



MOBILE THEATRE[®] SYSTEM

Troubleshooting Guide

VERSION 1.1

**For All
MTS - type
Systems for RV's**

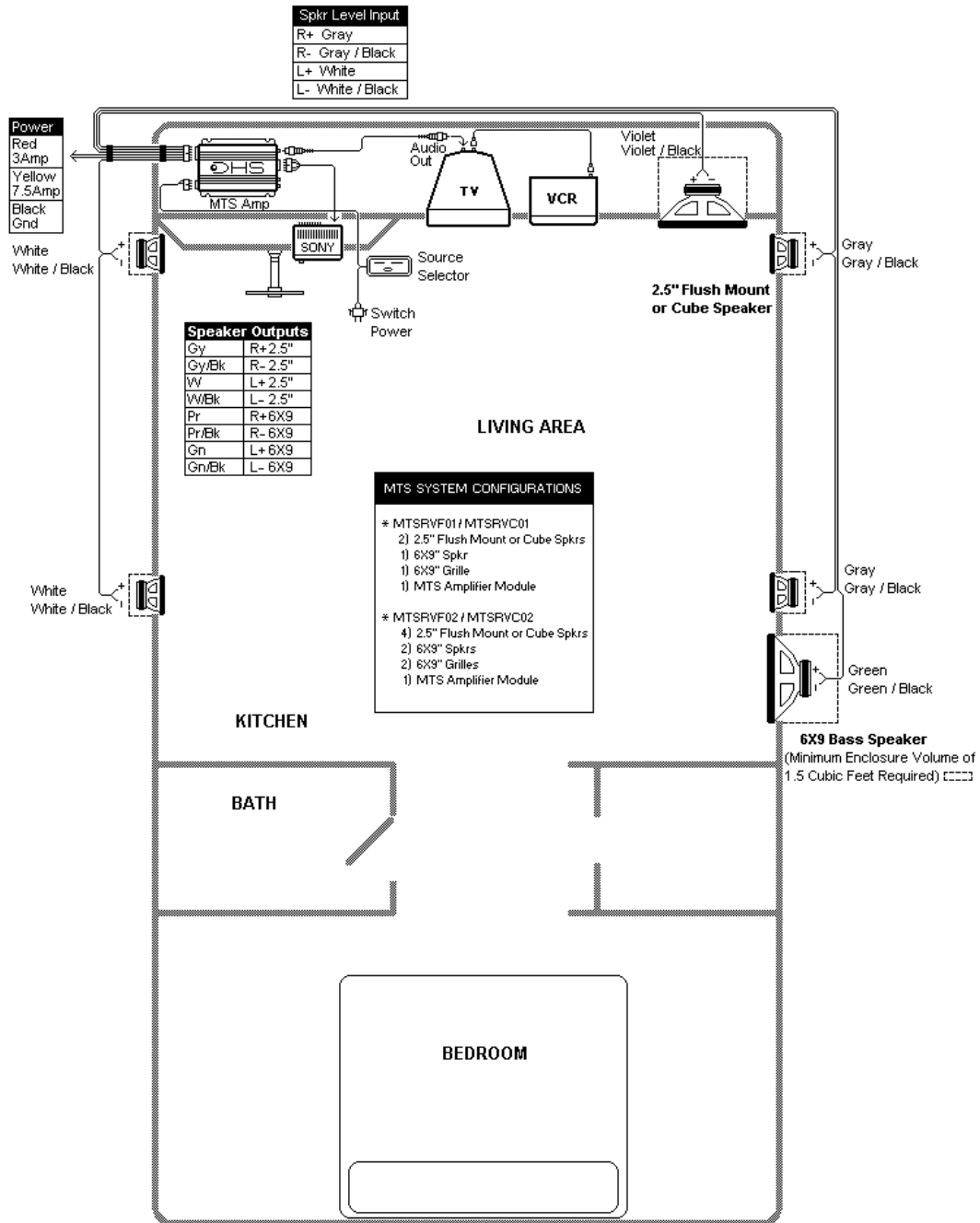
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A. Basic System Layout.



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B. Problems Passenger Cabin Speakers

1. No speakers play on any source

- Is there battery and accessory power to the amplifier module? Check at Connector # 2.
- Is the battery and accessory power polarity correct? Check at Connector #2.
- Is the vehicle battery voltage too low or too high? (The operating voltage for the amplifier is 10.5 - 16 Volts). Check at Connector #2.
- Is the power fuse intact? (Check both battery and accessory power fuses) Try all positions on the Source Selector. If the speakers don't play only from one source, go to # 4. Check the Source Selector Switch at Connector # 3.

2. Both left or both right speakers don't play

Check the harness between the source and the amplifier (Check at Connector # 1 for speaker level inputs or phono-type connectors for line level inputs and TV input)

3. Single Speaker doesn't play.

Check Speaker harness at Connector # 2.

4. A single source doesn't play through speakers .

- Is the Source Selector switch set to the input you are trying?
- Check the harness between the source and the amplifier (Check at Connector # 1 for speaker level inputs or phono-type connectors for line level inputs and TV input) Check the Source Selector at Connector # 3.

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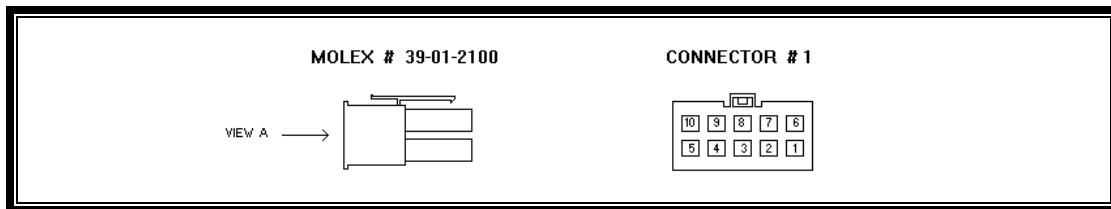
C. Test Measurements at Harness Connectors

All Tests should be done with the Harness Connectors unplugged from the Amplifier Module.

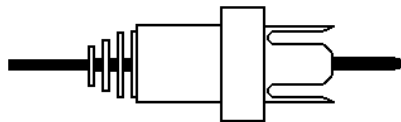
All Tests should be done on the Harness Connector and not on the Amplifier Module Connector.

All tests can be performed with a basic meter which measures volts and resistance.

1. Connector # 1. Speaker Level Input Harness.



Dash Radio	Left	pins 5 and 10	white and white w/ a black stripe
	Right	pins 4 and 9	gray and gray w/ a black stripe



Rear Radio	2	(if low level outputs are used)
TV mono	1	(connected to headphone out on TV)
TV stereo	2	(if a stereo TV is used instead of a mono)

To test the Dash Radio connections, Turn the dash radio on with the volume at approximately 1/2 maximum. Measure voltage across the left channel or the right channel. If there is a signal from the radio, the voltage will fluctuate with the music and not stay at a certain level. The expected voltage with the volume control at 1/2 max should be at least 1 V_{AC}rms. If there is no voltage at these pins, check the harness connection where the MTS harness meets the factory harness.

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To test the Radio Speaker Level connections (if used), Turn the radio on with the volume at approximately 1/2 maximum. Measure voltage for the left channel or the right channel. If there is a signal from the radio, the voltage will fluctuate with the music and not stay at a certain level. The expected voltage with the volume control at 1/2 max should be at least 1 V_{AC}rms. If there is no voltage at these pins, check the harness connection where the MTS harness meets the factory harness.

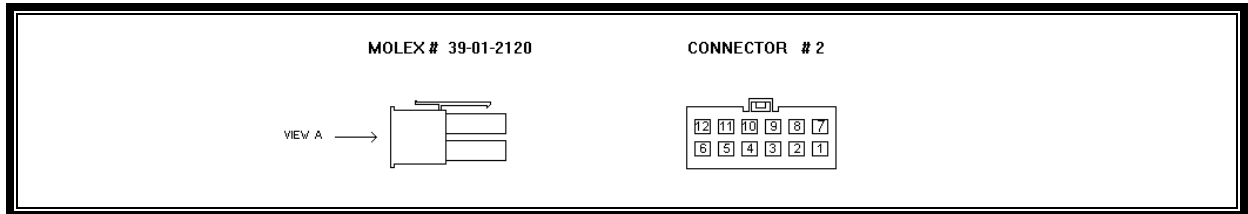
To test the Radio Low Level connections (if used), Turn the radio on with the volume at maximum. Measure voltage across the phono-type connector. If there is a signal from the radio, the voltage will fluctuate with the music and not stay at a certain level. The expected voltage with the volume control at max should be at least .5 V_{AC}rms. If there is no voltage at these connectors, check the connections between here and the radio. The Phono-type connectors should plug into the Aux Source connectors on the amp with the left into the plug with the white circle around it.

To test the TV connection (mono), Turn the TV on with the volume at approximately 1/2 of maximum. Measure voltage across the phono-type connector. If there is a signal from the TV, the voltage will fluctuate with the music and not stay at a certain level. The expected voltage with the volume control at 1/2 max should be at least 2 V_{AC}rms. If there is no voltage at these connectors, check the connections between here and the TV. The Phono-type connector should plug into the Mono TV connector on the amp.

To test the TV connection (stereo), Turn the TV on with the volume at maximum. Measure voltage across the phono-type connectors. If there is a signal from the TV, the voltage will fluctuate with the music and not stay at a certain level. The expected voltage with the volume control at max should be at least .5 V_{AC}rms. If there is no voltage at these connectors, check the connections between here and the TV. The Phono-type connectors should plug into the Stereo TV connectors on the amp with the left into the plug with the white circle around it.

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2. Connector # 2. Power and Speaker Harness.



a. Power.

Battery +	Pin 7	yellow
Accessory +	Pin 8	red
Ground	Pin 1	black

Measure across pins 7 and 1. There should be between 10.5 and 16 V_{DC}.

Measure across pins 8 and 1. There should be between 10.5 and 16 V_{DC}.

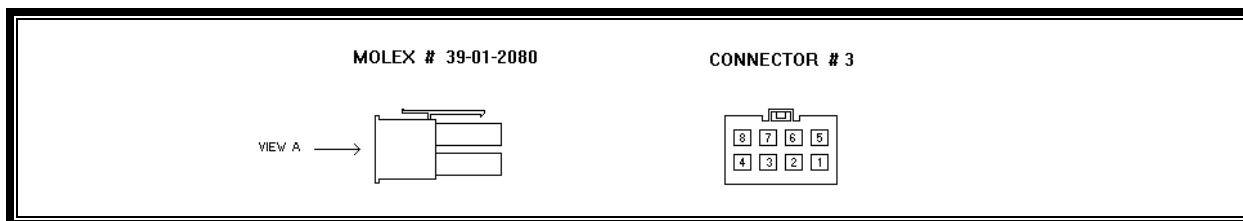
b. Speakers.

Left	2.5"	Pins 12 and 6	white and white w/ a black stripe
Right	2.5"	Pins 11 and 5	gray and gray w/ a black stripe
Left	6X9"	Pins 4 and 10	green and green w/ a black stripe
Right	6X9"	Pins 3 and 9	violet and violet w/ a black stripe

Measure DC resistance across speaker pins. If the measurement is < 2 ohms or > 10 ohms, then remove and disconnect the speaker. Measure DC resistance across the speaker. If the measurement is still < 2 ohm, or if the measurement is > 10 ohms, then the speaker is bad. If the measurement is 2 - 10 ohms then there is a short in the harness between the amp and the speaker. If the measurement is between 2 ohms and 10 ohms, measure DC resistance between pin 1 (Ground) and the speaker pins. If the measurement between ground and either of the speaker pins is < 10K ohms, then there is a short to ground between the amp and the speaker.

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3. Connector 3. Source Selector Harness.



Source Selector

Dash Radio	pin 3	orange
TV (mono)	pin 2	pink
TV (stereo)	pin 8	brown

NOTE: The use of pin 2 or pin 8 is determined by the type of TV installed. In most cases, there will be a mono TV used.

Rotary Switch

Measure the DC resistance between pin 4 (switch common, blue wire) and the pin from above corresponding to the setting on the switch. If it measures > 2 ohms, then check the harness between the amp and the switch. If the harness is OK then the switch is bad. If the measurement is < 2 ohms then the switch for that setting is OK.

Electronic Switch

Check for 12 volts between the red (+) and black (-), if so then check for 12 volts between the black and the orange (radio) with RADIO selected. Check for 12 volts between the black and the brown (stereo TV) or the pink (mono TV) with VIDEO selected. If 12 volts is not found under the last two conditions the switch is bad.

