

INFORMATION AND ENTERTAINMENT SYSTEM - GENERAL INFORMATION

DIAGNOSIS AND TESTING

PRINCIPLE OF OPERATION

For a detailed description of the information and entertainment system and operation, refer to the relevant description and operation section in the workshop manual.

INSPECTION AND VERIFICATION

CAUTION:

Diagnosis by substitution from a donor vehicle is **NOT** acceptable. Substitution of control modules does not guarantee confirmation of a fault, and may also cause additional faults in the vehicle being tested and/or the donor vehicle.

NOTES:

- If the control module or a component is suspect and the vehicle remains under manufacturer warranty, refer to the Warranty Policy and Procedures manual, or determine if any prior approval programme is in operation, prior to the installation of a new module/component.
- When performing voltage or resistance tests, always use a digital multimeter that has the resolution ability to view 3 decimal places. For example, on the 2 volts range can measure 1mV or 2 K Ohm range can measure 1 Ohm. When testing resistance always take the resistance of the digital multimeter leads into account.
- All diagnostic equipment should comply with local legislation.
- Relevant diagnostic equipment should be regularly checked and calibrated according to the manufacturer's instructions.
- The workshop should be equipped with a full range of general equipment which is to be kept in good order and available to all suitably trained staff.
- Diagnostic equipment must meet the JLR Minimum Standards for general equipment as outlined in TOPIx.
- Check and rectify basic faults before beginning diagnostic routines involving pinpoint tests.

1. Verify the customer concern

2. Visually inspect for obvious signs of damage and system integrity

Visual Inspection

MECHANICAL	ELECTRICAL
<ul style="list-style-type: none"> ▪ Infotainment master controller (IMC) ▪ Infotainment slave controller (ISC) ▪ Audio amplifier module (AAM) ▪ Touch screens ▪ Integrated control panel (ICP) ▪ Rear integrated control panel (RICP) ▪ Rear view camera (RVC) ▪ Speakers ▪ Scratched/dirty compact discs ▪ Water ingress 	<ul style="list-style-type: none"> ▪ Fuses ▪ Wiring harnesses and connectors ▪ Infotainment master controller (IMC) ▪ Infotainment slave controller (ISC) ▪ Audio amplifier module (AAM) ▪ Touch screens ▪ Integrated control panel (ICP) ▪ Rear integrated control panel (RICP) ▪ Rear view camera (RVC) ▪ USB hub ▪ Antennae ▪ Speakers ▪ Microphones

3. If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step

4. If the cause is not visually evident, verify the symptom and refer to the Symptom Chart, alternatively check for Diagnostic Trouble Codes (DTCs) and refer to the DTC Index

5. Check DDW for open campaigns. Refer to the corresponding bulletins and SSMs which may be valid for the specific customer complaint and carry out the recommendations as required

DATA STORAGE (HARD DRIVE) DIAGNOSTICS

For diagnosis of issues with data storage on the infotainment master controller, see symptom chart and associated pinpoint tests below:

SYMPTOM	POSSIBLE CAUSES	ACTION
No information stored on the hard drive (navigation data and media files) can be accessed	▪ Hard drive over temperature condition (in excess of 50 degrees centigrade)	▪ GO to Pinpoint Test A.
	▪ Hard drive under temperature condition (below minus 30 degrees centigrade)	▪ GO to Pinpoint Test B.
	▪ Hard drive internal hardware or software fault	▪ GO to Pinpoint Test C.
Some portion of the information stored on the hard drive		

(navigation data and media files) cannot be accessed or is missing	<ul style="list-style-type: none"> ▪ Hard drive internal hardware or software fault 	<ul style="list-style-type: none"> ▪ GO to Pinpoint Test C.
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PINPOINT TEST A : NO ACCESS TO DATA ON THE INFOTAINMENT HARD DRIVE - OVER TEMPERATURE ISSUES	
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
A1: CHECKS FOR OVER TEMPERATURE CONDITIONS (1)	
	<p>1 Check for infotainment system over temperature DTCs</p>
	<p>Is DTC U3000-98 (Control Module - Component or system over temperature) logged, while there are NO corresponding infotainment system cooling fan/cooling fan relay DTCs logged?</p> <p>Yes GO to A2 .</p> <p>No GO to A4 .</p>
A2: CHECKS FOR OVER TEMPERATURE CONDITIONS (2)	
	<p>1 Check effects of environmental conditions</p>
	<p>Does the issue occur when the vehicle is exposed to high temperatures (in excess of 50 degrees centigrade) and in direct sunlight?</p> <p>Yes Check the integrity and security of the infotainment system cooling duct and that there are no leaks where the cooling duct meets the face of the infotainment master controller. Rectify as required.</p> <p>No GO to A1 .</p>
A3: CHECKS FOR OVER TEMPERATURE CONDITIONS (3)	
	<p>1 Check for infotainment master controller software issues</p>
	<p>Does the issue occur even when the vehicle is NOT exposed to high temperatures (in excess of 50 degrees centigrade) and in direct sunlight?</p> <p>Yes Check the integrity and security of the infotainment system cooling duct and that there are no leaks where the cooling duct meets the face of the infotainment master controller. Rectify as required and retest. If the issue persists, reconfigure the infotainment master controller with the latest level software and retest. If the fault persists, there may be a fault with the infotainment master controller temperature sensor. Contact the Jaguar Land Rover technical helpdesk before replacing the infotainment master controller.</p> <p>No No further action</p>
A4: CHECKS FOR OVER TEMPERATURE CONDITIONS (4)	
	<p>1 Check for cooling fan infotainment system cooling fan/cooling fan relay DTCs</p>
	<p>Are there any infotainment system cooling fan/cooling fan relay DTCs logged?</p> <p>Yes Follow the corrective actions as specified in the DTC index</p> <p>No GO to Pinpoint Test B.</p>

PINPOINT TEST B : NO ACCESS TO DATA ON THE INFOTAINMENT HARD DRIVE - UNDER TEMPERATURE ISSUES	
TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
B1: CHECKS FOR UNDER TEMPERATURE CONDITIONS (1)	
	<p>1 Check for infotainment system under temperature DTCs</p>
	<p>Are any under temperature DTCs logged (eg: Front Display Screen - Component or system operating conditions)?</p> <p>Yes</p>

GO to B2 .
No
GO to Pinpoint Test C.

B2: CHECKS FOR UNDER TEMPERATURE CONDITIONS (2)

1 Check effects of environmental conditions

Does the issue occur when the vehicle is exposed to low temperatures (below minus 30 degrees centigrade)?
Yes
 Allow the system to warm. Using the Jaguar Land Rover approved diagnostic equipment, clear the DTCs and retest. If the fault persists **GO to B3 .**
No
GO to B3 .

B3: CHECKS FOR UNDER TEMPERATURE CONDITIONS (3)

1 Check for infotainment master controller software issues

Does the issue persist when the vehicle has been allowed to warm to normal ambient temperature conditions?
Yes
 Reconfigure the infotainment master controller with the latest level software and retest. If the fault persists, there may be a fault with the infotainment master controller temperature sensor. Contact the Jaguar Land Rover technical helpdesk before replacing the infotainment master controller.
No
 No further action.

PINPOINT TEST C : NO ACCESS TO DATA ON THE INFOTAINMENT HARD DRIVE - INTERNAL FAILURES

TEST CONDITIONS	DETAILS/RESULTS/ACTIONS
C1: CHECK FOR INTERNAL FAILURE DTCS	
	1 Check for hard drive internal failure DTCS
	Is DTC B121C-93 (Hard Drive - No Operation) logged? Yes Using the Jaguar Land Rover approved diagnostic equipment, clear the DTCs and retest. If the fault persists, contact the Jaguar Land Rover technical helpdesk before replacing the infotainment master controller No GO to C2 .
C2: CHECK FOR INTERNAL SOFTWARE ERRORS	
	1 Reconfigure the infotainment master controller with the latest level software and retest.
	Is the fault still present? Yes Contact the Jaguar Land Rover technical helpdesk before replacing the infotainment master controller No No further action.

MICROPHONE DIAGNOSTICS

The symptom chart below should be used when diagnosing microphone faults

REPORTED SYMPTOM	SYMPTOM DESCRIPTION	POTENTIAL CAUSES (FOR GUIDANCE ONLY)	RECOMMENDED ACTION
<ul style="list-style-type: none"> Voice command is not working 	<ul style="list-style-type: none"> When pressing the voice command button on the 	<ul style="list-style-type: none"> Issue with steering wheel switches 	<ul style="list-style-type: none"> 1. Check and confirm customer's vehicle does have voice command capability installed on the vehicle and that the voice command function is enabled

	steering wheel, the system is not responding	<ul style="list-style-type: none"> ▪ No microphone (s) installed ▪ Microphone not connected correctly ▪ Faulty microphone 	<ul style="list-style-type: none"> ▪ 2. The microphone is shared between the Bluetooth telephone function and the voice command function. Check that the voice command function works by giving a voice command, for example "Telephone Help" or "Navigation Help". Check that Bluetooth telephone calls can be made. Ensure that the following criteria are satisfied before any telephone call is attempted: <ul style="list-style-type: none"> ▪ The telephone handset and associated level of software is included on the Jaguar Land Rover approved list ▪ The telephone/device battery is fully charged and in a serviceable condition ▪ There is a reliable telephone network reception signal of suitable strength ▪ The telephone/device is placed within the vehicle cabin area ▪ The telephone/device is connected to the vehicle via Bluetooth
<ul style="list-style-type: none"> ▪ Bluetooth telephone – 3rd party hears interference 	<ul style="list-style-type: none"> ▪ When customer uses the telephone via a Bluetooth connection, the call receiver hears interference over the caller's audio signal 	<ul style="list-style-type: none"> ▪ The phone /device is incompatible with Jaguar Land Rover infotainment system ▪ Poor (sub-optimal) placement of the phone /device within the vehicle ▪ Poor mobile phone network reception ▪ High mobile phone network demand ▪ Damaged microphone harness ▪ Microphone unclipped from housing ▪ No microphone (s) installed ▪ Microphone not connected correctly ▪ Faulty microphone 	<ul style="list-style-type: none"> ▪ If the voice command function works and the phone call receiver can hear the caller adequately when calls are made from the vehicle, this suggests that the fault is not with the microphone ▪ 3. If the phone call was unsuccessful and the voice command is inoperative, first check if there are any SSMS /TSBs for voice command functions, microphones or Bluetooth and perform the specified rectifications as required. Retest to confirm if the issue has been resolved. If the fault is still present, go to next step ▪ 4. Connect the Jaguar Land Rover approved diagnostic equipment, check for related DTCs and any recommended software updates. If DTCs are present or if software updates are required, perform the necessary remedial actions as specified by the SDD tool. After performing the necessary actions, confirm if the customer fault is still present. If no DTCs are logged and/or no software updates are required, go to the next step ▪ 5. Gain access to the microphone to check the following: <ul style="list-style-type: none"> ▪ Check the microphone is fitted to driver's side of the vehicle and rectify as required ▪ Check the harness assembly is not trapped and rectify as required ▪ Check the harness assembly connections are fully inserted and secured to the microphone and rectify as required ▪ Check for any harness damage and repair as required ▪ 6. Check the microphone for the following and replace the component if any damage is evident: <ul style="list-style-type: none"> ▪ Check the microphone connector is free from damage and corrosion ▪ Check for visual damage to the microphone e.g. wiring or casing ▪ 7. If the fault is still present following replacement of the microphone, contact Jaguar Land Rover Dealer Technical Support following the guidelines in the policy and procedures manual
<ul style="list-style-type: none"> ▪ Bluetooth telephone – 3rd party cannot hear caller at all 	<ul style="list-style-type: none"> ▪ When customer uses the telephone via a Bluetooth connection, the call receiver cannot hear the caller 		

WIRELESS HEADPHONES DIAGNOSTICS

For diagnosis of issues with wireless headphones operation, see symptom chart below:

SYMPTOM	POSSIBLE CAUSES	ACTION
<p>Wireless headphones status LED is permanently off</p>	<ul style="list-style-type: none"> Wireless headphones have not been switched on 	<ul style="list-style-type: none"> Press the power switch on the right side of the wireless headphones
	<ul style="list-style-type: none"> No batteries are installed in the wireless headphones 	<ul style="list-style-type: none"> Remove battery cover on the left side of the wireless headphones and insert 2 x new AAA batteries
	<ul style="list-style-type: none"> Batteries are inserted with incorrect polarity 	<ul style="list-style-type: none"> Check the batteries are installed as per the diagram in the battery compartment
	<ul style="list-style-type: none"> Batteries are depleted 	<ul style="list-style-type: none"> Remove battery cover on the left side of the wireless headphones and replace batteries with 2 x new AAA batteries
	<ul style="list-style-type: none"> Wireless headphones have timed out and automatically switched off 	<ul style="list-style-type: none"> Press the power switch on the right side of the wireless headphones
	<ul style="list-style-type: none"> Invalid/incorrect Car Configuration File (CCF) stored in Audio Amplifier Module (AAM) 	<ul style="list-style-type: none"> Using the Jaguar Land Rover approved diagnostic equipment, check and update the CCF
<p>Wireless headphones status LED flashing (red or amber) and no audio from headphone. This indicates the wireless headphones are switched on ready to receive a signal from the vehicle overhead console emitter/ infotainment system</p>	<ul style="list-style-type: none"> Overhead console emitter is not active (an array of red LEDs can be seen when active) 	<ul style="list-style-type: none"> Ensure the vehicle infotainment system is on and the dual view and/or rear seat entertainment features are active Select the same audio source to cabin speakers to confirm audio output is operational
	<ul style="list-style-type: none"> Wireless headphones are not in direct line of sight with the overhead console emitter 	<ul style="list-style-type: none"> Ensure there is a direct line of sight between the overhead console emitter and the wireless headphones
	<ul style="list-style-type: none"> Wireless headphones are not being used inside the vehicle 	<ul style="list-style-type: none"> The wireless headphones are designed to be used whilst seated in the vehicle only
<p>Wireless headphones status LED constantly on (red or amber) and no audio output from wireless headphones. This indicates wireless headphones are switched on and receiving a signal from the entertainment system via the overhead console emitter</p>	<ul style="list-style-type: none"> Audio source selected is not playing (CD paused or radio station not tuned in) 	<ul style="list-style-type: none"> Ensure the active audio source is playing Select the same audio source to cabin speakers to confirm audio output is operational
	<ul style="list-style-type: none"> Volume control is set to minimum 	<ul style="list-style-type: none"> Rotate the volume control located on the right side of the

		wireless headphones in a clockwise direction to increase volume
	<ul style="list-style-type: none"> Wireless headphones are set to an inactive zone channel. (There are up to 3 channels depending on vehicle specification - see note below) 	<ul style="list-style-type: none"> Press the channel select switch on the right side of the wireless headphones. A beep will be heard from the wireless headphones when the channel is changed. Repeat if necessary
	<ul style="list-style-type: none"> Wireless headphones audio is inhibited in dual view touchscreen or rear seat entertainment control menu 	<ul style="list-style-type: none"> Enable the wireless headphones audio via the dual view touchscreen or rear seat entertainment control menu

NOTE: There are up to three audio channels available for wireless headphones, depending on the vehicle specification. 1 - wireless headphones (dual view touchscreen output only); 2 - wireless headphones (rear seat entertainment output only); 3 - wireless headphones (dual view touchscreen and rear seat entertainment output)

APPLE DEVICE COMPATIBILITY

The following table lists some Apple devices and their compatibility with the information and entertainment system using a USB cable.

FULLY SUPPORTED	PARTIALLY SUPPORTED	NOT SUPPORTED
<ul style="list-style-type: none"> iPod® Classic - 7th generation iPod® Nano - 3rd/4th/5th/6th/7th generation iPod® Touch - 2nd/3rd/4th/5th generation iPod® Mini - 1st/2nd iPhone™ - 5/5S/6/6 Plus/6S/6S Plus/7/7 Plus/SE iPad™ - 1st (with iOS 4.0 or later)/2nd/3rd/4th/Mini 	<ul style="list-style-type: none"> iAP2 devices (devices that use the a Lightning (9-pin) connector with an iOS version earlier than 8.4) iPod® Classic - 4th/5th/6th generation iPod® Nano - 1st/2nd generation iPod® Touch - 1st generation iPhone™ - 1/3/3S/4/4S 	<ul style="list-style-type: none"> Apple devices not in the Fully Supported listing iPod® Classic - 1st/2nd/3rd generation iPod® Shuffle - 1st/2nd/3rd/4th generation

AUDIO FILE COMPATIBILITY

 NOTE:

Before attempting a repair to the in-vehicle infotainment system following concerns regarding no playback of audio files stored either on the internal storage, a USB data storage device or on an album CD (CDDA), check below to ensure that the audio files in question are encoded in a compatible format

There are a number of variables that can be set (either automatically or by the user) at the point of creating the audio file that may contribute to an audio file being encoded in an incompatible format. These include:

- The **type of audio file** created (eg: MP3/WMA/AAC)
- The specification of **Variable Bit Rate** (VBR) or **Constant Bit Rate** (CBR) encoding
- If CBR encoding is being used, then a particular **bit rate** value (measured in kilobits per second - kbps) may be selected
- The rate of **sampling frequency** , measured in kilohertz (kHz), may also be selected

The system shall support a number of various audio and video codecs (outlined in a later paragraph), but if the user has used a software tool to create their own media file outside of the codec's specification, then successful playback cannot be guaranteed.

Diagnostic Procedures For Audio Files

Identify File Type: if a customer reports issues with audio file playback, first confirm that the data source is operating normally and is not locked or corrupted. This may be achieved by reading the USB storage device or data disk via a PC and confirming that the audio files can be seen/accessed as expected. If the storage device/data disk appears to be operating normally, the next step is to ascertain the file type of those files that will not play through the infotainment system. The infotainment system supports the following audio file formats:

- MP3
- WMA
- WAV
- AIFF
- M4A
- FLAC
- AAC
- AMR
- PCM
- ALAC

The system pre-filters out non-supported audio file formats, therefore media files which are presented to the user, should be playable.

Playback Of Audio Files Stored On The Internal Storage Or A USB Storage Device

Further information about the audio file may be accessed via the file properties tab either when viewing the file in Windows Explorer or when playing the file via a digital media player programme. In such a way, it should be possible to ascertain some or all of the required information concerning the file's specified encoding type/bit rate/sampling frequency. Once this information has been obtained, use the tables detailed below to check if the suspect audio file is compatible with the vehicle infotainment system.

ENCODING FORMAT	VARIANTS	CHANNELS SUPPORTED	SAMPLING RATE
AAC	<ul style="list-style-type: none"> ▪ AAC-LC (MPEG-2) ▪ AAC-LC (MPEG-4) ▪ AAC-HE V1 (aacPlus, SBR) ▪ AAC-HE V2 (Enhanced aacPlus, SBR+PS) ▪ AAC-BSAC ▪ AAC Main ▪ AAC-LTP 	1 - 7.1 channels	8 - 96 kHz
ADPCM	<ul style="list-style-type: none"> ▪ Microsoft ▪ IMA (Microsoft) ▪ IMA (QuickTime) 	1 - 7.1 channels	8 - 48 kHz
	<ul style="list-style-type: none"> ▪ VOX ▪ G.726 	1 channel	8 kHz
AMR	<ul style="list-style-type: none"> ▪ AMR-NB (Narrow Band) 	1 channel	8 kHz
	<ul style="list-style-type: none"> ▪ AMR-WB (Wide Band) 	1 channel	16 kHz
Dolby	<ul style="list-style-type: none"> ▪ Dolby Digital (AC3) 	1 - 5.1 channels	32 - 48 kHz
DTS	<ul style="list-style-type: none"> ▪ DTS 	1 - 5.1 channels	8 - 48 kHz
	<ul style="list-style-type: none"> ▪ DTS 96/24 	1 - 5.1 channels	96 kHz
	<ul style="list-style-type: none"> ▪ DTS-ES Matrix ▪ DTS-ES Discrete 	6.1 channels	8 - 48 kHz
FLAC	<ul style="list-style-type: none"> ▪ FLAC 1.2.1 	1 - 7.1 channels	8 - 192 kHz
G.711	<ul style="list-style-type: none"> ▪ A-Law 	1 channel	8 kHz
G.722 Annex C	<ul style="list-style-type: none"> ▪ 14 kHz 	1 - 2 channels	32 kHz
	<ul style="list-style-type: none"> ▪ μ-Law 	1 channel	8 kHz

GSM	<ul style="list-style-type: none"> ▪ GSM 06.10 	1 channel	8 kHz
LPCM	<ul style="list-style-type: none"> ▪ DVD LPCM 	1 - 7.1 channels	48 - 96 kHz
MPEG	<ul style="list-style-type: none"> ▪ MPEG-1 Audio Layer 1, 2, 3 ▪ MPEG-2/2.5 Audio Layer 1, 2, 3 ▪ MP3Pro 	1 - 2 channels	32 - 48 kHz
PCM	<ul style="list-style-type: none"> ▪ Integer 8, 16, 24, 32bit ▪ Floating Point ▪ Double-Precision Floating Point 	1 - 7.1 channels	8 - 192 kHz
SBC	<ul style="list-style-type: none"> ▪ - 	1 - 2 channels	16 - 48 kHz
Speex	<ul style="list-style-type: none"> ▪ - 	1 - 2 channels	8 - 48 kHz
Vorbis	<ul style="list-style-type: none"> ▪ - 	1 - 7.1 channels	8 - 192 kHz
WMA	<ul style="list-style-type: none"> ▪ WMA 2 ▪ WMA 7 ▪ WMA 8 ▪ WMA 9 	1 - 2 channels	8 - 48 kHz
	<ul style="list-style-type: none"> ▪ WMA 9 Lossless 	1 - 5.1 channels	8 - 96 kHz
	<ul style="list-style-type: none"> ▪ WMA 9 Voice 	1 channel	8 - 22.05 kHz
	<ul style="list-style-type: none"> ▪ WMA 9.1 	1 - 2 channels	8 - 48 kHz
	<ul style="list-style-type: none"> ▪ WMA 10 Pro ▪ WMA 10 Pro LBR 	1 - 7.1 channels	8 - 96 kHz
Apple Lossless (ALAC)	<ul style="list-style-type: none"> ▪ - 	1 - 7.1 channels	8 - 192 kHz

PLAYBACK OF AUDIO FILES STORED ON A CD (CDDA/REDBOOK STANDARD)

 NOTE:

The system will only support album CDs which are only formatted using the Redbook Standard (Audio CDs). Yellowbook (CD-ROM) and Orangebook (CD-R/CD-RW) Standard formats are not supported

The system pre-filters out non-supported audio file formats, therefore media files which are presented to the user, should be playable.

VIDEO FILE COMPATIBILITY

The system pre-filters out non-supported video file formats, therefore media files which are presented to the user, should be playable. The infotainment system supports the following video file formats:

- ASF
- AVI
- MKV
- MPEG
- MP4
- FLV
- OGG

Playback Of Video Files Stored On The Internal Storage Or A USB Storage Device

See table below for supported video codecs:

CODEC	VARIANTS	LEVELS
Cinepak	<ul style="list-style-type: none"> ▪ CVID 	-
DV	<ul style="list-style-type: none"> ▪ DVSD PAL ▪ DVSD NTSC 	-
MJPEG	<ul style="list-style-type: none"> ▪ MJPEG-A ▪ MJPEG-B 	-
MPEG-1	<ul style="list-style-type: none"> ▪ MPEG-1 	-
MPEG-2	<ul style="list-style-type: none"> ▪ Simple Profile ▪ Main Profile ▪ High Profile 	L, M, H-14, H
MPEG-4 Part 2	<ul style="list-style-type: none"> ▪ DivX Version 5 - Handheld ▪ DivX Version 5 - Portable ▪ DivX Version 5 - Home Theater ▪ DivX Version 5 - HD (1) 	-
	<ul style="list-style-type: none"> ▪ Simple Profile ▪ Advanced Simple Profile ▪ Xvid 	L0 - L5

	<ul style="list-style-type: none"> ▪ 3ivx ▪ Nero Digital 	
MS-CRAM	<ul style="list-style-type: none"> ▪ Microsoft Video 1 	-
MS-MPEG4	<ul style="list-style-type: none"> ▪ Microsoft MPEG-4 Version 1 ▪ Microsoft MPEG-4 Version 2 ▪ Microsoft MPEG-4 Version 3 	-
H.263	<ul style="list-style-type: none"> ▪ H.263 	L10 - L70
	<ul style="list-style-type: none"> ▪ Sorensen Spark (Flash) 	-
H.264	<ul style="list-style-type: none"> ▪ Baseline Profile ▪ Main Profile ▪ Extended Profile ▪ High Profile ▪ High 4:0:0 Profile ▪ DivX Plus HD (1) ▪ Nero Digital AVC 	L1 - L5.1
RAW	<ul style="list-style-type: none"> ▪ RGB 1, 2, 4, 8, 16, 24, 32 bits/pixel ▪ AVUI ▪ YVU9 ▪ RLE QuickTime ▪ RLE Microsoft 	-
Theora	<ul style="list-style-type: none"> ▪ - 	-
VP6	<ul style="list-style-type: none"> ▪ VP6 	-
VP8/WebM	<ul style="list-style-type: none"> ▪ VP8 ▪ WebM 	-
	<ul style="list-style-type: none"> ▪ WMV-9 / VC-1 Simple Profile 	LL, ML
	<ul style="list-style-type: none"> ▪ WMV-9 / VC-1 Main Profile 	LL, ML, HL
	<ul style="list-style-type: none"> ▪ VC-1 Extended Profile 	L0 - L4

The infotainment system supports the following image file formats:

- BMP
- WBMP
- GIF
- JPEG
- PNG
- TIFF

SPEAKER DIAGNOSTICS

For Speaker Diagnostics please refer to section 415-01 Diagnosis and Testing - Speakers in the workshop manual. REFER to: Speakers (415-01 Information and Entertainment System, Diagnosis and Testing).

CAMERA DIAGNOSTICS

For Camera Diagnostics please refer to section 413-13 Diagnosis and Testing - Proximity Camera in the workshop manual. REFER to: Proximity Camera (413-13 Parking Aid, Diagnosis and Testing).

DTC INDEX

For a list of Diagnostic Trouble Codes (DTCs) that could be logged on this vehicle, please refer to Section 100-00.