

SSA474

SONIC SENTRY ALARM

IB641301

INSTRUCTION BOOK

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DESCRIPTION

The SSA474 SONIC SENTRY ALARM is a four channel audio detection system used to detect the sound caused by movement of any person or object in the monitored area. All movement or contacts with surfaces produce sound waves in the air that are received by a local microphone in the monitored area and sent to the SONIC SENTRY ALARM unit by wire. Many video cameras have built in microphones that can be used to provide a higher level of security with this unit.

The unit electronically listens to the audio signal and determines when to close an alarm contact. This alarm contact is Normally Open or Normally Closed and can be used to alert local monitor personnel or activate other alarm equipment. Connect it to a multiplexer and switch the video source to a higher scan rate when an alarm is being received from that area. This will improve picture motion quality on that camera when action is occurring.

A built in audio gain control keeps ambient audio below alarm detection level while maximizing the sensitivity of the alarm trigger level. This allows the system to have maximum sensitivity and operate in relatively noisy environments.

Equipment such as air conditioners, fans, and heaters operating in the monitored area will not trigger the alarm. Slowly changing sounds such as aircraft flying over the building or cars driving by the outside of the building can be ignored by the alarm while still having a very sensitive trigger to sounds inside the monitor area.

The Sonic Sentry Alarm uses audio to detect motion without violating the privacy of any person in the monitor area since no one is listening to or recording the audio. This provides Protection without Intrusion of Privacy.

If monitoring or recording of the audio is desired, the audio signal is available at the rear RCA connectors. There is an RCA connector for each of the four audio channels and one RCA connector that is switched to any channel that is in alarm at the time. This is used when only a single channel of audio may be recorded. Audio will only be recorded if an audio patch cable is connected between the SSA474 and the audio input of the recorder.

The audio detect sensitivity is adjustable from the front panel. Adjust the sensitivity control during normal sound level in the monitor area until the alarm LED goes out and that's it, the unit is ready to detect unwanted intrusions.

FEATURES

The SSA474 Sonic Sentry Alarm unit has four channels per card for maximum use of card space. The Sensitivity level control for each channel is conveniently located on the front panel. A Red LED Alarm indicator is located next to the Sensitivity control on the front panel to allow for easy setting of the sensitivity level.

The rear panel is equipped with screw terminal connectors for the audio microphone inputs and alarm contact outputs. The audio outputs use RCA connectors on the rear panel, one RCA for the combined switched audio output and one RCA for each of the four continuous audio outputs.

Phantom Power for the microphones, Dwell Delay for the relays, Audio Switch or Continuous, Combine Audio Selector, and Relay Contact selector are field selectable and are covered in the Select Jumpers and Control Functions section.

SELECT JUMPERS AND CONTROL FUNCTIONS

J1-J2-J3-J4. Audio Switch or Continuous.

These jumpers select Continuous or alarm switched audio at the combined RCA output connector. Any of the four audio channels can be selected to switch to the common RCA output. If the jumper is placed on the "SWITCH" side of the jumper pins, that channel will be connected to the common output when an alarm occurs on that channel. If the jumper is placed on the "CONT" side of the jumper pins, that channel will be continuously connected to the common output. If the Jumper is placed on one pin only that channel will be excluded from the common output.

J5-J6-J7-J8. Relay Select.

These jumpers select Normally Open or Normally Closed operation of the alarm relay for each of the four channels. When the jumper is in the "NO" position the alarm contact output will be open with no alarm and closed during an alarm. When the jumper is in the "NC" position the relay will be closed with no alarm and open during an alarm.

J9-J10-J11-J12. Not Used.

SELECT JUMPERS AND CONTROL FUNCTIONS (cont)

J13-J14-J15-J16. Dwell Delay.

These jumpers select one of three separate relay delay dwell times for each of the audio alarm channels. If the jumper is placed on the #2 and #3 pins, the delay hold over for the switched audio and alarm relay will be approximately 4 second. If the jumper is placed on the #2 and #1 pins, the delay hold over for the switched audio and alarm relay will be approximately 15 seconds. If the jumper is placed on only the #2 pin and no other, the delay hold over for the switched audio and alarm relay will be approximately 30 seconds. Each channel may be set to a different dwell delay as desired.

J17-J18 J19-J20 J21-J22 J23-J24. Phantom Microphone Power.

The microphone input for each of the four channels is equipped with a jumper to connect Phantom power for operating microphones that require power. A Phantom power of +6 VDC is supplied up the microphone wires to power ELECTRET MICROPHONES. Phantom power is used only when power is required for the microphone and should be disconnected when not required. Cameras with built in microphones will not require Phantom power and this option should be disconnected when they are used. To select the Phantom Power option place the jumper on the two pins for each pair of jumpers J17 and J18 for channel 1, J19 and J20 for channel 2, J21 and J22 for channel 3, and J23 and J24 for channel 4. Each channel must have both jumpers in place for the Phantom power to operate.

CARD INSTALLATION

The SSA474 Card fits into the RMS400 Rack Mount System, which is a 19" X 5 1/4" slide-in power supply and Mainframe for use in a standard 19" rack. This rack mount will hold up to nine SSA474 cards. This lets you put nine Sonic Sentry Alarm Cards or any other 400 series product into three RU spaces.

Remove the equipment from the packing materials. If unit needs to be mounted in the RMS400 follow these steps.

1. Please read the instruction book completely before starting.
2. Select one of the un-used nine positions to be occupied by the new circuit board module.
3. Remove the blank label in that position by peeling it off of the front panel. Peel the label slowly to remove all of the label and adhesive. Any remaining adhesive may be removed by rubbing the surface with your thumb. **WARNING: DO NOT USE SOLVENTS TO REMOVE THE LABEL ADHESIVE.** The solvent could damage the equipment cards or cause a fire

CARD INSTALLATION (cont)

4. Peel the backing off of the new label and apply it to the front panel of the RMS-400 rack in the position of the new card. Align the new label with the screw head in the hole in the lower right hand corner of the label, then align the center thumbscrew with the clearance hole in the front panel. This should cause the label to be straight and vertical. When the label is in place press firmly to secure the label.
5. Then remove the thumb-screw retainer from the product card, it is located at the front of the card and is removed by rotating the knob counter-clock-wise.
6. Select any and all product options on the specific card, (See Select Jumpers and Control Functions).
7. Next slide the card into the card guides at the rear of the RMS-400. Be sure that the notch in the circuit card is facing forward and down. Push the card all the way to the front of the rack until it stops. DO NOT APPLY EXCESSIVE FORCE TO THE CARD.
8. Insert the thumb-screw that was removed in step 5 while rotating it in a clock-wise direction. When it begins to thread into the card, continue until it is finger tight. CAUTION TIGHT BY HAND ONLY, DO NOT USE TOOLS TO TIGHTEN THE THUMB-SCREW. OVER TIGHTENING WILL DAMAGE THE CIRCUIT CARD.
9. Attach audio and alarm cables to the appropriate connectors at the rear of the unit.

Most circuit board modules have several adjustments which are carefully factory set with precision instruments for optimum performance. Change only those which must be adjusted, some controls when mis-adjusted produce little change under normal operating conditions, but can seriously reduce the ability of the unit to function correctly under other conditions which may be encountered. Therefore, if you must adjust a control, place a mark on it before moving it, so that it may be returned to its original setting with reasonable accuracy.

SET-UP AND INSTALLATION

Each channel of the SSA474 requires an audio input. This input can be line level audio from a video camera with a built-in microphone or a microphone may be placed on location to pick up the audio. The SSA474 will accept both types of input. The audio output from a camera with a built-in microphone is line level. When using line level the Phantom Power option should not be selected.

Line level audio should be connected to the screw terminals marked "MIC 1, 2, 3, and 4", audio polarity is not critical. If more than one microphone is used (multiple microphoning) in the same area you should observe proper audio polarity to prevent acoustic canceling of some of the audio frequencies.

For microphone connection use the proper polarity and select the jumpers J17-J24 for Phantom Power. Connect standard twisted pair wire of suitable gage to the screw terminal connector on the microphone. Connect the other end of the twisted pair wire to the screw terminal connectors marked "MIC 1, 2, 3, and 4" on the SSA474. If the microphone does not work the polarity is not correct and the wire connections need to be reversed.

The alarm contact Relay outputs are available at the rear panel on the screw terminals marked "RELAY 1,2,3, and 4". Connect these terminals to other equipment to switch quads, multiplexers or to operate alarm equipment.

Audio outputs are available on the RCA connectors located at the rear connector panel. From top to bottom the outputs are 1,2,3,4, and the RCA connector at the bottom of the card is the switched audio output. This output is the combination of any channel that is receiving an alarm. All channels that have been selected to switch audio on alarm will output from this connector.

FRONT PANEL CONTROL OPERATION

The procedure for setting the sensitivity "LEVEL" control is as follows. Make sure the microphone is connected or audio level from the camera connected. With normal audio in the area to be detected rotate the "LEVEL" control on the front panel clockwise until the RED LED just turns on, then rotate the control counter-clockwise until the RED LED just turns off. This is optimum setting the sensitivity control. If the alarm is too sensitive to normal ambient acoustic audio then rotate the control counter-clockwise a small amount. When the correct adjustment is made the unit will not require any further adjustment.

FRONT PANEL INDICATORS

The RED LED indicator on the front panel indicates an alarm condition. An alarm will occur when the audio in the observed area changes above the threshold set on the front panel "Level" control. When this LED is on the relay contact outputs will register an alarm condition and the switched audio for that channel will be routed to the switched audio output connector.

MAINTENANCE

There are no routine adjustments or calibration required for this product other than the normal setting of the front panel "LEVEL" control.