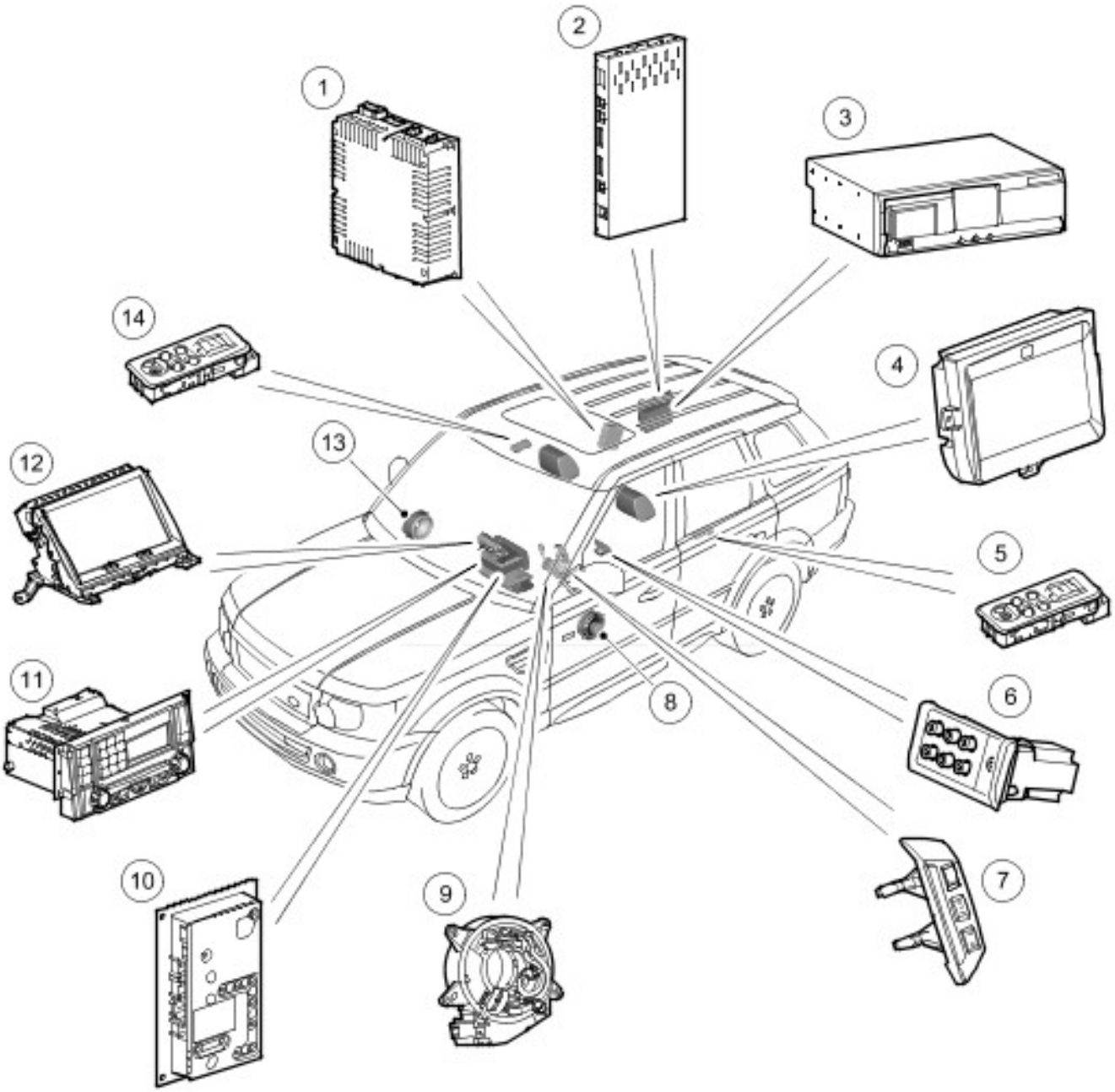
PublishedPublished: May 4, 2005

Video SystemVideo System

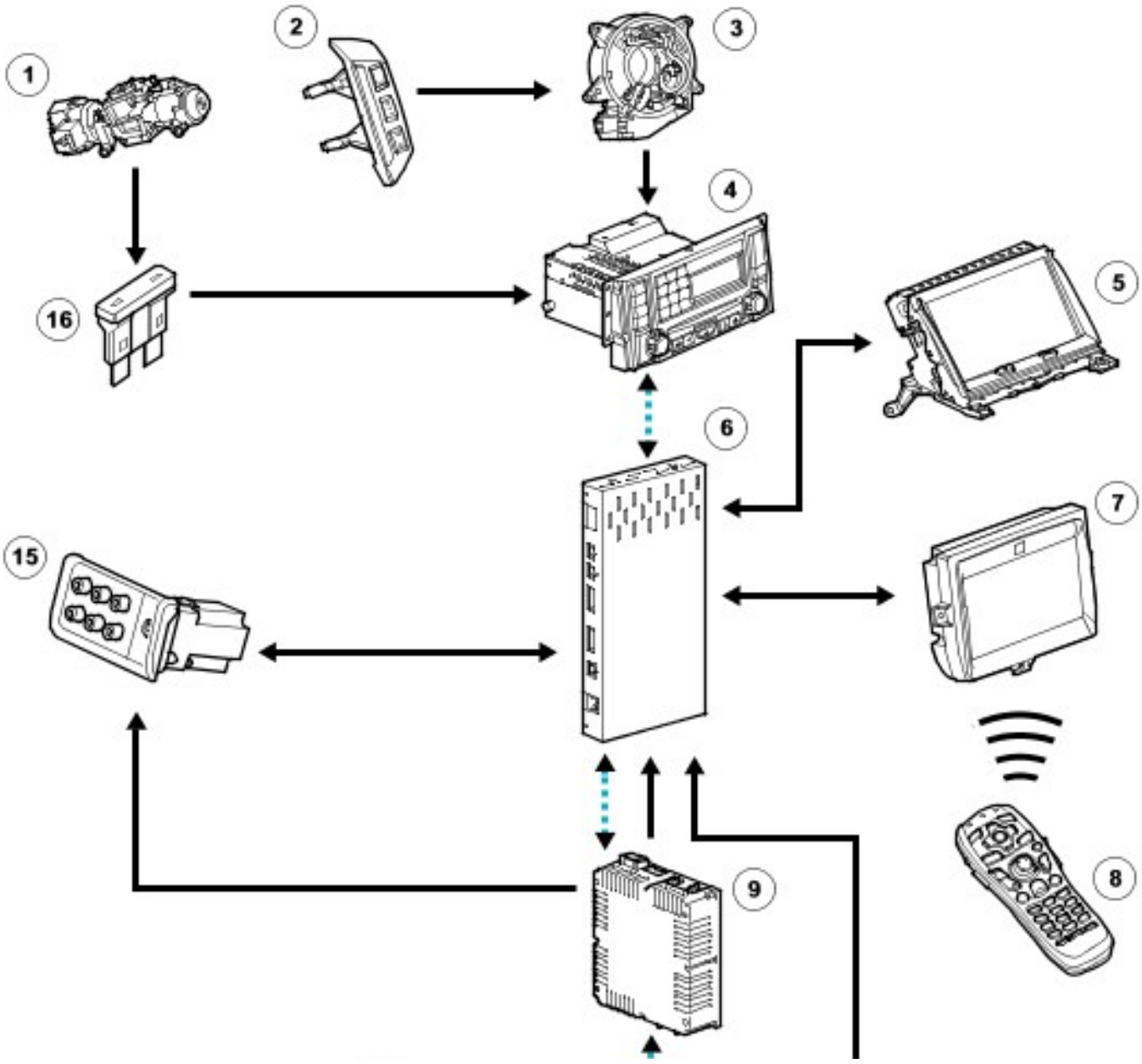
Video System Component Location

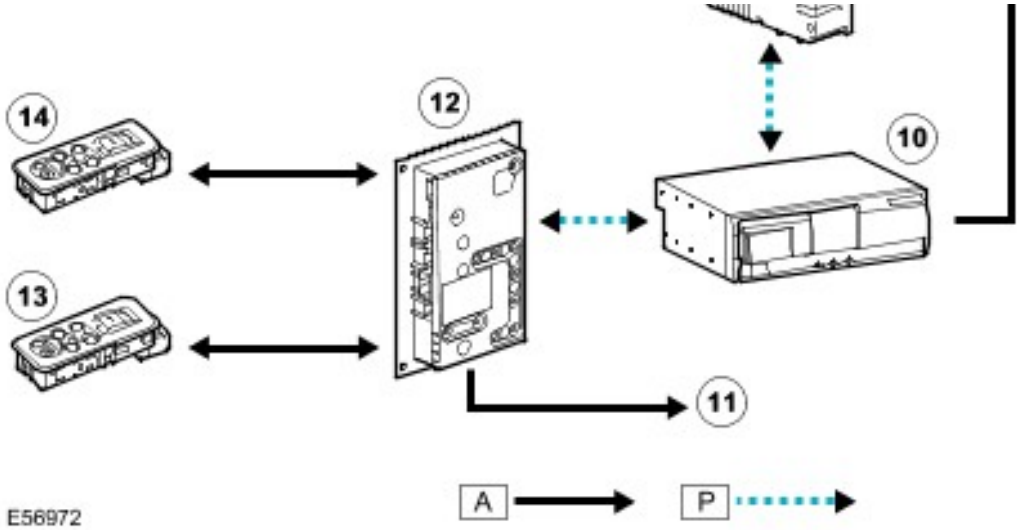


ItemItem	Part NumberPart Number	DescriptionDescription
1	-	Television tuner module
2	-	Rear seat entertainment control module
3	-	DVD (digital versatile disc) autochanger

4	-	Rear Seat Entertainment (RSE) screen
5	-	LH (left-hand) remote audio controls and window switch
6	-	Audio/Video input/output panel
7	-	Steering wheel controls
8	-	Speakers
9	-	Clock spring
10	-	Audio amplifier
11	-	IHU
12	-	Touch screen display (TSD)
13	-	Speakers
14	-	RH (right-hand) remote audio controls and window switch

Video System Component Location





ItemItem	Part NumberPart Number	DescriptionDescription
1	-	Ignition switch
2	-	Steering wheel controls
3	-	Clock spring
4	-	Integrated head unit (IHU)
5	-	Touch screen display (TSD)
6	-	Rear Seat Entertainment (RSE) Control Module
7	-	RSE screen
8	-	RSE remote control
9	-	Television tuner
10	-	DVD (digital versatile disc) autochanger
11	-	Speakers
12	-	Amplifier
13	-	Rear door remote audio controls/headphone socket and window switch
14	-	Rear door remote audio controls/headphone socket and window switch
17	-	AVIO panel
18	-	Fuse

The Video system comprises:

- Front screen (TSD)
- Television tuner module
- Television antennas
- Rear remote control headphone modules

The Rear Seat Entertainment System (RSE) comprises:

- RSE control module
- RSE infrared remote control
- RSE roof mounted screen
- DVD (digital versatile disc) multi changer
- AV input panel

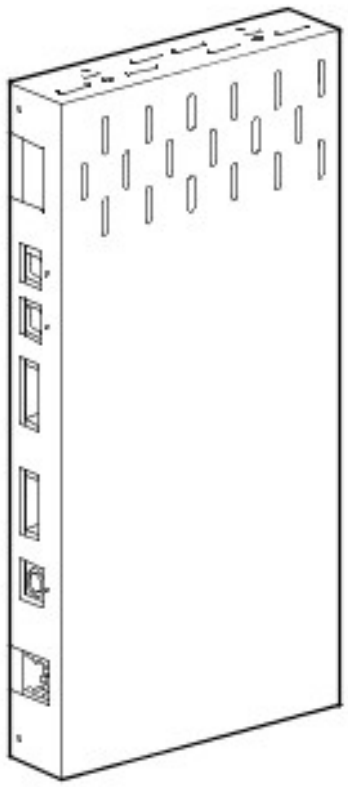
The rear multimedia system provides video and audio entertainment for the rear seat occupants. The system allows rear seat occupants to:

- Play video DVD (digital versatile disc) , video CD (compact disc) and audio CD (compact disc) s stored in the DVD (digital versatile disc) player.
- View the Television (TV) output selected on the Touch Screen Display (TSD) unit (with the vehicle moving up to 5 kph).

Video and TV pictures are viewed on LCD (liquid crystal display) screens located in the back of the front seat head restraints. The audio output can be played through headphones or over the vehicle audio system speakers.

REAR SEAT ENTERTAINMENT MODULE

RSE Module



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The Rear Seat Entertainment Module (RSE) is located in the rear RH (right-hand) side of the luggage compartment. The RSE module interfaces between the audio and video inputs from other systems

components and the video display and audio outputs.

The RSE module communicates with the audio systems via a MOST connection. Audio output from the DVD (digital versatile disc) autochanger and the AVIO panel is processed by the module and passed on the MOST ring to the audio amplifier to allow audio output to be played on the vehicle speakers or on the cordless headphones.

Video input from the TV tuner, DVD (digital versatile disc) autochanger and the AVIO panel is also processed by the module and passed to the two RSE LCD (liquid crystal display) screens and the TSD on separate video connections. The RSE module also controls the power supplies to the RSE LCD (liquid crystal display) screens and relays the infrared remote control signals received by the RSE LCD (liquid crystal display) screen infrared sensors to the DVD (digital versatile disc) autochanger. The infrared signals are passed from the RSE LCD (liquid crystal display) screens to the RSE module on a bus system known as the IS bus.

The DVD (digital versatile disc) autochanger outputs some of its information to the RSE module on an Alpine proprietary bus known as the Ai Net.

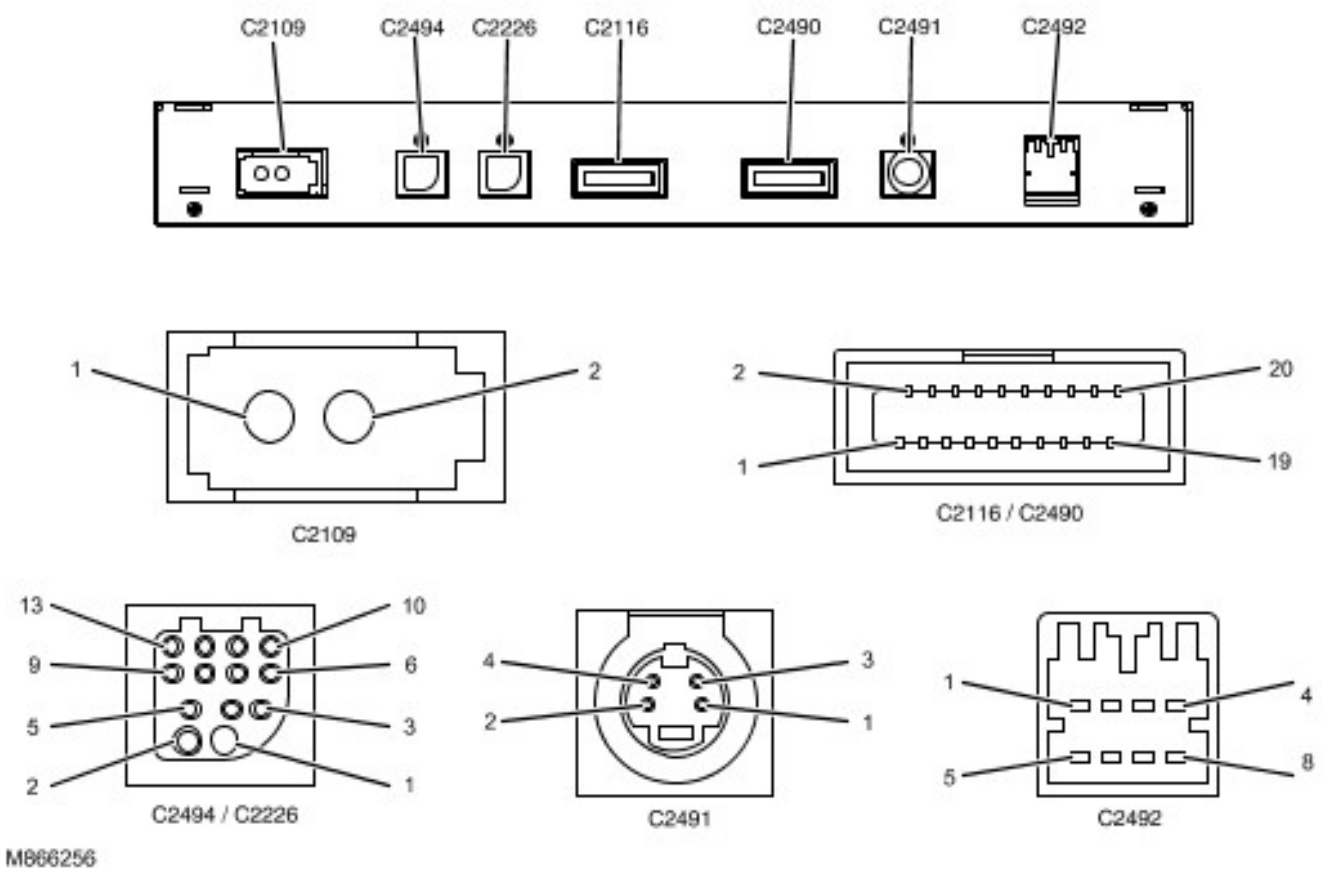
The RSE module has two modes of operation; engine running mode and reduced operation mode. With the engine running the RSE module has full functionality. When the engine is not running the RSE module has reduced functionality to prevent excessive drain on the vehicle battery. The reduced functionality comprises a reduced audio volume and time limit on system operation.

The reduced audio volume is only active when the engine is not running. The audio volume is limited to a maximum setting of 12 to reduce battery consumption. If the volume was set at a higher level than this when the engine was running, when the engine is subsequently started, the volume level will gradually increase to the previously selected setting. This prevents the user being distracted by a sudden increase in volume.

The time limit operation is active when the key is removed from the ignition and the system is manually switched on using the TSD. The system will operate for a maximum of one hour. The battery voltage is continually monitored by the IHU. If the IHU detects that the battery voltage has fallen below a predetermined level, the IHU will shut the infotainment system down to prevent further battery drain. Once the system has shut down due to low battery voltage, it can only be restarted when the engine is running and the battery voltage has risen above the threshold level for more than one minute.

The module is connected into the infotainment system with five harness connectors.

RSE Module Connector Details



RSE Module Harness Connector C2109 (MOST)

Pin No	Description	Input/ Output
1	MOST Rx- optical signal receive	Input
2	MOST Tx- optical signal transmit	Output

- Tx = transmit
- Rx = Receive

RSE Module Harness Connector C2116 and C2490 (Rear screens)

Pin No	Description	Input/ Output
1	LCD (liquid crystal display) screen backlight GND (ground)	Input
2	LCD (liquid crystal display) screen backlight supply	Output
3	Not used	-
4	LCD (liquid crystal display) power supply +13V	Output

5	Not used	-
6	LCD (liquid crystal display) power supply +6V	Output
7	Not used	-
8	LCD (liquid crystal display) power supply -16V	Input
9	Composite video GND (ground)	Input
10	Composite video output	Output
11	IS Bus signal +	Output
12	IS Bus signal -	Output
13	IS Bus signal frame +	Output
14	IS Bus signal frame -	Output
15-17	Not used	-
18	Power supply +12V	Output
19	Not used	-
20	Power GND (ground)	Input

RSE Module Harness Connector C2491 (TV tuner and TSD)

Pin No	Description	Input/ Output
1	TV tuner composite input	Input
2	TV tuner GND (ground)	Input
3	DVD (digital versatile disc) /TV tuner composite output to TSD	Output
4	DVD (digital versatile disc) /TV tuner GND (ground) to TSD	Output

RSE Module Harness Connector C2492 (Power Supply)

Pin No	Description	Input/ Output
1	12V battery supply from infotainment relay	Input
2	Not used	-
3	Battery GND (ground)	Input
4-8	Not used	-

RSE Module Harness Connector C2770 (AVIO Panel)

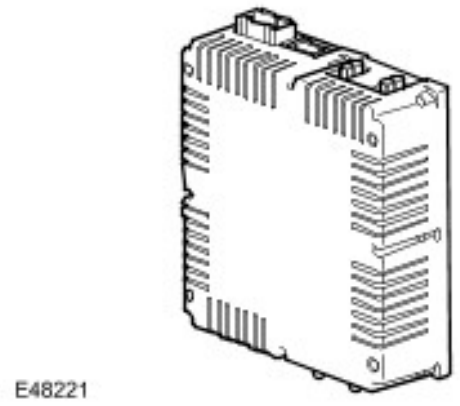
Pin No	Description	Input/ Output
1	AUX 1 Video composite input +	Input
2	AUX 1 Video composite input -	Input
3	AUX 1 Audio RH (right-hand) channel input +	Input
4	AUX 1 Audio RH (right-hand) channel input -	Input
5	AUX 1 LH (left-hand) channel input +	Input
6	AUX 1 LH (left-hand) channel input -	Input
7	AUX 2 Video composite input +	Input
8	AUX 2 Video composite input -	Input
9	AUX 2 Audio RH (right-hand) channel input +	Input
10	AUX 2 Audio RH (right-hand) channel input -	Input
11	AUX 1 LH (left-hand) channel input +	Input
12	AUX 1 LH (left-hand) channel GND (ground) input -	Input
13	Shield	Input

RSE Module Harness Connector C2771 (DVD (digital versatile disc) changer)

Pin No	Description	Input/ Output
1	Remote control GND (ground)	Input
2	Remote control signal	Input
3	Start-up	Input
4	Ai net shield GND (ground)	Input
5	Ai net +	Input
6	DVD (digital versatile disc) video shield GND (ground)	Input
7	Audio shield GND (ground)	Input
8	Audio GND (ground)	Input
9	Ai net -	Input
10	DVD (digital versatile disc) video GND (ground)	Input
11	Video composite input	Input
12	DVD (digital versatile disc) audio RH (right-hand) channel	Input
13	DVD (digital versatile disc) audio LH (left-hand) channel	Input

TELEVISION

Television Tuner Module



The television tuner module is located in the rear RH (right-hand) side of the luggage compartment. The television tuner is connected to the rest of the entertainment system on the MOST bus. Audio and control signals are passed on the MOST bus while video is transmitted via a coaxial cable to the Touch Screen Display (TSD).For additional information, refer toFor additional information, refer to Communications Network (418-00)

Television audio can be heard through the vehicle speakers and the remote control rear headphone modules. The audio will continue to be heard whilst the vehicle is moving, however the television picture will stop displaying once the vehicle starts moving.

Televison Tuner Module Harness Connector C2117

Pin No	Description	Input/ Output
1	12V battery supply from infotainment relay	Input
2	GND (ground)	Input
3	Not used	
4	TV video signal	Output
5	TV video signal GND (ground)	Input
6-20	Not used	-

Televison Tuner Module Harness Connector C2106

Pin No	Description	Input/ Output
1	MOST Rx- optical signal receive	Input
2	MOST Tx- optical signal transmit	Output

Televison Tuner Module Harness Connector C2228

Pin No	Description	Input/ Output
1	LH (left-hand) rearward TV antenna amplifier	Input
2	LH (left-hand) forward TV antenna amplifier	Input

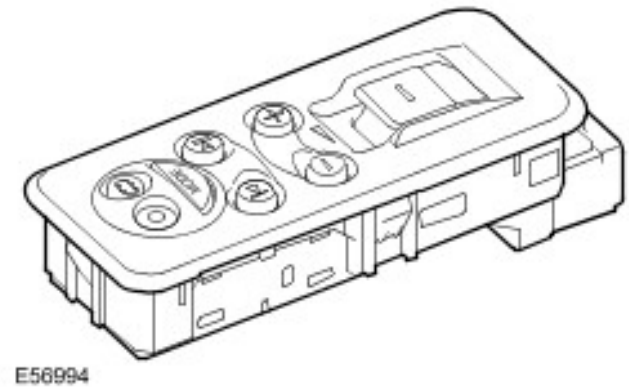
Televison Tuner Module Harness Connector C2227

Pin No	Description	Input/ Output
1	RH (right-hand) rearward TV antenna	Input
2	RH (right-hand) forward TV antenna amplifier	Input

Two TV antennae are located in each rear side quarter window. The forward antenna is a high frequency antenna and the rearward antenna is a low frequency antenna. Each antenna is connected directly to a TV RF antenna amplifier which is located just above the rear quarter light, behind the trim.For additional information, refer toFor additional information, refer to Antenna (415-02)

REMOTE AUDIO CONTROLS

Rear Seat Remote Audio Controls



The rear seat passengers can use standard headphones to listen to audio from any of the sources fitted to the vehicle. These include:

- Television
- CD (compact disc)
- Radio
- DVD (digital versatile disc)

The remote audio control modules are located in the rear doors, incorporated into the rear window switches.

The remote audio control modules allow the user to select which source to listen to. The remote controls cannot override what the driver has selected. If the driver is listening to a CD (compact disc) the rear passenger cannot control the CD (compact disc) player.

The remote audio control modules allow the user to alter the volume in the head phones, change track/disc up/down or repeat on a CD (compact disc) , change pre-set radio stations or tune up/down on the radio and television.

DVD (digital versatile disc) AUTOCHANGER

E48223

The DVD (digital versatile disc) autochanger is located in the RH (right-hand) rear corner of the luggage compartment. The DVD (digital versatile disc) player is a six disc design which will accept DVD (digital versatile disc) movies, video CD (compact disc) s (VCD) and music CD (compact disc) s on CD (compact disc) -R or CD (compact disc) -RW. The discs are housed in a magazine to allow six discs to be stored in the unit. Additional magazines can be purchased to allow greater flexibility. The magazine is accessible via a sliding door on the front of the unit. An eject button, located behind the door, when pressed, automatically ejects the magazine from the unit.

The DVD (digital versatile disc) autochanger is operated using a remote control unit supplied with the vehicle. The remote control is an infrared unit which transmits the infrared signal to receivers in each RSE LCD (liquid crystal display) screen.

The DVD (digital versatile disc) autochanger receives the remote control information from the RSE LCD (liquid crystal display) screens on a bus system known as the IS bus to the RSE module. The information is then passed from the RSE module on an Alpine proprietary bus known as the Ai Net to the DVD (digital versatile disc) autochanger. The Ai Net is a bus system used to communicate between the RSE module and the DVD (digital versatile disc) autochanger.

A Sony Philips Digital Interface Format (SPDIF) is used to output the audio from the DVD (digital versatile disc) autochanger to the audio amplifier. The SPDIF is an optical system connected between the DVD (digital versatile disc) autochanger and the audio amplifier. SPDIF is a standard audio file transfer format which allows the transfer of digital audio signals from one device to another without having to be converted first to an analog format which maintains the viability of the digital audio signal.

DVD (digital versatile disc) Autochanger Harness Connector C2494 (RSE)

Pin No.	Description	Input/ Output
1	Remote control GND (ground)	Output
2	Remote control signal	Output
3	Start-up	Output
4	Ai net shield GND (ground)	Input
5	Ai net +	Input
6	DVD (digital versatile disc) video shield GND (ground)	Output
7	Audio shield GND (ground)	Output
8	Audio GND (ground)	Output
9	Ai net -	Input
10	DVD (digital versatile disc) video GND (ground)	Output
11	Video composite input	Output
12	DVD (digital versatile disc) audio RH (right-hand) channel	Output
13	DVD (digital versatile disc) audio LH (left-hand) channel	Output

DVD (digital versatile disc) Autochanger Harness Connector C2832 (power supply)

Pin No.	Description	Input/ Output
1	Not used	-
2	GND (ground)	Input
3	Not used	-
4	12V battery supply from infotainment relay	Input

DVD (digital versatile disc) Autochanger Harness Connector C2614 (SPDIF)

Pin No.	Description	Input/ Output
1	SPDIF digital audio output to audio amplifier	Output

Fault Finding

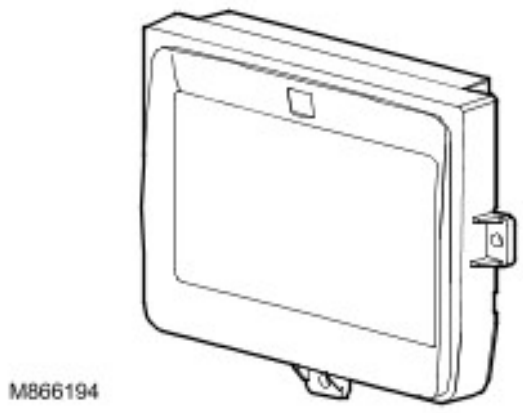
If the operation of the DVD (digital versatile disc) freezes or the screens do not display, turning the power to the unit off and then back on may clear the fault. Alternatively, change the source from DVD (digital versatile

disc) and back to DVD (digital versatile disc) , turn the ignition switch to off and then on again to position II. The following table gives possible faults, their causes and remedies.

Symptom	Cause	Remedy
DVD (digital versatile disc) unit does not operate.	Fuse blown	Check and replace with fuse of correct rating
	RSE LCD (liquid crystal display) screen monitor power off	Ensure power is supplied to monitors
	Condensation	Wait for at least one hour for condensation to dry out
Operation is unstable	Remote control handset batteries low	Replace batteries
	Remote control receiver sensor or transmitter is dirty	Clean the receiver sensor and/or the transmitter
No picture	Monitor mode is switched to an incorrect mode	Use switch on back of handset to select the correct mode
Playback does not start	Disc is loaded upside down	Check disc is correctly loaded
	An incorrect format of disc is loaded	Check disc format is compatible
	Parental lock is set	Cancel parental lock or check rating of disc
	Setup menu is displayed	Press 'Set' for at least 2 seconds to turn the menu off
Picture is unclear or noisy	Disc is being fast forwarded or reversed	The picture may be slightly disturbed in this mode
	Vehicle battery power low	Check the vehicle battery condition
Image freezes	Disc is scratched	Replace with an undamaged disc
'NO MAG' displayed	No magazine is loaded	Load a magazine
'NO DISC' displayed	No disc is loaded	Load disc into magazine
	Disc is dirty	Clean disc
Ø	Remote control operation is not possible	For some discs and playing modes certain operations are not possible. This is not a malfunction.
'REGIONAL CODE VIOLATION' displayed	Disc does not match regional code number	Load a disc which matches the regional code number
'VIDEO SIGNAL IS NOT CORRECT' displayed	NTSC disc is loaded in a PAL system or PAL disc is loaded in an NTSC system	Load a PAL disc

'HI-TEMP' displayed	Protective circuit is activated to high temperature	Turn the power OFF on the unit and then back on again. If the display does not disappear leave the power off until the temperature decreases and turn the power ON again.
Handset does not operate DVD (digital versatile disc)	Battery power in handset low	Replace batteries
	Direct sunlight in handset transmitter or RSE LCD (liquid crystal display) screen receiver	Protect infrared sensors from direct sunlight
	Universal handset mode switch incorrectly set	Looking at the rear face of the handset, ensure that the mode switch is in the LH position
	Batteries incorrectly installed	Check batteries or correctly fitted
	Handset not pointed at RSE LCD (liquid crystal display) screen	Point the handset directly at the screen

REAR SCREENS



The RSE LCD (liquid crystal display) screens are located in the rear of the front seat head restraints. The screen is secured in the head restraint with three screws which are covered by a removable surround. The screen is a 6.5 inch, auto dimming, high resolution LCD (liquid crystal display) monitor, manufactured by Alpine

An ambient light sensor, in the bottom left edge of the screen, allows the system to automatically adjust the brightness of the screen to compensate for changes in ambient light levels.

An infrared receiver sensor is located centrally in the upper screen surround. The sensor receives infrared transmissions from the DVD (digital versatile disc) remote control and passes them to the DVD (digital versatile disc) autochanger, via the RSE module on a bus system known as the IS bus. All screen settings can be changed using the RSE remote control.

The screen should be cleaned with a lightly, water moistened cloth. Do not use chemical agents or domestic products to clean the screen or any part of the surround.

Each RSE LCD (liquid crystal display) screen is connected to the infotainment system using a 20 pin harness

connector.

Pin No.	Description	Input/ Output
1	Backlight GND (ground)	Input
2	Backlight power supply	Input
3	Not used	-
4	12V LCD (liquid crystal display) power supply	Input
5	Not used	-
6	6V LCD (liquid crystal display) power supply	Input
7	Not used	-
8	-16V LCD (liquid crystal display) power supply	Input
9	Composite video GND (ground)	Input
10	Composite video input	Input
1	IS bus signal +	Input
12	IS bus signal -	Input
13	IS bus signal frame +	Input
14	IS bus signal frame -	Input
15-17	Not used	-
18	Power supply +12V	Input
19	Not used	-
20	Power GND (ground)	Output

REMOTE CONTROL

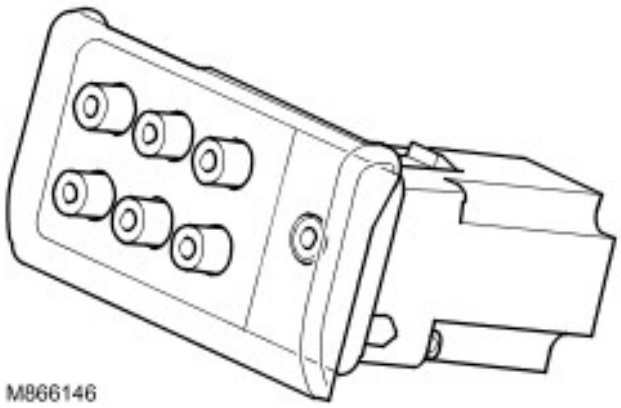
E48227

The remote control for operation of the DVD (digital versatile disc) autochanger is a universal infrared type. A switch on the rear of the control selects either the left hand or right hand screens and allows the individual settings for each screen to be changed as required. The switch has a central position which disables the remote control and prevents battery drain.

The remote control transmits an infrared signal in response to operation of a button. The signal is received by a sensor located on each RSE LCD (liquid crystal display) screen and is passed, via an IS bus to the RSE module. From the RSE module the signal is passed on an Alpine proprietary bus known as the Ai Net, to the DVD (digital versatile disc) autochanger. The remote control also allows selection of an auxiliary input from the AVIO panel (video or games console) or selection of audio (radio or CD (compact disc)).

The remote control is powered by two 'AAA' batteries located in the rear of the control and are accessible by removing a sliding cover. When inserting the batteries it is important that the battery polarity is observed as marked in the battery compartment. LED (light emitting diode) 's at the top left and right hand corner of the control indicates that the remote control is operating when a button is pressed. Only one LED (light emitting diode) will illuminate depending on which screen is selected. If the LED (light emitting diode) 's fail to illuminate when a button is pressed, the battery voltage may be low or the switch on the rear of the control may be set in the central 'off' position.

AUDIO VIDEO INPUT OUTPUT PANEL



The AVIO panel is located at the rear of the center console. The panel provides for the connection of auxiliary audio and video inputs from an external source, such as a games console, via seven plugs on the panel. The plugs are covered by a lift up panel.

Two sets of video and audio phono plugs are provided and are designated as AV1 and AV2. The plugs are connected to the RSE module and allow the auxiliary input video to be played on the RSE LCD (liquid crystal display) screens and the audio to be played on the vehicle speakers or via the rear headphone modules. The auxiliary input video cannot be displayed on the TSD.

An additional single, 3.5mm jack plug allows for the attachment of an auxiliary audio input, such as a personal stereo or MP3 player. This plug is connected directly to the IHU and allows audio to be played on the vehicle speakers.

The AVIO panel is connected to the infotainment system using two harness connectors.

AVIO Panel Harness Connector C2226

Pin No.	Description	Input/ Output
1	Not used	-
2	GND (ground)	Input

3	Left auxiliary audio input	Input
4	Right auxiliary audio input	Input
5	Auxiliary GND (ground)	Input
6	Not used	-

AVIO Panel Harness Connector C2988

Pin No.	Description	Input/ Output
1	AV 1 Video +	Input
2	AV 1 Video -	Input
3	AV 1 Audio right +	Input
4	AV 1 Audio right -	Input
5	AV 1 Audio left +	Input
6	AV 1 Audio left -	Input
7	AV 2 Video +	Input
8	AV 2 Video -	Input
9	AV 2 Audio right +	Input
10	AV 2 Audio right -	Input
11	AV 2 Audio left +	Input
12	AV 2 Audio left -	Input
13	Shield GND (ground)	Input