

EAGLE SECURITY PRODUCTS, INC.

MODEL 1221

TWO WAY AUDIO MODULE

INSTALLATION INSTRUCTIONS

The Eagle Security Products Model 1221 is a manual switching two way audio module which works with most alarm panels and communicators. The Model 1221 features 4 electret microphone inputs; connections for the Eagle Model 1400 AUXILIARY RELAY MODULE, and increased high gain listen-in lock-up immunity. Consult the factory for further information regarding interfacing to your equipment.

One, two, three or four electret microphones or two power microphones may be used with the Model 1221. The two way audio module also accepts several 8 ohm speakers for output (depending on configuration.)

SYSTEM REQUIREMENTS.

The Eagle Model 1221 requires the following hardware:

1. An alarm system with a communicator which is two way (or listen-in only) ready and/or releases its line seizure relay before releasing its pulse dial relay.
2. Connections to power and telephone.
3. A minimum of one speaker (Eagle Model 2150 or equivalent) and one electret microphone (Eagle Model 2100 or equivalent).

OPERATION.

After the communicator has transmitted its information and has been "kissed-off" by the central station receiver, the two way audio module is activated (via trigger connected to terminal 5 or 6). The two way audio module will amplify any sound within the microphone listening area and transmits the audio over the telephone line to the central station.

The two way audio module uses a manual switching technology, i.e., the central station controls which party talks and when via keying a TOUCHTONE® telephone touchpad. When the two way audio module is activated, it defaults into the listen-in mode. If greater listen-in amplification is required, momentarily pressing a 3 on the telephone touchpad will activate a higher gain circuit enabling the central station to listen to much fainter sounds.

CAUTION: If there is a loud, continuous background noise, such as a radio, the central station operator should not attempt to increase the gain of the 1221, as this may cause the system to lose the ability to recognize the tones from the central station.

To initiate talk-back, the central station operator must momentarily press the 1 button on the telephone touchpad. To return to normal listen-in mode, a 2 must be depressed momentarily. Listen in time is fixed at 3 minutes. To extend the two way time, a 7 must be sent **before** the two way time expires. When the two way session is complete, a 9 must be sent to turn the audio module off. If the central station operator fails to send the disconnect signal (9), then the audio will automatically shut down after the timer has completed its cycle.

Figure 1 shows all of the jumpers, connectors and potentiometers which are used to set up the two way audio module. The following is a description of each and their function.

SPK VOL - Used to adjust the gain of the speaker; CCW - maximum gain; CW - minimum gain.

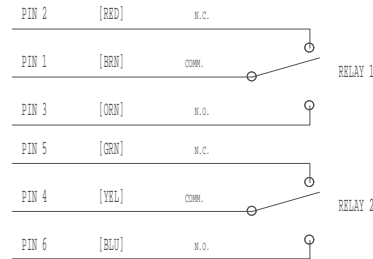
Warning: Use an amply rated speaker, 1 watt or more (Eagle Model 2150 or equivalent).

SB1 - This sets the type of microphone used on terminal 9 (only). Set the shunt block across terminals 1 and 2 (default) if are using an electret microphone. If you are using an amplified microphone, set the shunt block across terminals 2 and 3.

P1 - This is used to connect the Eagle Model 1400 AUXILIARY RELAY MODULE. See **OPTIONAL CONNECTIONS** for a description of the Model 1400's operation.

P2 - This connector is used to access all six contacts of the local alarm disconnect relay. This relay contains two form C contacts (DPDT). The following table lists the pin description for this connector:

P3 - This is not used at this time.



NOTE: Pin 5 is connected to terminal 7 and pin 4 is connected to terminal 8 (on the terminal block). Either pins 4 & 5 (yellow & green) or terminals 7 & 8 may be used. DO NOT USE BOTH AS YOU MAY CAUSE DAMAGE TO YOUR EQUIPMENT!

WIRING.

Terminals 1 and 2. +12 VDC and ground input, respectively.

Terminals 3 and 4. Telephone T1 and R1, respectively (usually brown and gray on RJ-31X, respectively.)

Terminals 5 and 6. Trip inputs into the module. Terminal 5 is for a negative edge trigger (high going low) and terminal 6 is for a positive edge trigger (low going high). Only one trigger is required to activate the module. The other should be left unconnected. Maximum input voltage should not exceed 14vdc. Consult factory for assistance with your equipment.

Terminals 7 and 8. These relay contacts are normally closed. These contacts duplicate pins 4 and 5 (yellow & green wires) of P2. During two way, this relay is opened. This relay is used to disconnect a local alarm for two way. If the additional contacts are required to release an additional annunciator, the contacts on P2 must be used (via accompanied cable).

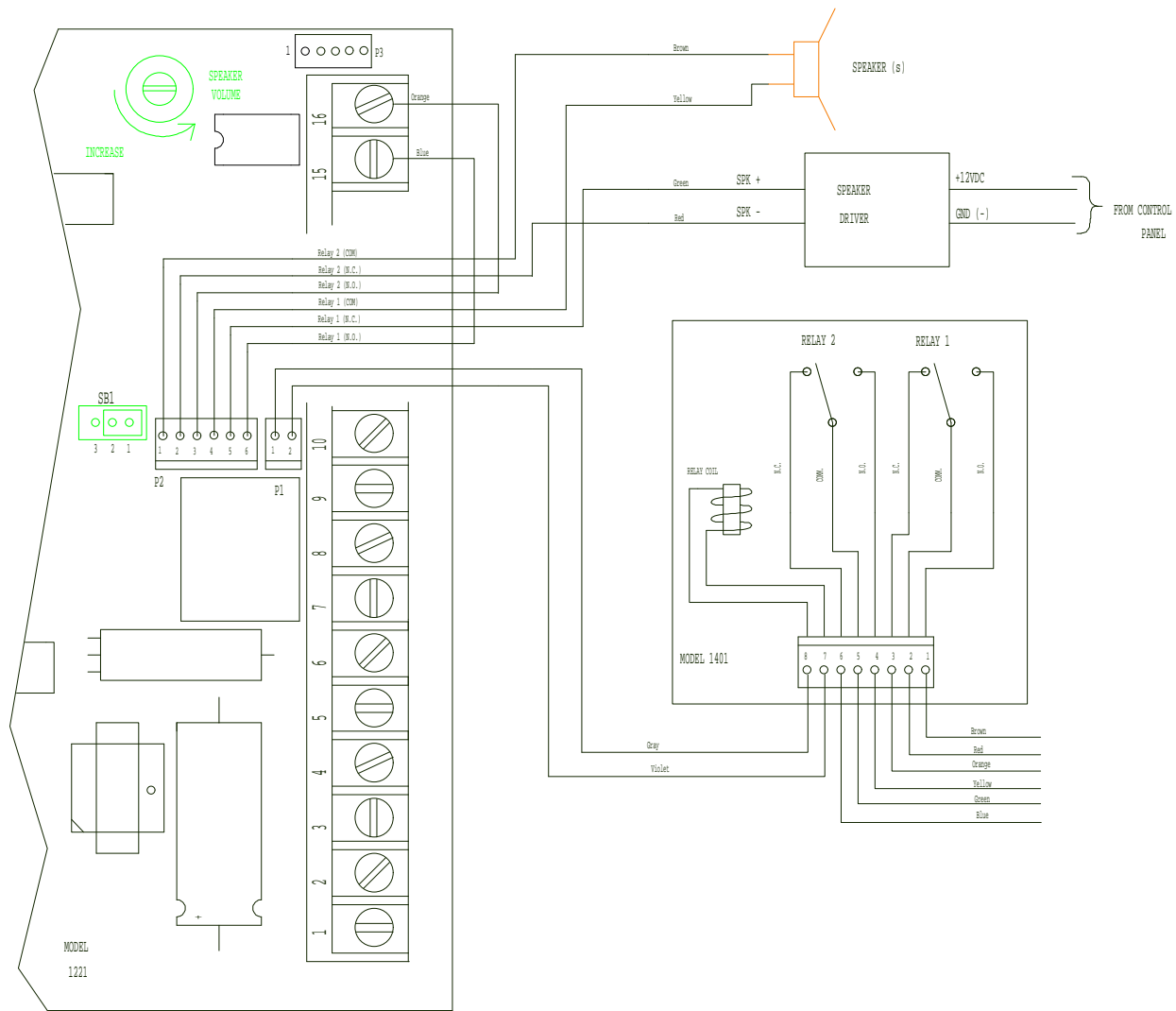
Terminal 9. The function of this terminal is dependant on SB1. If SB1 is set on pins 1 and 2, this is the input for an electret microphone. If SB1 is set on pins 2 and 3, then this is the signal input for a power microphone (low impedance microphone).

Terminal 10. This is power for all electret microphones, or any microphone which uses +5 VDC for power. **DO NOT** use for microphones requiring +12 VDC.

Terminals 11, 13 and 14. These are the inputs for electret microphones (high impedance). These inputs are amplified on the module. Any combination of inputs may be used (along with terminal 9).

Terminal 12. This is the ground for all electret microphones. This may also be used for a ground connection for a power microphone.

Terminals 15 and 16. These are the talk-back speaker outputs. Speakers with a minimum of one watt power rating are recommended (Eagle Model 2150). **The total impedance of the speakers connected to these terminals must never be below 8 ohms!** See diagram below for multiple speaker connections.



CONNECTIONS.

Your Model 1221 two way audio module requires several connections. There are some additional connections which are optional.

REQUIRED CONNECTIONS.

The 1221 requires +12V on terminal 1 and GROUND (NEGATIVE) on terminal 2. Telephone connections, tip and ring, premise side, are required on terminals 3 and 4, respectively. A trigger input must be connected to **either** terminal 5 or 6. **DO NOT** make a connection to both of these terminals. A minimum of one microphone and one speaker must be connected to the 1221. The number of microphones does not have to be the same as the number of speakers.

Note: Shielded wire (22AWG, maximum of 500' recommended) must be used when remotely mounting the microphone(s).

Note: With the Model 1221 microphones may be mounted within, next to or near the speakers as only one channel is on at any given time.

OPTIONAL CONNECTIONS.

If the system to which the Model 1221 is connected is using an internal sounder (siren, bell or buzzer), it should be interrupted during two way. This will allow the central station maximum listen-in ability without interference. These connections may be made at either of two places. You may series your one lead of the sounder through terminals 7 and 8. This is a NC relay connection which will open during two way. You may optionally use the 6 wire cable (connected to P2) to make your connection. This is especially handy when using a common speaker for both siren output and two way talkback.

Connector P1 is used to connect the Eagle Model 1400 AUXILIARY RELAY MODULE. This module is required when more than the supplied DPDT (dual form C) relay contacts are required to disconnect local sounders.

Additional microphones may be connected to the remaining open microphone terminals as needed.

FCC REQUIREMENTS:

1. The Federal Communications Commission (FCC) has established Rules which permit this device to be directly connected to the telephone network. Standardized jacks are used for these connections. This equipment should not be used on party lines or coin lines.
2. If this device is malfunctioning, it may also be causing harm to the telephone network; this device should be disconnected until the source of the problem can be determined and until repair has been made. If this is not done, the telephone company may temporarily disconnect service.
3. The telephone company may make changes in its technical operations and procedures; if such changes affect the compatibility or use of this device, the telephone company is required to give adequate notice of the changes. You will be advised of your right to file a complaint with the FCC.
4. If the telephone company requests information on what equipment is connected to their lines, inform them of:
 - a. The telephone number this unit is connected to
 - b. The ringer equivalence number
 - c. The USOC jack required.
 - d. The FCC Registration number

Items 'b' and 'd' are indicated on the label.

The ringer equivalence (REN) is used to determine how many devices can be connected to your telephone line. In most areas, the sum of the RENs of all devices on any one line should not exceed five (5.0). If too many devices are attached, they may not ring properly.

5. In the event of equipment malfunction, all repairs should be performed by our Company or an authorized agent. It is the responsibility of users requiring service to report the need for service to our Company or to one of our authorized agents. Service can be obtained at:

Eagle Security Products, Inc.
11650 Genesee Street; Suite #2
Alden, NY 14004-9630
716-937-0095 Fax: 716-937-3127

or at your local installation company.

IMPORTANT: Eagle Security Products should be tested every month to insure complete and proper operation and proper input and output connections.

EAGLE SECURITY PRODUCTS MODEL 1221
FCC IDENTIFICATION NUMBER: 1SYUSA-18688-KX-N
RINGER EQUIVALENCE NUMBER (REN): 0.0B
USOC JACK REQUIRED: NONE

LIMITED WARRANTY

Eagle Security Products, Inc. warrants that the products of its manufacture shall be free from defects in materials or workmanship to one year from the date of invoice if such goods have been properly installed, are subject to normal proper use, and have not been modified in any manner whatsoever. Upon return of the defective product to the nearest Eagle Security Products dealer, Eagle Security Products will, at its sole discretion, either repair or replace, at no cost to the customer, such goods as may be of defective material or workmanship. Customers outside the United States are to return products to their distributor for repair.

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