone to cover a relatively large room without the clutter of multiple microphones and at the same time substantially reduces the "barrel effect" resulting from reflective sound. The 114A loudspeaker set connects directly under the microphone base for a compact unit. The 1A microphones (without 114A

loudspeaker sets) can be connected in tandem for larger conference rooms. Control units and buttons are covered in Part 2 of this section.

1.04 The 100A conference system also can be used with the 4A speakerphone system and the group audio teleconferencing terminal (WA7400038L1A). See Sections 481-100-100 and 481-100-102, respectively.

2. IDENTIFICATION

2.01 The 1A microphone is composed of 28 miniature microphones mounted in a polished rectangular 32-inch vertical aluminum mast. The mast has two recessed black vertical stripes, one on each of the narrow sides. The 6-inch square ivory base and contains four (4) light-emitting diodes (LEDs) (mike on off indicators), one on each of the top beveled edges. The top of the base is covered with a black faceplate through which the mast and two nonlocking mike off buttons protrude (Fig. 2).

2.02 The 114A loudspeaker set (ivory with a black shirt) transmits sound in all directions (Fig. 3). The loudspeaker set mounts underneath and plugs directly into the 1A microphone eliminating the need for a connecting cord.

2.03 The 106A control unit (ivory with black faceplate) contains a volume control potentiometer, ON and OFF pushbuttons with associated LED, and an electronic locking (MIKE ON OFF) button (Fig. 4).

2.04 The 122A connecting unit is an interface unit between the various system components. It is also a diagnostic test unit for the system. The LEDs inside the 122A connecting unit are indicators for the diagnostic circuitry which along with associated test procedures, are used to isolate troubles in the system (Fig. 5, 6, and 7).

2.05 The KS-21239L5 transformer supplies power to the 100A conference system.

NOTICE

Not for use or disclosure outside the
Bell System except under written agreement

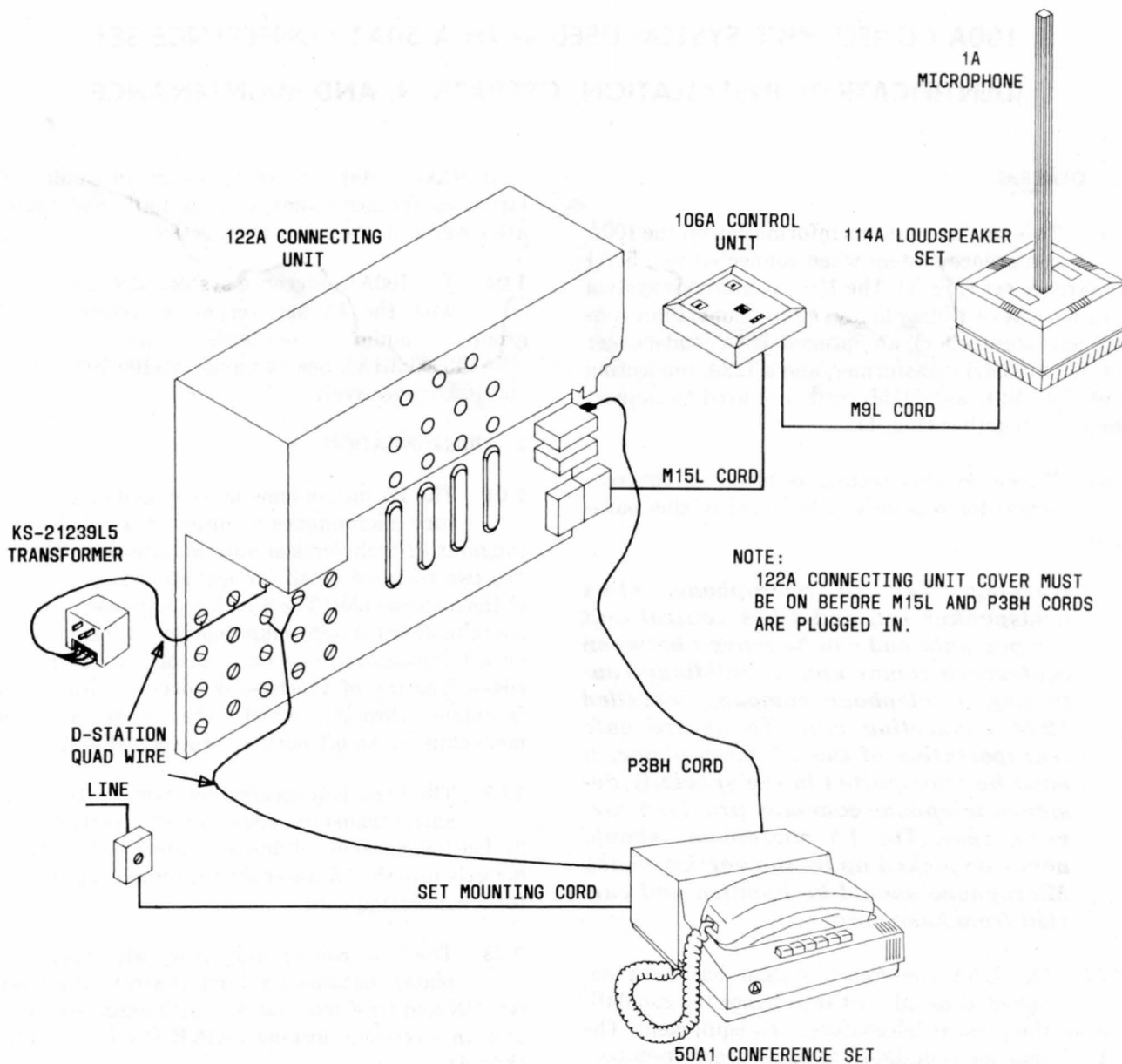


Fig. 1—100A Conference System Connected to a 50A1 Conference Set

2.06 Ordering guide is as follows:

(a) The 100A conference system is a modular adjunct and may be ordered as follows:

- Microphone, 1A (103559944)
- Set, Loudspeaker, 114A (103558797)
- Unit, Control, 106A (103558805)
- Unit, Connecting, 122A (103558821)
- Transformer (KS-21239L5) (401823778)
- Cord, M9K-12 (12-foot) (103687356)
- Cord, M9K-30 (30-foot) (103687364)

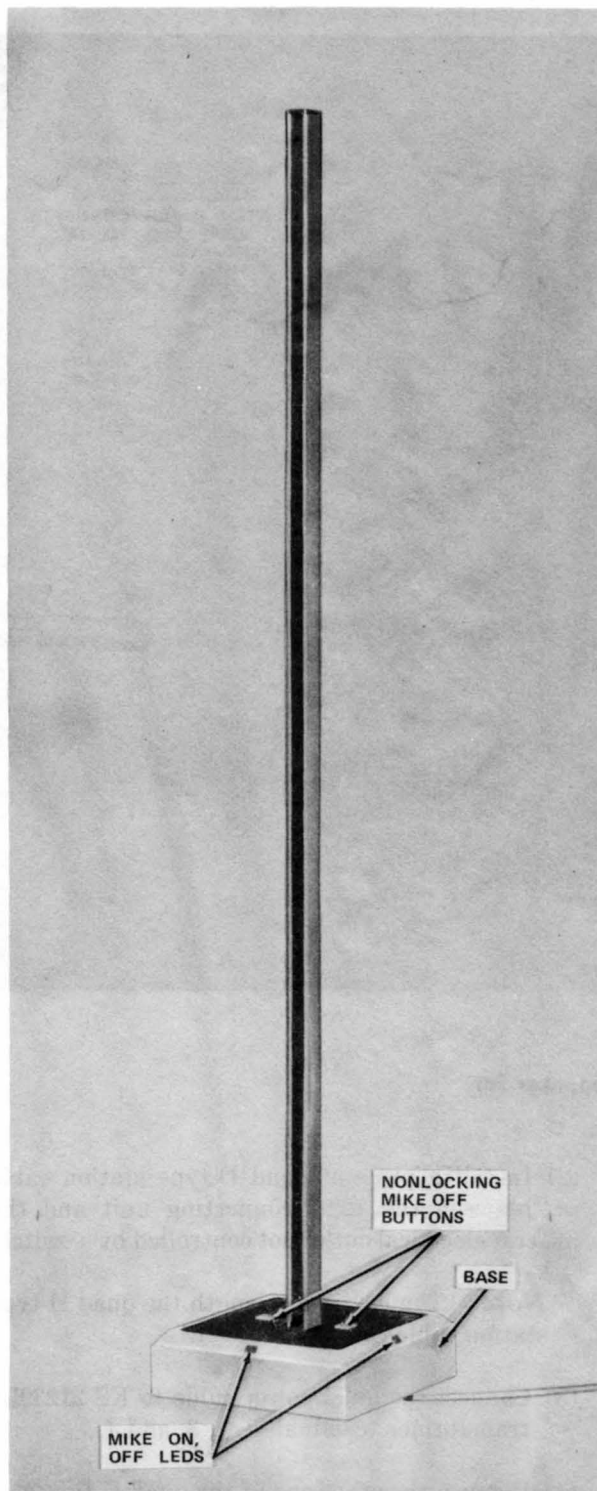


Fig. 2—1A Microphone

- Cord, M15L-25 (25-foot) (103687372)
- Cord, M15L-50 (50-foot) (103687380)
- Case, Carrying, 1A Microphone (900674219).

(b) The 50A1 conference set can be ordered as:

- Set, Conference, 50A1.

(c) An additional cord is required, order as follows:

- Cord, P3BH.

2.07 Design features are as follows:

- Modular cord connected
- Portable
- Latch together 1A microphone and 114A loudspeaker set
- 1A microphones can be connected together (maximum of four without 114A loudspeaker sets)
- Operational indicating LEDs
- Mike off buttons
- Omnidirectional loudspeaker
- Self-contained diagnostic trouble-shooting capability
- Compatible with WA7400038L1 group audio teleconferencing terminal and 4A speaker-phone system
- Compatible with both rotary and TOUCH-TONE® service.

Note: The 1A microphone and 114A loudspeaker set is designed to be used directly on a conference table (without padding) located in the middle of a room. Performance of the system may be affected when used on a table located against a wall.

3. INSTALLATION

3.01 To install a 100A conference system to a 50A1 conference set proceed as follows.

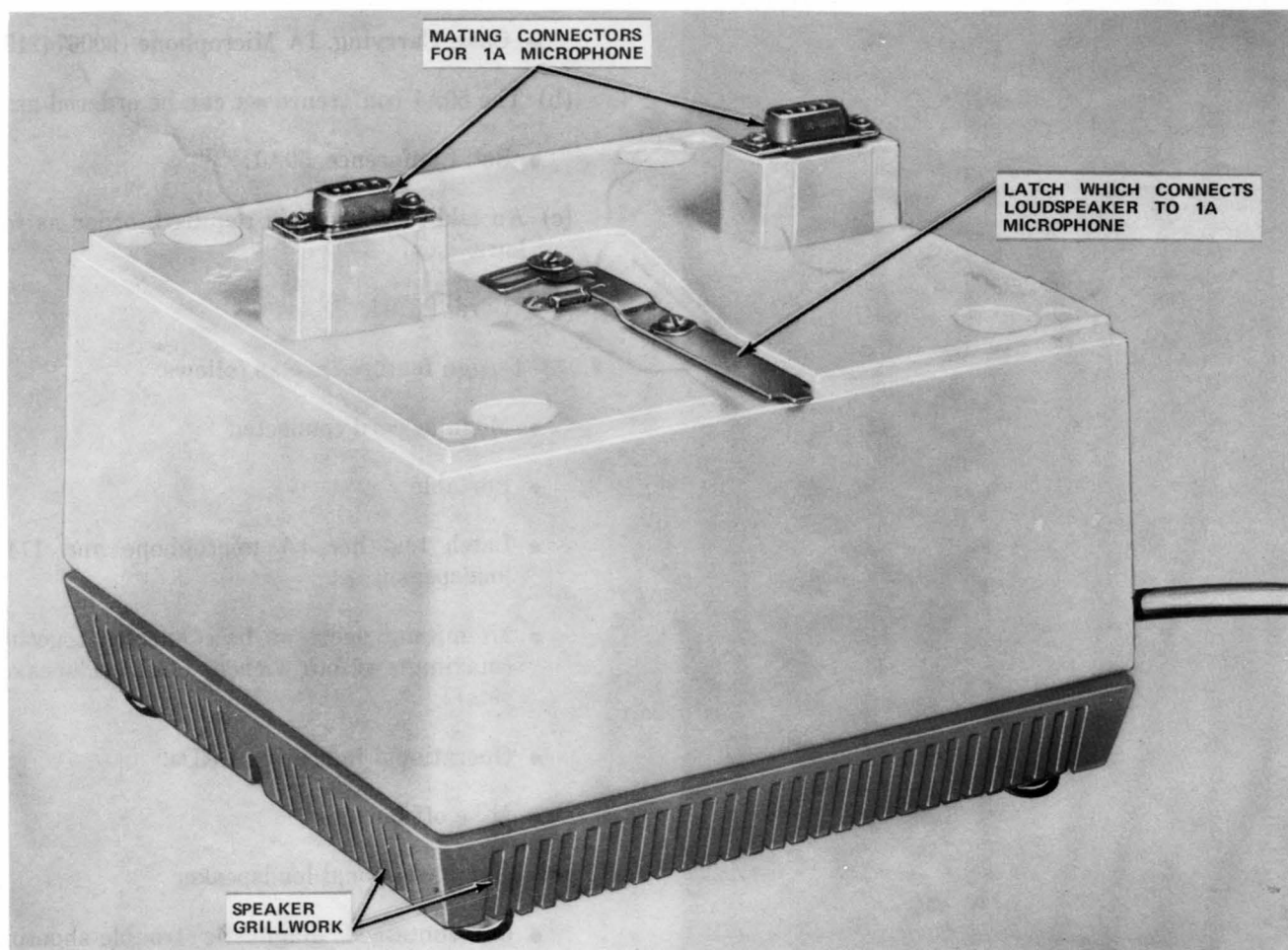


Fig. 3—114A Loudspeaker Set

Note 1: If the 50A1 conference set is also being installed new, see Section 512-630-111 for installation connections and tests.

Note 2: The 122A connecting unit should be located in a convenient location to accept the cords from the 50A1 conference set.

- (1) Connect the P3BH cord between jack designated 50A1 on the 122A connecting unit and either the GREEN MIKE or GOLD MIKE jack on the 50A1 conference set.

- (2) Install a piece of quad D-type station cable between the 122A connecting unit and the nearest electrical outlet not controlled by a switch.

Note: The maximum length the quad D-type station cable can be is 78 feet.

- (3) Connect the quad power cable to KS-21239L5 transformer terminals 1, 2, 3, and 4.
- (4) Connect the other end of the quad D-type station cable to the corresponding 122A connecting unit terminals T1, T2, T3, and T4.

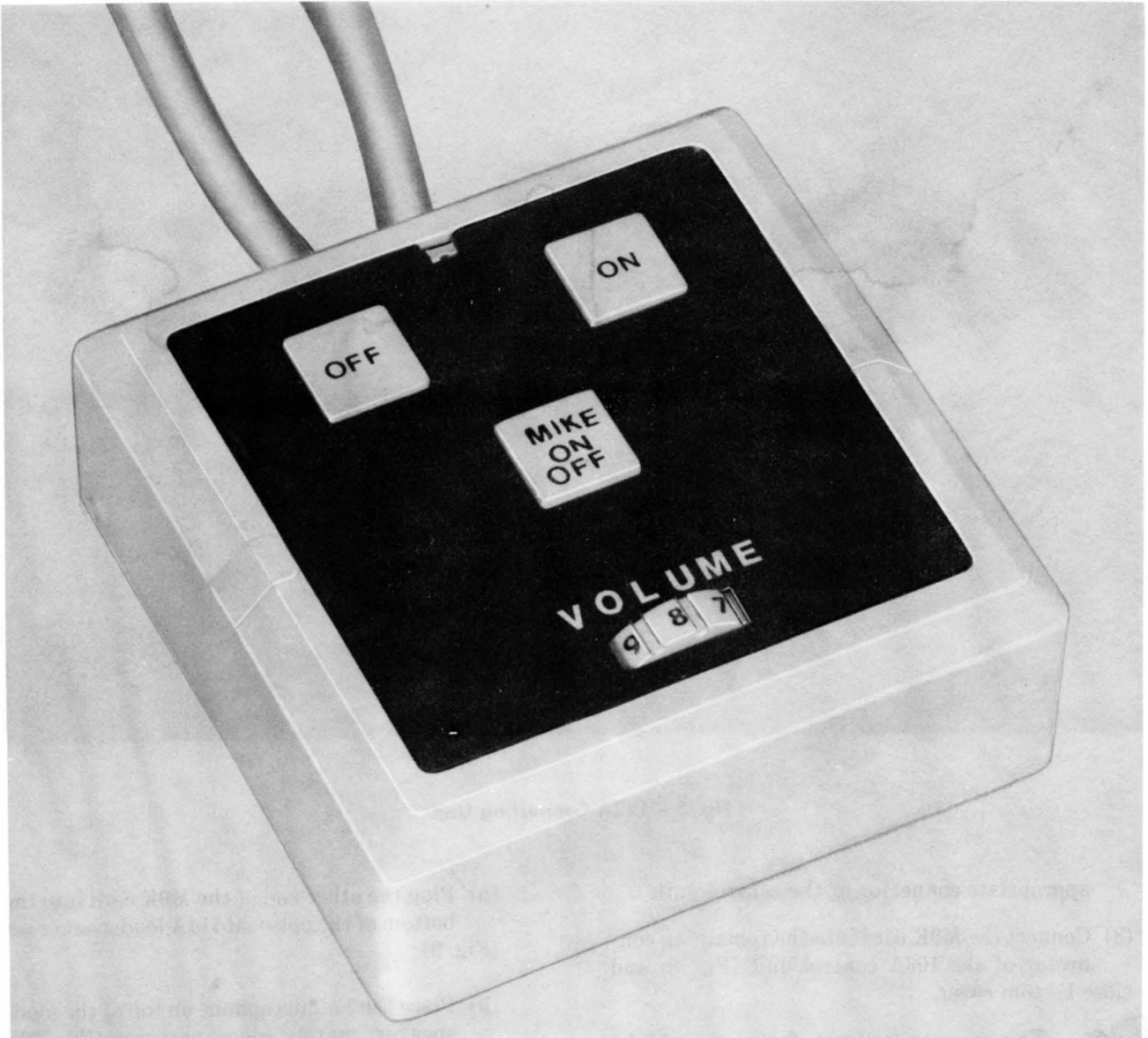


Fig. 4—106A Control Unit

Note: Both the KS-21239L5 transformer and the 50A1 conference set power cords must be plugged in for proper operation of the system.

- (5) Plug the M15L cord into the appropriate 122A connecting unit receptacle designated CONTROL UNIT on cover.

Note: Do not remove the plastic caps from the four (4) unused 25-pair amphenol connectors in the 122A connecting unit. Removal of these caps may cause future repair problems due to moisture and foreign matter contaminating connectors.

- (6) Place the 106A control unit upside down and unsnap the hinged bottom cover, exposing two connectors.
- (7) Plug the other end of the M15L cord into the



Fig. 5—122A Connecting Unit

appropriate connector of the control unit.

- (8) Connect the M9K cord into the remaining connector of the 106A control unit (Fig. 8) and close bottom cover.



The power output from the 50A1 conference set loudspeaker is greater than the 114A loudspeaker set and provides adequate coverage up to 24 feet. Therefore, a 114A loudspeaker set mounted under the 1A microphone should not be necessary. However, if the 1A microphone, 114A loudspeaker set combination is desired, only ONE such assembly can be supported by the 122A connecting unit power supply.

- (9) If the 114A loudspeaker set is used, proceed as follows:

- (a) Plug the other end of the M9K cord into the bottom of the optional 114A loudspeaker set (Fig. 9).

- (b) Place the 1A microphone on top of the loudspeaker, mating plugs properly (Fig. 10). Check that the slide latch is engaged, locking both units together.

- (c) Remove the link between the two center screw terminals on the underside of the 50A1 conference set (Fig. 11). Connect a pair of wires between the inner two terminals and terminals SP1 and PA on the 122A connecting unit.

- (10) If the loudspeaker in the 50A1 conference set is to be used, plug the M9K cord directly into the 1A microphone.

Note: A maximum of four 1A microphones (without loudspeaker sets) can be connected

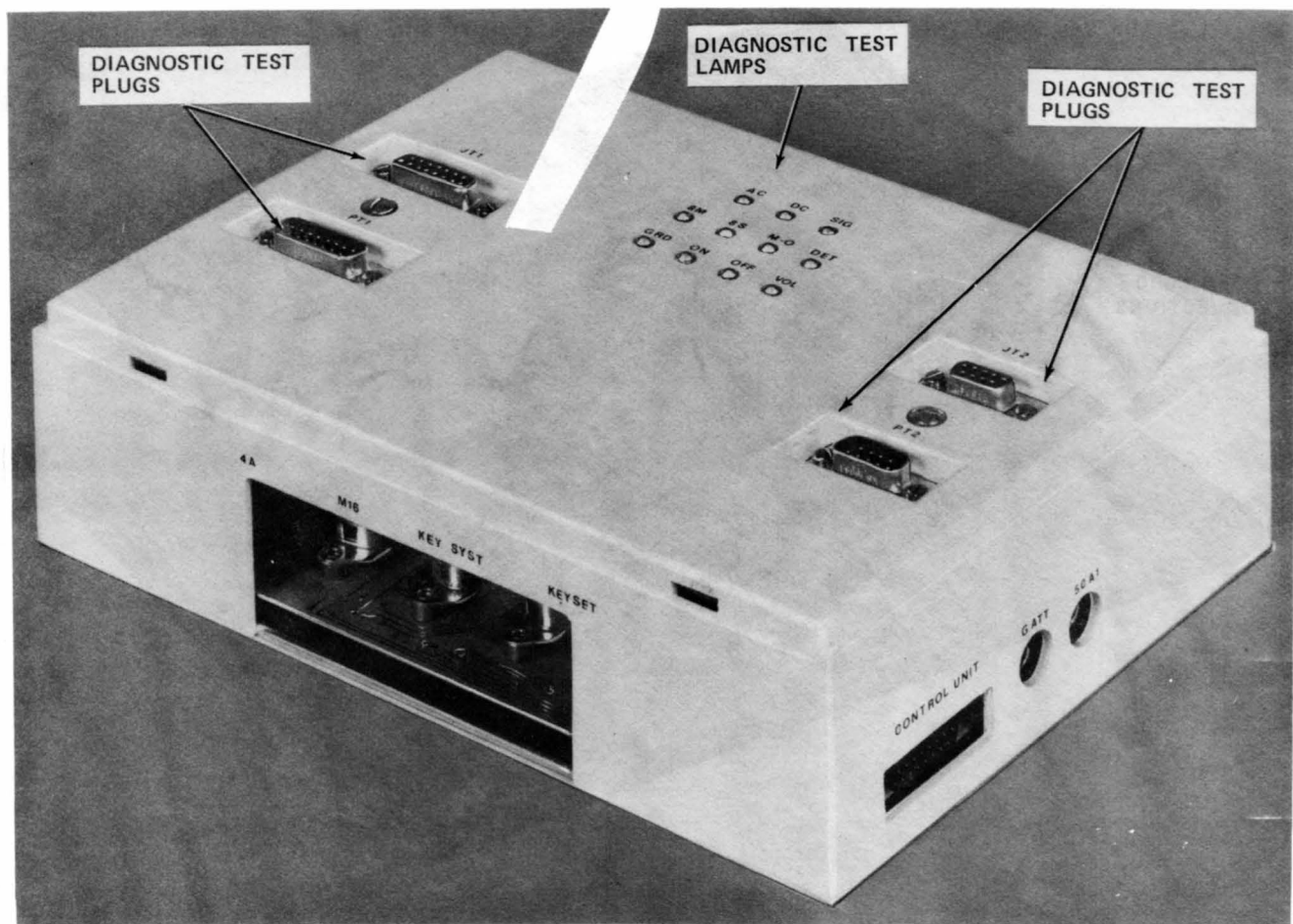


Fig. 6—122A Connection Unit With Test Cover

together. This can be accomplished by plugging an M9K cord into the remaining unused connector of the 1A microphone and adding additional units. The maximum length of connector cord that can be used between the 122A connecting unit and the last 1A microphone connected is 200 feet. If a 114A loudspeaker set/1A microphone combination is used, the maximum cord length is 100 feet.

- (11) The 122A connecting unit contains five (5) option plugs P4 through P8 with strapping connectors. Plug P4 has the strapping connector encompassing both pins. Plugs P5 through P8 come with the strapping connectors encompassing only one pin. The strapping connectors on plugs P5 through P8 must be moved to encompass both pins of their respective plugs.

4. TEST AND OPERATION

4.01 Make a test call on the 50A1 conference set and proceed as follows.

- (1) Depress the 106A control unit ON button. All 1A microphone LEDs (1A microphone on off indicators) and the 106A control unit LED light. The 1A microphone and optional 114A loudspeaker set, if used, are activated.
- (2) Depress appropriate 50A1 conference set remote mike button (GREEN or GOLD).
- (3) Return handset to its cradle.
- (4) Adjust volume control on 50A1 conference set and check that loudspeaker volume varies.

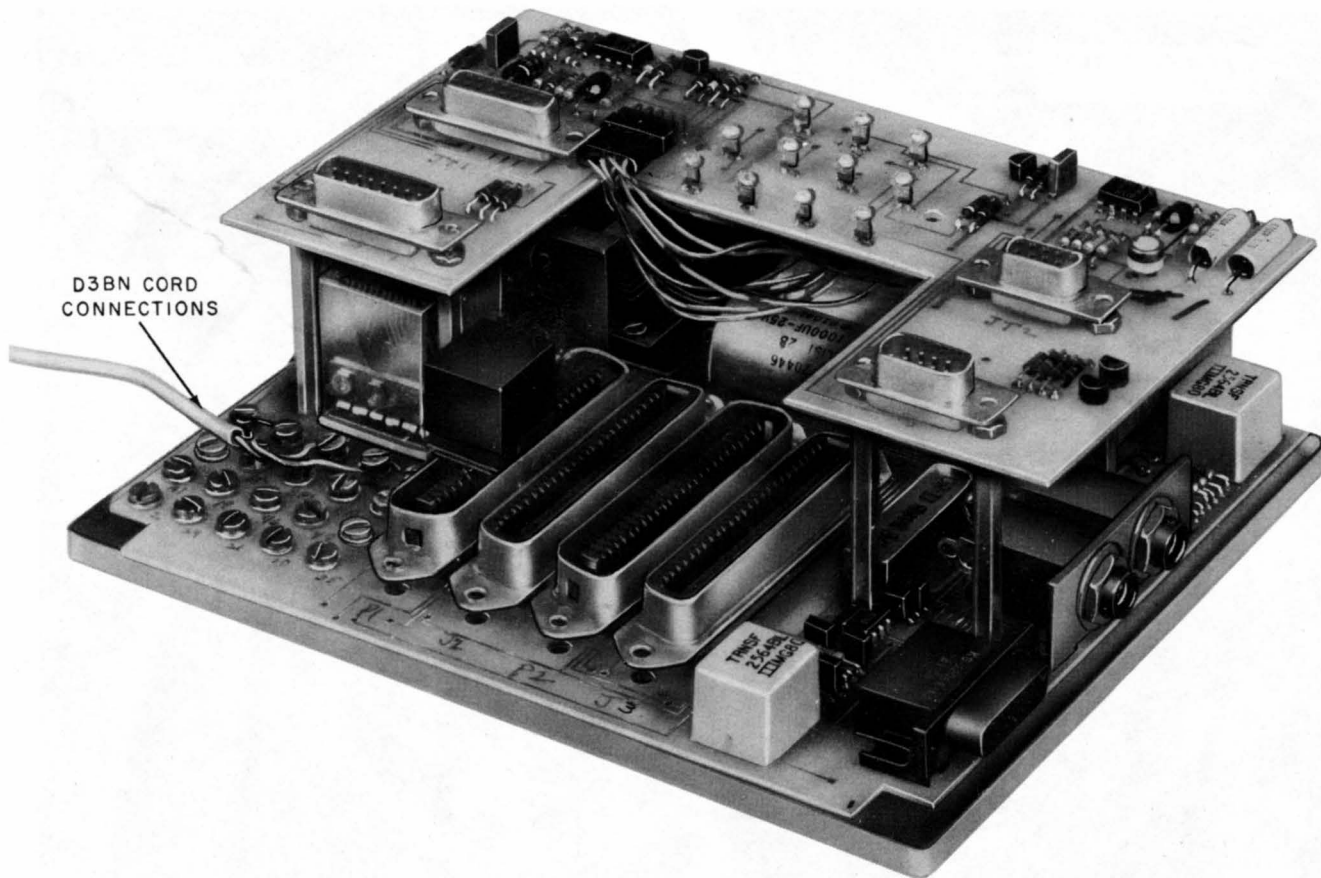


Fig. 7—122A Connecting Unit With Both Covers Removed

Verify that volume control on the 106A control unit is inoperative.



The MIKE OFF buttons in Steps (5) and (7) do not turn off the 50A1 conference set built-in or remote microphones.

(5) Operate the locking MIKE ON OFF button on the 106A control unit. Verify that all 1A microphone LEDs are off. Verify that distant party is not receiving transmission but that reception from distant party is received.

(6) Operate the MIKE ON OFF button on the 106A control unit again. All 1A microphones and the associated LEDs go on.

(7) Operate and hold each mike on off button on any 1A microphone. Verification is same as Step (5).

(8) Verify that any conferee within a 12-foot radius of the microphone can be easily heard by the distant party.

(9) Operate the MIKE OFF button on the 50A1 conference set. Verify that all 50A1 conference set microphones and 1A microphones are inoperative. All associated LEDs remain on.

(10) Depress the OFF button on the 50A1 conference set. Call is terminated.

(11) Depress the 106A control unit OFF button to remove power from the 100A conference system.

Note: When the 100A conference system is off, the 50A1 conference set is returned to its normal state and can be used independently of the 100A conference system.

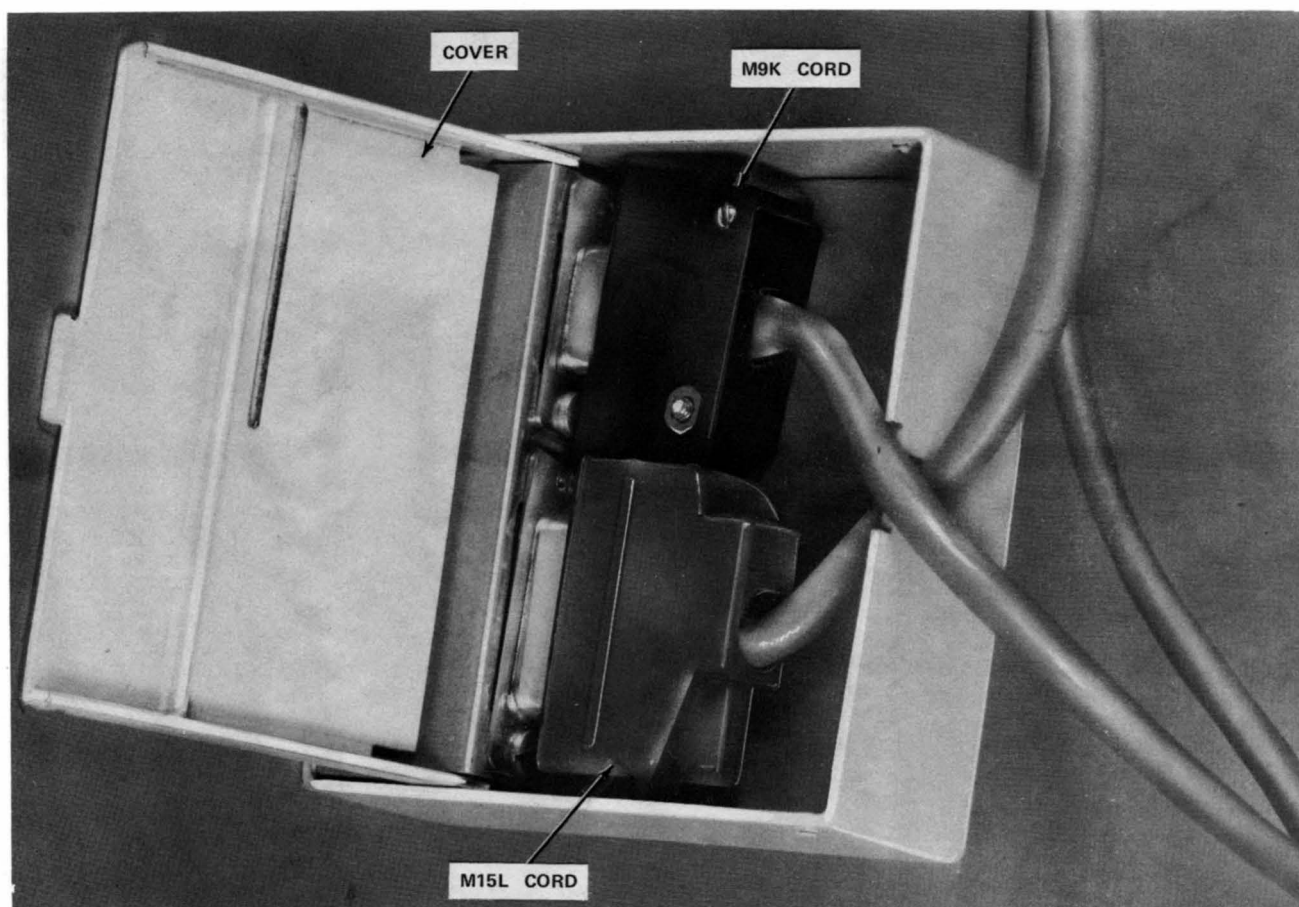


Fig. 8—Cover Open on Bottom of 106A Control Unit With M9K and M15L Cords Connected

5. PROBLEM DIAGNOSTIC PROCEDURES

Note: Repair of the 100A conference system components is limited to replacement of defective unit(s) or cord(s). For internal repair, major components must be returned to an authorized repair center (see local instructions for location).

5.01 If a problem develops in the 100A conference system or 50A1 conference set, proceed as follows to locate defective modular unit or cord.

A. Power Test

- (1) With power on, row one LEDs (AC, DS, SIG) light. If not check the following:
 - (a) Wall outlet for power

(b) Transformer (KS-21239L5)

(c) Power cord from transformer to 122A connecting unit for shorts or opens

(d) Disconnect all leads, excluding power lead, from 122A connecting unit. If LEDs do not light, replace defective 122A connecting unit.

B. M9K Cord Test

- (1) Connect M9K cord between 122A connecting unit connectors JT2 and PT2. If all LEDs in row two do not light, replace defective cord.

C. M15L Cord Test

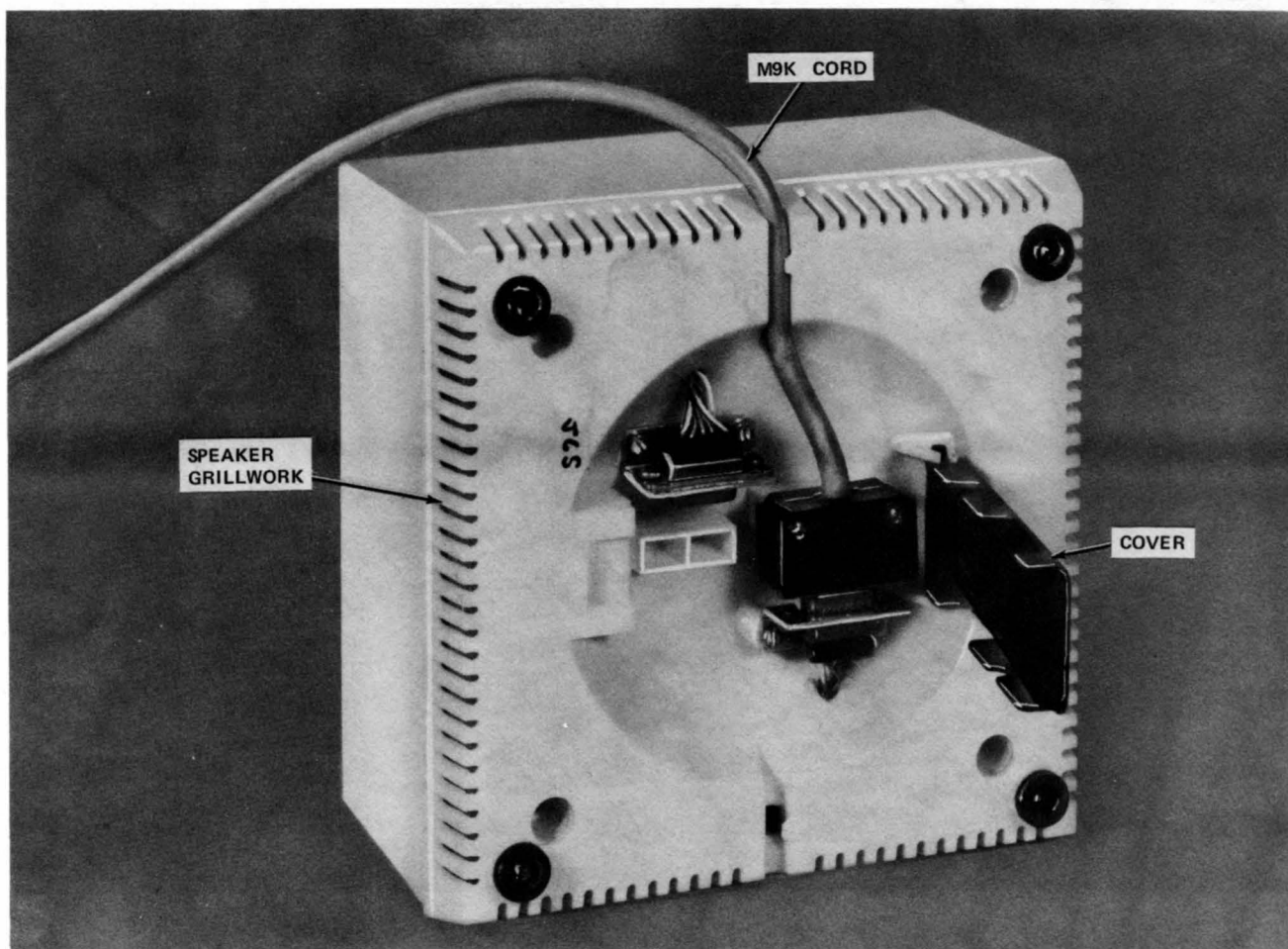


Fig. 9—Bottom of 114A Loudspeaker Set With Cover Open and M9K Cord Connected

(1) Connect M15L cord(s) between 122A connecting unit terminals JT1 and PT1. If the following LEDs do not light, replace defective cord:

- (a) All LEDs in row two light
- (b) All LEDs in row three light
- (c) LED MO lights green.

D. 106A Control Unit Test

- (1) Connect M15L cord between 106A control unit and JT1 connector of 122A connecting unit.
- (2) Connect M9K cord between 106A control unit and PT2 connector on 122A connecting unit. Verify that:

- (a) Lamp on control unit lights
- (b) All row two 122A connecting unit LEDs light
- (c) LED MO lights green.

(3) Depress 106A control unit ON button. The 122A connecting unit ON LED lights while button is depressed.

(4) Depress 106A control unit OFF button. The 122A connecting unit OFF LED lights while button is depressed.

(5) Depress control unit MIKE ON OFF button. The 122A connecting unit LED MO lights red.

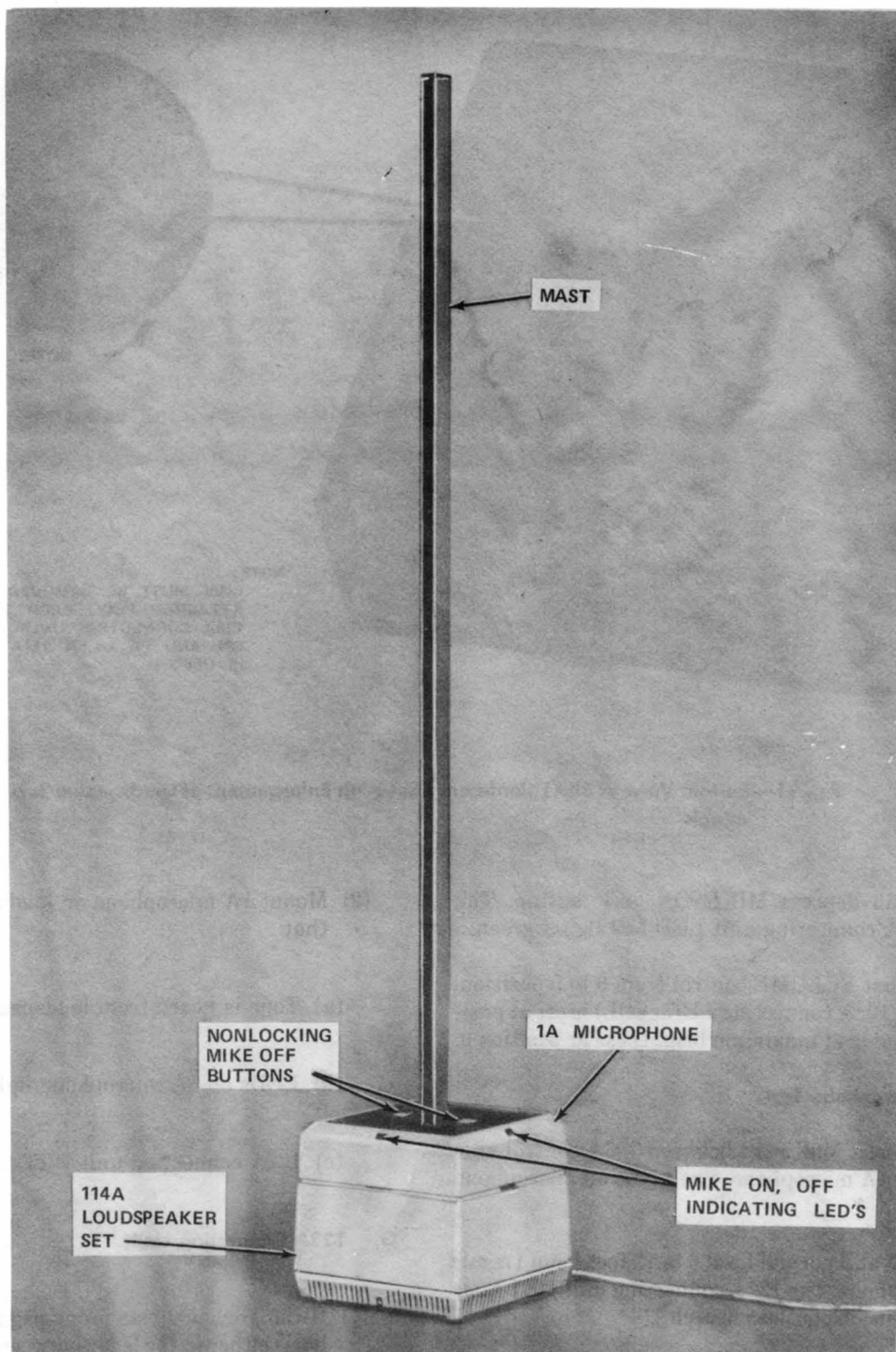
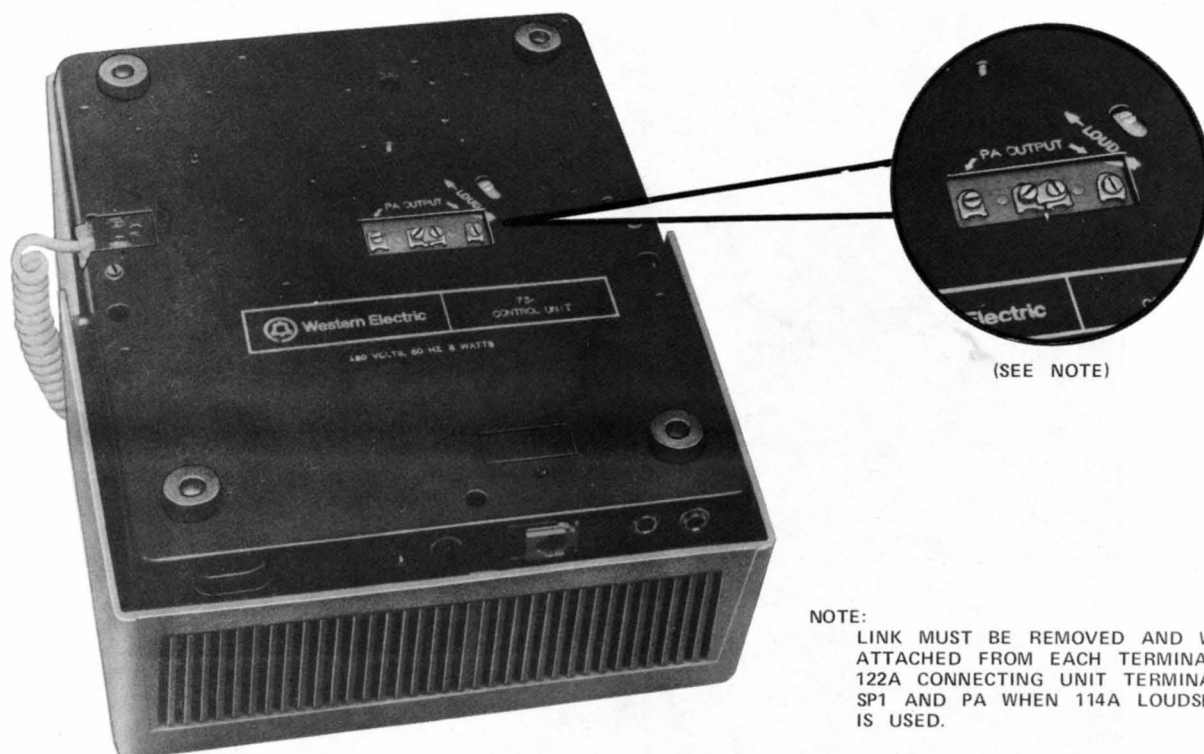


Fig. 10—Loudspeaker Set With 1A Microphone Connected on Top



NOTE:
LINK MUST BE REMOVED AND WIRES
ATTACHED FROM EACH TERMINAL TO
122A CONNECTING UNIT TERMINALS
SP1 AND PA WHEN 114A LOUDSPEAKER
IS USED.

Fig. 11 — Bottom View of 50A1 Conference Set With Enlargement of Loudspeaker Terminals

(6) Again depress MIKE ON OFF button. The 122A connecting unit LED MO lights green.

(7) Adjust VOLUME control from 0 to 9 position. The 122A connecting LED (VOL) is off at position 9 and is at maximum brightness at position 0.

E. 1A Microphone Test

(1) Connect M9K cord between 106A control unit and 1A microphone. The LEDs on microphone light.

(2) Talk at a normal level 6 to 12 feet from 1A microphone. The 122A connecting unit DET LED flashes in response to speech.

F. 114A Loudspeaker Test (if used)

(1) Connect M9K cord between 106A control unit and loudspeaker.

(2) Mount 1A microphone on loudspeaker. Verify that:

(a) Tone is heard from loudspeaker

(b) LEDs on 1A microphone light

(c) 122A connecting unit DET LED lights.

G. 122A Connecting Unit

(1) If the previous tests prove negative, the trouble is either in the leads between the 122A connecting unit and the 50A1 conference set or the 122A connecting unit is defective. Continuity test the leads for shorts or opens before replacing 122A connecting unit.

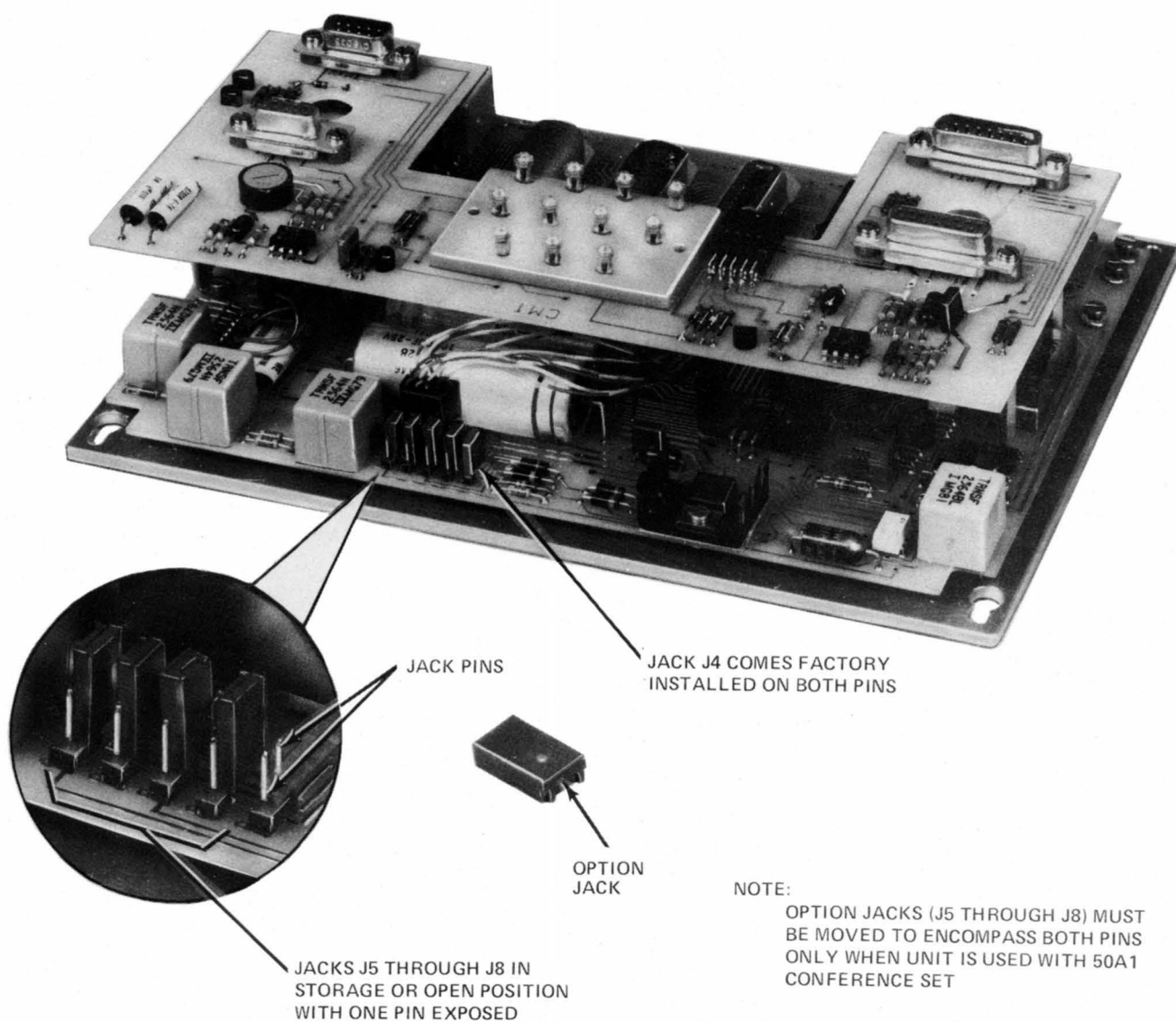


Fig. 12—Option Jacks in 122A Connecting Unit

H. 50A1 Conference Set

- (1) If the 50A1 conference set is not functioning correctly per Section 512-630-111, replace the set.