

FIGURE 2. Priority signal automatically overrides local program source.

Typical applications for automatic changeover may include situations where a speaker or speaker line must be accessed from two different amplifiers. In other applications, the output line may be the input to an amplifier in order to provide priority paging. In a similar connection to the input of an amplifier, the ACR-1 may be connected as an automatic squelch or mute by shorting out the input to the amplifier until the input signal reaches a predetermined level.

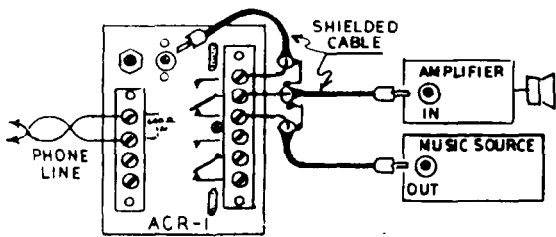


FIGURE 3. Phoneline signal transfers input to audio amplifier.

By using the Raymer Model 703 microphone amplifier in conjunction with the Model ACR-1, a large number of sound activated applications are available. The Model 703 has inputs for either a Hi-Z or Lo-Z microphone and both 8 ohm and 500 ohm outputs. Either of these outputs may be used to activate the ACR-1. (The 500 ohm output must be used when the two units are connected by means of leased telephone lines.) Connected in this way, the ACR-1 may now be adjusted to activate at a predetermined sound level. This allows the relay to control electrical circuits, initiate communication, or activate signaling devices.

Two novel applications using this combination have come to our attention. In one case the ACR-1 is used to turn on the ventilator fans in train tunnels when activated by the sound of the train. The combination

of the two units was more cost effective than the installation of a photoelectric system. In the second case, an audio store uses the combination to activate an electric gate by honking the horn on their delivery vans.

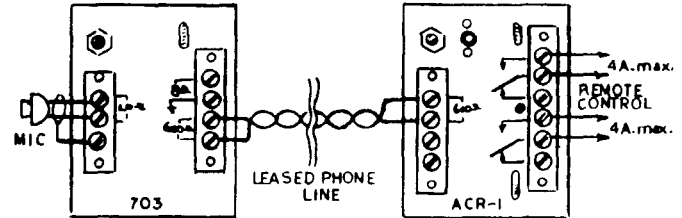


FIGURE 4. Audio activated remote control requires microphone amplifier.

By using the 8 ohm speaker output of the Model 703 to activate the ACR-1 relay as well as provide the signal source to drive a monitor speaker, an arrangement may be used for audio surveillance. When the sound reaches a predetermined level, the relay connects the output of the 703 amplifier to the speaker. If desired, the other contacts of the ACR-1 may be used to operate a visual indicator to determine the source of the sound. Applications may include surveillance of security areas or even public areas such as an elevator, where a scream or cry for help would indicate an emergency condition. Even connected as a simple hands-free intercom, the combination of these two units can prove valuable by blocking out unwanted background noise until someone speaks directly into the microphone.

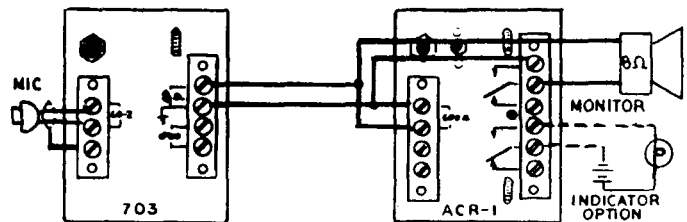


FIGURE 5. Automatic monitor may be used for audio surveillance.

There are many other problems that the Model ACR-1 can solve, either in combination with other equipment or Raymer products. If you have any unusual applications for this versatile little audio relay, we would appreciate hearing from you.



## TECHNICAL NEWS BULLETIN

SUBJECT: More Uses For the ACR-1 Audio Controlled Relay

The original application notes for the Model ACR-1 were limited to interconnect and telecommunications use. However, reports from Raymer installers indicate that there are many other applications where the Model ACR-1 may be used to solve problems when some electrical function is required either in the presence or absence of an audio signal.

When connected to an all electronic telephone PABX, the ACR-1 provides both the audio input to a paging amplifier and the necessary switching circuits to provide such functions as muting, and zone or selective paging. The ACR-1 is necessary in such cases because there are no electromechanical relays in these computer operated systems to provide external switching. Only an audio signal is available. This situation is true in many applications other than telephone paging. The Model ACR-1 is also useful in these circumstances to provide switching for such functions as muting, signal transfer, or electrical control of other devices.

One of the most common problems that the ACR-1 can solve is the situation where background music or a stereo must be muted when the "Jukebox" is played. There are over 200,000 jukeboxes in the United States. The operators of these machines will not allow anyone to modify them for this purpose. This is a perfect application for the ACR-1. By connecting the 600 ohm input of the ACR-1 across one of the 8 ohm speaker terminals of the jukebox speaker system, the audio activated relay can provide the necessary switching circuit to mute the background music. The 600 ohm impedance of the ACR-1 does not load the output of the jukebox, there is no modification required to the operator's equipment, and best of all—everything is automatic.

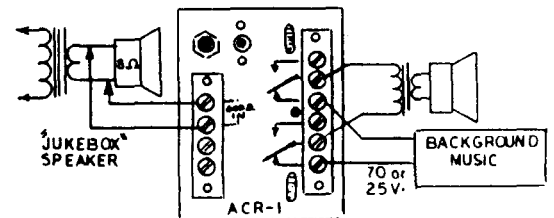


FIGURE 1. Music from "Jukebox" automatically mutes background music.

This automatic mute is not limited to use only with a jukebox. The same priority function may be obtained by connecting to the speaker of a TV, video machine, paging system etc. Because it has a 50 mv. maximum input sensitivity, the ACR-1 can be activated by signals as low as one milliwatt across the 8 ohm speaker output of these devices.

In some cases an automatic changeover is required instead of a simple mute. Automatic changeover is made possible by connecting the relay of the ACR-1 in such a way that the contacts select between two sources as the signal into one output line. The primary signal source is routed through the relay contact in the normally closed position. The priority signal is routed through the activated position of these contacts. By also connecting the priority signal to the input of the ACR-1, the relay is activated only when the priority signal is present. This causes the output to be switched from the primary signal to the priority signal as long as there is a signal on the priority line.