

INTERPHONE SYSTEMS — 2A (FARM)

IDENTIFICATION AND OPERATION

I. GENERAL

- I.01 This section covers identification and operation of the 2A FARM INTERPHONE.
- I.02 This section is reissued to add the 1511D, 1558D, 712B and 1712B telephone sets.
- I.03 This system cannot be used where a tip party identifying ground is required.

I.04 The 2A FARM INTERPHONE provides the following features:

- (a) Connection to one central office line with holding, plus connection to a local intercommunicating line, at any telephone location of the system.
- (b) Voice-calling service from any telephone handset to all loudspeaker locations.

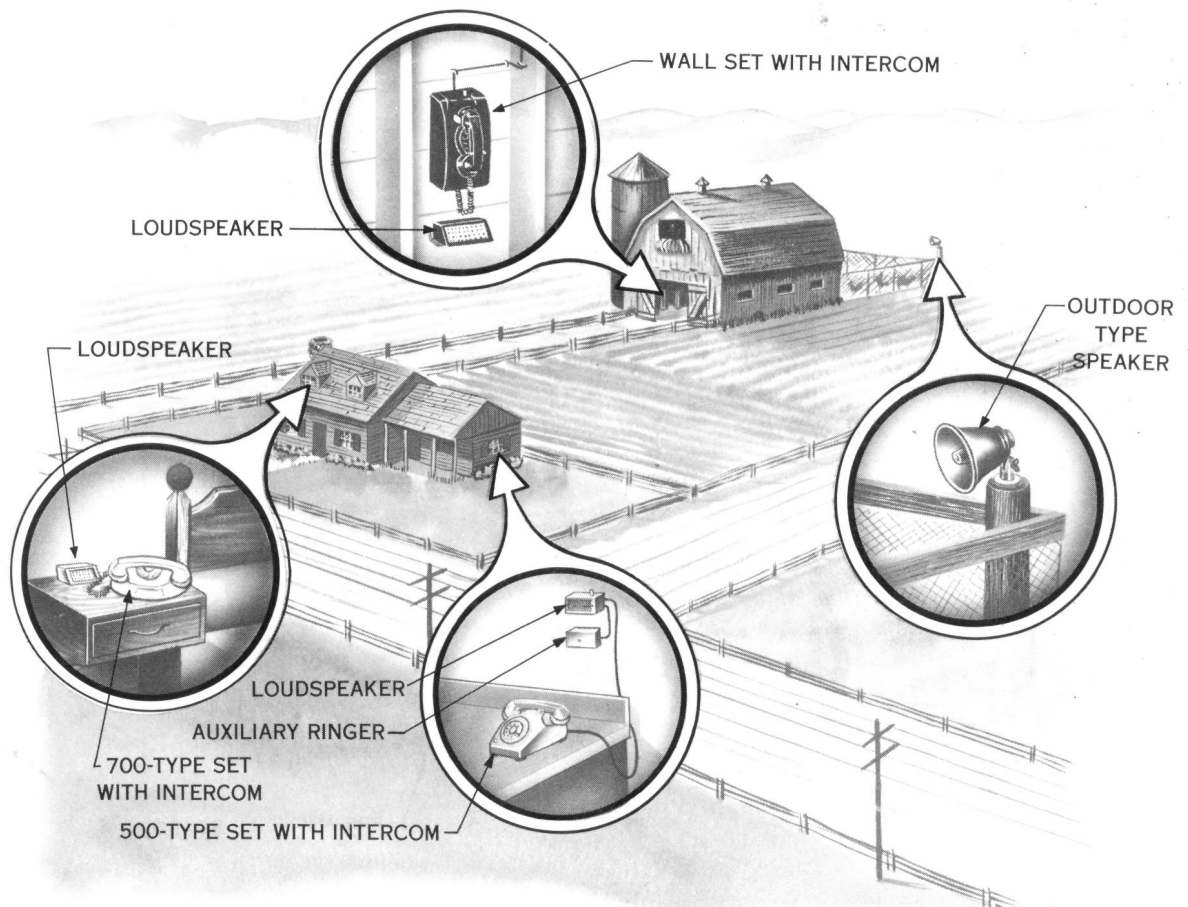


Fig. 1 - Typical Farm Arrangements

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- (c) Hands-free operation on local communication at all remote loudspeaker locations.
- (d) Monitoring of sound activity in the area of the remote loudspeakers.
- (e) Tone signal broadcast over loudspeakers to indicate a central office call.

1.05 Apparatus may be arranged in various combinations (Fig. 1). When arranging the system, keep in mind that a loudspeaker must be associated with each telephone set. However, the following maxima may not be exceeded:

- Four telephone sets.
- Six loudspeakers (including the monitor speaker or speakers). No more than three loudspeakers may be of the outdoor type.

1.06 Special cases where more than four telephone sets equipped with loudspeaker/microphones are required should be referred to the engineering department for consideration.



The vicinity of a monitor station lacks secrecy. If any station is picked up and handset push-to-talk button is not operated, it is possible to listen to activities in the area of the monitor station. Discuss advantages and disadvantages of this condition with the customer. A cutoff key may be necessary.

2. IDENTIFICATION

2.01 Components used in the 2A FARM INTERPHONE are as follows:

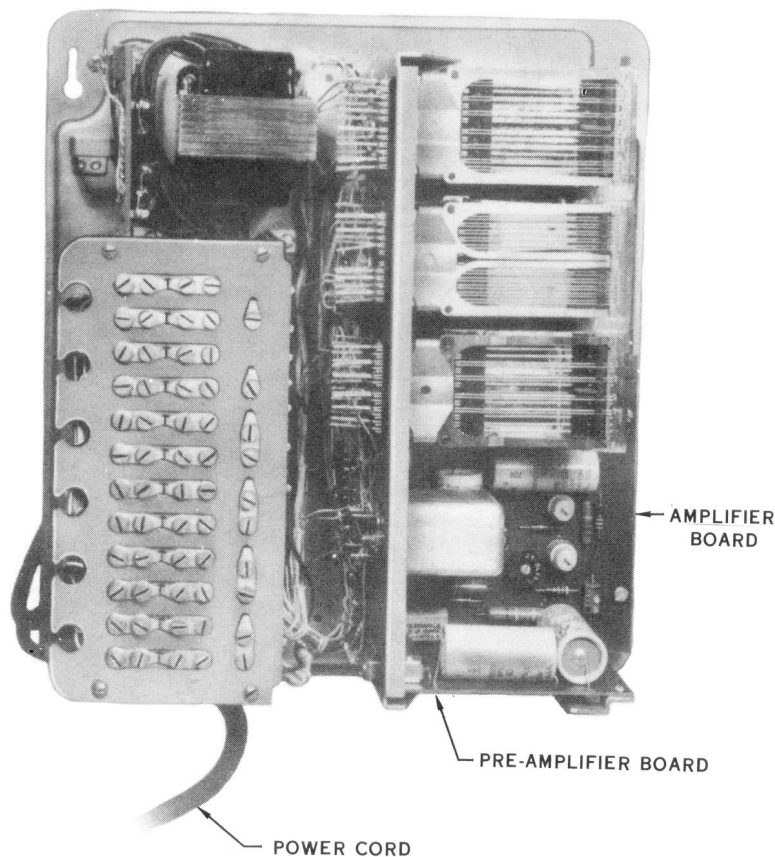


Fig. 2 - 54A Control Unit

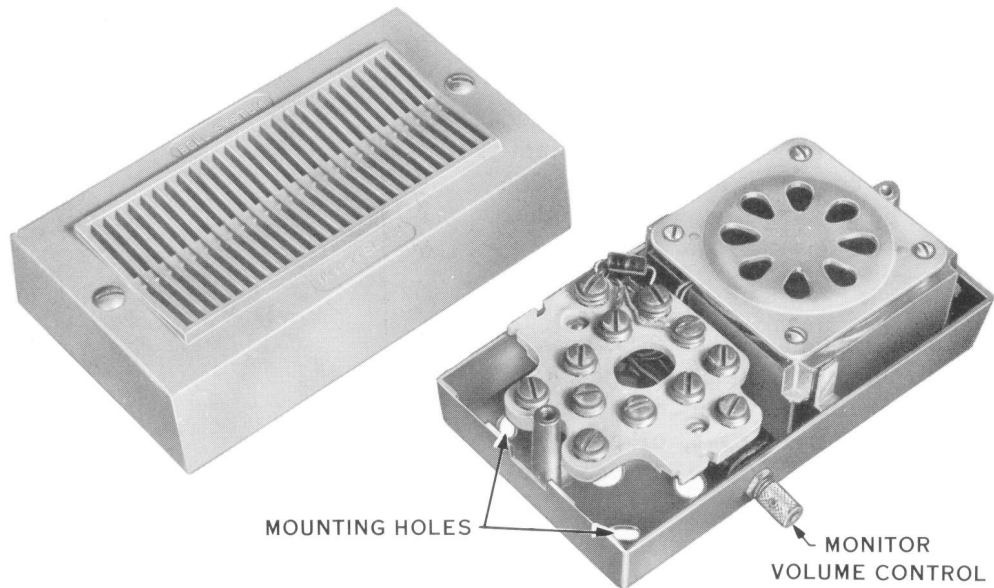


Fig. 3 - 759B Loudspeaker

- 54A control unit (Fig. 2).
- 759B loudspeaker (Fig. 3).
- 760A loudspeaker (Fig. 4).
- KS-16846,L1 loudspeaker (Fig. 5).
- E1B ringer (Fig. 6).
- 1511C/D, 558C/D, 1558D, 711B, 712B, and 1712B telephone sets.

2.02 The telephone sets used in this system must be field modified to include G5KR hand sets and internal wiring changes.

2.03 The 54A control unit (Fig. 2) is housed in a metal apparatus box approximately 10-1/2 by 11 inches. The unit consists of four relays, an amplifier, a pre-amplifier, and a power supply. The four relays provide voice-calling, quieting

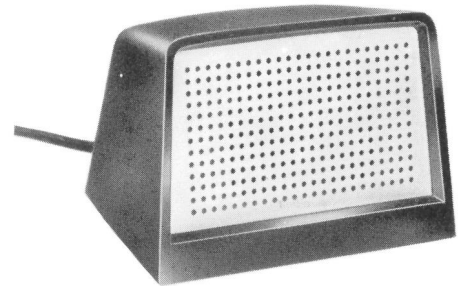


Fig. 4 - 760A Loudspeaker

and tone ringing. The amplifiers are transistorized printed circuit boards. A 4-1/2 foot power cord is provided with the unit.

2.04 The 759B loudspeaker (Fig. 3) consists of a small dynamic speaker and a 12-terminal connecting block. It is equipped with a monitor volume control switch. These components are mounted on a metal base and covered with a plastic housing. This speaker is used at the monitor station only and is designed for wall mounting.

2.05 The 760A loudspeaker (Fig. 4) consists of a small speaker mounted on a metal base with a metal grill front, and is covered with a molded plastic housing. This speaker is used at the remote station locations in the system. Although normally used as a desk or table mounting, it may be mounted on a wall or other vertical surface by using the 69A bracket.

2.06 The KS-16846,L1 loudspeaker (Fig. 5) is an outdoor, horn-type speaker. This speaker is equipped with a universal swivel mounting and may be mounted on a wall, eave, or pole. The mounting may also be attached to a 1/2-inch pipe without additional fittings.

2.07 The E1B ringer (Fig. 6) is similar to the E1A except that a set of contacts has been added to actuate the tone signal in the 54A control unit when a central office call is received. The contacts are arranged so that when the volume control arm is in the extreme loud position, the contacts are opened, preventing operation of the tone signal.

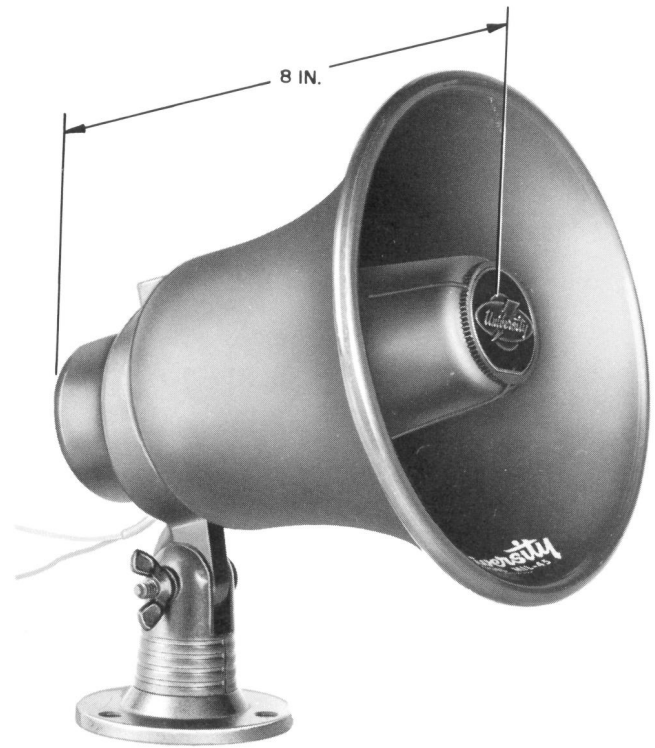


Fig. 5 - KS-16846,L1 Loudspeaker

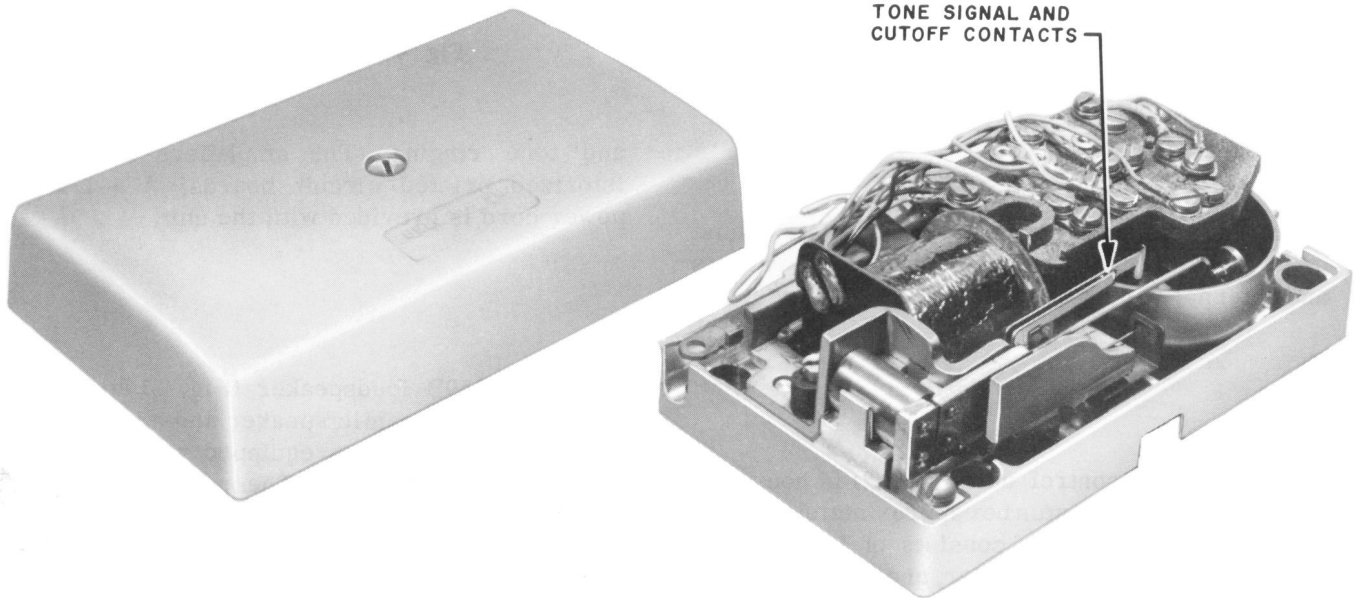


Fig. 6 - E1B Ringer

3. OPERATION

3.01 To connect a central office line at any telephone set, place the line key in the line 1 position. The ringer operates on a central office call regardless of the position of the line key. (See Fig. 7.)

3.02 To hold a central office line, operate the hold key at the telephone set. The holding arrangement is manual and therefore must be released at the telephone set which originally held the call. To avoid the possible loss of calls, do not release the hold key until the telephone set is again connected to the central office line.

3.03 For local communication, place the line key of any telephone set in the line 2 position (Fig. 8).

3.04 To signal from any telephone set, place line switch in line 2 position and operate the push-to-talk bar of the handset. This connects the calling station to all loudspeakers in the system via the amplifier in the control unit. There is no way to select certain speakers since all loudspeakers are bridged at the control unit. (See Fig. 9.)

3.05 All loudspeakers in this system serve as combination loudspeaker/microphones.

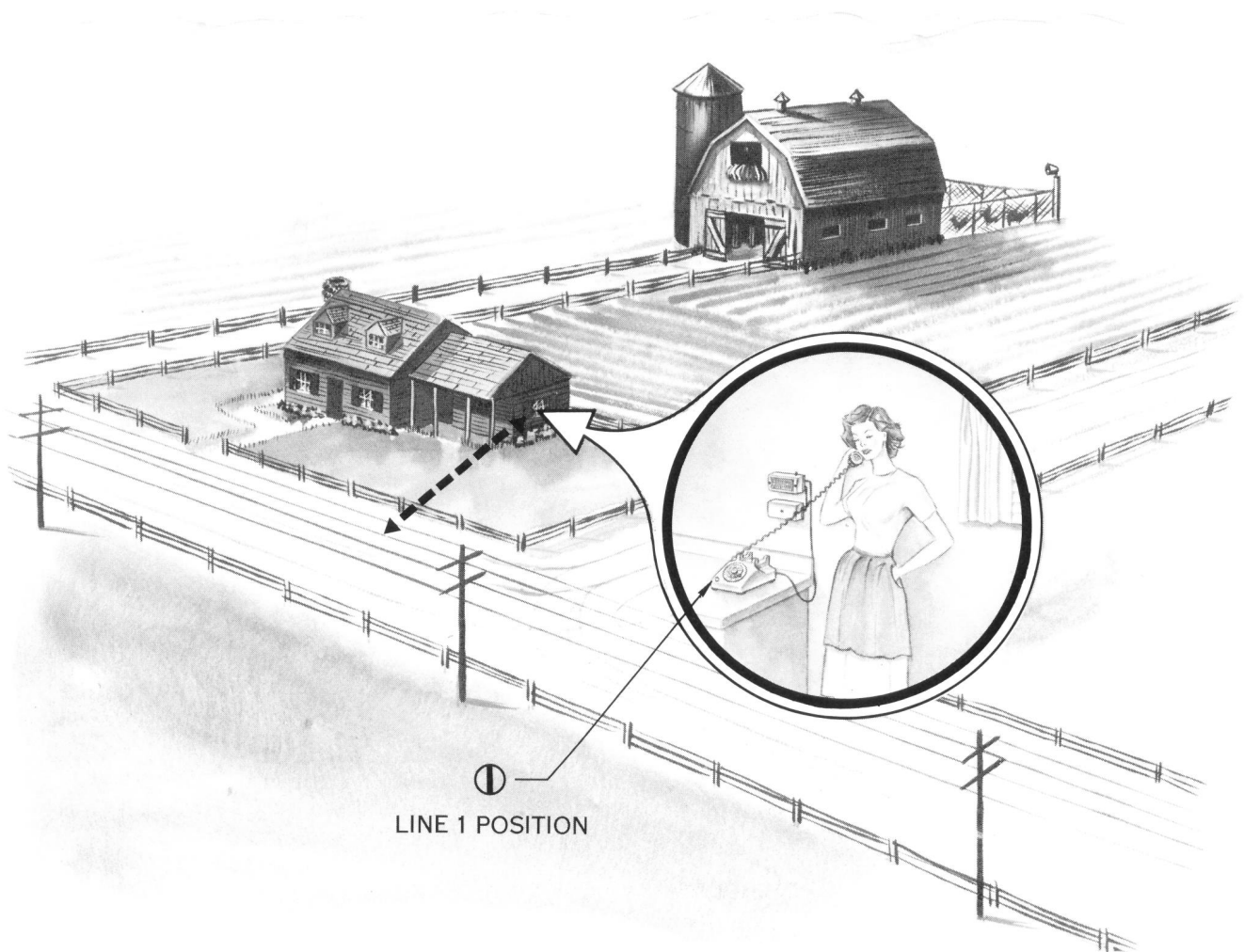


Fig. 7 - Central Office Call

3.06 On local communications, the called location can carry on a hands-free conversation through the loudspeaker since the loudspeaker unit also acts as a microphone pickup.

3.07 Except when used for talking or signaling, the microphone property of the loudspeakers is used to monitor any sound activity in the vicinity of the loudspeakers. The sound picked up by the loudspeakers is amplified and is heard over the monitor speaker. (See Fig. 10.) In order to remove this from the intercommunicating line while two stations are talking handset to handset.

the quieting relay is operated by pushing the pushbutton at either station. All loudspeakers are then disconnected from the line and remain disconnected until these handsets and any others that may be in the off-hook position are placed on the hook.

3.08 Since ringing bridge limitations are a major consideration on most rural service, this system uses a tone signal to indicate an incoming central office call. This method of signaling requires only one ringer per system. When the ringer operates, it closes the armature contacts and causes the tone signal to be broadcast over all loudspeakers except the monitoring station.

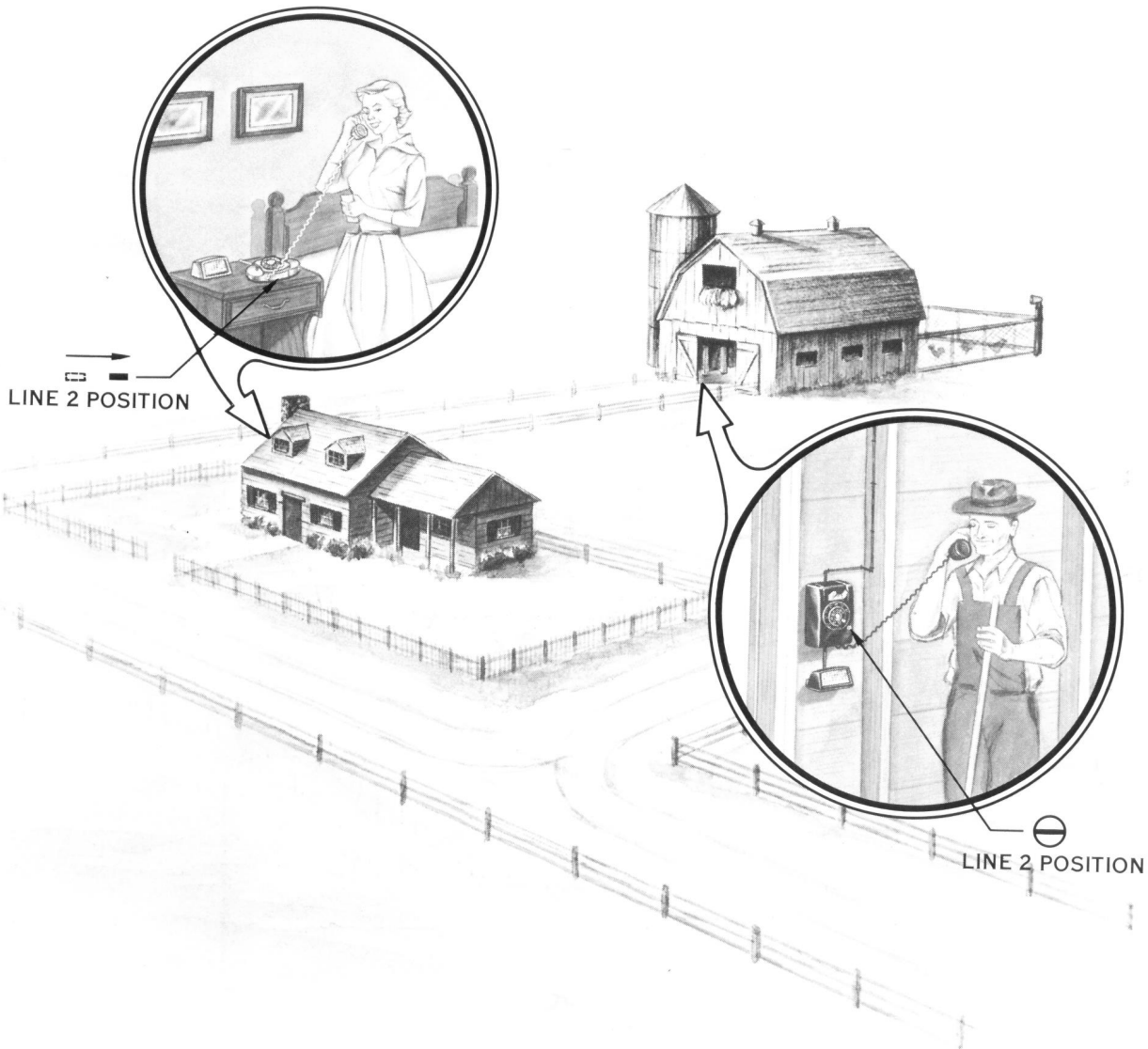


Fig. 8 - Interphone Calling

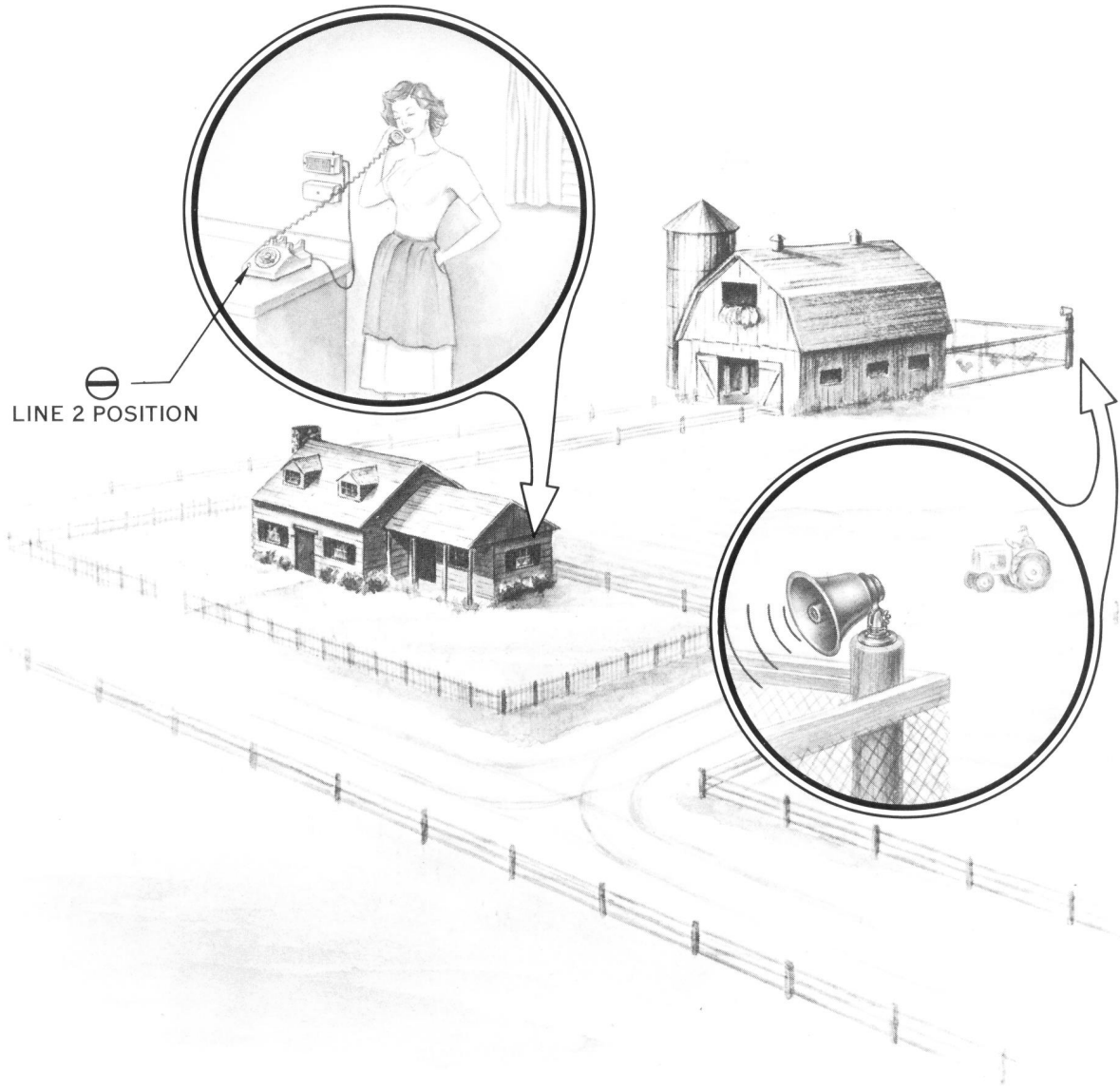


Fig. 9 - Voice Calling

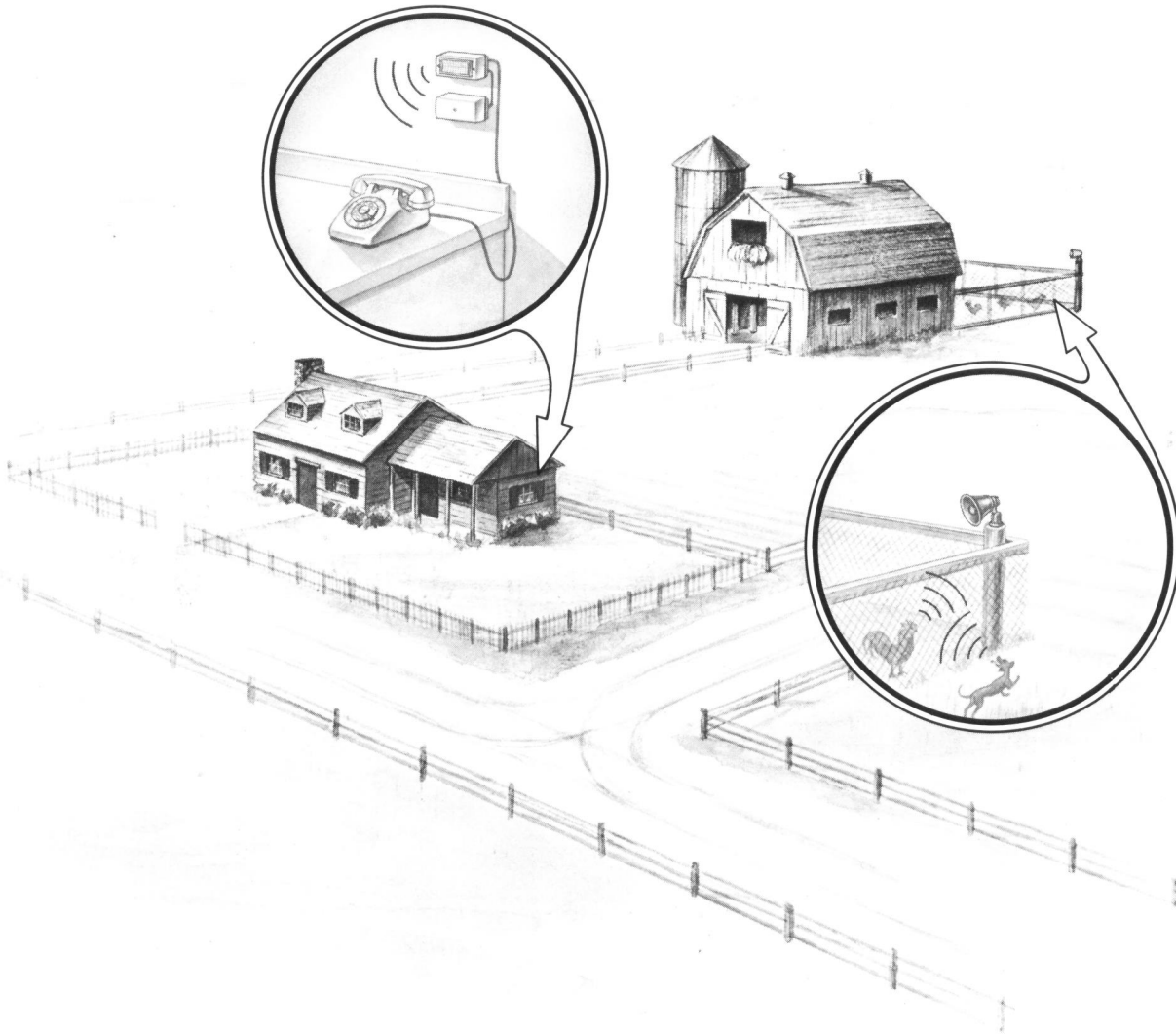


Fig. 10 - Monitoring