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# **BavSonic™ Single Lane Universal Telephone Audio Installation and Service Manual**

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# BavSonic™ Universal Telephone Audio

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# Important Safety Instructions

1. READ THESE INSTRUCTIONS
2. KEEP THESE INSTRUCTIONS
3. HEED ALL WARNINGS
4. FOLLOW ALL INSTRUCTIONS
5. DO NOT USE THIS APPARATUS NEAR WATER
6. CLEAN ONLY WITH A DRY CLOTH
7. DO NOT BLOCK ANY VENTILATION OPENINGS. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS
8. DO NOT INSTALL NEAR ANY HEAT SOURCES SUCH AS RADIATORS, HEAT REGISTERS, STOVES OR OTHER APPARATUS (INCLUDING AMPLIFIERS) THAT PRODUCE HEAT
9. PROTECT THE POWER CORD FROM BEING WALKED ON OR PINCHED PARTICULARLY AT PLUGS, CONVENIENCE RECEPTACLES AND THE POINT WHERE THEY EXIT THE APPARATUS
10. ONLY USE ATTACHMENTS/ ACCESSORIES SPECIFIED BY THE MANUFACTURER
11. REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL. SERVICING IS REQUIRED WHEN THE APPARATUS HAS BEEN DAMAGED IN ANY WAY, SUCH AS POWER-SUPPLY CORD OR PLUG IS DAMAGED, LIQUID HAS BEEN SPILLED OR OBJECTS FALLEN INTO THE APPARATUS, THE APPARATUS HAS BEEN EXPOSED TO RAIN OR MOISTURE, DOES NOT OPERATE NORMALLY OR HAS BEEN DROPPED.

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## Additional Safety Instructions

WARNING – TO REDUCE THE RISK OF FIRE OR ELECTRONIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

WARNING – AN APPARATUS WITH CLASS I CONSTRUCTION SHALL BE CONNECTED TO A MAINS SOCKET OUTLET WITH A PROTECTIVE CONNECTION.

THE MAINS PLUG IS USED AS A DISCONNECT DEVICE AND SHALL STAY READILY OPERABLE.

APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES SHALL BE PLACED ON THE APPRATUS.

## **BavSonic™ Universal Telephone Audio Features**

The BavSonic™ Universal telephone intercom interface module connects the intercom system of a remote drive-thru lane to the telephone system. This is a full duplex audio system for maximum intelligibility. The incoming and outgoing audio levels are adjustable in the interface by qualified service technicians.

The customers at the remote-drive-thru location can call the inside by depressing the CALL BUTTON. This initiates a call to the telephones that are programmed to receive them. The employees can access the remote lane from the telephones that are given access. If a customer presses the call button and the call is not answered in approximately one minute the call is terminated for 10 seconds then another attempt is made. This will happen five times at which point the interface will reset itself awaiting the next activation of the call button.

## **Telephone Interface Power and Site Requirements**

Power is supplied to the interface through an 110v power cord and is protected by a non replaceable 1 amp fuse. The customer will supply the 110v power outlet as well as the connections from the telephone system to an area under the counter adjacent to the drive-thru window.

Telephone system requires a standard loop start CO line for each lane, and the phone system to be programed to connect to the interface. This also is the customer's responsibility.

These items should be in place, and the phone system programed, before installing the BavSonic™ Universal Telephone Interface.

**NOTE:** For use in VoIP phone systems please consult with the factory, additional equipment may be required.

## **Intercom Connections**

There is an intercom board located at the drive-thru lane. This board is connected to the telephone interface via standard CAT 5 wiring. The termination is type 568B. Each remote intercom board has a LED, which indicates that it is receiving power.

The audio levels are adjusted in the interface.

Remote lane audio component connections are as follows: Plug J1 is for the speaker connection. The connector is a 3-position with positions 1 & 3 being the speaker. For the outside board, plug J2 is an 8-position Microfit, for the inside board, plug J2 is an 8-position RJ45. Plug J3 is for the call button connections. The connector is a 4-position with positions 2 & 3 being the button. Note that positions 1 & 4 are 19vdc power with position 4 being positive. Plug J4 is for the microphone connection. This connector is a 2-position.

Please see page 8 for an overall wiring diagram of the intercom section.

It is recommended to install the RJ45 connector directly onto the end of the CAT5 cable for the drive-thru lane. For situations where tooling is not available to attach the RJ45 to the end of the CAT5 cable for the window lane, we have included a wiring pigtail, (P/N 22066011, see page 8) that can be spliced onto the cable with the crimp connectors provided.

## **Installation with KSU type Telephone System**

The Universal Telephone Audio Interface can be used in conjunction with most KSU type telephone systems. The following information is generic for most systems. If additional information is needed please consult the factory.

The telephone connections on the Universal Telephone Audio Interface are standard RJ45 jacks. There is an RJ45 patch cord with the interface that should be used to connect the Universal Telephone Audio Interface to the RJ45 connection of the telephone system.

The CO port should be programmed for loop start. If there is a programmable delay between off hook and connection of the audio path it should be adjusted to the minimum.

## Troubleshooting

The Universal Telephone Audio Interface uses a Subscriber Line Interface Circuit (SLIC) to provide a Central Office (CO) line output. The CO line output is a standard two-wire tip ring connection with loop start. This CO line output can be connected to a telecom test set, standard telephone or Key Service Unit (KSU) for testing.

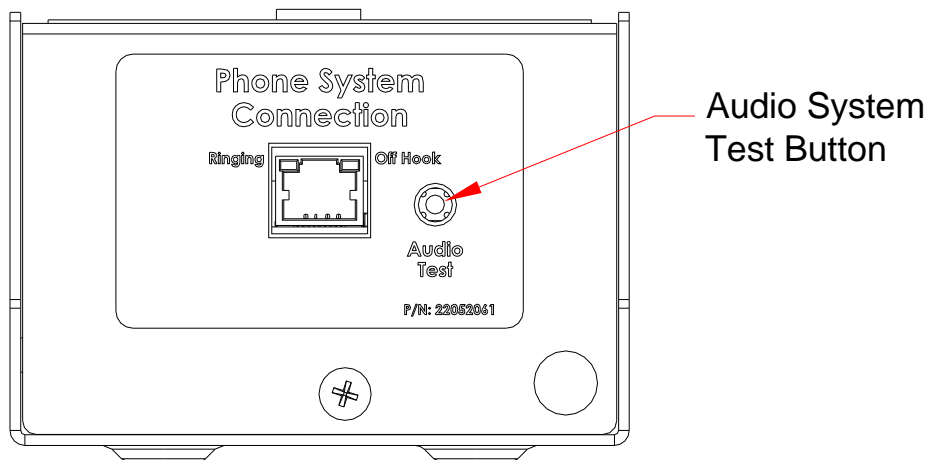
There are three states that CO line output can be in. Note that these are nominal voltages taken from the center two pins of the “Telephone” connection.

- 1) With or without the CO line connected and the receiver on hook, the supervisory voltage should be approximately 26Vdc. Note that a flashing RED LED indicates that the system is running.
- 2) With the CO line connected and the receiver off hook, the voltage should be approximately 6.5Vdc. Note that a separate YELLOW LED labeled OFF HOOK is provided to monitor this condition. Without the CO line connected shorting pins 2 & 3 together will cause the OFF HOOK LED to illuminate. (Caution if the intercom is connected the audio will most likely squeal due to feedback.)
- 3) With the CO line connected, the receiver on hook or without the CO line connected and the YELLOW LED labeled RINGING illuminated, the voltage should be approximately 55Vac.

If any of these voltages are not present please consult the factory for assistance.

## Testing

The single lane Universal Telephone Audio Interface has a built in test feature. The test feature works with the system connected to a telephone or not. Pressing the audio test activates the test mode. Pressing the call button causes the outside microphone to be connected to the outside speaker at half volume. This mode stays active for 5 minutes or until the telephone system goes off hook.



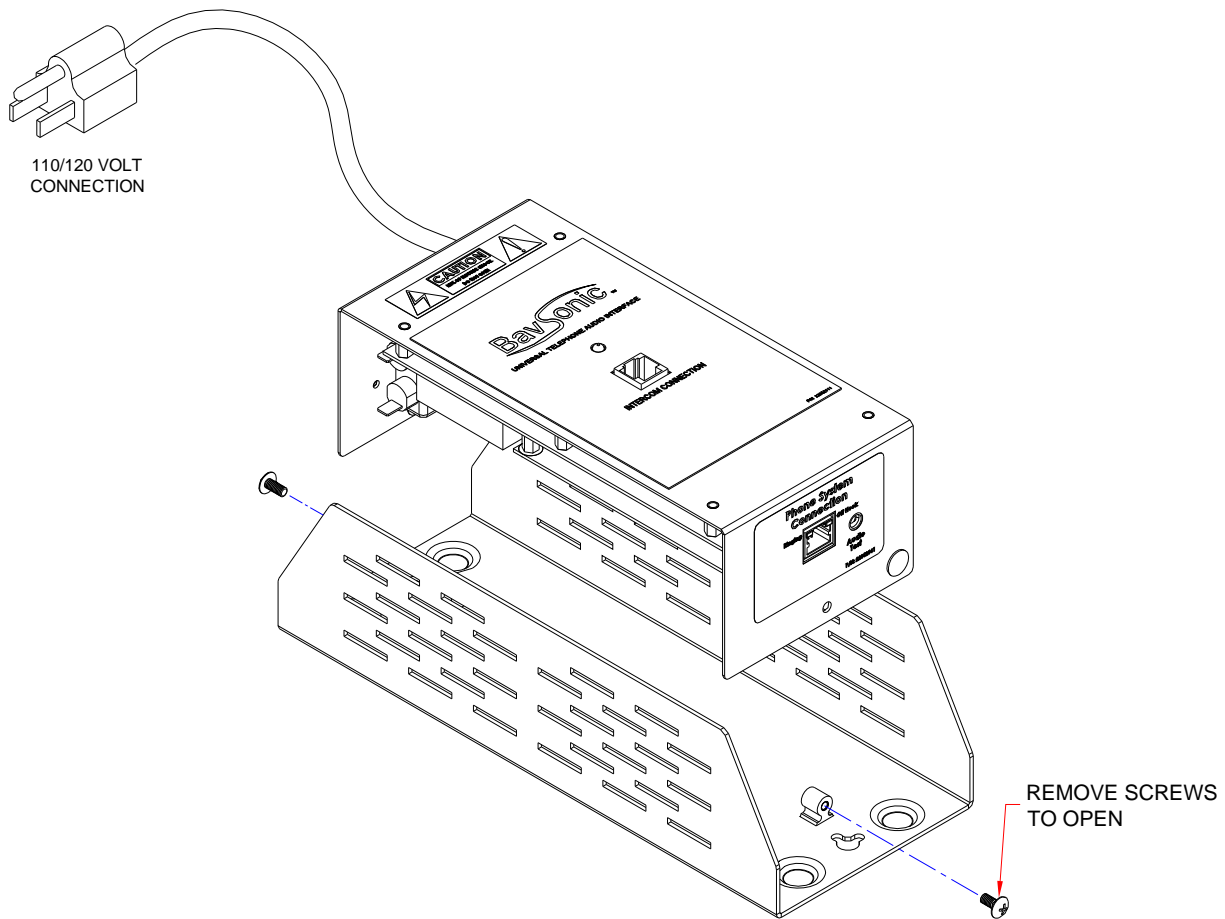


## Adjusting the Audio Levels

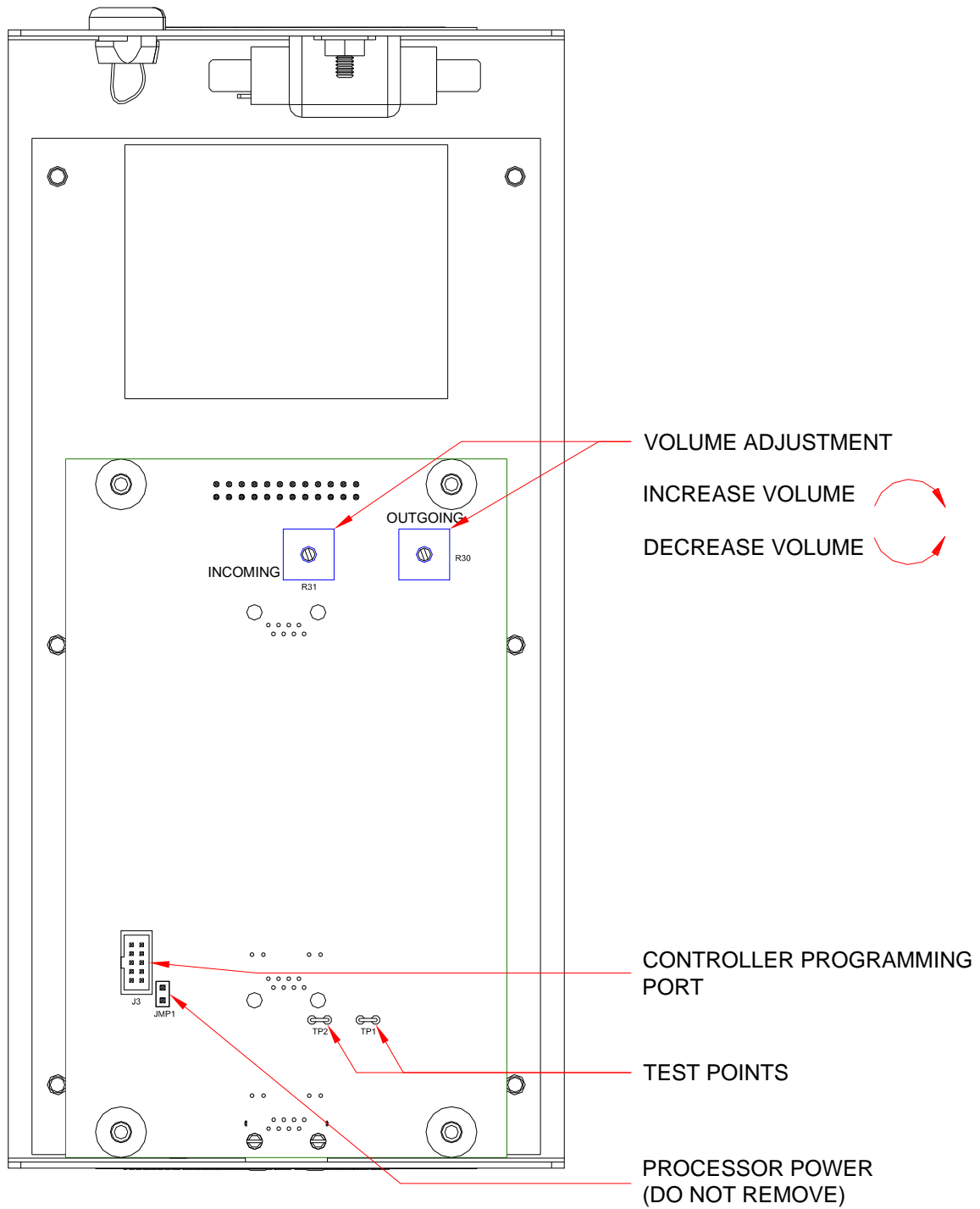
Both the incoming and outgoing audio levels can be adjusted inside the interface.

The adjustment procedure is to have someone in a running vehicle in the drive-thru talking to the technician on the telephone. With the incoming audio turned down, adjust the outgoing audio to a usable level. Then adjust the incoming audio level to a usable level without bad behavior. Examples of bad behavior are “squealing” (feedback), “cutting in and out” (half duplex) or echo.

Open the interface housing for adjusting by removing the screws. (to be opened by qualified personnel only)

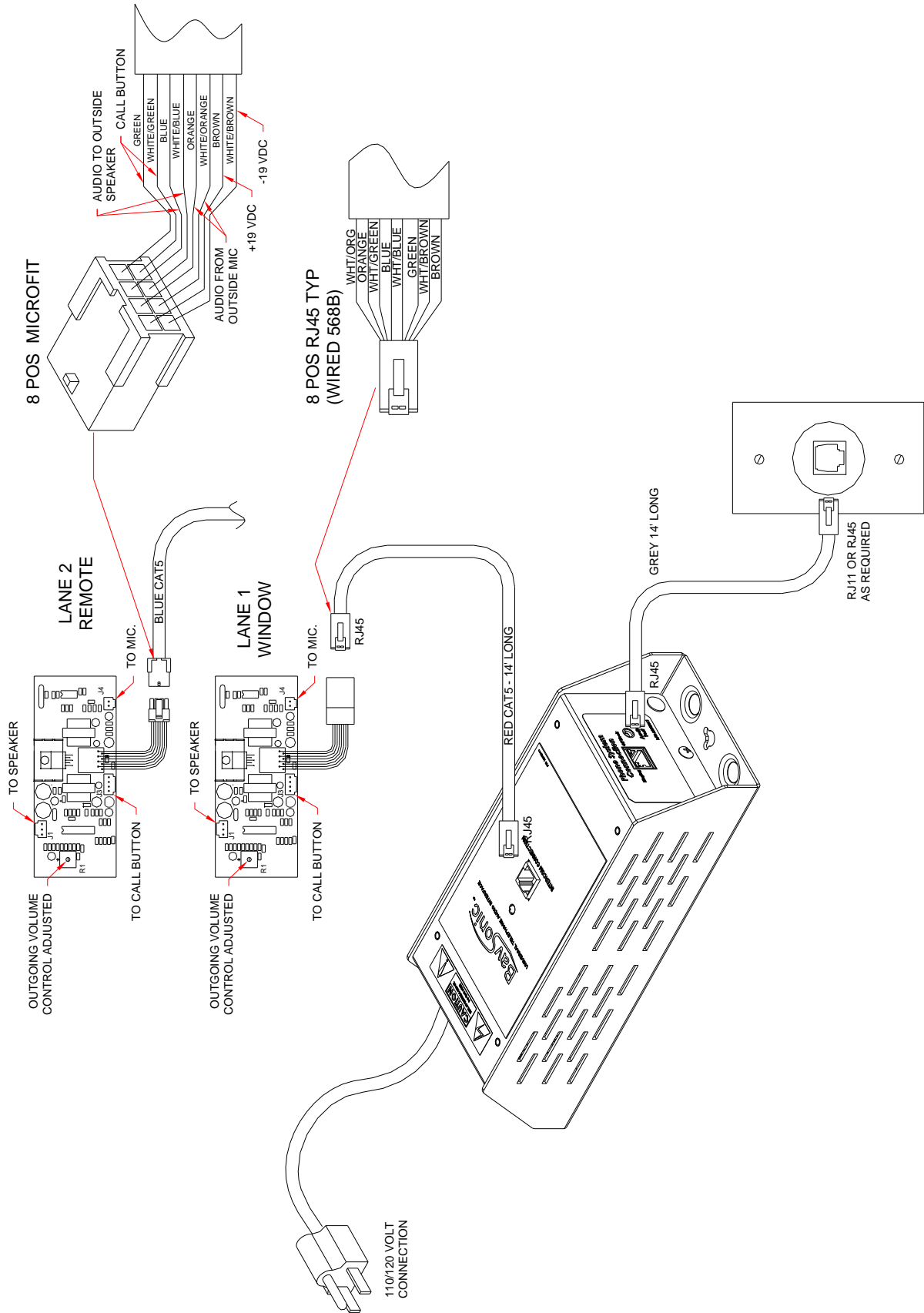


The volume adjustments are located on the mother board as shown in the illustration below.



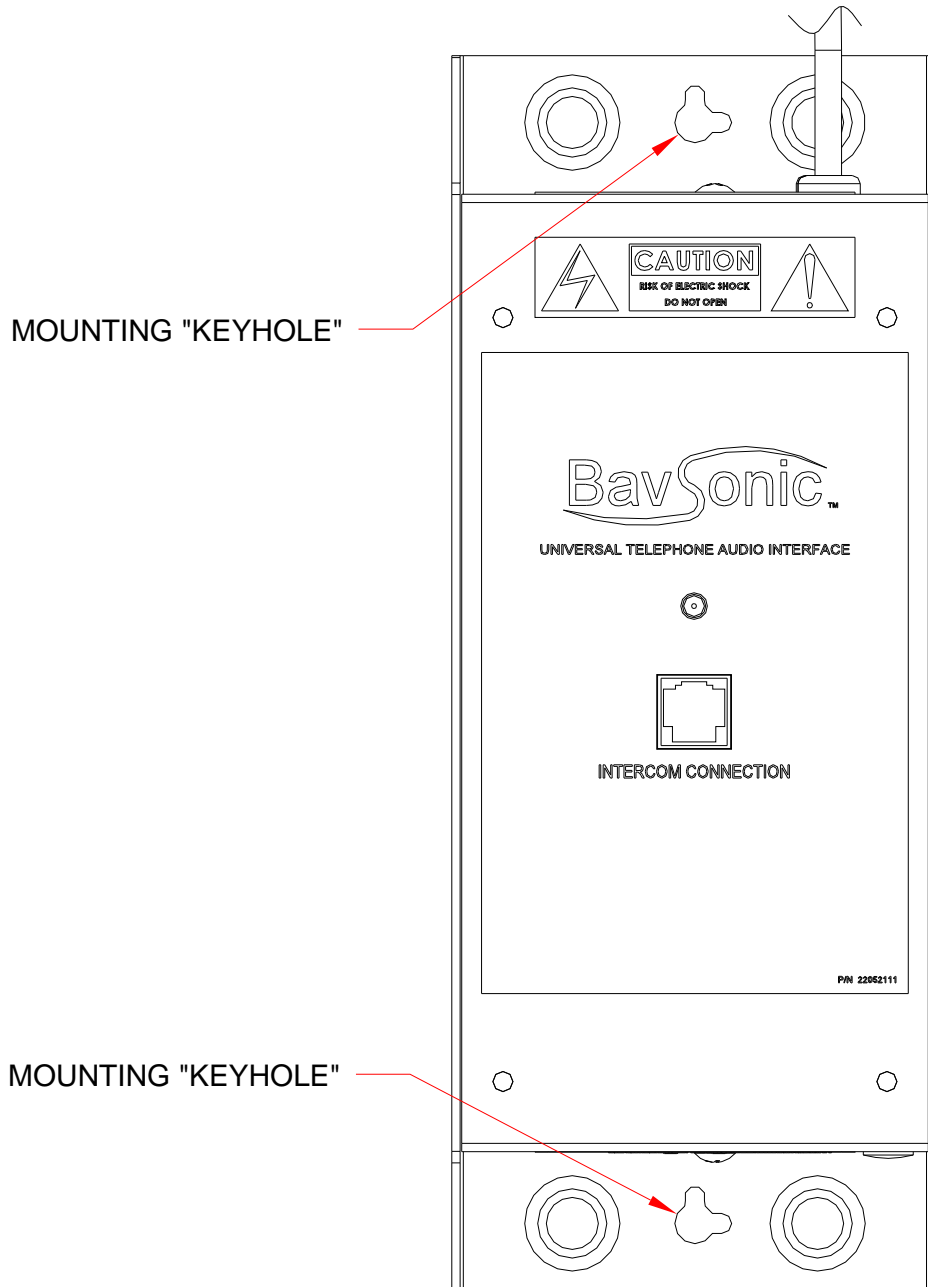
If the audio cannot be adjusted satisfactorily please consult with the factory.

# Intercom Wiring Diagram



## Mounting the Interface

There are two “Keyhole” slots in the base of the assembly’s housing to mount the interface.



## **Installation and Service Tool List for Audio**

1/8" And 3/8" Flathead Screwdrivers  
#0 And #2 Phillips Screwdrivers  
1/16" And 3/32" Allen Wrenches  
1/2" Open-End Wrench  
1/4", 5/16", 11/32", 3/8", And 1/2" Nut Drivers  
Wire Cutters  
Wire Strippers  
Wire Crimpers  
RJ45 Connector Crimpers & Connectors  
Volt Meter  
Electric Drill  
Drill Bits  
Level  
7/8" Unibit  
Fish Tape  
Loctite

