

SPEAKERPHONE SYSTEMS—3 TYPE

INSTALLATION AND MAINTENANCE

1. GENERAL

1.01 This section is reissued to add information on:

- 670A and 671A transmitters.
- installations around heated areas.

1.02 For connection information between speakerphone components and telephone sets, refer to appropriate sections.

2. INSTALLATION

2.01 Avoid installing apparatus with plastic covers or parts (control units, transmitters, etc) in locations where the temperature in the immediate vicinity exceeds 140 degrees F.

55-Type Control Unit

2.02 Locate the control unit no more than 100 feet from the other components. Mount the control unit on an insulated surface (wooden backboard, etc).

2.03 A standard 120-volt ac receptacle is required for the operation of the 2012B-42 transformer. This receptacle must be on a circuit that is not controlled by a switch. Power outlet is furnished and maintained by the customer.

2.04 The length of wire between the transformer and the control unit should not exceed 100 feet of standard inside wire.

Transmitter and Loudspeaker

2.05 Place transmitter and loudspeaker within convenient reach of customer and with 2 feet minimum spacing. Fig. 1 shows a typical installation.

Note: There should be no obstruction between customer, transmitter, and loudspeaker.

2.06 To prevent inductive interference in the speakerphone conference system, use no more than 30 feet of shielded cable from the 670A master transmitter to the 671A auxiliary transmitters.

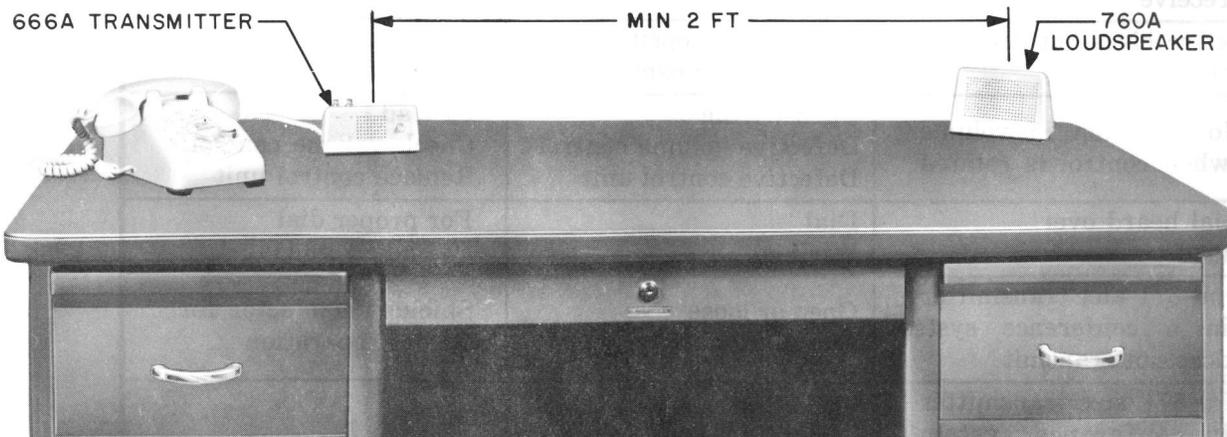


Fig. 1 — 3-Type Speakerphone System Installed

Voice Switching Circuit

2.07 Voice switching is the automatic transfer from receiving to transmitting condition. This circuit is controlled by speech from the speakerphone user. The level of speech necessary to cause switching is predetermined.

2.08 If possible, place audible signals away from the transmitter unit where there will be no interference with the voice switching feature. It may be necessary to lower the volume of the audible signal or install audible signal using the cutoff feature of the 55-type control unit. Use the leads to common signal control and common ringer or buzzer circuit for this cutoff feature.

Loudspeaker Adjustment

2.09 An alternate loudspeaker connection is provided in each 55-type control unit to compensate for a strongly reverberant room condition.

2.10 This condition may cause voice switching while receiving calls. The effect of voice switching causes portions of the incoming speech to be chopped off.

2.11 To compensate for this condition, move the loudspeaker lead from terminal 33 to terminal 24 on the 55A control unit. Move lead from terminal 29 to terminal 30 on the 55B unit. This places a resistor in series with one loudspeaker lead.

TABLE A
TROUBLES AND PROBABLE CAUSES

Trouble Indication	Probable Cause	Check
On key does not light	No power or open wiring	Power supply outlet with a neon lamp voltage tester or equivalent or check LK lead
Lamp does not light but set works	Light burnt out	Lamp in transmitter
Lamp lights but does not stay lit when ON button is released	Loose connection in local wiring	Contacts 10M of K1 relay or OFF key contacts in transmitter
Amplification seems deficient in receiver or transmitter circuit or both	Faulty control unit	Replace control unit
Set transmits but does not receive	Loose or open wiring to loudspeaker	SP1 and SP2 leads Loudspeaker
Set receives but does not transmit	Local wiring open Defective transmitter	M lead Transmitter
No variation in volume when control is rotated	Open wiring Defective volume control Defective control unit	P1 lead Check volume control Replace control unit
Dial heard over loudspeaker	Dial Wiring	For proper dial P3 and P4 leads
One 671 aux transmitter in a conference system does not transmit	Open or loose connection	Shielded conductor for proper operation
No. 671 aux transmitter in conference system transmits or master transmitter does not transmit	Defective wiring or transmitter	Check wiring Replace transmitter

Test Call

2.12 When all connections have been made:

- (a) Place a call to test desk.
- (b) Adjust the loudspeaker volume to a moderately loud listening level by turning the volume control on the transmitter clockwise. Position volume control halfway between lowest and highest level.
- (c) Have the test center repeat the question, "In what suburb does Joe live?" several times.
- (d) If choppiness is detected in the sentence, particularly in the first b in *suburb* and the t in *what*, change one loudspeaker lead according to 2.11.
- (e) Repeat this test at a high listening level by turning the volume control to the extreme clockwise position.
- (f) When there is no choppiness, the room adjustment is satisfactory.

3. MAINTENANCE

- 3.01** Table A provides maintenance procedures for troubles which may be encountered.
- 3.02** After working on equipment, test the complete system as specified in 2.12.

Radio Interference

- 3.03** Where radio interference is experienced in the telephone set only, a suppressor may be installed. See section on radio signal suppression in telephone sets.
- 3.04** Where radio interference is experienced with a 666A transmitter, place a KS-13814, L7 capacitor across the terminals of the AC1 transmitter unit. The 666B transmitter is manufactured with the capacitor installed.
- 3.05** Where radio interference is experienced with a 667A, 667B, or 669A transmitter, solder a KS-13814, L7 capacitor from terminal B to terminal D of the printed wiring board or ground the transmitter unit case.
- 3.06** The 670A and 671A transmitters are manufactured with the capacitor installed across the transmitter unit.