



TECHNICAL BULLETIN

No: LTB00008
Issue: 1
Date: 01 Mar 2007

CIRCULATE: TO	Service Mgr	Warranty	Workshop	Body Shop	Parts
	X	X	X	X	X

SECTION: 415-00 – ENTERTAINMENT SYSTEM

Audio System Amplifier Diagnostic Aid

AFFECTED VEHICLE RANGE:

LR3 (LA)	VIN: 5A000360 onwards
Range Rover Sport (LS)	VIN: 6A900129 onwards
Range Rover (LM)	VIN: 5A173145 onwards

CONDITION SUMMARY:

DIAGNOSTIC AID FOR AUDIO SOUND CONCERNS ON VEHICLES EQUIPPED WITH HARMON KARDON AND HARMON KARDON 'LOGIC7' AUDIO SYSTEMS

Situation: A customer may report a concern of no sound or intermittent sound from the audio system. Investigation using diagnostic equipment reveals no communications to amplifier, the Media Orientation System Transport (MOST) ring is inoperative or the audio amplifier is inoperative. Various issues can lead to the reported concern.

Action: Should a customer express a concern regarding the above, refer to the Repair Procedure detailed in this bulletin to diagnose the root cause of the concern.

PARTS:



NOTE: Before any amplifier replacements are accepted, a working unit functional check **MUST BE** carried out. It must first be determined that the reported problem is rectified by installing a replacement amplifier and that the reported problem returns when the suspect amplifier is reinstalled, before replacing an amplifier.

XQK500093	Harman Kardon amplifier	Qty 1
•	LR3 prior to VIN LA315524	
XQK500094	Harman Kardon amplifier:	Qty 1
•	LR3 VIN LA315524 to LA331884	
•	Range Rover Sport VIN LS900129 to LS901468	
XQK500095	Harman Kardon amplifier:	Qty 1
•	LR3 VIN LA331885 onward	
•	Range Rover Sport VIN LS901469 onward	
XQK500103	Harman Kardon Logic7 amplifier	Qty 1
•	LR3 prior to VIN LA315524	
•	Range Rover prior to VIN LM191350	
XQK500104	Harman Kardon Logic7 amplifier	Qty 1
•	LR3 VIN LA315524 to LA331884	
•	Range Rover Sport VIN LS900129 to LS901468	
•	Range Rover VIN LM191350 to LM198416	
XQK500105	Harman Kardon Logic7 amplifier	Qty 1
•	LR3 VIN LA331885 onward	
•	Range Rover Sport VIN LS901469 onward	
•	Range Rover VIN LM98417 onward	

NOTE: The information in Technical Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment required to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by “do-it-yourselfers.” If you are not a Retailer, do not assume that a condition described affects your vehicle. Contact an authorized Land Rover service facility to determine whether the bulletin applies to a specific vehicle.



WARRANTY:

*No warranty provided for this bulletin. Diagnostic information purposes only.
Normal warranty policy and procedures apply.*

REPAIR PROCEDURE

DIAGNOSE AUDIO SYSTEM CONCERNS



NOTE: There should be NO circumstances where vehicles built after March 2005 should need the base software re-loaded.



NOTE: The order for the available MOST ring components is as follows:

LR3 / Range Rover Sport:

1. Integrated Head Unit (IHU)
2. High Line Display Front (HLDF)
3. Audio amplifier (AUD)
4. Satellite Digital radio / Television (SDARS/TV) (if equipped)
5. Rear Seat Entertainment (RSE) interface (if equipped)
6. Personal Telephone Integration (PTI) module (if equipped)

New Range Rover:

1. Integrated Head Unit (IHU)
2. High Line Display Front (HLDF)
3. CD Changer (CDC)
4. Personal Telephone Integration (PTI) module
5. Satellite Digital radio (SAT) (if equipped)
6. Rear Seat Entertainment (RSE) interface (if equipped)
7. Audio amplifier (AUD)



NOTE: Software part numbers for applicable amplifier part numbers are as follows:

SOFTWARE PART NUMBERS

Amplifier Part Number	Amplifier Software	Equalizer Software
High-Line Amplifiers: XQK500093 XQK500094 XQK500095	LR3: NNV501945	LR3: NNS502074
Premium Amplifiers: XQK500103 XQK500104 XQK500105	All: NNV501935	LR3: NNS502053 Range Rover Sport: NNS502063 New Range Rover: NNV501967

1. Refer to the AUDIO SYSTEM DIAGNOSTIC TABLE below to identify the reported audio problem(s) to the PROBLEMS listed in the table.
2. Carry out the CORRECTIVE ACTIONS for the CHECKS/CAUSES associated with the suspected PROBLEMS.
3. If CORRECTIVE ACTIONS do not rectify the problem, verify if the reported problem is rectified by installing a known working amplifier and that the reported problem returns when the suspect amplifier is reinstalled, before determining that the vehicle amplifier requires replacement.



AUDIO SYSTEM DIAGNOSTIC TABLE

PROBLEMS	CHECKS/CAUSES	CORRECTIVE ACTIONS
No communications to amplifier. MOST ring inoperative. Amplifier inoperative. No sound or intermittent sound.	Is the correct amplifier installed?	Ensure the correct amplifier is installed for the vehicle and the audio level is correct. Refer to the SOFTWARE PART NUMBERS TABLE above for applicable amplifier part number.
	Are all electrical connectors correctly inserted and latched at the amplifier, including the SPDiff on vehicles equipped with Logic7 Premium audio?	Ensure all connectors are correctly engaged and latched.
	Is the MOST ring complete with all control modules installed that should be installed?	Ensure the MOST ring is complete for that vehicle and its specification. NOTE: On Range Rover (LM), MOST ring lock is indicated by a steady orange light on the on/off/volume knob.
	Is MOST light present at the amplifier?	With the infotainment system switched on, disconnect the MOST connector from the amplifier and check that red light is present at the connector end. The light will be steady for a second or two and then start flashing. If no light is present, there is a problem in the MOST ring before the amplifier. Check each control module in the ring before the amplifier using the same method. If light is present, try inserting the connector into the amplifier again. If this fails to restore sound, check that the amplifier is emitting light and that there is not a break in the ring after the amplifier. Refer to the MOST ring component order NOTE above.
	Are the vehicle and the amplifier fuses all intact?	Ensure the vehicle and the amplifier fuses are all intact.
	Are all the necessary battery feeds and grounds present?	Ensure all necessary battery feeds/grounds are present (power voltage should be between 10 - 14 Volts).



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	All above check out satisfactory but still no sound?	<p>Connect IDS and check that the amplifier has the correct EQ (Equalizer) file programmed according to vehicle model and specifications as follows:</p> <p>If the last number of the part number ends in a '4' or less, the Amplifier requires latest software downloading. Upload the latest/correct EQ file for the amplifier using the latest DVD and DVD patch file.</p> <p>NOTE: LR3 & Range Rover Sport:</p> <p>If the installed part number reads NNV501935 with Premium Amplifier installed, this is correct and no further action required.</p> <p>If the part number reads NNV501945 on with High Line Amplifier installed, this is correct and no further action required.</p> <p>NOTE: Range Rover (LM):</p> <p>If the installed part number reads NNV501935 with Premium Amplifier installed, this is correct and no further action required.</p> <p>If part number reads NNV501955 on with High Line Amplifier installed, this is correct and no further action required.</p>
No sound coming from one source, such as Navigation, CD, Radio or Phone, but other sources work correctly.	This is not an amplifier issue.	Refer to the diagnostics for the appropriate audio source. All audio is passed over MOST apart from Rear Seat Entertainment when vehicle is installed with Logic7 Premium Audio (see next problem).
No cabin audio from factory installed Rear Seat Entertainment system but headphones still work correctly (Logic7 Premium audio only).	Is the SPDif connection correctly made (Logic7 Premium Audio only)?	Ensure the SPDif connection is correctly made (Logic7 Premium Audio only).
No sound from one or more speakers.	Is the correct amplifier installed?	Ensure the correct amplifier is installed for the vehicle and the audio level is correct. Refer to the SOFTWARE PART NUMBERS TABLE above for applicable amplifier part number.
	Are all the speakers connected correctly at both the amplifier and at the speaker?	Ensure all the speakers are connected correctly at both the amplifier and at the speaker.



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<p>No sound, Intermittent sound, poor sound quality (sounds flat with too much bass).</p>	<p>No EQ or wrong EQ software in amplifier. All amplifiers are supplied with a base EQ. During vehicle production the correct EQ file for that vehicle is downloaded to the amplifier. If an amplifier is replaced, it is essential this correct EQ file is downloaded to ensure the vehicle sound reproduction is as intended. Failure to download EQ file correctly can result in no sound.</p>	<p>Connect IDS and check that the amplifier has had the correct EQ file programmed into it according model and specifications as follows: If the last number of the part number ends in a '4' or less, the Amplifier requires latest software downloading. Upload the latest/correct EQ file for the amplifier using the latest DVD and DVD patch file.</p> <p>NOTE: LR3 & Range Rover Sport: If the installed part number reads NNV501935 with Premium Amplifier installed, this is correct and no further action required. If part number reads NNV501945 on with High Line Amplifier installed, this is correct and no further action is required.</p> <p>NOTE: Range Rover (LM): If the installed part number reads NNV501935 with Premium Amplifier installed, this is correct and no further action required. If part number reads NNV501955 on with High Line Amplifier installed, this is correct and no further action required.</p>
<p>Rear headphone issues with controlling audio sources.</p>	<p>If listening on the headphones via the remote headphone, switch to the same audio source as the cabin audio. The cabin has control of track-up, radio station etc. via the headunit. The remote switch will not be able to alter anything but volume. If listening to a different audio source to the cabin, the remote switch will have control over track-up, radio station etc. On the next ignition cycle all the remote switches will be reset to Auxiliary input. This is designed to prevent the scenario, e.g., whereby the CD carries on playing when the cabin is listening to radio and nobody is listening on the headphones. If the reset to Auxiliary on ignition cycle is not working, ensure the vehicle has the latest software loaded to the amplifier.</p>	<p>This should only be an issue on vehicles built prior to March 2005. From this date onward the remote headphone sockets should reset to Auxiliary on each ignition cycle. If the vehicle follows the functionality as described the amplifier is working correctly.</p>