# BavSonic™ Telephone Audio

# Installation and Service Manual

**Wal-Mart Application**

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# BavSonic™ Telephone Audio

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# BavSonic™ Telephone Audio Features

The BavSonic™ 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 120Vac from the drawer and is protected by a 1-amp fuse. Wal-Mart will supply the connections from the telephone system to an area under the counter adjacent to the drive-thru window. There is a bracket included that holds the telephone intercom interface to the right side of the Transaction Drawer.

**NOTE** – The red test plug is located inside the Telephone Interface; on backplate styles, or protruding from the end on box style. 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 4$^{th}$ 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

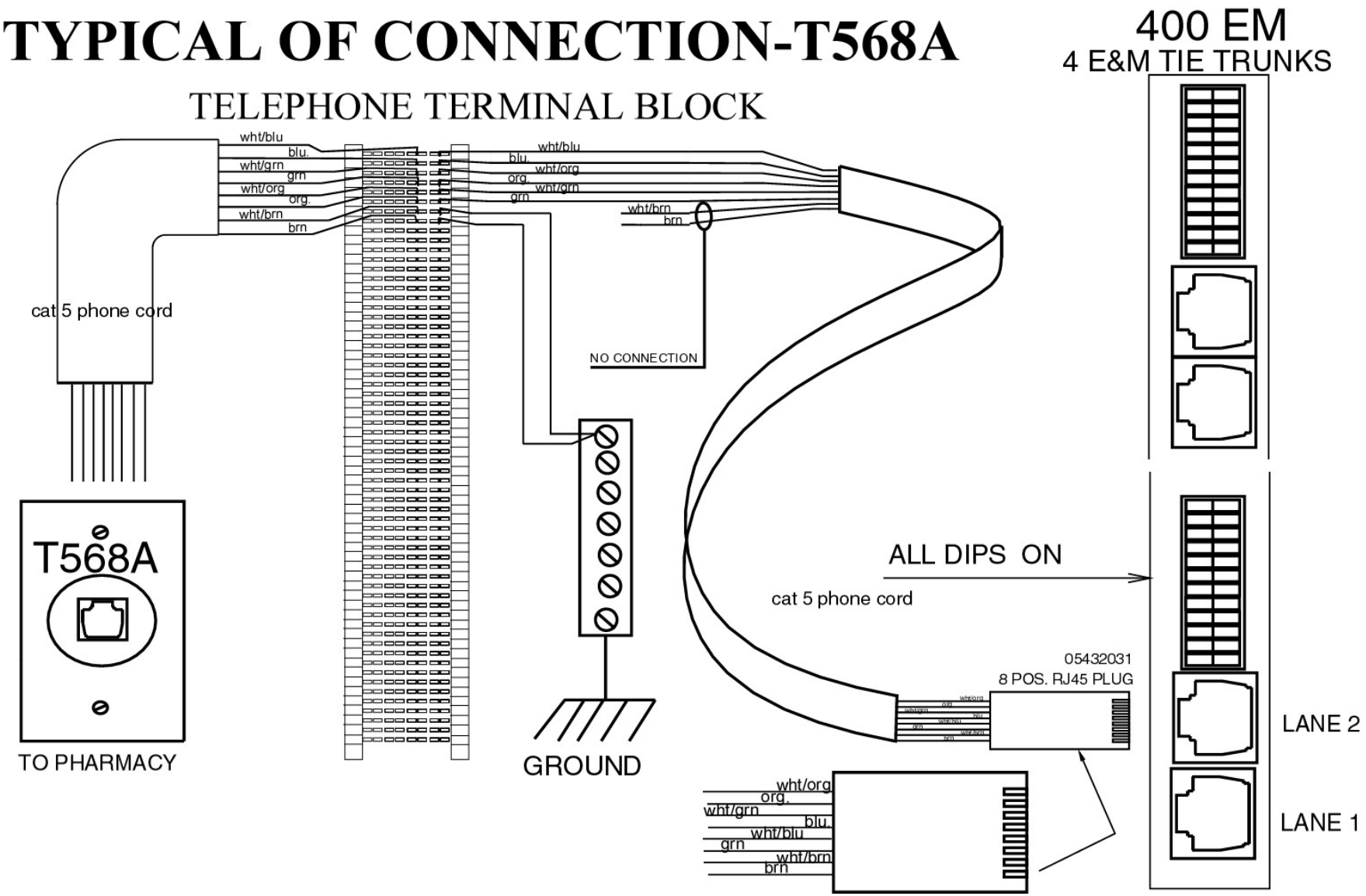
The WHITE /GREEN STRIPE (E2) wire is referenced to the BROWN (E1) wire. The normal voltage is 56VDC with the BROWN wire being positive. After the call button is depressed, the voltage will be less than 1VDC. This indicates that the intercom is connected to the interface. This is the “E Lead” sensing.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

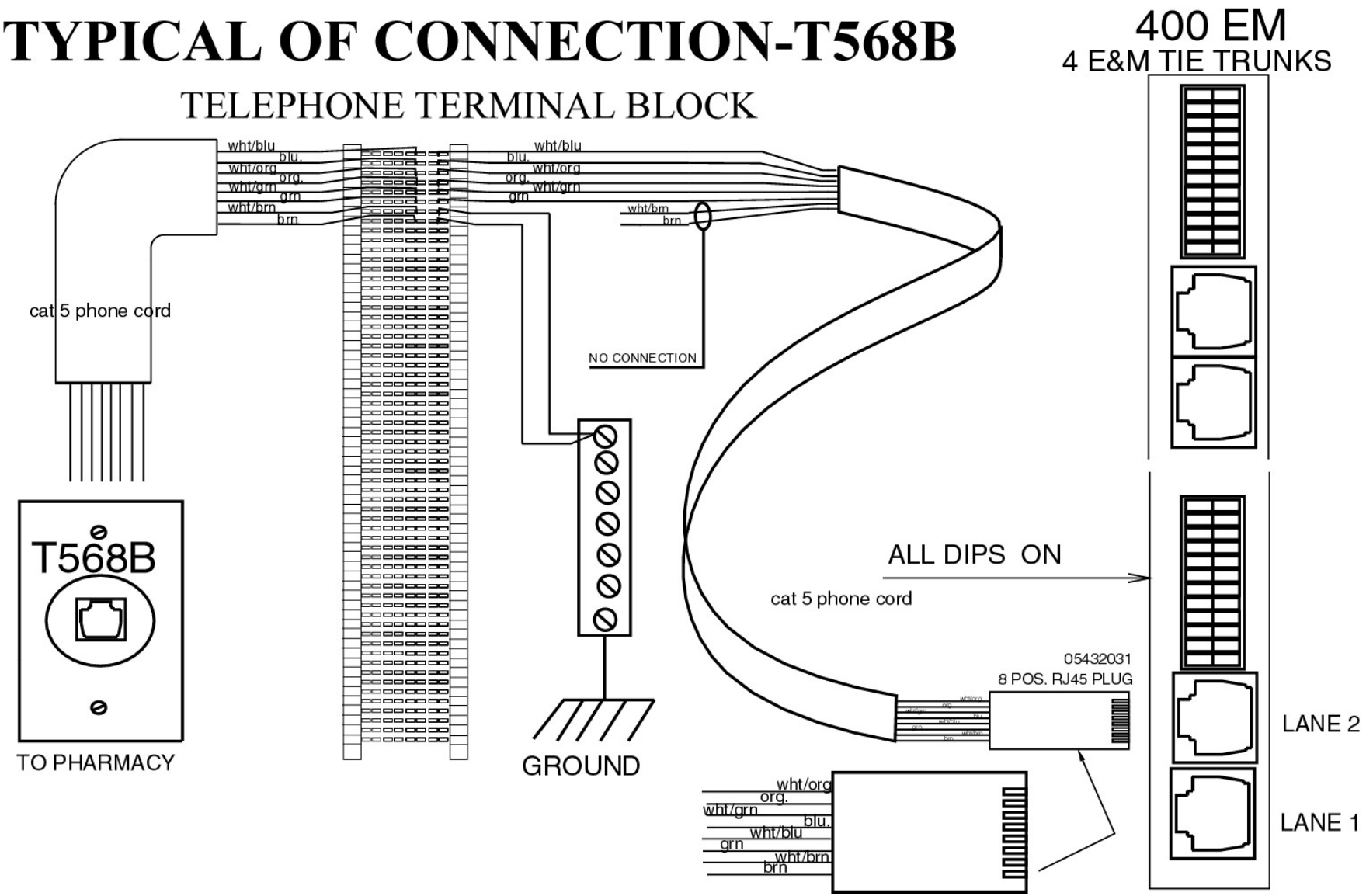
The BLUE, WHITE/BLUE STRIPE (TRANSMIT) wires are the audio signal coming from the telephone transmitter going to the intercom speaker. With the lane selected and someone talking, the audio signal is approximately .848Vp-p as measured on an oscilloscope or .3Vrms as measured on a true rms digital multimeter.

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



# TYPICAL OF CONNECTION-T568B

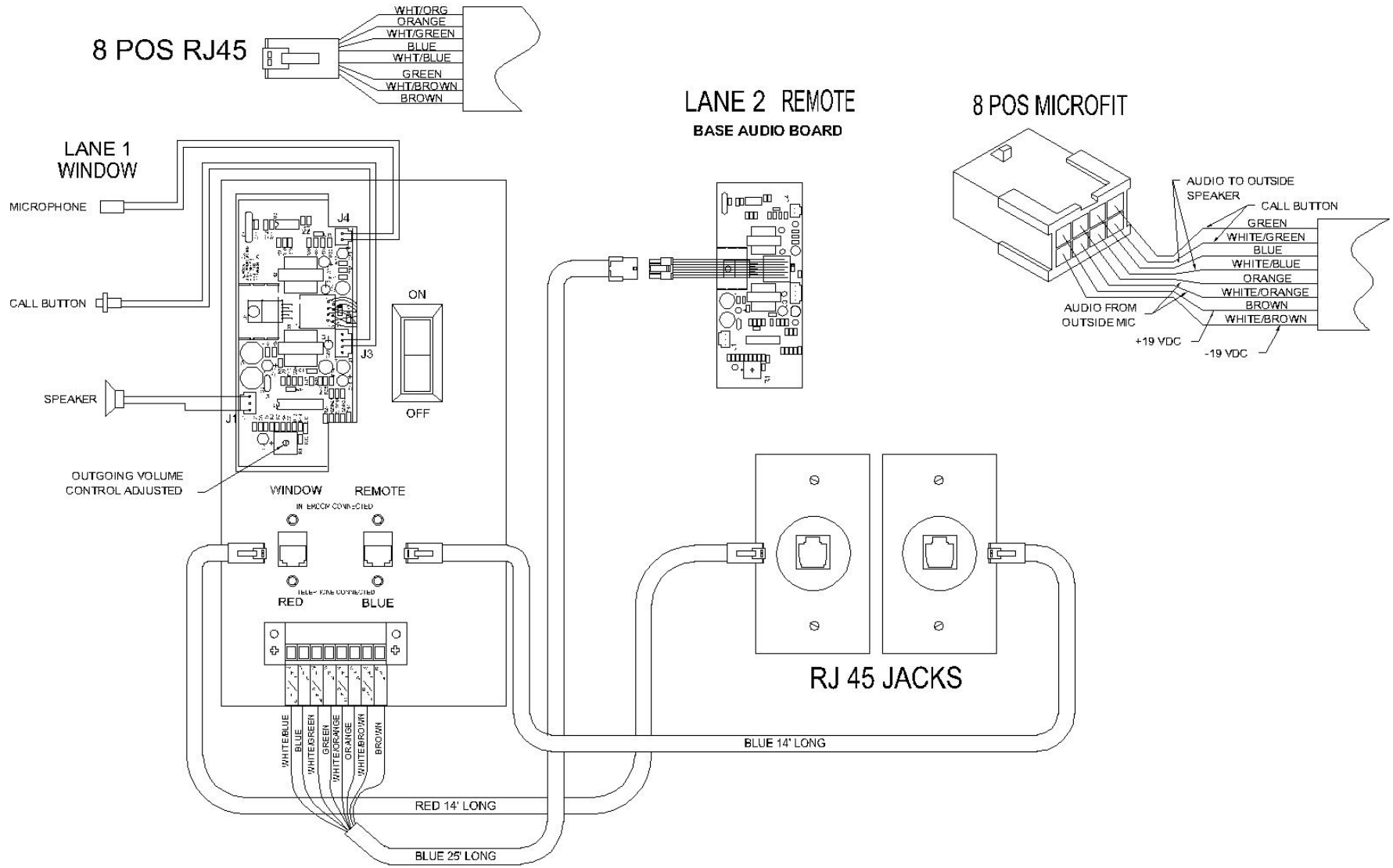


# Intercom Connections

There are intercom boards located in both the window lane and remote lane. These boards are connected to the telephone interface via standard CAT 5 wiring. The termination is a type 568B. The red connector is RJ45. Red cabling designates lane one. Blue is phoenix terminal barrier plug. 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 an enclosure on the right side of the transaction drawer. The intercom audio board for the TransTrax is located inside a weatherproof enclosure, on the customer speaker panel, 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. 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.


8 POS RJ45
WHT/ORG
ORANGE
WHT/GREEN
BLUE
WHT/BLUE
GREEN
WHT/BROWN
BROWN
LANE 2 REMOTE
BASE AUDIO BOARD
8 POS MICROFIT
AUDIO TO OUTSIDE SPEAKER
CALL BUTTON
GREEN
WHITE/GREEN
BLUE
WHITE/BLUE
ORANGE
WHITE/ORANGE
BROWN
WHITE/BROWN
AUDIO FROM OUTSIDE MIC
+19 VDC
-19 VDC
LANE 1
WINDOW
MICROPHONE
CALL BUTTON
SPEAKER
OUTGOING VOLUME CONTROL ADJUSTED
J4
J3
J1
ON
OFF
WINDOW
REMOTE
RED
BLUE
RJ 45 JACKS
WHITE/BLUE
BLUE
WHITE/GREEN
GREEN
WHITE/ORANGE
ORANGE
WHITE/BROWN
BROWN
BLUE 14' LONG
RED 14' LONG
BLUE 25' LONG

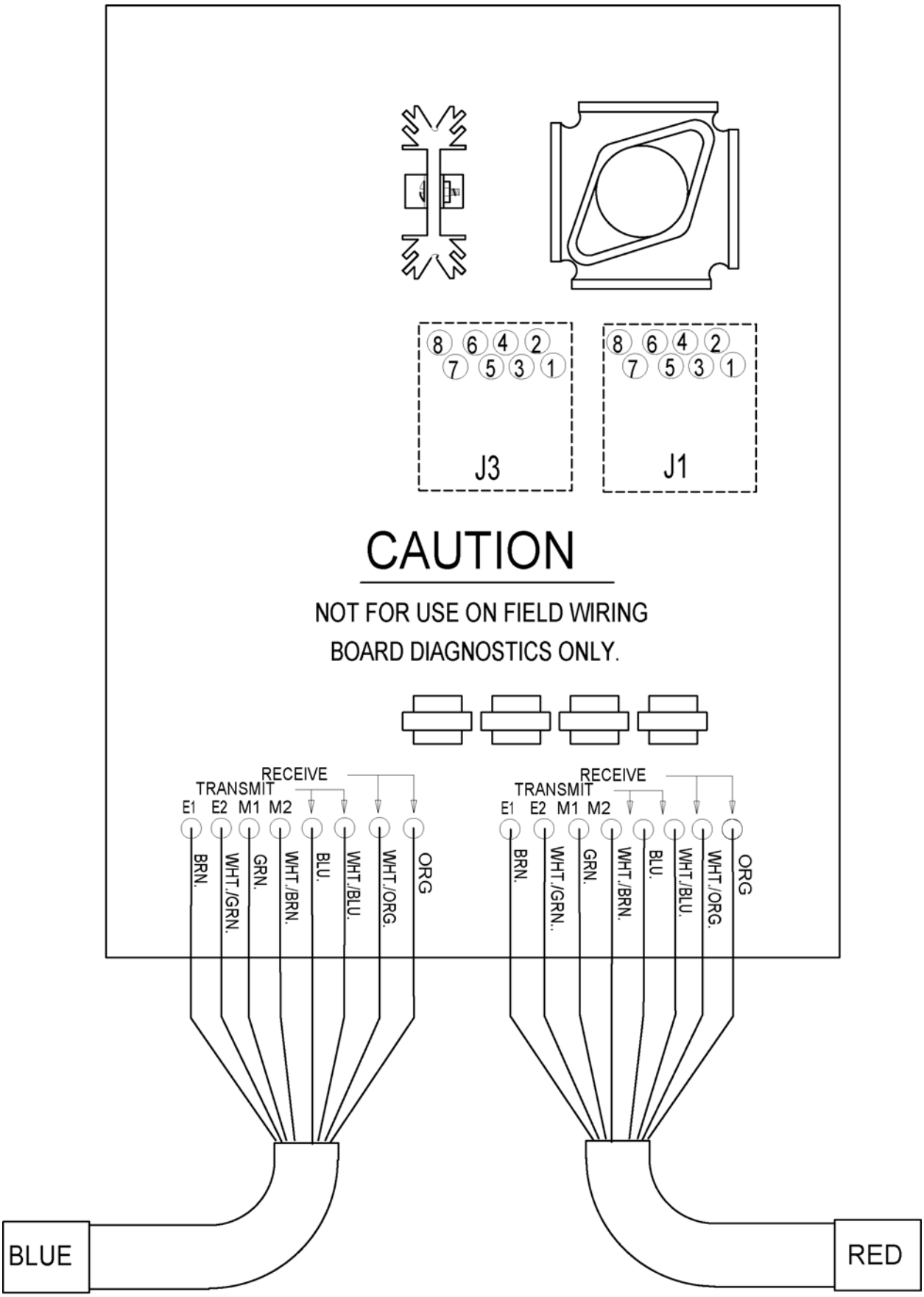
## Intercom Diagnostics At J1 & J3 (Lead Side)

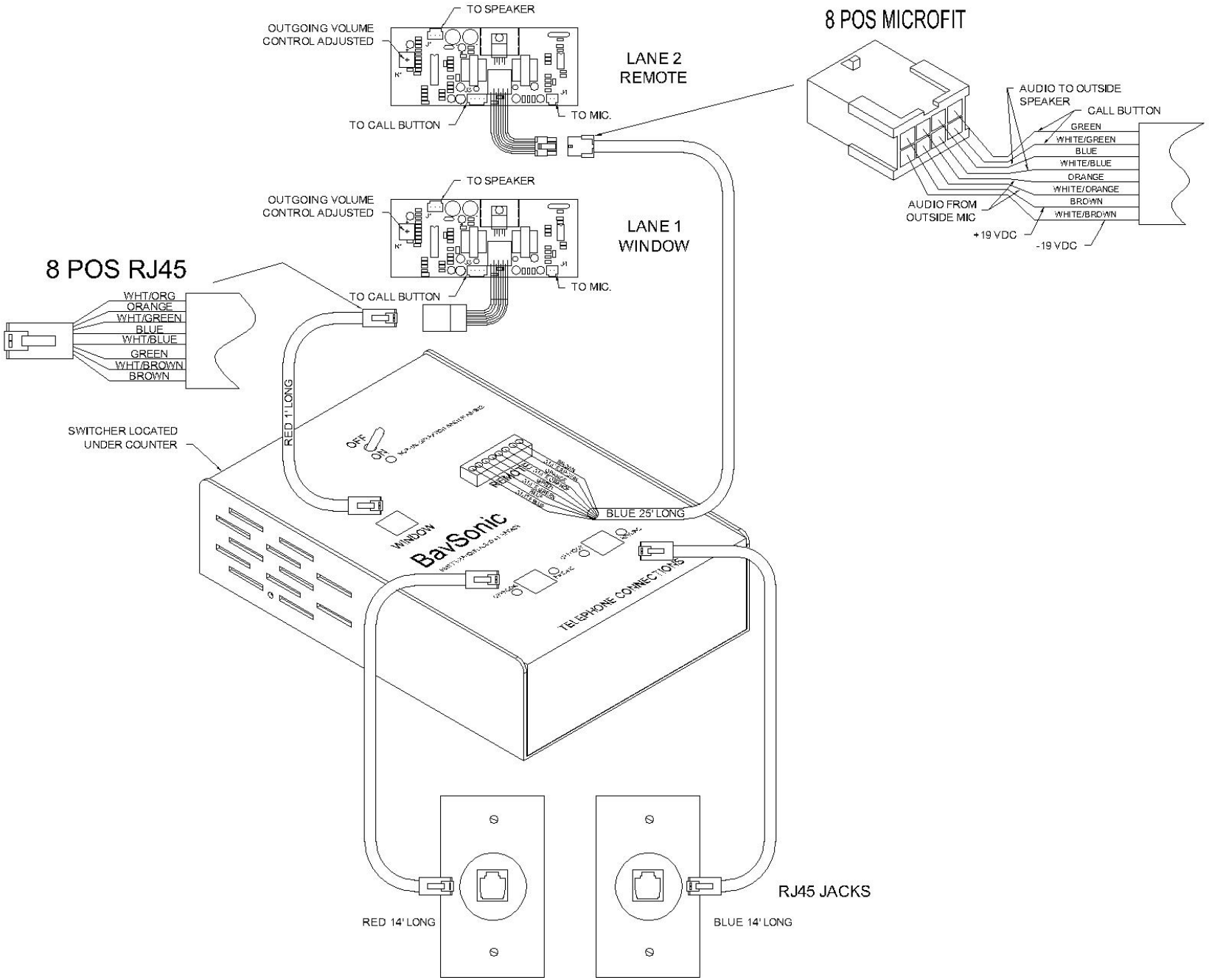
Positions 4 & 5 are the audio signal coming from the telephone transmitter going to the intercom speaker. With the lane selected and someone talking, the audio signal is approximately .848Vp-p as measured on an oscilloscope or .3Vrms as measured on a true rms digital multimeter.

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.


8 6 4 2
7 5 3 1
J3
8 6 4 2
7 5 3 1
J1
CAUTION
NOT FOR USE ON FIELD WIRING
BOARD DIAGNOSTICS ONLY.
RECEIVE
TRANSMIT
E1 E2 M1 M2
BRN.
WHT./GRN.
GRN.
WHT./BRN.
BLU.
WHT./BLU.
WHT./ORG.
ORG
RECEIVE
TRANSMIT
E1 E2 M1 M2
BRN.
WHT./GRN.
GRN.
WHT./BRN.
BLU.
WHT./BLU.
WHT./ORG.
ORG
BLUE
RED


TO SPEAKER
OUTGOING VOLUME CONTROL ADJUSTED
LANE 2 REMOTE
TO CALL BUTTON
TO MIC.
8 POS MICROFIT
AUDIO TO OUTSIDE SPEAKER
CALL BUTTON
GREEN
WHITE/GREEN
BLUE
WHITE/BLUE
ORANGE
WHITE/ORANGE
BROWN
WHITE/BROWN
AUDIO FROM OUTSIDE MIC
+19 VDC
-19 VDC
TO SPEAKER
OUTGOING VOLUME CONTROL ADJUSTED
LANE 1 WINDOW
TO CALL BUTTON
TO MIC.
8 POS RJ45
WHT/ORG
ORANGE
WHT/GREEN
BLUE
WHT/BLUE
GREEN
WHT/BROWN
BROWN
RED 1' LONG
SWITCHER LOCATED UNDER COUNTER
OFF
BLUE 25' LONG
WINDOW
BaySonic
TELEPHONE CONNECTIONS
RJ45 JACKS
RED 14' LONG
BLUE 14' LONG

# 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 Wal-Mart Telephone audio Instructions" part number 00620011.

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
Volt meter
Electric drill
Drill bits
Level
7/8” unibit
Fish tape
Loctite