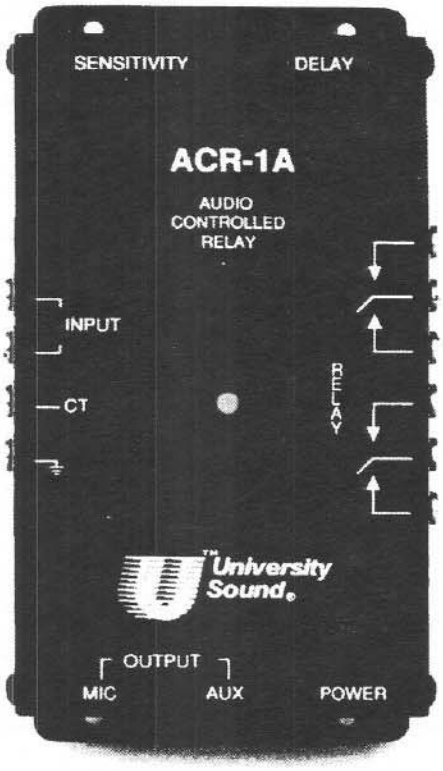
University Sound®

ACR-1A

Audio Controlled Relay



Product Data

- **Ideal for audio-triggered switching applications**
- **Transformer isolated input handles unbalanced or balanced lines**
- **Mic and Aux level outputs**
- **DPDT relay rated at 4 amps**
- **15 mV maximum input sensitivity**
- **Latch delay variable from 0.5 sec to 60 seconds**
- **Wall-mountable enclosure**
- **24 VDC powered from 120 VAC adaptor (included)**

Specifications:

Input: Transformer Balanced, 15 KΩ

Output: Aux (0 dB), Mic (-32 dB)

Frequency Response: 50 Hz - 10 kHz, ± 1 dB

Relay Contacts: DPDT 4 Amp rating

Relay Holding Delay: 0.5 second to 60 seconds

Power: 24 VDC, 55 mA

Unit Size: 1.25"x3"x6.125" (3.18x7.62x15.56cm)

Unit Weight: 11 oz. (0.31 kg)

Description

The Model ACR-1A is an audio controlled relay with input matching capabilities. Designed to operate from telephone paging sources or other audio signals, the ACR-1A will automatically switch electrical functions when triggered by an audio signal source at the input. The ACR-1A is transformer isolated and can handle balanced or unbalanced inputs. A center tap is provided on the input winding to help cancel noise on balanced lines. Input connections are made via screw terminals. Two unswitched audio outputs are provided, one to match the microphone input of a mixer/amplifier and the other to match the auxiliary input. The Mic output connector is a 1/4-inch phone jack, while the Aux output connector is a standard RCA phono jack. The relay provides double pole double throw switching with a maximum contact rating of 4 amps. The relay is triggered when a signal is detected on the input of the unit. The sensitivity of this triggering circuit can be continuously adjusted to a maximum of 15 mV. A latch delay is also provided in the triggering circuit. This keeps the relay activated during pauses in input speech or program material. The amount of delay is variable from 1/2 second to 60 seconds. The entire unit is housed in a sturdy steel box measuring only 1-1/4" x 3" x 6-1/8" that can be easily wall mounted. The unit is powered from 24 VDC, provided by a plug-in 120VAC adaptor included with the unit.

Typical Applications

The ACR-1A is a very versatile unit that has been used in many different applications. The following illustrate some typical uses:

- **Music Mute:** The relay contacts of the ACR-1A may be used to activate the manual music mute on many paging amplifiers. In installations where a music mute function is unavailable, these contacts can also be used to disable the music input during the page.
- **Selective Paging:** Some installations require the silencing of specific speakers during a page, especially in the area where the page originates to eliminate the possibility of acoustic feedback. Here the ACR-1A can be used to disconnect these speaker lines from the amplifier output during the page.
- **Zone Paging:** For multiple zone situations, a separate audio input line is required for each zone, plus an additional line if an all-zone page is desired. This could be achieved by using a bank of push-button switches. Each of these lines is connected to a separate ACR-1A.
- **Source Selection:** In installations where a primary music source (a jukebox, for example) is required to take priority over a backup music source (tapedeck), the ACR-1A can be used to automatically switch between the sources.
- **Security:** Surveillance, automatic recording, lighting, or signalling can be performed with the ACR-1A and the addition of a monitor mic and microphone preamplifier. Detected sound will activate the ACR-1A which in turn can trigger external equipment.

Architect's and Engineer's Specifications

The audio controlled relay shall be the University Sound Model ACR-1A, and employ a DPDT relay rated at 4 amps for the purpose of electrical switching. The unit shall accommodate unbalanced or balanced inputs with a transformer balanced impedance of 15KΩ, and provide outputs at Aux (0 dB) and Microphone (-32 dB) levels. The input to the device shall be made via screw terminals, as will the connections to the relay contact, while the output connections shall appear on a 1/4-inch phone jack for the Mic output and a RCA phono jack for the Aux output. The frequency response to the input shall be essentially flat from 50 Hz to 10 kHz. The input signal level required to trip the relay shall be variable via a sensitivity control to a maximum sensitivity of 15 mV. There shall also be a latch holding delay, variable from a delay of 0.5 seconds to 1 minute. The ACR-1A shall be powered from 24 VDC at 55 mA and its wall-mountable enclosure will measure 1.25" x 3.0" x 6.13" (3.2 x 7.6 x 15.6 cm). The Model ACR-1A has been specified.

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University Sound®
P.O. Box 24031
Oklahoma City, OK 73124-4031
Phone (405) 324-5311
Fax (405) 324-8981