
BavSonic E&M Telephone Audio

Installation and Service Manual

Wal-Mart Tube System Application

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BavSonic™ E&M 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.

Additional Safety Instructions

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

BavSonic™ E&M Telephone Audio Features

The BavSonic™ E&M telephone intercom interface module connects the intercom system of the two outside remote drive-thru pharmacy lanes to the telephone system. This is a full duplex audio system for maximum intelligibility. The incoming audio levels are adjustable at each telephone station.

The customers at the remote-drive-thru locations can call the pharmacy by depressing the CALL BUTTON on either lane. This then initiates a call to the telephones in the pharmacy that are programmed to receive them. The pharmacy employees can access each 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 and 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

The telephone intercom interface is powered by a the 120Vac from the drawer and is protected by a 1-amp breaker. Wal-Mart will supply the connections from the telephone system to an area under the counter adjacent to the drive-thru window.

NOTE – The test plug is located either inside or wire tied to the outside of the Telephone Interface; if you cannot find the test plug or it has been removed please call the manufacturer for assistance.

Telephone Connections

This system is configured for a “TIE LINE” connection to a Legend or Merlin telephone system. The telephone system is supplied by Wal-Mart. There will be an E&M 400 Tie Line Card in the telephone system, which is located in the electrical equipment room. **Note that all of the DIP switches on the E&M Tie Line card need to be set to the “ON” position.** When the “TIE LINES” are in a normal condition (no one talking) there should be no LEDS on.

The connections to the telephone use standard CAT 5 wiring. The termination is a type 568B. The connectors are RJ45. The E&M connections to the Lucent system are referenced to the system ground. The telephone system ground is attached to an earth ground. The system ground is not connected in the TIE LINE port of the telephone system. To insure that a reliable system ground is connected to the Bavis telephone intercom interface, the system ground has to be connected to both conductors of the 4th pair of wires on the RJ45 that the interface is plugged into. This is the brown and white with brown striped wires. **Note that the telephone intercom will not function without the system ground connection.** There are color-coded 14' patch cables supplied to make the connection from the RJ45 jack to the telephone interface.

Telephone Diagnostics At TB1 & TB2

The WHITE /GREEN STRIPE (E2) wire is referenced to the BROWN (E1) wire. The normal voltage is 56VDC with the BROWN wire being positive. After the call button is depressed, the voltage will be less than 1VDC. This indicates that the intercom is connected to the interface. This is the “E Lead” sensing. There is a LED for each lane to indicate that the intercom is connected to the interface.

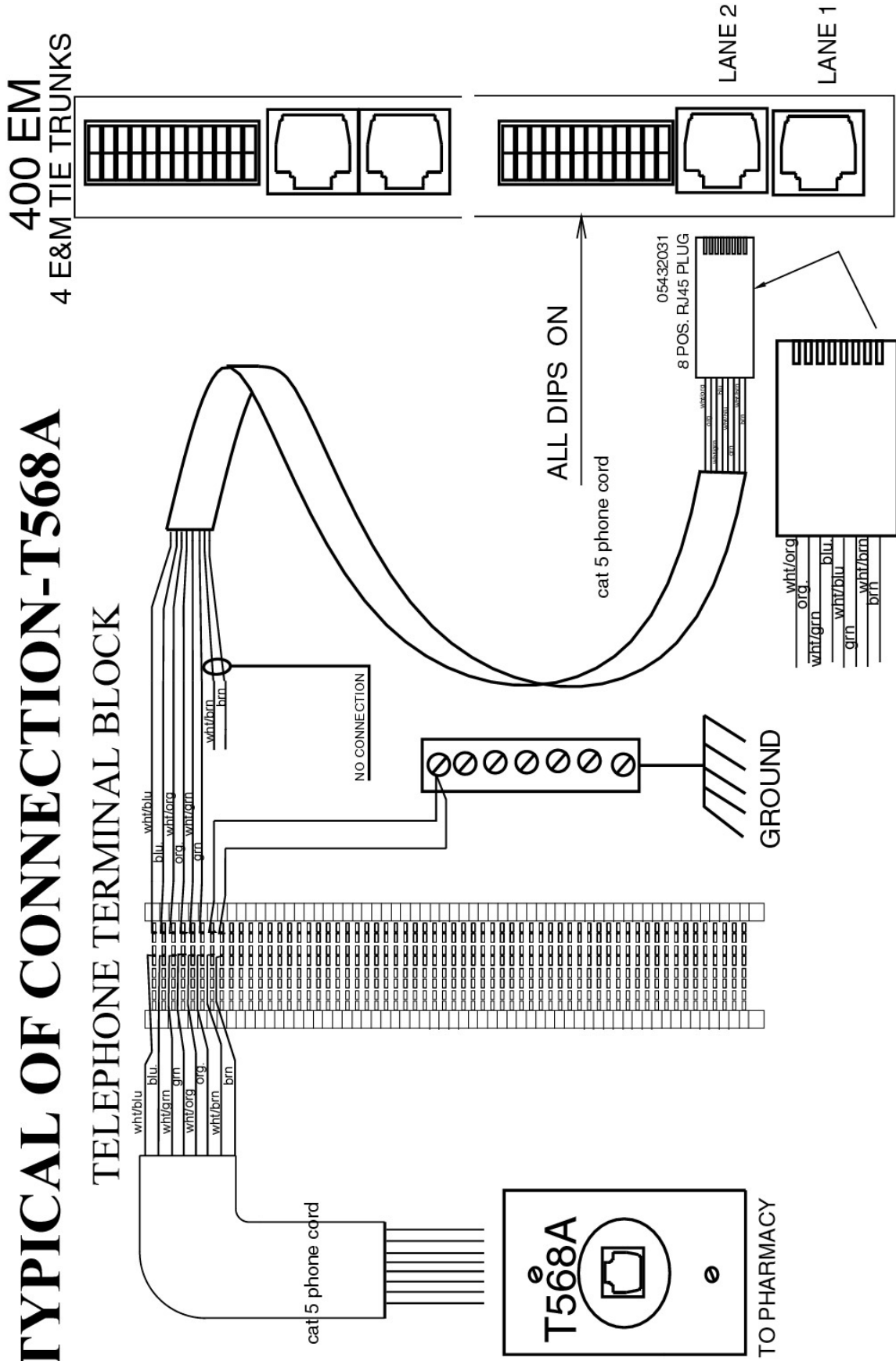
The GREEN (M1) wire is referenced to the WHITE/BROWN STRIPE (M2) wire. The normal voltage is 5VDC with the GREEN wire being negative. The voltage is less than 1VDC when the telephone is connected to the interface. This is the “M Lead” sensing. There is a LED for each lane to indicate that the telephone is connected to the interface.

The BLUE, WHITE/BLUE STRIPE (TRANSMIT) wires are the audio signal coming from the telephone transmitter going to the intercom speaker. With the lane selected and someone talking, the audio signal is approximately .848Vp-p as measured on an oscilloscope or .3Vrms as measured on a true rms digital multimeter.

The ORANGE, WHITE/ORANGE STRIPE (RECEIVE) wires are the audio signal coming from the intercom microphone to the telephone receiver. With the lane selected and someone talking, the audio signal is approximately .848Vp-p as measured on an oscilloscope or .3Vrms as measured on a true rms digital multimeter.

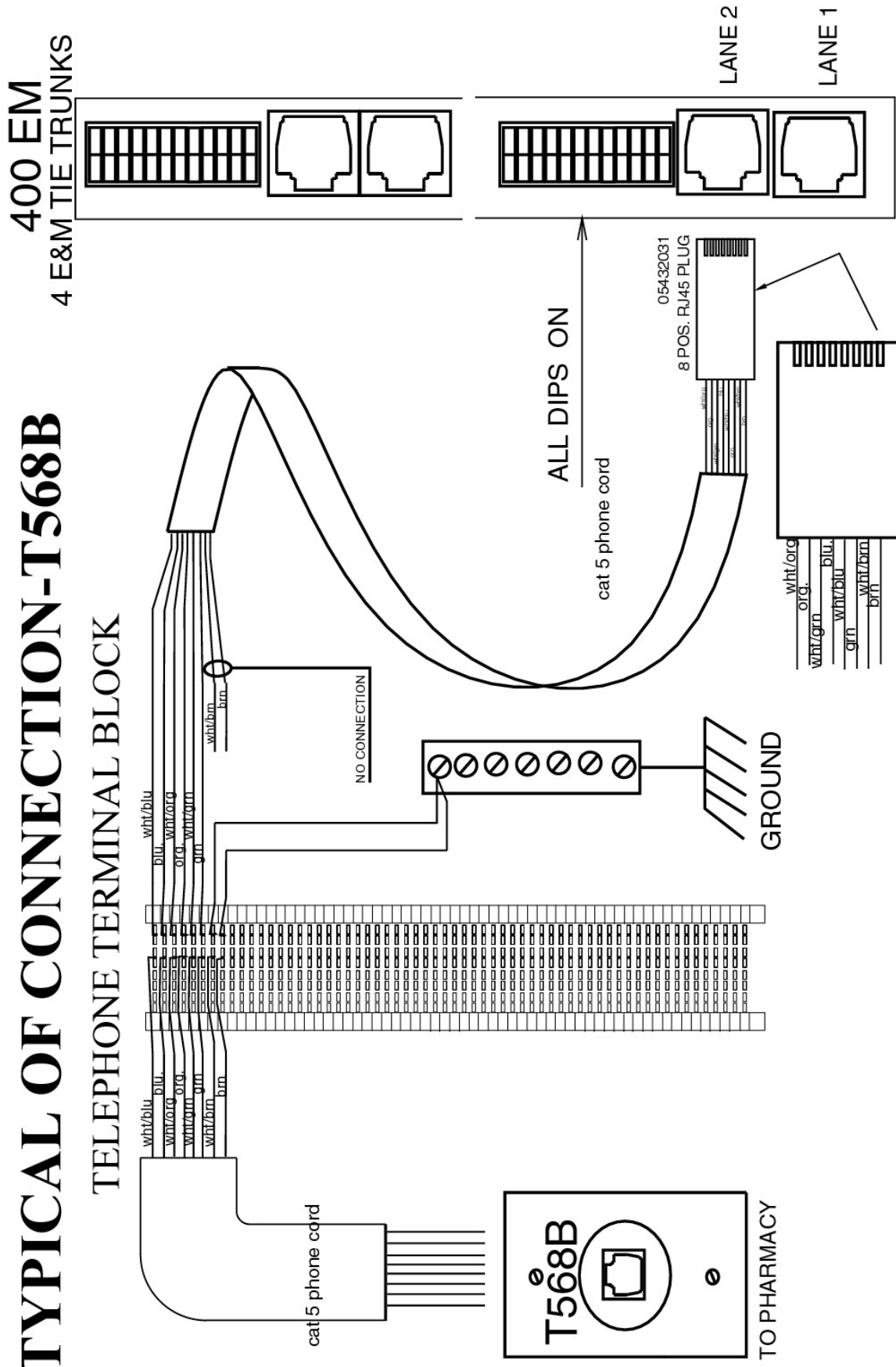
TYPICAL OF CONNECTION-T568A

TELEPHONE TERMINAL BLOCK



TYPICAL OF CONNECTION-T568B

TELEPHONE TERMINAL BLOCK



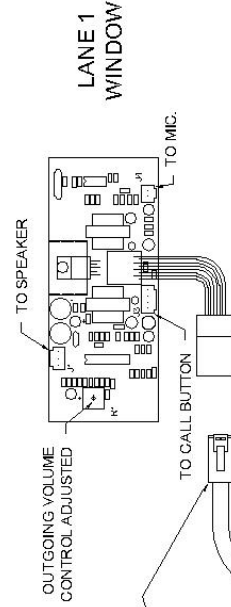
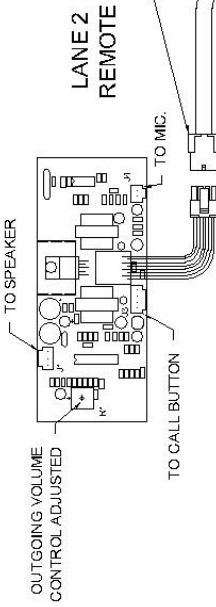
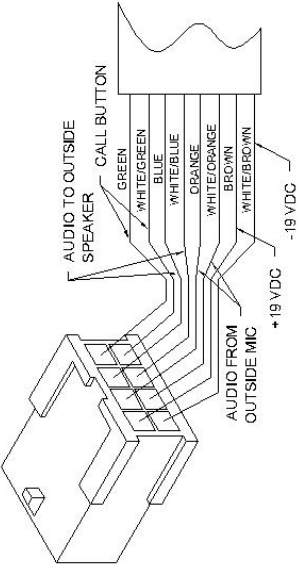
Intercom Connections

The intercom boards are located at both the window and remote lane. These boards are connected to the telephone interface via standard CAT 5 wiring. The termination is a type 568B. The connectors are RJ45. Red cabling designates lane one. Blue cables designate lane two. Each intercom board has a LED, which indicates that it is receiving power.

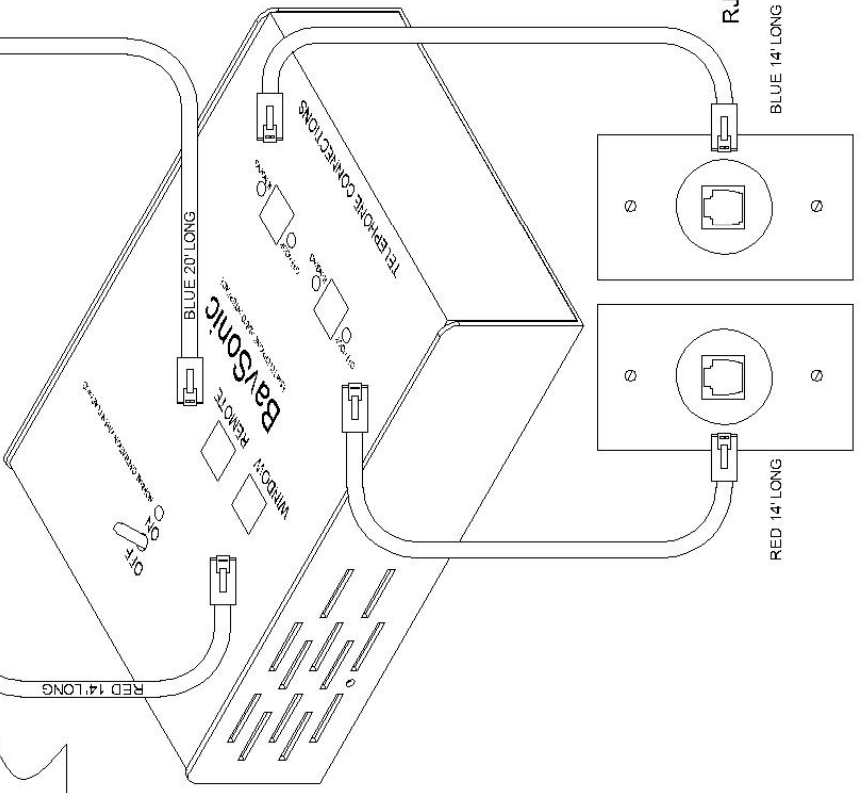
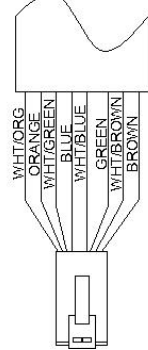
The outgoing audio levels are adjusted at the intercom audio board. The intercom audio board for the window is located in the stainless steel enclosure on the right side of the drawer. The intercom audio board for the remote lane is located in the stainless steel enclosure of the customer unit located on the outside island.

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. The connector is a 4-position with 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.

8 POS MICROFIT



8 POS RJ45



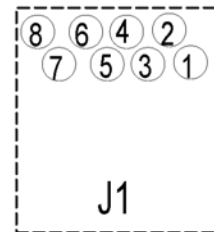
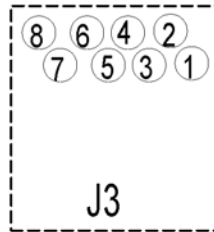
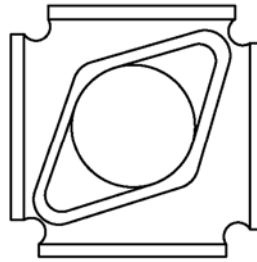
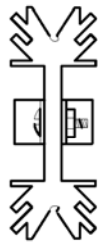
Intercom Diagnostics At J1 & J3 (Lead Side)

Positions 4 & 5 are the audio signal coming from the telephone transmitter going to the intercom speaker. With the lane selected and someone talking, the audio signal is approximately .848Vp-p as measured on an oscilloscope or .3Vrms as measured on a true rms digital multimeter.

Positions 3 & 6 are the signal from the call button to the interface. The normal voltage is 19Vdc with 6 being positive. When the call button is depressed the voltage should be near zero.

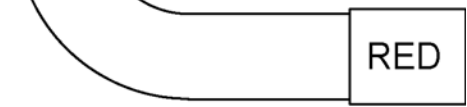
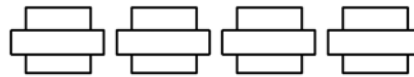
Positions 1 & 2 are the audio signal coming from the intercom microphone to the telephone receiver. With the lane selected and someone talking, the audio signal is approximately .848Vp-p as measured on an oscilloscope or .3Vrms as measured on a true rms digital multimeter.

Positions 7 & 8 are the power for the audio board. This is 19Vdc with 8 being positive.



CAUTION

NOT FOR USE ON FIELD WIRING
BOARD DIAGNOSTICS ONLY.



Telephone Audio Interface Test Procedure

1. With none of the LED's on, insert the test plug into the lane to be tested.
2. Press the call button on the lane under test.
3. Both "connected" LED's should come on.
4. Talk into the outside microphone, sound should come out the outside speaker.
5. Remove the test plug to reset the lane.
6. Use this same procedure for both lanes.

This is a complete test of the intercom and interface.

Note: This is not to be used for adjusting the audio levels. Audio power is cut in half to help prevent feedback in the system and will reduce the signal.

If you have any problems or questions, call the factory for assistance. Also see, "Testing & Debugging BavSonic E&M Wal-Mart Telephone Audio Instructions" part number 00619011.

Note: If experiencing audio problems with the Captive Carrier TransTrax, check to see if a TT connector board (Part # 04112011) is present. If so, it is recommended that this board be removed, and the wires connected color to color using crimp style pigtail connectors. If you have any questions regarding this procedure, contact the factory at 1-800-937-3322.

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
Voltmeter
Electric drill
Drill bits
Level
7/8" unibit
Fish tape
Loctite