Research & Vehicle Technology
"Infotainment Systems Product Development"

Feature: Settings in the Infotainment Centerstack Module (Global)

Subsystem Part Specific Specification (SPSS)

Version: v1.17
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Version Date: May 28, 2019

FORD CONFIDENTIAL

Revision History

Date	Version	Notes	
Jan 23rd, 2017	**0.1**	**Initial Draft Release**	
March 6th, 2017	**0.2**		
		IIR-REQ-251250/B-Logical Signal to HS3 CAN dB signal name translation table	<jmyslin2> added traffic sign recognition signals used to not allow the user to select the traffic sign recognition HMI settings
		VS-SR-REQ-232098/J-Feature Based Message Protocol usage for Settings in the Infotainment Centerstack Display Module	<jmyslin2> Added clarifications in track changes for what to do in the HMI if a Settings Feature Server is not responding to a query or set command
		VS-SR-REQ-232237/F-FBMP Feature.St received from any FBMP Feature Settings Server module	<jmyslin2> Clarified requirement that Centerstack HMI Client receives the Feature.St even if not for a Set or Query operation
		VS-SR-REQ-251193/A-Traffic Sign Recognition Settings HMI not user selectable	<jmyslin2> New requirement. This requirement specifies when the Traffic Sign Recognition settings are not user selectable
March 28th, 2017	**0.3**		
		IIR-REQ-251250/C-Logical Signal to HS3 CAN dB signal name translation table	<jmyslin2> Updated requirement to remove HMIAudioMode since Queries will now only be done for Settings in the Centerstack after Ignition_Status changes to Run
		VS-SR-REQ-232098/K-Feature Based Message Protocol usage for Settings in the Infotainment Centerstack Display Module	<jmyslin2> Updated requirement to clarify for a crank event
		VS-SR-REQ-234428/E-General Settings at Start-up	<jmyslin2> Updated General Settings queary at start-up so that it is only done after Ingnition_Status changes to Run
April 5th, 2017	**0.4**		
		VS-SR-REQ-232098/L-Feature Based Message Protocol usage for Settings in the Infotainment Centerstack Display Module	<jmyslin2> Updated so that reference most recent Feature Based Message Protocol which is needed to go along with this Settings in the Centerstack spec
		FBMP-SR-REQ-238230/F-Enhanced Memory - Active Personality Profile change using Feature Based Message Protocol	<jmyslin2> spec clarication (no content change)
		VS-SR-REQ-232245/F-Cruise Control	<jmyslin2> fixed a typo
		VS-SR-REQ-259080/A-HMI Activation during Run - General Settings	<jmyslin2> New requirement
		VS-SR-REQ-234316/D-Duration - Remote Start	<jmyslin2> Updated requirement to say for the Active Remote Start (enabled/disable) HMI the OFF/Disable settings uses the 10 minutes as the setting for OFF
May 8, 2017	**1.0**	**Initial Release**	
		VS-SR-REQ-233862/G-Less Than Warning Threshold - Traffic Sign Recognition	<jmyslin2> Added Clarification for the TsrVlUnitMsgTxt_D_Rq signals usage
		VS-SR-REQ-233867/G-Greater than Warning Threshold - Traffic Sign Recognition	<jmyslin2> Added Clarification for the TsrVlUnitMsgTxt_D_Rq signals usage
June 1, 2017	**1.0.1**		
		VS-SR-REQ-232098/M-Feature Based Message Protocol usage for Settings in the Infotainment Centerstack Display Module	<jmyslin2> removed HMI error handling for Query requests and deferred to the HMI specification
		VS-SR-REQ-242439/B-EV+ Mode	<jmyslin2> EV+ Mode setting is deleted
		VS-SR-REQ-267623/A-Heater Programming - Park Heater	<jmyslin2> New Requirement
August 9, 2017	**1.1**		
		VS-SR-REQ-271525/A-Lane Keeping Aid	<Jmyslin2> New Requirement for Lane Keeping Aid

	VS-SR-REQ-271526/A-Lane Keeping Alert	<Jmyslin2> New Requirement for Lane Keeping Alert
	VS-FUN-REQ-233809/B-Traffic Sign Recognition	<jmyslin2> Updated for Speed Limit Information
	VS-SR-REQ-233812/D-Enable/Disable (Traffic Sign Recognition / Speed Limit Information) Feature	<jmyslin2> Updated requirement to include Speed Limit Information
	VS-SR-REQ-233862/H-Less Than Warning Threshold - (Traffic Sign Recognition / Speed Limit Information)	<jmyslin2> Updated for Speed Limit Information
	VS-SR-REQ-251193/B-Traffic Sign Recognition Settings / Speed Limit Information HMI not user selectable	<jmyslin2> Updated to include Speed Limit Information
	VS-FUN-REQ-272504/A-Speed Limit Information	<jmyslin2> Added Speed Limit Information Function
	VS-SR-REQ-233812/D-Enable/Disable (Traffic Sign Recognition / Speed Limit Information) Feature	<jmyslin2> Updated requirement to include Speed Limit Information
	VS-SR-REQ-239164/C-Tow Haul	<Jmyslin2> Updated Tow Haul setting encodings to match the new encodings provided by the HMI team
	VS-FUN-REQ-272332/A-Grade Assist	<jmyslin2> New Grade Assist function
	VS-SR-REQ-272333/A-Grade Assist	<jmyslin2> New Requirement - Grade Assist
	VS-SR-REQ-234061/D-Auto Engine OFF	<jmyslin2> Added note about possible HMI name
	VS-SR-REQ-234339/C-Auto Highbeam / Adaptive Drivebeam	<jmyslin2> Updated to include Adative Highbeam
	VS-SR-REQ-272030/A-Predictive Lighting	<jmyslin2> New Settings for Predictive Lighting
	VS-SR-REQ-272687/A-Global Unlock	<jmyslin2> New global unlock setting
	VS-SR-REQ-272694/A-Intelligent Access	<jmyslin2> New Intelligent Access locking setting
	VS-FUN-REQ-272705/A-Air Suspension	<jmyslin2> New Setting requirement for Air Suspension
	VS-SR-REQ-272706/A-Air Suspension	<jmyslin2> New requirement for Air Suspension
	VS-FUN-REQ-272707/A-Auto Entry/Exit Height	<jmyslin2> New Setting requirement for Auto Entry/Exit Height
	VS-SR-REQ-272708/A-Auto Entry/Exit Height	<jmyslin2> New requirement for Auto Entry/Exit Height
August 25, 2017	**1.2**	
	VSv4-FRD-REQ-232097/E-Settings in the Infotainment Centerstack (Global - CGEA)	<jmyslin2> changed name to settings in the centerstack
	IIR-REQ-251250/D-Logical Signal to HS3 CAN dB signal name translation table	<jmyslin2> Updated table to add BttLeft_D_RqDrv and BttRight_D_RqDrv for new BTT Lite feature
	VS-IIR-REQ-243929/B-FBMP Interface requirements	<jmyslin2> Updated to add BTT Lite MD's
	VS-FUN-REQ-234029/B-Park Aid	<jmyslin2> Per HMI team changed name from Rear Park Aid to Park Aid
	VS-SR-REQ-234031/D-Park Aid	<jmyslin2> Per HMI changed name from Rear Park Aid to Park Aid
	VS-FUN-REQ-273589/A-BTT Light (Blind Spot Trailer Tow)	<jmyslin2> Need Function added for BTT Lite
	VS-SR-REQ-273590/A-Active Trailer Setting - BTT Lite	<jmyslin2> New requirement for new BTT Lite setting
	VS-SR-REQ-273689/A-Trailer Length - BTT Lite	<jmyslin2> New requirement for new BTT Lite setting
	VS-SR-REQ-273980/A-Pop-up Trailer Set-up Request - BTT Lite	<jmyslin2> New requirement for new BTT Lite setting
	VS-FUN-REQ-234059/B-Auto Engine OFF / 30min Max Idle	<jmyslin2> Updated name per HMI group to 30 min max idle
	VS-SR-REQ-234061/E-Auto Engine OFF / 30 min max idle	<jmyslin2> changed name to 30 min max idle from Auto Engine OFF per HMI group
	VS-SR-REQ-234339/D-Auto Highbeam / Adaptive Drivebeam	<jmyslin2> Updated to add Glare Free
	VS-FUN-REQ-273580/A-Passenger Airbag	<jmyslin2> Need function added for Passenger Airbag
	VS-SR-REQ-273581/A-Passenger Airbag	<jmyslin2> New requirement for new passenger airbag setting
	VS-FUN-REQ-273582/A-Engine Start/Stop Speed Threshold	<jmyslin2> Need Function added for Engine Start/Stop Speed Threshold
	VS-SR-REQ-273583/A-Engine Start/Stop Speed Threshold	<jmyslin2> New requirement for new engine start/stop speed threshold setting
	VS-FUN-REQ-274739/A-Tire Mobility Kit	<jmyslin2> Need function added for Tire Mobility
	VS-SR-REQ-274740/A-Tire Mobility	<jmyslin2> New requirement for tire mobility setting
August 31, 2017	**1.3**	

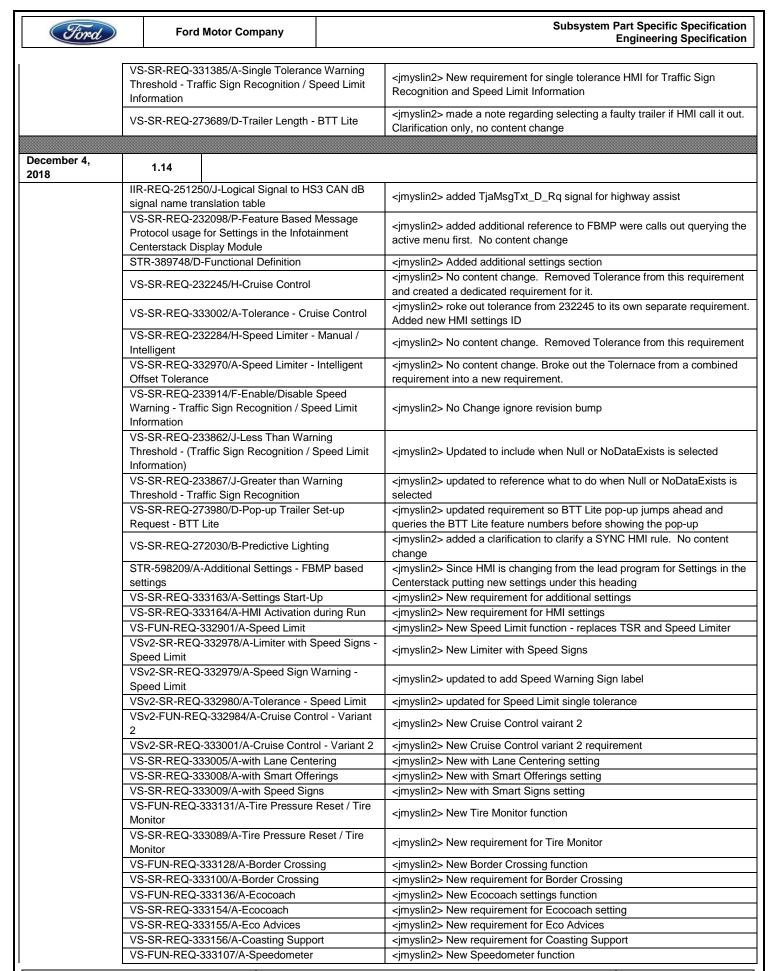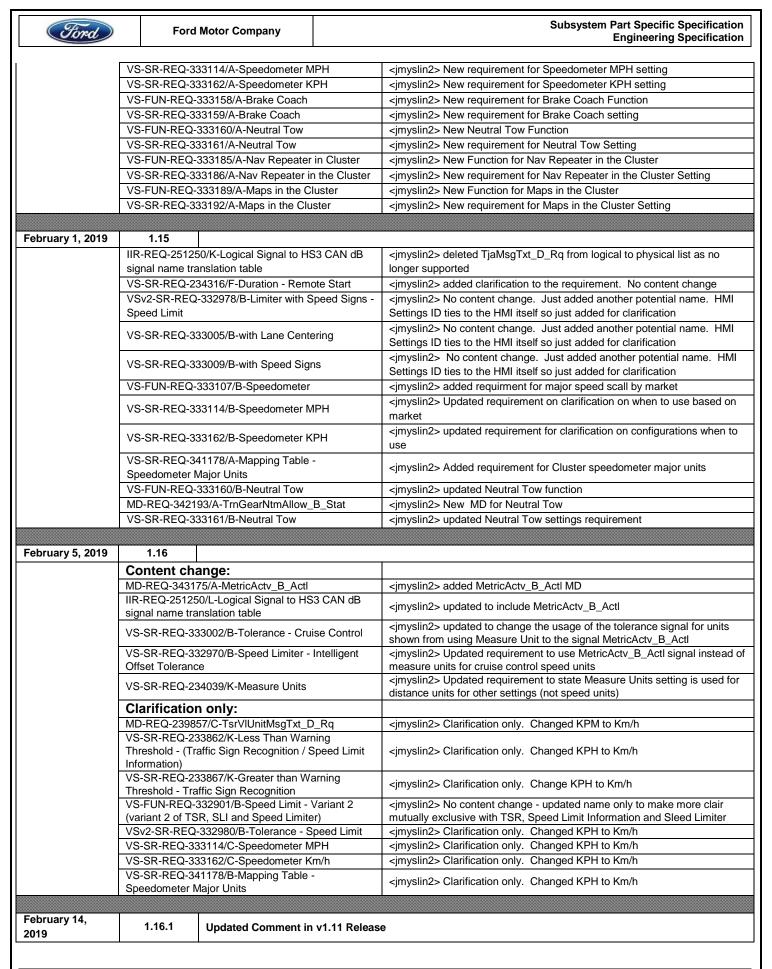|			
		IIR-REQ-251250/E-Logical Signal to HS3 CAN dB signal name translation table	<jmyslin2> Updated to include SUMA module Feature.St message
		VS-SR-REQ-273980/B-Pop-up Trailer Set-up Request - BTT Lite	<jmyslin2> added in an update regarding the BTT Lite pop-up
		VS-FUN-REQ-273582/B-Engine Start/Stop Speed Threshold (Auto Start/Stop Speed Threshold)	<jmyslin2> Name change per HMI group
		VS-SR-REQ-273583/B-Engine Start/Stop Speed Threshold (Auto StartStop Speed Threshold)	<jmyslin2> Name updated per HMI
		VS-SR-REQ-274740/B-Tire Mobility	<jmyslin2> Added SYNC HMI screen number
September 12, 2017	1.4		
		VS-SR-REQ-233914/D-Enable/Disable Speed Warning - Traffic Sign Recognition / Speed Limit Information	<jmyslin2> Updated for Speed Limit Information
		VS-FUN-REQ-272504/B-Speed Limit Information / Speed Sign Recognition	<jmyslin2> Updated name to include Speed Sign Recognition
		VS-SR-REQ-239164/D-Tow Haul	<jmyslin2> Updated Tow Haul SYNC screen ID number
		VS-SR-REQ-234232/D-Easy Entry / Easy Exit	<jmyslin2> updated SYNC Screen HMI number
		VS-SR-REQ-238327/C-Power Running Board	<jmyslin2> updated the SYNC screen HMI number
		VS-SR-REQ-272708/B-Auto Entry/Exit Height	<jmyslin2> Updated SYNC screen HMI number
		VS-SR-REQ-273581/B-Passenger Airbag	<jmyslin2> added encoding for Passenger Airbag gray out
September 27, 2017	1.5		
		STR-389746/I-Interface Requirements	<jmyslin2> added MD's
		VS-IIR-REQ-243929/C-FBMP Interface requirements	<jmyslin2> added MD's
		MD-REQ-243934/B-Disp_Miles_Kilometers.St	<jmyslin2> Clarification only
		MD-REQ-276458/A-Vehicle_Speed.St+	<jmyslin2> created MD
		MD-REQ-276458/B-Vehicle_Speed.St	<jmyslin2> MD clarification
		MD-REQ-276459/A-Vehicle_Speed_QF	<jmyslin2> created MD
		MD-REQ-239857/B-TsrVlUnitMsgTxt_D_Rq	<jmyslin2> added clarification
		MD-REQ-276700/A-IaccLamp_D_Rq	<jmyslin2> New MD
		MD-REQ-276704/A-SLMde_D_Rqdsply	<jmyslin2> New MD
		MD-REQ-276706/A-Aslicondsply_D_Rq	<jmyslin2> New MD
		MD-REQ-274072/B-BTTLeft_D_RqDrv	<jmyslin2> Removed FID in title
		MD-REQ-274073/B-BTTRight_D_RqDrv	<jmyslin2> Removed FID in title
		IIR-REQ-251250/F-Logical Signal to HS3 CAN dB signal name translation table	<jmyslin2> updated table with Vehicle Speed CAN signals
		VS-FUN-REQ-234230/B-Easy Entry / Easy Exit (Seat Adjustment)	<jmyslin2> updated name to Seat Adjustment
		VS-SR-REQ-234232/E-Easy Entry / Easy Exit (Seat Adjustment)	<jmyslin2> Update name to seat adjustment and SYNC wireframe number
		VS-FUN-REQ-272707/B-Auto Entry/Exit Height (Easy Access Height)	<jmyslin2> Updated name to easy access height
		VS-SR-REQ-272708/C-Auto Entry/Exit Height (Easy Access Height)	<jmyslin2> Update name to Easy Access Height and wireframe number
		VS-FUN-REQ-276182/A-Cargo Loading	<jmyslin2> New Setting requirement for Cargo Loading
		VS-SR-REQ-276183/A-Cargo Loading	<jmyslin2> New requirement for Cargo Loading setting
		VS-SR-REQ-272706/B-Air Suspension	<jmyslin2> updated name to air suspension height
October 27, 2017	1.6		
		VSv4-FRD-REQ-232097/F-Settings in the Infotainment Centerstack - Common Spec	<jmyslin2> no content change just called Common Spec
		VS-SR-REQ-239158/E-Traction Control	<jmyslin2> Updated requirement in reference to Advance Trac
		VS-SR-REQ-273581/C-Passenger Airbag	<jmyslin2> updated passenger airbag wireframe number
December 14, 2017	1.7		

VS-SR-REQ-232245/G-Cruise Control	<jmyslin2> added HMI settings ID
VS-SR-REQ-232285/F-Lane Keeping Mode	<jmyslin2> added HMI Setting ID
VS-SR-REQ-233578/E-Lane Keeping Intensity	<jmyslin2> add HMI Setting ID
VS-SR-REQ-233579/E-Lane Keeping Sensitivity	<jmyslin2> updated HMI Setting ID
VS-SR-REQ-271525/B-Lane Keeping Aid	<jmyslin2> added HMI Setting ID
VS-SR-REQ-271526/B-Lane Keeping Alert	<jmyslin2> added HMI Settings ID
VS-SR-REQ-239185/F-Pre-Collision Assist function - Enable / Disable	<jmyslin2> added HMI Setting ID
VS-SR-REQ-233575/G-Active Braking - Pre-Collision Assist	<jmyslin2> added FCW Active Braking HMI Setting ID
VS-SR-REQ-233577/I-Warning Sensitivity - Pre-Collision Assist	<jmyslin2> Added FCW Alert Sensitivy HMI Setting ID
VS-SR-REQ-233812/E-Enable/Disable Traffic Sign Recognition / Speed Limit Information Feature	<jmyslin2> added active traffic sign recognition HMI Setting ID
VS-SR-REQ-233914/E-Enable/Disable Speed Warning - Traffic Sign Recognition / Speed Limit Information	<jmyslin2> add HMI Setting ID for activate speed warning
VS-SR-REQ-233813/D-Enable/Disable Speed Warning Chime - Traffic Sign Recognition	<jmyslin2> added HMI Setting ID for Over Speed Chime TSR
VS-SR-REQ-233862/I-Less Than Warning Threshold - (Traffic Sign Recognition / Speed Limit Information)	<jmyslin2> added HMI Setting ID
VS-SR-REQ-233867/I-Greater than Warning Threshold - Traffic Sign Recognition	<jmyslin2> added HMI Setting ID for TSR greater than warning threshold
VS-SR-REQ-233944/E-Blindspot Detection (vehicle - non-trailer)	<jmyslin2> added HMI Setting ID for blind spot
VS-SR-REQ-233948/D-Cross Traffic Alert	<jmyslin2> added HMI Setting ID to Cross Traffic Alert
VS-SR-REQ-233951/D-Wrong Way Alert	<jmyslin2> added HMI Setting ID for Wrong Way Alert
VS-SR-REQ-234015/D-Driver Alert	<jmyslin2> added HMI Setting ID for Driver Alert Setting
VS-SR-REQ-234028/D-Trailer Sway	<jmyslin2> add HMI Setting ID for Trailer Sway setting
VS-SR-REQ-234031/E-Park Aid	<jmyslin2> added HMI Setting ID to Park Aid
VS-SR-REQ-239158/F-Traction Control	<jmyslin2> added HMI Setting ID
VS-SR-REQ-239160/C-Hill Decent Control	<jmyslin2> added HMI Setting ID
VS-SR-REQ-234005/D-Hill Start Assist	<jmyslin2> added HMI Setting ID for Hill Start Assist
VS-SR-REQ-239164/E-Tow Haul	<jmyslin2> added HMI Setting ID
VS-SR-REQ-272333/B-Grade Assist	<jmyslin2> created HMI Setting ID for Grade Assist
VS-SR-REQ-273590/B-Active Trailer Setting - BTT Lite	<jmyslin2> added HMI Setting ID for BTT Active Trailer
VS-SR-REQ-273689/B-Trailer Length - BTT Lite	<jmyslin2> add HMI Setting ID for BTT Lite Trailer Length
VS-SR-REQ-273583/C-Engine Start/Stop Speed Threshold (Auto StartStop Speed Threshold)	<jmyslin2> added HMI Setting ID
VS-SR-REQ-280535/D-Handling in Drive / Drive Control manual transmission / Driver Select Transmission	<jmyslin2> HMI team changed wireframe numbers so updated with new number
VS-SR-REQ-281380/B-Handling in Sport - Drive Control	<jmyslin2> update wire frame number since SYNC team changed the numbers
VS-SR-REQ-281381/B-Performance in Sport - Drive Control	<jmyslin2> added feature number
VS-SR-REQ-280533/B-Steering in Drive / Steering with Manual Transmission - Adaptive Steering	<jmyslin2> updated SYNC HMI number since SYNC HMI team changed the wireframe number
VS-SR-REQ-280548/B-Steering in Sport - Adaptive Steering	<jmyslin2> updated SYNC HMI numbers since SYNC HMI team changed the number
VS-SR-REQ-280549/B-Adaptive Steering	<jmyslin2> updated SYNC HMI numbers since HMI team changed their numbers
VS-SR-REQ-234035/E-Tire Pressure Unit	<jmyslin2> added HMI setting ID
VS-SR-REQ-234039/J-Measure Units	<jmyslin2> added HMI setttings ID
VS-SR-REQ-234061/F-Auto Engine OFF / 30 min max idle	<jmyslin2> added HMI Setting ID for 30 min max idle
VS-SR-REQ-234235/D-Park Lock Control	<jmyslin2> added HMI Setting ID
VS-SR-REQ-234238/D-Silent Mode	<jmyslin2> add HMI Setting ID
VS-SR-REQ-234285/D-Ask on Exit - Alarm	<jmyslin2> add HMI Setting ID

VS-SR-REQ-234286/C-Sensor Set - Alarm	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234289/C-Park Slot - Chimes	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234290/C-Information - Chimes	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234312/G-Climate Control (Heater / AC) - Remote Start	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234313/G-Seats and Steering Wheel - Remote Start	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234316/E-Duration - Remote Start	\<jmyslin2\> added HMI Settings ID
VS-SR-REQ-234319/C-Global Window Open	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234320/C-Global Window Close	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234331/C-Courtesy Wiper	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234332/C-Rain Sensing Wipers	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234333/C-Reverse Wipers	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234336/C-Power Liftgate	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234339/E-Auto Highbeam / Adaptive Drivebeam / Glare Free	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234340/C-Daytime Running Lights	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234341/C-Welcome Lighting	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234342/C-Adaptive Headlights	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234343/C-Adaptive Headlight Set-Up	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234344/C-Autolamp Delay	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234347/C-AutoLock	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234348/C-AutoUnlock	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234349/C-Mislock	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234351/D-Lock Trim Switch Inhibit	\<jmyslin2\> HMI Setting ID
VS-SR-REQ-234353/C-Audible Locking Feedback	\<jmyslin2\> added HMI Setting iD
VS-SR-REQ-234354/C-Exterior Lights Feedback - Locking	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234357/D-Remote Unlock	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-272694/B-Intelligent Access	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234360/C-Auto Fold Mirrors	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234361/C-Reverse Tilt Mirrors	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234364/D-Continue Heat - Park Heater	\<jmyslin2\> add HMI setting ID
VS-SR-REQ-267623/B-Heater Programming - Park Heater	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234378/E-Programming Single Time - Park Heater	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234393/F-Programming Time 1 - Park Heater	\<jmyslin2\> added HMI setting ID's
VS-SR-REQ-234394/E-Programming Time 2 - Park Heater	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-262500/B-Aux Heater	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-273581/D-Passenger Airbag	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-274740/C-Tire Mobility	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-238327/D-Power Running Board	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-234232/F-Easy Entry / Easy Exit (Seat Adjustment)	\<jmyslin2\> added HMI Setting ID for seat adjustment
VS-SR-REQ-272708/D-Auto Entry/Exit Height (Easy Access Height)	\<jmyslin2\> added HMI setting ID
VS-SR-REQ-272706/C-Air Suspension	\<jmyslin2\> added HMI Setting ID
VS-SR-REQ-279098/B-Gauge Color / Primary Color - MyColor	\<jmyslin2\> added feature number
VS-SR-REQ-279099/B-Halo Color / Secondary Color - MyColor	\<jmyslin2\> added feature number
VS-SR-REQ-280522/B-Color Wheel 1 - MyColor	\<jmyslin2\> added feature number
VS-SR-REQ-280523/B-Color Wheel 2 - MyColor	\<jmyslin2\> added feature number
VS-SR-REQ-280524/B-Color Wheel 3 - MyColor	\<jmyslin2\> added feature number
VS-SR-REQ-279104/B-Ambient Lighting - MyColor	\<jmyslin2\> added feature number
VS-SR-REQ-280525/B-Ambient Color - MyColor	\<jmyslin2\> added feature number
VS-SR-REQ-280526/B-Ambient Dim - MyColor	\<jmyslin2\> add feature number

VS-SR-REQ-280528/B-Power Decklid / Liftgate	<jmyslin2> updated SYNC HMI wireframe ID per change by HMI team
VS-SR-REQ-280538/B-Auto Regen	<jmyslin2> Added feature number
VS-SR-REQ-280679/B-Quiet Start - Exhaust Mode	<jmyslin2> added feature number
VS-SR-REQ-280683/B-Set Quiet Time - Exhaust Mode	<jmyslin2> added feature number
VS-SR-REQ-280685/B-Rev Match (Engine Revolution Match)	<jmyslin2> added Rev Match feature number

April 25, 2018	1.8	
	IIR-REQ-251250/G-Logical Signal to HS3 CAN dB signal name translation table	<jmyslin2> Added VDM to list of FBMP messages that the centerstack will need to support Added CCM to list of FBMP messages that centerstack will need to support (for FCW settings)

May 17, 2018	1.9	
	IIR-REQ-251250/H-Logical Signal to HS3 CAN dB signal name translation table+	<jmyslin2> added what CCM module stood for. No content change
	IIR-REQ-251250/I-Logical Signal to HS3 CAN dB signal name translation table	<jmyslin2> added logical to physical mapping for the DDM module
	VS-SR-REQ-280670/B-Effort - Trailer Brake	<jmyslin2> corrected feature number from E10 to E11 (E10 already on Trailer Brake Mode

June 13, 2018	1.10	
	VS-SR-REQ-234031/F-Park Aid (not long term)	<jmyslin2> udpated with a clarification note. No content change so no software change

August 28, 2018	1.11	
	VS-SR-REQ-232098/O-Feature Based Message Protocol usage for Settings in the Infotainment Centerstack Display Module	<jmyslin2> updated comments for not showing feature settings selections at start-up if no response from feature server
	VS-SR-REQ-232237/G-FBMP Feature.St received from any FBMP Feature Settings Server module	<jmyslin2> No content change
	VS-SR-REQ-312391/A-Long Term Park Aid Disable	<jmyslin2> New Requirement for Long Term Park Aid
	VS-SR-REQ-273689/C-Trailer Length - BTT Lite	jmyslin2: Updated with an example an imperial value being rounded to metric value for trailer length. Update Trailer Length encoding since was off by 0.1 meter
	VS-SR-REQ-234428/F-General Settings at Start-up	jmyslin2 - no content change. Clarification added
	VS-SR-REQ-234336/D-Power Liftgate	jmyslin2: No content change. Duplicate of VS-280528-Power Decklid / Liftgate
	VS-SR-REQ-280528/C-Power Decklid / Liftgate	jmyslin2: added 201 for HMI Settings ID
	VS-SR-REQ-298602/A-Handsfree Liftgate	<jmyslin2> New Requirement for Handsfree Liftgate

October 4, 2018	1.12	
	MD-REQ-274072/C-BTTLeft_D_RqDrv	<jmyslin2> No change, ignore the revision
	MD-REQ-274073/C-BTTRight_D_RqDrv	<jmyslin2> No change, ignore the revision
	VS-SR-REQ-273980/C-Pop-up Trailer Set-up Request - BTT Lite	<jmyslin2> updated requirement allowing BTT Lite module to close the BTT Lite pop-up
	VS-SR-REQ-238327/E-Power Running Board	<jmyslin2> deleted power running boards from Settings in the Centerstack SPSS. Now defined in a separate feature specification without using feature based message protocol

October 11, 2018	1.13	
	VS-SR-REQ-331385/A-Single Tolerance Warning Threshold - Traffic Sign Recognition / Speed Limit Information	<jmyslin2> New requirement for single tolerance HMI for Traffic Sign Recognition and Speed Limit Information

	VS-SR-REQ-331385/A-Single Tolerance Warning Threshold - Traffic Sign Recognition / Speed Limit Information	<jmyslin2> New requirement for single tolerance HMI for Traffic Sign Recognition and Speed Limit Information
	VS-SR-REQ-273689/D-Trailer Length - BTT Lite	<jmyslin2> made a note regarding selecting a faulty trailer if HMI call it out. Clarification only, no content change

December 4, 2018	1.14		
		IIR-REQ-251250/J-Logical Signal to HS3 CAN dB signal name translation table	<jmyslin2> added TjaMsgTxt_D_Rq signal for highway assist
		VS-SR-REQ-232098/P-Feature Based Message Protocol usage for Settings in the Infotainment Centerstack Display Module	<jmyslin2> added additional reference to FBMP were calls out querying the active menu first. No content change
		STR-389748/D-Functional Definition	<jmyslin2> Added additional settings section
		VS-SR-REQ-232245/H-Cruise Control	<jmyslin2> No content change. Removed Tolerance from this requirement and created a dedicated requirement for it.
		VS-SR-REQ-333002/A-Tolerance - Cruise Control	<jmyslin2> roke out tolerance from 232245 to its own separate requirement. Added new HMI settings ID
		VS-SR-REQ-232284/H-Speed Limiter - Manual / Intelligent	<jmyslin2> No content change. Removed Tolerance from this requirement
		VS-SR-REQ-332970/A-Speed Limiter - Intelligent Offset Tolerance	<jmyslin2> No content change. Broke out the Tolernace from a combined requirement into a new requirement.
		VS-SR-REQ-233914/F-Enable/Disable Speed Warning - Traffic Sign Recognition / Speed Limit Information	<jmyslin2> No Change ignore revision bump
		VS-SR-REQ-233862/J-Less Than Warning Threshold - (Traffic Sign Recognition / Speed Limit Information)	<jmyslin2 Updated to include when Null or NoDataExists is selected
		VS-SR-REQ-233867/J-Greater than Warning Threshold - Traffic Sign Recognition	<jmyslin2> updated to reference what to do when Null or NoDataExists is selected
		VS-SR-REQ-273980/D-Pop-up Trailer Set-up Request - BTT Lite	<jmyslin2> updated requirement so BTT Lite pop-up jumps ahead and queries the BTT Lite feature numbers before showing the pop-up
		VS-SR-REQ-272030/B-Predictive Lighting	<jmyslin2> added a clarification to clarify a SYNC HMI rule. No content change
		STR-598209/A-Additional Settings - FBMP based settings	<jmyslin2> Since HMI is changing from the lead program for Settings in the Centerstack putting new settings under this heading
		VS-SR-REQ-333163/A-Settings Start-Up	<jmyslin2> New requirement for additional settings
		VS-SR-REQ-333164/A-HMI Activation during Run	<jmyslin2> New requirement for HMI settings
		VS-FUN-REQ-332901/A-Speed Limit	<jmyslin2> New Speed Limit function - replaces TSR and Speed Limiter
		VSv2-SR-REQ-332978/A-Limiter with Speed Signs - Speed Limit	<jmyslin2> New Limiter with Speed Signs
		VSv2-SR-REQ-332979/A-Speed Sign Warning - Speed Limit	<jmyslin2> updated to add Speed Warning Sign label
		VSv2-SR-REQ-332980/A-Tolerance - Speed Limit	<jmyslin2> updated for Speed Limit single tolerance
		VSv2-FUN-REQ-332984/A-Cruise Control - Variant 2	<jmyslin2> New Cruise Control vairant 2
		VSv2-SR-REQ-333001/A-Cruise Control - Variant 2	<jmyslin2> New Cruise Control variant 2 requirement
		VS-SR-REQ-333005/A-with Lane Centering	<jmyslin2> New with Lane Centering setting
		VS-SR-REQ-333008/A-with Smart Offerings	<jmyslin2> New with Smart Offerings setting
		VS-SR-REQ-333009/A-with Speed Signs	<jmyslin2> New with Smart Signs setting
		VS-FUN-REQ-333131/A-Tire Pressure Reset / Tire Monitor	<jmyslin2> New Tire Monitor function
		VS-SR-REQ-333089/A-Tire Pressure Reset / Tire Monitor	<jmyslin2> New requirement for Tire Monitor
		VS-FUN-REQ-333128/A-Border Crossing	<jmyslin2> New Border Crossing function
		VS-SR-REQ-333100/A-Border Crossing	<jmyslin2> New requirement for Border Crossing
		VS-FUN-REQ-333136/A-Ecocoach	<jmyslin2> New Ecocoach settings function
		VS-SR-REQ-333154/A-Ecocoach	<jmyslin2> New requirement for Ecocoach setting
		VS-SR-REQ-333155/A-Eco Advices	<jmyslin2> New requirement for Eco Advices
		VS-SR-REQ-333156/A-Coasting Support	<jmyslin2> New requirement for Coasting Support
		VS-FUN-REQ-333107/A-Speedometer	<jmyslin2> New Speedometer function

	VS-SR-REQ-333114/A-Speedometer MPH		\<jmyslin2\> New requirement for Speedometer MPH setting
	VS-SR-REQ-333162/A-Speedometer KPH		\<jmyslin2\> New requirement for Speedometer KPH setting
	VS-FUN-REQ-333158/A-Brake Coach		\<jmyslin2\> New requirement for Brake Coach Function
	VS-SR-REQ-333159/A-Brake Coach		\<jmyslin2\> New requirement for Brake Coach setting
	VS-FUN-REQ-333160/A-Neutral Tow		\<jmyslin2\> New Neutral Tow Function
	VS-SR-REQ-333161/A-Neutral Tow		\<jmyslin2\> New requirement for Neutral Tow Setting
	VS-FUN-REQ-333185/A-Nav Repeater in Cluster		\<jmyslin2\> New Function for Nav Repeater in the Cluster
	VS-SR-REQ-333186/A-Nav Repeater in the Cluster		\<jmyslin2\> New requirement for Nav Repeater in the Cluster Setting
	VS-FUN-REQ-333189/A-Maps in the Cluster		\<jmyslin2\> New Function for Maps in the Cluster
	VS-SR-REQ-333192/A-Maps in the Cluster		\<jmyslin2\> New requirement for Maps in the Cluster Setting
February 1, 2019	1.15		
	IIR-REQ-251250/K-Logical Signal to HS3 CAN dB signal name translation table		\<jmyslin2\> deleted TjaMsgTxt_D_Rq from logical to physical list as no longer supported
	VS-SR-REQ-234316/F-Duration - Remote Start		\<jmyslin2\> added clarification to the requirement. No content change
	VSv2-SR-REQ-332978/B-Limiter with Speed Signs - Speed Limit		\<jmyslin2\> No content change. Just added another potential name. HMI Settings ID ties to the HMI itself so just added for clarification
	VS-SR-REQ-333005/B-with Lane Centering		\<jmyslin2\> No content change. Just added another potential name. HMI Settings ID ties to the HMI itself so just added for clarification
	VS-SR-REQ-333009/B-with Speed Signs		\<jmyslin2\> No content change. Just added another potential name. HMI Settings ID ties to the HMI itself so just added for clarification
	VS-FUN-REQ-333107/B-Speedometer		\<jmyslin2\> added requirment for major speed scall by market
	VS-SR-REQ-333114/B-Speedometer MPH		\<jmyslin2\> Updated requirement on clarification on when to use based on market
	VS-SR-REQ-333162/B-Speedometer KPH		\<jmyslin2\> updated requirement for clarification on configurations when to use
	VS-SR-REQ-341178/A-Mapping Table - Speedometer Major Units		\<jmyslin2\> Added requirement for Cluster speedometer major units
	VS-FUN-REQ-333160/B-Neutral Tow		\<jmyslin2\> updated Neutral Tow function
	MD-REQ-342193/A-TrnGearNtmAllow_B_Stat		\<jmyslin2\> New MD for Neutral Tow
	VS-SR-REQ-333161/B-Neutral Tow		\<jmyslin2\> updated Neutral Tow settings requirement
February 5, 2019	1.16		
	Content change:		
	MD-REQ-343175/A-MetricActv_B_Actl		\<jmyslin2\> added MetricActv_B_Actl MD
	IIR-REQ-251250/L-Logical Signal to HS3 CAN dB signal name translation table		\<jmyslin2\> updated to include MetricActv_B_Actl
	VS-SR-REQ-333002/B-Tolerance - Cruise Control		\<jmyslin2\> updated to change the usage of the tolerance signal for units shown from using Measure Unit to the signal MetricActv_B_Actl
	VS-SR-REQ-332970/B-Speed Limiter - Intelligent Offset Tolerance		\<jmyslin2\> Updated requirement to use MetricActv_B_Actl signal instead of measure units for cruise control speed units
	VS-SR-REQ-234039/K-Measure Units		\<jmyslin2\> Updated requirement to state Measure Units setting is used for distance units for other settings (not speed units)
	Clarification only:		
	MD-REQ-239857/C-TsrVlUnitMsgTxt_D_Rq		\<jmyslin2\> Clarification only. Changed KPM to Km/h
	VS-SR-REQ-233862/K-Less Than Warning Threshold - (Traffic Sign Recognition / Speed Limit Information)		\<jmyslin2\> Clarification only. Changed KPH to Km/h
	VS-SR-REQ-233867/K-Greater than Warning Threshold - Traffic Sign Recognition		\<jmyslin2\> Clarification only. Change KPH to Km/h
	VS-FUN-REQ-332901/B-Speed Limit - Variant 2 (variant 2 of TSR, SLI and Speed Limiter)		\<jmyslin2\> No content change - updated name only to make more clair mutually exclusive with TSR, Speed Limit Information and Sleed Limiter
	VSv2-SR-REQ-332980/B-Tolerance - Speed Limit		\<jmyslin2\> Clarification only. Changed KPH to Km/h
	VS-SR-REQ-333114/C-Speedometer MPH		\<jmyslin2\> Clarification only. Changed KPH to Km/h
	VS-SR-REQ-333162/C-Speedometer Km/h		\<jmyslin2\> Clarification only. Changed KPH to Km/h
	VS-SR-REQ-341178/B-Mapping Table - Speedometer Major Units		\<jmyslin2\> Clarification only. Changed KPH to Km/h
February 14, 2019	1.16.1	**Updated Comment in v1.11 Release**	

		VS-SR-REQ-273689/C-Trailer Length - BTT Lite	Chohdi Mhohdi: Comment below added back in since part of the rev comment below was accidently deleted. No content change just adding the correct rev comment below which was updated in version 1.11 originally. jmyslin2: Updated with an example an imperial value being rounded to metric value for trailer length. New: Update Trailer Length encoding since was off by 0.1 meter
May 28, 2019	**1.17**		
		VS-SR-REQ-234286/D-Sensor Set - Alarm	<jmyslin2> New HMI name, updated to match for Alarm
		STR-401443/F-Requirements	<jmyslin2> added new settings for locks
		VS-SR-REQ-350467/A-Walk Away Lock	<jmyslin2> New requirement for walk-away lock
		VS-SR-REQ-350468/A-Walk Away Lock Feedback	<jmyslin2> New requirement for walk away lock feedback
		VS-SR-REQ-350469/A-Double Lock Reminder Feedback	<jmyslin2> New requirement for double lock reminder feedback

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1   Architectural Design

1.1   Interface Requirements

1.1.1   VS-IIR-REQ-243929/C-FBMP Interface requirements

1.1.1.1   MD-REQ-243930/A-Feature_St

Message Type: Status

Represents the current status of a feature (feature selected, feature setting, etc.).

Included Parameters:
FeatureID
Configuration
PersIndex

Name	Literals	Value	Description
FeatureID	-	-	Active feature number
		0x0000 – 0xFFFF	
Configuration	-	-	Active configuration value
		0x0000 – 0xFFFF	
PersIndex	-	-	Indicates which personality profile is active
	PERS_1	0x0	
	PERS_2	0x1	
	PERS_3	0x2	
	PERS_4	0X3	
	VEHICLE	0X4	
	Not Used	0x5	
	Not Used	0x6	
	Not Used	0x7	

1.1.1.2   MD-REQ-243931/A-Feature_Rq

Message Type: Request

Represents the request to command a feature change (select new feature, change feature setting, query features, etc.).

Included Parameters:
Operation
FeatureID
Configuration
PersIndex

Name	Literals	Value	Description
Operation	-	-	Type of operation being requested
	Null	0x0	
	Query	0x1	
	Set	0x2	
	Upload	0x3	
	Restore	0x4	
	Copy	0x5	
	NotUsed	0x6 – 0x7	

FeatureID	-	-	Feature number being requested
		0x0000 – 0xFFFF	
Configuration	-	-	Configuration value being requested
		0x0000 – 0xFFFF	
PersIndex	-	-	Indicates which personality profile is being accessed
	PERS_1	0x0	
	PERS_2	0x1	
	PERS_3	0x2	
	PERS_4	0X3	
	VEHICLE	0X4	
	Not Used	0x5	
	Not Used	0x6	
	Not Used	0x7	

1.1.2 MD-REQ-243934/B-Disp_Miles_Kilometers.St

Message Type: Status

Signal from the Vehicle Settings Server stating what the setting is for Distance units.

Logical Signal Name	Literals	Value	Description
Disp_Miles_Kilometers.St	Metric (kilometers)	0x0	
	Imperial (miles)	0x1	

1.1.3 MD-REQ-016222/B-IgnKeyType_D_Actl (TcSE ROIN-200609-4)

Message Type: Status

This signal represents the MyKey system status and is provided to all affected system components to configure their local modes.

Name	Literals	Value	Description
IgnKeyType_D_Actl	-	-	Type of key that is in the ignition
	KeyReadInProgress	0x0	Key(s) will be read now
	KeyInIgnStandardKey	0x1	Admin (full) mode
	KeyInIgnMyKey	0x2	MyKey restricted mode
	Key_Not_Prgrm_Read_Failure	0x3	Key not programmed
	Unknown	0xE	Disable MyKey System mode
	Invalid	0xF	Initial value

1.1.4 MD-REQ-276458/B-Vehicle_Speed.St

Message Type: Status

Signal with the current status of the Vehicle Speed

Logical Signal Name	Literals	Value	Description

Vehicle_Speed.St	See info-CAN database for signal details	See info-CAN database for signal details	

1.1.5   MD-REQ-276459/A-Vehicle_Speed_QF

Message Type: Status

Signal with the Vehicle Speed Quality Factor

Logical Signal Name	Literals	Value	Description
Vehicle_Speed_QF	Faulty	0x0	
	No_Data_Exists	0x1	
	Not_Within_Specifications	0x2	
	OK	0x3	

1.1.6   MD-REQ-239857/C-TsrVlUnitMsgTxt_D_Rq

Message Type: Request

Traffic Sign Recognition signal indicating if the Traffic Sign Recognition settings should be in Km/h or MPH.

Note: This signal only applies for Traffic Sign Recognition settings.

Logical Signal Name	Literals	Value	Description
TsrVlUnitMsgTxt_D_Rq	Null	0x0	
	Km/h	0x1	
	MPH	0x2	
	NoDataExists	0x3	

1.1.7   MD-REQ-276700/A-IaccLamp_D_Rq

Message Type: Request

Intelligent Adaptive Cruise Control signal used by Traffic Sign Recognition / Speed Limit Information for Settings in the Centerstack

Logical Signal Name	Literals	Value	Description
IaccLamp_D_Rq	DoNotDisplayIIaccIcon	0x0	
	DisplayIaccIcon	0x1	
	NotUsed	0x2	
	NotUsed	0x3	

1.1.8   MD-REQ-276704/A-SLMde_D_Rqdsply

Message Type: Request

Intelligent Speed Assist signal used by Traffic Sign Recognition / Speed Limit Information for Settings in the Centerstack

Logical Signal Name	Literals	Value	Description
SLMde_D_Rqdsply	NoSpeed_LimiterSymbol	0x0	
	AutoSpeed_LimiterSymbol	0x1	
	ManualSpeed_LimiterSymbol	0x2	
	NotUsed	0x3	

1.1.9 MD-REQ-276706/A-Aslicondsply_D_Rq

Message Type: Request

Intelligent Speed Assist signal used by Traffic Sign Recognition / Speed Limit Information for Settings in the Centerstack

Logical Signal Name	Literals	Value	Description
Aslicondsply_D_Rq	Off	0x0	
	On_Passive	0x1	
	On_Active	0x2	
	Override	0x3	

1.1.10 MD-REQ-274072/C-BTTLeft_D_RqDrv

Message Type: Request

BTT Lite (Blind spot Trailer Tow Lite) left side detection signal sent to tell if the BTT Lite pop-up should be shown in the Centerstack HMI

Logical Signal Name	Literals	Value	Description
BttLeft_D_RqDrv	Null	0x0	
	No Request	0x1	
	Request	0x2	Used for pop-up
	Not Used	0x3	

1.1.11 MD-REQ-274073/C-BTTRight_D_RqDrv

Message Type: Request

BTT Lite (Blind spot Trailer Tow Lite) right side detection signal sent to tell if the BTT Lite pop-up should be shown in the Centerstack HMI

Logical Signal Name	Literals	Value	Description
BttRight_D_RqDrv	Null	0x0	
	No Request	0x1	
	Request	0x2	Used for pop-up
	Not Used	0x3	

1.1.12 MD-REQ-343175/A-MetricActv_B_Actl

Message Type: Status

This signal provides the MPH or Km/h speed setting unit to use (see setting function for details and applicability)

Logical Signal Name	Literals	Value	Description
MetricActv_B_Actl	Inactive	0x0	MPH
	Active	0x1	Km/h

1.2 IIR-REQ-251250/L-Logical Signal to HS3 CAN dB signal name translation table

Transmitter	Logical Signal Name	HS3 CAN dB signal name
Centerstack Settings HMI Client (APIM, CHR..)	Feature.Rq : Operation	CtrStkDsplyOp_D_Rq
	Feature.Rq : FeatureID	CtrStkFeatNoActl
	Feature.Rq : Configuration	CtrStkFeatConfigActl
	Feature.Rq : PersIndex	CtrStkPersIndex_D_Actl
Cluster Feature Settings Server / Settings Gateway_Translator Module	Feature.St : FeatureID	FeatNoIpcActl
	Feature.St : Configuration	FeatConfigIpcActl
	Feature.St : PersIndex	PersIndexIpc_D_Actl
BCM Feature Settings Server (Body Control Module)	Feature.St : FeatureID	FeatNoBcm_No_Actl
	Feature.St : Configuration	FeatConfigBcmActl
	Feature.St : PersIndex	PersIndexBcm_D_Actl
IPMA Feature Settings Server	Feature.St : FeatureID	FeatNoIpmaActl
	Feature.St : Configuration	FeatConfigIpmaActl
	Feature.St : PersIndex	PersIndexIpma_D_Actl
DSM Feature Settings Server (Driver Seat Module)	Feature.St : FeatureID	FeatNoDsmActl
	Feature.St : Configuration	FeatConfigDsmActl
	Feature.St : PersIndex	PersIndexDsm_D_Actl
HCM Feature Settings Server (Headlamp Control Module)	Feature.St : FeatureID	FeatNoHcm_No_Actl
	Feature.St : Configuration	FeatConfigHcmActl
	Feature.St : PersIndex	Signal does not exist. Treat as though PersIndex is equal to Vehicle
FCIM (HVAC) Feature Settings Server	Feature.St : FeatureID	FeatNoFcimActl
	Feature.St : Configuration	FeatConfigFcimActl
	Feature.St : PersIndex	PersIndexFcim_D_Actl
SCCM Feature Settings Server (Steering Column Control module)	Feature.St : FeatureID	FeatNoSccmActl
	Feature.St : Configuration	FeatConfigSccmActl
	Feature.St : PersIndex	PersIndexSccm_D_Actl
SUMA Feature Settings Server (Suspension Control Module)	Feature.St : FeatureID	FeatNoSumaActl
	Feature.St : Configuration	FeatConfigSumaActl
	Feature.St : PersIndex	PersIndexSuma_D_Actl
VDM Feature Settings Server (Variable Dynamics Module)	Feature.St : FeatureID	FeatNoVdmActl
	Feature.St : Configuration	FeatConfigVdmActl
	Feature.St : PersIndex	PersIndexVdm_D_Actl
CCM Feature Settings Server (CADS Control Module)	Feature.St : FeatureID	FeatNoCcmActl
	Feature.St : Configuration	FeatConfigCcmActl
	Feature.St : PersIndex	PersIndexCcm_D_Actl
DDM Feature Settings Server	Feature.St : FeatureID	FeatNoDdm_No_Actl
	Feature.St : Configuration	FeatConfigDdmActl
	Feature.St : PersIndex	PersIndexDdm_D_Actl
Applicable Traffic Sign Recognition module	TsrVlUnitMsgTxt_D_Rq	TsrVlUnitMsgTxt_D_Rq
MyKey Ignition Key Type Server	IgnitionKeyType	IgnKeyType_D_Actl
Speed Unit Server (Cluster)	MetricActv_B_Actl	MetricActv_B_Actl
Neutral Tow Server (PCM)	TrnGearNtmAllow_B_Stat	TrnGearNtmAllow_B_Stat
Distance Unit Server (Cluster)	Disp_Miles_Kilometers.St	Mc_VehUntTrpCoUsrSel_St
	IaccLamp_D_Rq	IaccLamp_D_Rq
	SLMde_D_Rqdsply	SLMde_D_Rqdsply
	Aslicondsply_D_Rq	Aslicondsply_D_Rq
BTT Lite Server	BttLeft_D_RqDrv	BttLeft_D_RqDrv
BTT Lite Server	BttRight_D_RqDrv	BttRight_D_RqDrv
	Vehicle_Speed.St	Veh_V_ActlEng
	Vehicle_Speed_QF	VehVActlEng_D_Qf

The Centerstack Settings HMI client (ex APIM…) needs to support receiving Feature.St signals from any of the Feature.St signals in the above table.

- Note: the Centerstack Settings HMI Client needs to support any Feature.St it receives from Feature Settings Servers. At the time this spec was written the above table was the latest. Check the module CAN dB for any additional Feature.St signals that the Centerstack Settings HMI Client may receive.

1.3 VS-CLD-REQ-232301/B-Centerstack Settings HMI Client

The Infotainment Centerstack Settings HMI Client is responsible for sending the Feature.Rq HMI selections to the Settings Gateway_Translator Module / Feature Settings Server and updating its HMI based on the Feature.St responses

1.4 VS-CLD-REQ-232302/A-Settings Gateway_Translator Module

The Settings Gateway_Translator module is responsible for being the interface between the Centerstack Settings HMI Client and the Feature Settings Servers

1.5 VS-CLD-REQ-232303/A-Feature Settings Server

The Feature Settings Server is responsible for responding to the request for a particular feature and performing the feature operation

2   General Requirements

This specification covers non-infotainment Settings not already covered in other SPSS specifications that will have those settings moving to the infotainment Centerstack module (ex SYNC, CHR). Most the settings in the specification resided in the Cluster and are being moved to the infotainment Centerstack module (ie Centerstack Settings HMI Client).

This specification is in addition to the "Vehicle Settings (Global) SPSS" and other Feature SPSS specifications where those Settings are already covered. When supporting Settings in the Centerstack the "Vehicle Setting (Global) SPSS" and "Vehicle Settings – Settings in the Infotainment Centerstack Module (Global)" shall both be used in addition to any other Feature SPSS with settings that are already supported by the infotainment Centerstack module.

For MyKey settings in the Centerstack feature reference the MyKey Settings in the Centerstack SPSS.

2.1   VS-SR-REQ-232098/P-Feature Based Message Protocol usage for Settings in the Infotainment Centerstack Display Module

The definition of how to use Feature Based Message Protocol for Set and Query operations is defined in the Feature Based Message Protocol SPSS and shall be followed to support this Settings in the Centerstack SPSS specification.

To support this SPSS for Settings in the Centerstack the supplier will need an April 2017 or later version of the FBMP SPSS to accompany this spec.

For the features/functions in this Centerstack Settings SPSS specification the Centerstack Settings HMI Client shall use the Feature.Rq(Operation = Query) method at start-up described in the Feature Based Message Protocol SPSS. The Retry method shall be supported as defined in "FBMP-REQ-023025-Query request but no response form Feature Server (Query Retries)" in the case where there is no response from the Feature Server.

- If the Centerstack Setting HMI Client has not yet queried a setting at start-up (or have not received a response from a query) and the user goes to the HMI for the setting(s) then no settings selections can be shown (HMI to decide how to show that it does not know the setting selection – grey out, don't show setting, etc). The settings cannot be saved from the previous ignition cycle. The setting selection (ex enabled/disabled selected) HMI can only show a setting as being selected if there was a response from the feature server.
- Note: additional error handling could be taken such as if the user enters a particular HMI settings screen the Centerstack HMI Client can always re-query any items that were missed at start-up.

For the features/functions in this Centerstack Settings SPSS specification the Centerstack Settings HMI Client shall use the Feature.Rq (Operation = Set) method as described in the Feature Based Message Protocol SPSS. The Retry method shall be supported as defined in "FBMP-REQ-023017-Set request but no response from Feature Server" in the case where there is no response from the Feature Server. Unless noted otherwise displaying centerstack settings HMI menu items such as what to do if Feature Client does not receive a response for a set operation or its retry is defined by the HMI specification (HMI team make final call on how to display if never get a response for a set command).

When the ignition_status changes from OFF/ACC to RUN then the RUN query start-up method is used from the FBMP SPSS for all settings in this specification (FBMP-REQ-023024-Query Operation during Start-Up). For these settings the Centerstack Setting Client shall support the following:

- If already queried everything in Run and the ignition_status changes to OFF / ACC and back to Run then settings normally queried in Run would have to be re-queried again. When ignition_status changes to OFF/ACC the menu settings that were queried in Run would be considered unknown.
- When Ignition_Status changes to Crank it is considered a don't care and the last Ignition_Status state shall be assumed. For example if in Run with everything queried and the Ignition_Status changes to Crank and back to Run then the settings would not need to be re-queried again.
- If a query event is in progress and a crank event happens then after the crank event finishes (Ignition_Status goes from Crank/Start → Run) the Query shall resume were it left off.As noted in the FBMP SPSS specification if the user went to a specific Centerstack Settings menu before all the settings are queried at start-up then the active settings menu has priority and shall be queried next (if it wasn't queried already earlier).
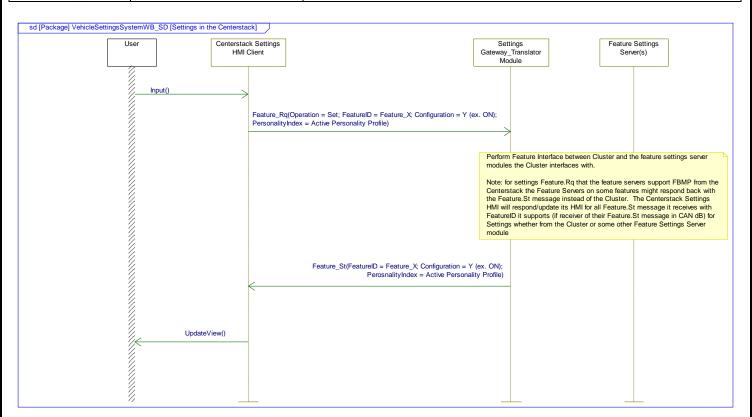- When the query begins it is recommended to create a priority list on what items are queried first so the setting HMI can update the high priority items first:

- It is recommended that Pre-Collision Assist, Lane Keeping System settings are queried first (any active safety items deemed higher priority or anything deemed high priority) followed by Driver Alerts (0x0808), Auto High Beam (0x080C), Global Window Open (0x0401), Global Window Close (0x0402)
- After that the next to be queried is recommended to be any HMI settings that the customer is more likely to see first.
  - Example: There is a setting or HMI item the user is likely to see (ie menu not buried many layers deep). It is recommended to query those at the beginning of the query list
  - Example2: When the user enters an HMI screen if there is a list of 10 settings and if without scrolling you can only see the top 3 settings then it is recommended that those three items be higher on the query priority list since those are among the first that could be seen by the user.
  - Note: the priority list might vary by module since the HMI may be different on different modules.
- As noted in the FBMP SPSS specification (FBMP-REQ-023024-Query Operation at Start-Up) if the user went to a specific Centerstack Settings menu before all the settings are queried at start-up then the active settings menu has priority and shall be queried next (if it wasn't queried already earlier). See FBMP SPSS for details.

The Centerstack Settings HMI Client shall be capable of performing multiple QUERY or SET actions at once. An input from the driver, for example, shall never be "lost" if the Centerstack Settings HMI Client is performing a QUERY.

For any FBMP Settings Server module that only responds to the Cluster FBMP Feature.Rq Set or Query operation signal and not the Centerstack FBMP Feature.Rq Set or Query operation signal then the Cluster will be the gateway/translator module. The Cluster will receive the Centerstack FBMP Feature.Rq message and then will send the corresponding Cluster FBMP Feature.Rq message to the respective module for a particular feature.

For any Settings feature in this specification that the Cluster doesn't currently use Feature Based Message Protocol for when communicating with the feature server modules the Cluster shall:

- receive a Feature.Rq FBMP message from the Centerstack Settings HMI Client for the selected settings HMI and then the Cluster Gateway/Translator can use the existing Cluster strategy to communicate with the module feature servers to support the settings feature. The Cluster shall send the Feature.St to the Centerstack Settings HMI Client in response to the Feature.Rq so the Settings HMI can be updated.

Example diagram below with Cluster as the Gateway/Translator module for Settings:

sd [Package] VehicleSettingsSystemWB_SD [Settings in the Centerstack]

| User | Centerstack Settings HMI Client | Settings Gateway_Translator Module | Feature Settings Server(s) |

Input()

Feature_Rq(Operation = Set; FeatureID = Feature_X; Configuration = Y (ex. ON); PersonalityIndex = Active Personality Profile)

Perform Feature Interface between Cluster and the feature settings server modules the Cluster interfaces with.

Note: for settings Feature.Rq that the feature servers support FBMP from the Centerstack the Feature Servers on some features might respond back with the Feature.St message instead of the Cluster. The Centerstack Settings HMI will respond/update its HMI for all Feature.St message it receives with FeatureID it supports (if receiver of their Feature.St message in CAN dB) for Settings whether from the Cluster or some other Feature Settings Server module

Feature_St(FeatureID = Feature_X; Configuration = Y (ex. ON); PerosnalityIndex = Active Personality Profile)

UpdateView()

2.2   VS-SR-REQ-232106/G-Configuration of Settings HMI displayed in Centerstack

The Infotainment Centerstack module (ie Centerstack Settings HMI Client) shall have a configuration item for the different HMI setting options displayed to the user. This may vary by vehicle program and vary on vehicle program depending on the feature content supported on a particular vehicle.

Reference the HMI specifications which list the configurations (ex DE0X, Byte Y, Bit Z) for all the HMI settings (ie shows what HMI will be activated/deactivated for each configuration).

Reference the Infotainment Centerstack module Setting IDS (Infotainment Diagnostics Specification) for list of configuration settings.

If any conflict between configurations shown in the HMI and IDS bring to Ford's attention.

2.3   VS-SR-REQ-232237/G-FBMP Feature.St received from any FBMP Feature Settings Server module

The Centerstack Settings HMI Client which sends out the Centerstack FBMP Feature.Rq message shall be able to accept the response from any FBMP Feature Settings Server module that it receives the Feature.St response from (ex could be Cluster, BCM, FCIM…).
- Note: that is as long as Centerstack Settings HMI Client is a receiver of that server modules FBMP Feature.St message in their CAN dB.

The Centerstack Settings HMI Client shall update its HMI setting based on any Feature.St message from any feature server responsible for that setting (as long as the feature number in the Feature.St is a setting the Centerstack HMI Client supports). This could happen because of a Set or Query operation or if the feature server sends the Feature.St on event with a new value (ie without a Set or Query Feature.Rq).

2.4   VS-SR-REQ-233588/D-HMI Settings MyKey Limited

Some settings might not be supported when a MyKey is being used as the key. For those settings the HMI shall not allow the user to select those settings when MyKey limited or may not show those settings at all.

Some settings are MyKey limited in the sense that the go to a default setting when a MyKey is used but still allow the MyKey user to adjust the setting. For those settings there would be no impact on the Centerstack Settings HMI Client since when key to Run with a MyKey the MyKey limited default values will be queried at start-up from the feature servers using Feature Based Message Protocol. The feature servers would respond back to the query with the MyKey default values.

Activating MyKey Settings Limit:
To activate MyKey limited settings, signal IgnKeyType_D_Actl must be KeyInIgnMyKey. The Centerstack Settings HMI Client shall monitor this signal to know when MyKey is active.

Signal Name	Encodings	Value	Description
IgnitionKeyType	-	-	Type of key that is in the ignition
	KeyReadInProgress	0x0	Key(s) will be read now
	KeyInIgnStandardKey	0x1	Admin (full) mode
	KeyInIgnMyKey	0x2	MyKey restricted mode
	Unknown	0xE	Disable MyKey System mode
	Invalid	0xF	Initial value

2.5   VS-SR-REQ-234228/C-Driver Distraction - Settings in the Centerstack

Reference applicable Driver Restrictions specification(s) to see if there are any driver restrictions on settings in the Centerstack.
- Reference the Driver Restrictions SPSS
- For SYNC Gen 3 also reference the HMI driver restriction specification (H21j_SYNC_GEN3_Driver_Restrictions specification)
- Any other Settings HMI specifications showing what is driver restricted

2.6   VS-SR-REQ-234437/C-Carryover Settings functionality from other specifications

Settings that are described in other SPSS specifications (ex Vehicle Settings SPSS, Rear View Camera SPSS, Adjustable Chimes SPSS…) are not redefined hear unless noted otherwise. Follow the existing specifications on how those settings work.

For the different MyKey Settings reference the MyKey Settings in the Centerstack SPSS specification.

2.7   FBMP-SR-REQ-238230/F-Enhanced Memory - Active Personality Profile change using Feature Based Message Protocol

If Enhanced Memory is supported, then after the ActivePersonality_St changes to a new personality profile as defined in the Enhanced Memory SPSS, the FBMP Feature Client (ex Centerstack Settings HMI Client module) shall Query all the FBMP Feature Servers (ex Query all FBMP settings in centerstack) that use FBMP with the PersIndex set to the new personality profile. The query is performed 200 msec after the ActivePersonality_St signal changes to the new profile (the 200 msec gives the Feature Settings Servers time to update to the new active personality before queried). If the active screen is displaying any FBMP settings, those settings shall be queried first.
- See Enhanced Memory requirement "ENMEM-REQ-099693-Display Data Refresh After Driver Profile Change" in the Enhanced Memory SPSS.

The FBMP Feature Settings Client (ex Centerstack Settings HMI Client module) shall save all FBMP settings the Feature Servers responds back with, regardless of what the PersIndex is set to for Enhanced Memory.

- Note: some Feature Servers using FBMP don't support enhanced memory (or the FBMP SPSS). Since those features may not respond with a relevant PersIndex, the PersIndex shall be ignored by the FBMP Feature Setting Client.
- Note2: infotainment Feature Server modules supporting the infotainment FBMP SPSS, and not supporting Enhanced Memory, shall respond with PersIndex set to Vehicle per "FBMP-REQ-023037-PersIndex Definition".

For FBMP Feature Server modules that do support Enhanced Memory, when a FBMP Feature Server module is being Queried, it shall respond back with the settings/data for whatever PersIndex the FBMP Feature Client is Querying regardless what is the Active Personality (ActivePersonality_St) for Enhanced Memory.

2.8 Specification Overview layout

For the individual settings in this specification they are organized into a Driver Assistance Settings, Vehicle Settings and General Settings section. This may or may not match the actual HMI. Follow the actual HMI specifications for how these are shown on the Centerstack display.

3   Functional Definition

3.1   Driver Assistance Settings

3.1.1   General Requirements - Driver Assistance Settings

3.1.1.1   VS-SR-REQ-234426/D-Driver Assistance Settings Start-Up

Driver Assistance Settings shall be queried by the Centerstack Settings HMI Client when the Ignition_Status changes from OFF/ACC to Run. See the FBMP SPSS for details on querying at start-up when ignition_status changes to Run.

When Ignition_Status changes from Run to OFF/ACC the infotainment Centerstack Driver Information Settings shall be considered unknown. The HMI should not show any settings selections when Driver Assistance Settings selection information is unknown.

3.1.1.2   VS-SR-REQ-234435/C-HMI Activation during Run - Driver Assistance Settings

Settings in this Driver Assistance Settings Function/Section can only be selected on the HMI when the Ignition_Status = Run.

3.1.1.3   VS-SR-REQ-235185/B-Carryover Driver Information Assistance functionality

The Rear View Camera system interface and settings are defined in the "Rear View Camera SPSS".

3.1.2   VS-FUN-REQ-232286/B-Cruise Control

3.1.2.1   Requirements

3.1.2.1.1   VS-SR-REQ-232245/H-Cruise Control

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Cruise Control - Adaptive Speed Control Auto Setting	0x081F	0x00	Normal Cruise
		0x01	Adaptive Cruise
		0x02	Intelligent

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
6	116

3.1.2.1.2   VS-SR-REQ-333002/B-Tolerance - Cruise Control

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Tolerance - Cruise Control Intelligent Adaptive Offset	0x0860	0x00	-30
		0x01	-29
		0x02	-28
		…	…
		0x3A	+28
		0x3B	+29
		0x3C	+30

For the "HMI selection / Configuration name" column above the unitless values (ex +1 tolerance, +2 tolerance) shall be assigned to Imperial (ex MPH) or Metric (ex Km/h) based on what the signal MetricActv_B_Actl is set to.
- When MetricActv_B_Actl = Inactive then MPH would be the unit shown in the HMI
- When MetricActv_B_Actl = Active then Km/h would be the unit shown in the HMI

Example if MetricActv_B_Actl = Active then 0x3C would represent +30 Km/h.

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
6 / 11 / 6b	117, 1007

3.1.3   VSv2-FUN-REQ-332984/A-Cruise Control - Variant 2

Cruise Control "VS-FUN-REQ-232286-Cruise Control" variant 1 is mutually exclusive with the Cruise Control in this variant 2 function. Which version to use is handled via configurations.

3.1.3.1   Requirements

3.1.3.1.1   VSv2-SR-REQ-333001/A-Cruise Control - Variant 2

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Cruise Control - Adaptive Speed Control Auto Setting	0x081F	0x00	Cruise Control
		0x01	Adaptive Cruise Control
		0x02	Not Used

Note: for variant 1 of feature number 0x081F see requirement "VS-REQ-23245-Cruise Control".

SYNC Gen 4 Screen / ID HMI Number	HMI Setting ID
6b	1003

3.1.3.1.2   VS-SR-REQ-333002/B-Tolerance - Cruise Control

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Tolerance - Cruise Control Intelligent Adaptive Offset	0x0860	0x00	-30
		0x01	-29
		0x02	-28
		…	…
		0x3A	+28
		0x3B	+29
		0x3C	+30

For the "HMI selection / Configuration name" column above the unitless values (ex +1 tolerance, +2 tolerance) shall be assigned to Imperial (ex MPH) or Metric (ex Km/h) based on what the signal MetricActv_B_Actl is set to.
- When MetricActv_B_Actl = Inactive then MPH would be the unit shown in the HMI
- When MetricActv_B_Actl = Active then Km/h would be the unit shown in the HMI

Example if MetricActv_B_Actl = Active then 0x3C would represent +30 Km/h.

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
6 / 11 / 6b	117, 1007

3.1.3.1.3 VS-SR-REQ-333005/B-with Lane Centering

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Adaptive Cruise Control with Lane Centering / Highway Drive Assist	0x0841	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 4 Screen / ID HMI Number	HMI Setting ID
6b	1004

3.1.3.1.4 VS-SR-REQ-333008/A-with Smart Offerings

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Adaptive Cruise Control with Smart Offering	0x0842	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 4 Screen / ID HMI Number	HMI Setting ID
6b	1005

3.1.3.1.5 VS-SR-REQ-333009/B-with Speed Signs

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Adaptive Cruise Control with Speed Signs / with Speed Sign Recognition	0x0843	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 4 Screen / ID HMI Number	HMI Setting ID
6b	1006

3.1.4   VS-FUN-REQ-232288/B-Speed Limiter

3.1.4.1   Requirements

3.1.4.1.1   VS-SR-REQ-232284/H-Speed Limiter - Manual / Intelligent

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Speed Limiter	0x0D00	0x00	Manual Mode (Intelligent Offset OFF)
		0x01	Intelligent Mode (Intelligent Offset ON)

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
7	118

3.1.4.1.2 VS-SR-REQ-332970/B-Speed Limiter - Intelligent Offset Tolerance

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Intelligent Offset / Tolerance – Speed Limiter	0x0D01	0x00	0 Tolerance / Intelligent Offset
		0x01	+1 Tolerance / Intelligent Offset
		0x02	+2 Tolerance / Intelligent Offset
		0x03	+3 Tolerance / Intelligent Offset
		0x04	+4 Tolerance / Intelligent Offset
		0x05	+5 Tolerance / Intelligent Offset
		0x06	+6 Tolerance / Intelligent Offset
		0x07	+7 Tolerance / Intelligent Offset
		0x08	+8 Tolerance / Intelligent Offset
		0x09	+9 Tolerance / Intelligent Offset
		0x0A	+10 Tolerance / Intelligent Offset

For the "HMI selection / Configuration name" column above the unitless values (ex +1 tolerance, +2 tolerance) shall be assigned to Imperial (ex MPH) or Metric (ex Km/h) based on what the signal MetricActv_B_Actl is set to.
- When MetricActv_B_Actl = Inactive then MPH would be the unit shown in the HMI
- When MetricActv_B_Actl = Active then Km/h would be the unit shown in the HMI

Example if MetricActv_B_Actl = Active then 0x01 would represent +1 Km/h Intelligent Offset.

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
7 / 11	119

3.1.5   VS-FUN-REQ-233809/B-Traffic Sign Recognition

Note: Traffic Sign Recognition and Speed Limit Information are mutually exclusive. See HMI spec for the configurations for the HMI.

3.1.5.1   Requirements

3.1.5.1.1   VS-SR-REQ-233812/E-Enable/Disable Traffic Sign Recognition / Speed Limit Information Feature

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Activate Traffic Sign Recognition / Speed Limit Information Customer Enable	0x0809	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
12 (TSR) SYNC HMI supplement (SLI under TSR)	130

3.1.5.1.2   VS-SR-REQ-233914/F-Enable/Disable Speed Warning - Traffic Sign Recognition / Speed Limit Information

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Activate Speed Warning – Traffic Sign recognition / Speed Limit Information	0x080D	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
12	131

3.1.5.1.3   VS-SR-REQ-233813/D-Enable/Disable Speed Warning Chime - Traffic Sign Recognition

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Speed Warning Chime – Traffic Sign Recognition	0x0830	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
12	132

3.1.5.1.4   VS-SR-REQ-233862/K-Less Than Warning Threshold - (Traffic Sign Recognition / Speed Limit Information)

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Less Than Warning Threshold (ex less than 65 Km/h)	0x080E	0x10	0 Tolerance / Intelligent Offset
		0x11	+1 Tolerance / Intelligent Offset
		0x12	+2 Tolerance / Intelligent Offset
		0x13	+3 Tolerance / Intelligent Offset
		…	…
		0x36	+38 Tolerance / Intelligent Offset
		0x37	+39 Tolerance / Intelligent Offset
		0x38	+40 Tolerance / Intelligent Offset

For this setting whether the display is in MPH or Km/h is not based on what Measure Units is set to but based on what the Traffic Sign Recognition / Speed Limit Information signal TsrVlUnitMsgTxt_D_Rq is set to. The TsrVlUnitMsgTxt_D_Rq signal

is an event-periodic status signal and the status signal shall be used in Run to determine if the traffic sign recognition units are in Km/h or MPH.

- If the TsrVlUnitMsgTxt_D_Rq signal is missing for more than 5 seconds in Run then the traffic sign recognition units would be displayed in Km/h.

For the "HMI selection / Configuration name" column above the unitless values (ex +1 tolerance, +2 tolerance) shall be assigned to MPH or Km/h based on what the signal TsrVlUnitMsgTxt_D_Rq is set to.

- Example 1: if Km/h is selected then 0x12 would represent +2 Km/h Intelligent Offset.
- Example 2: If MPH is selected then 0x12 would represent +2 MPH Intelligent Offset.
- If 0x0 Null or 0x3 NoDataExists is selected, then the Centerstack Settings HMI Client shall use the last saved value of Km/h or MPH for units.

Signal Name	Encodings	Notes
TsrVlUnitMsgTxt_D_Rq	0x0 Null	
	0x01 Km/h	
	0x02 MPH	
	0x03 NoDataExists	

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
12 / 11 (TSR) SYNC HMI supplement (SLI under TSR)	133

3.1.5.1.5 VS-SR-REQ-233867/K-Greater than Warning Threshold - Traffic Sign Recognition

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Greater than Warning Threshold (ex greater than 65 Km/h)	0x0811	0x10	0 Tolerance / Intelligent Offset
		0x11	+1 Tolerance / Intelligent Offset
		0x12	+2 Tolerance / Intelligent Offset
		0x13	+3 Tolerance / Intelligent Offset
		…	…
		0x36	+38 Tolerance / Intelligent Offset
		0x37	+39 Tolerance / Intelligent Offset
		0x38	+40 Tolerance / Intelligent Offset

For this setting whether the display is in MPH or Km/h is not based on what Measure Units is set to but based on what the Traffic Sign Recognition / Speed Limit Information signal TsrVlUnitMsgTxt_D_Rq is set to. The TsrVlUnitMsgTxt_D_Rq signal

is an event-periodic status signal and the status signal shall be used in Run to determine if the traffic sign recognition units are in Km/h or MPH.

- If the TsrVlUnitMsgTxt_D_Rq signal is missing for more than 5 seconds in Run then the traffic sign recognition units would be displayed in Km/h.

For the "HMI selection / Configuration name" column above the unitless values (ex +1 tolerance, +2 tolerance) shall be assigned to MPH or Km/h based on what the signal TsrVlUnitMsgTxt_D_Rq is set to.

- Example 1: if Km/h is selected then 0x12 would represent +2 Km/h Intelligent Offset.
- Example 2: If MPH is selected then 0x12 would represent +2 MPH Intelligent Offset.
- If 0x0 Null or 0x3 NoDataExists is selected, then the Centerstack Settings HMI Client shall use the last saved value of Km/h or MPH for units.

Signal Name	Encodings	Notes
TsrVlUnitMsgTxt_D_Rq	0x0 Null	
	0x01 Km/h	
	0x02 MPH	
	0x03 NoDataExists	

SYNC Gen 3 Screen / **ID HMI Number**	**HMI Setting ID**
12 / 11 (TSR) SYNC HMI supplement (SLI under TSR)	135 / 136

3.1.5.1.6   VS-SR-REQ-331385/A-Single Tolerance Warning Threshold - Traffic Sign Recognition / Speed Limit Information

When the HMI for Traffic Sign Recognition or Speed Limit information only has one tolerance setting in the HMI then:

- At start-up the Centerstack Settings HMI Client shall query both 0x080E and 0x0811.
- At start-up when the Centerstack Settings HMI Client queries 0x080E and 0x0811 the only value looked at to update the HMI for single tolerance setting is 0x080E.
  - o   Note: at the time this spec was written the reason the Centerstack Settings HMI Client has to query both settings is because the HUD module will need to see both 0x080E and 0x0811.
- When selecting a tolerance setting the Centerstack Settings HMI Client shall perform the Feature.Rq Set operation for both 0x080E and 0x0811 set to the same value. The set operation shall be put on the CAN bus for both 0x080E and 0x0811 within 100 msec of each other.

Reference requirements "VS-REQ-233862-Less Than Warning Threshold" and "VS-REQ-VS-REQ-233867-Greater Than Warning Threshold" for details on feature numbers 0x0811 and 0x080E.

3.1.5.1.7   VS-SR-REQ-251193/B-Traffic Sign Recognition Settings / Speed Limit Information HMI not user selectable

The traffic sign recognition / speed limit information HMI settings are not selectable when either Intelligent Cruise Control or Intelligent Speed Limiter are active in the vehicle (activated on cruise control switch). The table below describes what CAN signals to look at to decide when the traffic sign recognition / speed limit information settings HMI is not selectable. When the conditions in the table are true for a particular row then the traffic sign recognition / speed limit information settings HMI shall be not selectable. If none of the rows are true then the TSR / SLI Settings HMI shall be selectable.

Signals SLMde_D_Rqdsply and Aslicondsply_D_Rq are only applicable when Intelligent Speed Assist is configured enabled.

Signal IaccLamp_D_Rq is only applicable when Intelligent Adaptive Cruise Control is configured enabled.

IaccLamp_D_Rq	SLMde_D_Rqdsply	Aslicondsply_D_Rq	TSR Setting HMI
0x1 DisplayIaccIcon	N/A	N/A	TSR greyed out
N/A	0x1 Auto Speed_Limiter symbol	0x1 On-Passive	TSR greyed out
N/A	0x1 Auto Speed_Limiter symbol	0x2 On-Active	TSR greyed out
N/A	0x1 Auto Speed_Limiter symbol	0x3 Override	TSR greyed out

Note: when say TSR (traffic sign recognition) / SLI (speed limit information) greyed out the HMI team will decide how to show this (not necessarily greyed out but a way to show that TSR/SLI settings are not selectable). See HMI specs for details.

3.1.6 VS-FUN-REQ-272504/B-Speed Limit Information / Speed Sign Recognition

Note:
- Traffic Sign Recognition and Speed Limit Information / Speed Sign Recognition are mutually exclusive.
- Speed Limit Information and Speed Sign Recognition are two HMI names for the same feature. The names can be used interchangeably.

3.1.6.1 Requirements

3.1.6.1.1 VS-SR-REQ-233812/E-Enable/Disable Traffic Sign Recognition / Speed Limit Information Feature

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Activate Traffic Sign Recognition / Speed Limit Information Customer Enable	0x0809	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
12 (TSR) SYNC HMI supplement (SLI under TSR)	130

3.1.6.1.2 VS-SR-REQ-233914/F-Enable/Disable Speed Warning - Traffic Sign Recognition / Speed Limit Information

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Activate Speed Warning – Traffic Sign recognition / Speed Limit Information	0x080D	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
12	131

3.1.6.1.3   <u>VS-SR-REQ-233862/K-Less Than Warning Threshold - (Traffic Sign Recognition / Speed Limit Information)</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Less Than Warning Threshold (ex less than 65 Km/h)	0x080E	0x10	0 Tolerance / Intelligent Offset
		0x11	+1 Tolerance / Intelligent Offset
		0x12	+2 Tolerance / Intelligent Offset
		0x13	+3 Tolerance / Intelligent Offset
		…	…
		0x36	+38 Tolerance / Intelligent Offset
		0x37	+39 Tolerance / Intelligent Offset
		0x38	+40 Tolerance / Intelligent Offset

For this setting whether the display is in MPH or Km/h is not based on what Measure Units is set to but based on what the Traffic Sign Recognition / Speed Limit Information signal TsrVlUnitMsgTxt_D_Rq is set to. The TsrVlUnitMsgTxt_D_Rq signal is an event-periodic status signal and the status signal shall be used in Run to determine if the traffic sign recognition units are in Km/h or MPH.
- If the TsrVlUnitMsgTxt_D_Rq signal is missing for more than 5 seconds in Run then the traffic sign recognition units would be displayed in Km/h.

For the "HMI selection / Configuration name" column above the unitless values (ex +1 tolerance, +2 tolerance) shall be assigned to MPH or Km/h based on what the signal TsrVlUnitMsgTxt_D_Rq is set to.
- Example 1: if Km/h is selected then 0x12 would represent +2 Km/h Intelligent Offset.
- Example 2: If MPH is selected then 0x12 would represent +2 MPH Intelligent Offset.

- If 0x0 Null or 0x3 NoDataExists is selected, then the Centerstack Settings HMI Client shall use the last saved value of Km/h or MPH for units.

Signal Name	Encodings	Notes
TsrVlUnitMsgTxt_D_Rq	0x0 Null	
	0x01 Km/h	
	0x02 MPH	
	0x03 NoDataExists	

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
12 / 11 (TSR) SYNC HMI supplement (SLI under TSR)	133

3.1.6.1.4   VS-SR-REQ-233867/K-Greater than Warning Threshold - Traffic Sign Recognition

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Greater than Warning Threshold (ex greater than 65 Km/h)	0x0811	0x10	0 Tolerance / Intelligent Offset
		0x11	+1 Tolerance / Intelligent Offset
		0x12	+2 Tolerance / Intelligent Offset
		0x13	+3 Tolerance / Intelligent Offset
		…	…
		0x36	+38 Tolerance / Intelligent Offset
		0x37	+39 Tolerance / Intelligent Offset
		0x38	+40 Tolerance / Intelligent Offset

For this setting whether the display is in MPH or Km/h is not based on what Measure Units is set to but based on what the Traffic Sign Recognition / Speed Limit Information signal TsrVlUnitMsgTxt_D_Rq is set to. The TsrVlUnitMsgTxt_D_Rq signal is an event-periodic status signal and the status signal shall be used in Run to determine if the traffic sign recognition units are in Km/h or MPH.

- If the TsrVlUnitMsgTxt_D_Rq signal is missing for more than 5 seconds in Run then the traffic sign recognition units would be displayed in Km/h.

For the "HMI selection / Configuration name" column above the unitless values (ex +1 tolerance, +2 tolerance) shall be assigned to MPH or Km/h based on what the signal TsrVlUnitMsgTxt_D_Rq is set to.
- Example 1: if Km/h is selected then 0x12 would represent +2 Km/h Intelligent Offset.

- Example 2: If MPH is selected then 0x12 would represent +2 MPH Intelligent Offset.
- If 0x0 Null or 0x3 NoDataExists is selected, then the Centerstack Settings HMI Client shall use the last saved value of Km/h or MPH for units.

Signal Name	Encodings	Notes
TsrVIUnitMsgTxt_D_Rq	0x0 Null	
	0x01 Km/h	
	0x02 MPH	
	0x03 NoDataExists	

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
12 / 11 (TSR) SYNC HMI supplement (SLI under TSR)	135 / 136

3.1.6.1.5   VS-SR-REQ-331385/A-Single Tolerance Warning Threshold - Traffic Sign Recognition / Speed Limit Information

When the HMI for Traffic Sign Recognition or Speed Limit information only has one tolerance setting in the HMI then:
- At start-up the Centerstack Settings HMI Client shall query both 0x080E and 0x0811.
- At start-up when the Centerstack Settings HMI Client queries 0x080E and 0x0811 the only value looked at to update the HMI for single tolerance setting is 0x080E.
    - Note: at the time this spec was written the reason the Centerstack Settings HMI Client has to query both settings is because the HUD module will need to see both 0x080E and 0x0811.
- When selecting a tolerance setting the Centerstack Settings HMI Client shall perform the Feature.Rq Set operation for both 0x080E and 0x0811 set to the same value. The set operation shall be put on the CAN bus for both 0x080E and 0x0811 within 100 msec of each other.

Reference requirements "VS-REQ-233862-Less Than Warning Threshold" and "VS-REQ-VS-REQ-233867-Greater Than Warning Threshold" for details on feature numbers 0x0811 and 0x080E.

3.1.6.1.6   VS-SR-REQ-251193/B-Traffic Sign Recognition Settings / Speed Limit Information HMI not user selectable

The traffic sign recognition / speed limit information HMI settings are not selectable when either Intelligent Cruise Control or Intelligent Speed Limiter are active in the vehicle (activated on cruise control switch). The table below describes what CAN signals to look at to decide when the traffic sign recognition / speed limit information settings HMI is not selectable. When the conditions in the table are true for a particular row then the traffic sign recognition / speed limit information settings HMI shall be not selectable. If none of the rows are true then the TSR / SLI Settings HMI shall be selectable.

Signals SLMde_D_Rqdsply and Aslicondsply_D_Rq are only applicable when Intelligent Speed Assist is configured enabled.

Signal IaccLamp_D_Rq is only applicable when Intelligent Adaptive Cruise Control is configured enabled.

IaccLamp_D_Rq	SLMde_D_Rqdsply	Aslicondsply_D_Rq	TSR Setting HMI
0x1 DisplayIaccIcon	N/A	N/A	TSR greyed out
N/A	0x1 Auto Speed_Limiter symbol	0x1 On-Passive	TSR greyed out
N/A	0x1 Auto Speed_Limiter symbol	0x2 On-Active	TSR greyed out
N/A	0x1 Auto Speed_Limiter symbol	0x3 Override	TSR greyed out

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Note: when say TSR (traffic sign recognition) / SLI (speed limit information) greyed out the HMI team will decide how to show this (not necessarily greyed out but a way to show that TSR/SLI settings are not selectable). See HMI specs for details.

3.1.7   VS-FUN-REQ-332901/B-Speed Limit - Variant 2 (variant 2 of TSR, SLI and Speed Limiter)

The functions "VS-FUN-233809-Traffic Sign Recognition", "VS-FUN-272504-Speed Limit Information / Speed Sign Recognition" and "VS-FUN-232288-Speed Limiter" are mutually exclusive with this Speed Limit function. This is handled via configurations.

3.1.7.1   Requirements

3.1.7.1.1   VSv2-SR-REQ-332978/B-Limiter with Speed Signs - Speed Limit

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Limiter with Speed Signs / Intelligent Speed Assist	0x0D00	0x00	OFF / Disabled
		0x01	ON / Enabled

Note: for variant 1 of this feature number 0x0D00 see SPSS requirement "VS-REQ-232284-Speed Limiter – Manual / Intelligent".

SYNC Gen 4 Screen / ID HMI Number	HMI Setting ID
170	1001

3.1.7.1.2   VSv2-SR-REQ-332979/A-Speed Sign Warning - Speed Limit

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Speed Sign Warning	0x080D	0x00	OFF / Disabled
		0x01	ON / Enabled

Note: for variant 1 of this feature number 0x080D see SPSS requirement "VS-REQ-233914-Enable/Disable Speed Warning – Traffic Sign Recognition / Speed Limit Information".

SYNC Gen 4 Screen / ID HMI Number	HMI Setting ID
170	1000

3.1.7.1.3 VSv2-SR-REQ-332980/B-Tolerance - Speed Limit

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Tolerance - Speed Limit	0x080E	0x10	0 Tolerance
		0x11	+1 Tolerance
		0x12	+2 Tolerance
		0x13	+3 Tolerance
		…	…
		0x36	+38 Tolerance
		0x37	+39 Tolerance
		0x38	+40 Tolerance

Note: for variant 1 of this feature number 0x080E see SPSS requirement "VS-REQ-Less Than Warning Threshold – (Traffic Sign Recognition / Speed Limit Information)".

For this setting whether the display is in MPH or Km/h is not based on what Measure Units is set to but based on what the Traffic Sign Recognition / Speed Limit Information signal TsrVlUnitMsgTxt_D_Rq is set to. The TsrVlUnitMsgTxt_D_Rq signal is an event-periodic status signal and the status signal shall be used in Run to determine if the traffic sign recognition units are in Km/h or MPH.
- If the TsrVlUnitMsgTxt_D_Rq signal is missing for more than 5 seconds in Run then the traffic sign recognition units would be displayed in Km/h.

For the "HMI selection / Configuration name" column above the unitless values (ex +1 tolerance, +2 tolerance) shall be assigned to MPH or Km/h based on what the signal TsrVlUnitMsgTxt_D_Rq is set to.
- Example 1: if Km/h is selected then 0x12 would represent +2 Km/h Intelligent Offset.
- Example 2: If MPH is selected then 0x12 would represent +2 MPH Intelligent Offset.
- If 0x0 Null or 0x3 NoDataExists is selected, then the Centerstack Settings HMI Client shall use the last saved value of Km/h or MPH for units.

Signal Name	Encodings	Notes
TsrVlUnitMsgTxt_D_Rq	0x0 Null	
	0x01 Km/h	
	0x02 MPH	
	0x03 NoDataExists	

SYNC Gen 4 Screen / ID HMI Number	HMI Setting ID
170	1002

3.1.8 VS-FUN-REQ-232290/B-Lane Keeping System

3.1.8.1 Requirements

3.1.8.1.1 VS-SR-REQ-232285/F-Lane Keeping Mode

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Lane Keeping Mode / Lane Keeping Mode Customer Enable	0x0807	0x01	Alert Only / LDW
		0x02	Aid Only / LKA
		0x03	Aid & Alert / LDW + LKA

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
9B	120

3.1.8.1.2 VS-SR-REQ-233578/E-Lane Keeping Intensity

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Lane Keeping Intensity / LDW Haptic Intensity	0x080B	0x00	Undefined / Not Used
		0x01	Low

0x02	Normal / Medium
0x03	High

SYNC Gen 3 Screen / ID HMI Number	**HMI Setting ID**
9C	121

3.1.8.1.3   <u>VS-SR-REQ-233579/E-Lane Keeping Sensitivity</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	**Feature Number**	**Configuration Number**	**Configuration Name / HMI selection**
Lane Keeping Sensitivity	0x0806	0x00	Normal / Level 1
		0x01	Increased / Level 2

SYNC Gen 3 Screen / ID HMI Number	**HMI Setting ID**
9D	122

3.1.8.1.4   <u>VS-SR-REQ-271525/B-Lane Keeping Aid</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	**Feature Number**	**Configuration Number**	**HMI selection / Configuration Name**
Lane Keeping Aid	0x0870	0x00	Off

0x01	On
0x02	Reduced / Basic
0x03	Enhanced / Plus

SYNC Gen 3 Screen / **ID HMI Number**	**HMI Setting ID**
Reference SYNC HMI supplement for AID Lane Keeping System	123

3.1.8.1.5   VS-SR-REQ-271526/B-Lane Keeping Alert

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Example Lane Keeping Alert HMI (see HMI documents for actual HMI).

Alert	○	High
	●	Normal
	○	Low
	○	On
	○	Off

Feature Description	**Feature Number**	**Configuration Number**	**HMI selection /** **Configuration Name**
Alert Lane Keeping Intensity / LDW Haptic Intensity	0x080B	0x00	OFF
		0x01	Low
		0x02	Normal / Medium / ON
		0x03	High

SYNC Gen 3 Screen / **ID HMI Number**	**HMI Setting ID**
Reference SYNC HMI supplement for Alert LDW	124

3.1.9 VS-FUN-REQ-233569/B-Pre-Collision Assist

3.1.9.1 Requirements

3.1.9.1.1 VS-SR-REQ-239185/F-Pre-Collision Assist function - Enable / Disable

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name	HMI MyKey Limited Yes/No
Pre-Collision Assist ON/OFF – FCW ON/OFF	0x0804	0x00	Disabled / FCW_OFF	Yes
		0x01	Enabled / FCW_ON	

The Pre-Collision Assist ON/OFF setting menu selection is not shown in the HMI when a MyKey is used

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
10	125

3.1.9.1.2 VS-SR-REQ-233571/H-Distance Indication - Pre-Collision Assist

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name	HMI MyKey Limited Yes/No
Distance Indication / Forward Distance Alerts_ON/OFF	0x080F	0x00	OFF / FDA_OFF	Yes
		0x01	ON / FDA_ON	

The Distance Indication ON/OFF setting menu selection is not shown in the HMI when a MyKey is used

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
10	126

3.1.9.1.3   VS-SR-REQ-233575/G-Active Braking - Pre-Collision Assist

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name	HMI MyKey Limited Yes/No
Active Braking / FCW_BrakingOnOFF	0x0840	0x00	OFF / FCW_BrakingOFF	No
		0x01	ON / FCW BrakingOn	

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
10	127

3.1.9.1.4   VS-SR-REQ-233576/H-Emergency Steering - Pre-Collision Assist

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name	HMI MyKey Limited Yes/No
Evasive Steering / Emergency Steering	0x0D50	0x00	OFF / Disabled	No
		0x01	ON / Enabled	

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
10	128

3.1.9.1.5   VS-SR-REQ-233577/I-Warning Sensitivity - Pre-Collision Assist

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name	HMI MyKey Limited Yes/No
Warning Sensitivity / FCW Sensitivity / Alert Sensitivity	0x0802	0x00	Not Used	No
		0x01	Low / FCW_Sensitivity_1	
		0x02	Normal / FCW_Sensitivity_2	
		0x03	High / FCW_Sensitivity_3	

Note: at the time this spec was written when a MyKey is used the Warning Sensitivity sets its default (see FCW specs for details). The MyKey user can still change the setting from the default. This has no effect on the Centerstack Setting HMI client since the default value is queried at start-up when the MyKey is turned to Run.

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
10 / 10B	129

3.1.10 VS-FUN-REQ-233942/A-Blindspot Detection

3.1.10.1 Requirements

3.1.10.1.1 VS-SR-REQ-233944/E-Blindspot Detection (vehicle - non-trailer)

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name	HMI MyKey Limited Yes/No
Blind Spot Detection	0x0920	0x00	OFF / Disabled	Yes
		0x01	ON / Enabled	

There is no HMI shown for this setting when a MyKey is used.

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
2	299

3.1.10.1.2 VS-SR-REQ-233945/C-Trailer Blindspot Detection

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name	HMI MyKey Limited Yes/No
Trailer Blind Spot Detection	0x0921	0x00	OFF / Disabled	Yes
		0x01	ON / Enabled	

There is no HMI shown for this setting when a MyKey is used.

SYNC Gen 3 Screen / ID HMI Number
2

3.1.11 VS-FUN-REQ-273589/A-BTT Light (Blind Spot Trailer Tow)

3.1.11.1 Requirements

3.1.11.1.1 VS-SR-REQ-273590/B-Active Trailer Setting - BTT Lite

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

This is used by the Centerstack Settings HMI Client to tell the BTT Lite Server via a Feature.Rq set command that a trailer was selected or that no active trailer was selected. The BTT Lite Server would respond back with the Feature.St response and the Centerstack Settings HMI Client would update its HMI based on this.

The Centerstack Settings HMI Client will know the active trailer setting at start-up when the Centerstack Settings HMI Client queries the BTT Lite Server.

The BTT Lite Server shall send any update to the active trailer to the Centerstack Settings HMI Client via the Feature.St message.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Trailer Active (BTT Lite)	0x0930	0x00	None / No Active Trailer
		0x01	Trailer A Active
		0x02	Trailer B Active

		0x03	Trailer C Active

SYNC Gen 3 Screen / ID HMI Number	**HMI Setting ID**
42, 48, 47	147

3.1.11.1.2 VS-SR-REQ-273689/D-Trailer Length - BTT Lite

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Trailer A/B/C Length Feature.Rq is used by the Centerstack HMI Client to tell the BTT Lite Server via a Feature.Rq Set command what trailer length was selected (or faulty) and the BTT Lite server shall respond with the Feature.St with the updated trailer length (or faulty) setting.

The Centerstack Setting HMI Client will know at start-up the following when the Centerstack Settings HMI Client queries the BTT Lite Server:
- The Trailer Lengths
- Whether a particular trailer has not been set-up
- Whether a particular trailer is faulty (Trailer doesn't meet size requirements)

If when editing the trailer length the trailer does not meet trailer length size requirement then:
1. The Centerstack HMI Client shall set Feature.Rq config equal to "Faulty" in the Feature.Rq Set command, and then
2. The BTT Lite Server shall respond with the Feature.St Cofiguration set to "Faulty"
Note: See HMI spec for whether the Centerstack HMI Client selects the trailer with invalid trailer length (ie 0x0930). If says select as active trailer then the faulty trailer (invalid trailer size) shall be made active.

If in trailer length edit mode after entering the trailer length once the BTT Lite Server responds back with the Feature.St for length if the trailer that was being edited needs to be automatically selected/activated without user input (this will be noted in the HMI if the edited length trailer should become the active trailer) then:
1. the Centerstack Settings HMI Client shall send a Feature.Rq Set command "Trailer Active (feature # 0x0930)" for the trailer that was being edited, and then
2. the BTT Lite Server shall respond back with the Feature.St with the active trailer.
Note: For SYNC Gen 3 steps 1 and 2 above are done when:
   a. Get a pop-up to edit the trailer length (SYNC screen number 48)
   b. Select a trailer setting length that is not set-up on the "select trailer" HMI screen (SYNC screen number 42)
   c. Note: The active trailer is not automatically selected if the user changes trailer length from the "Change Trailer Length" HMI screen (SYNC screen number 43)
- See SYNC HMI for the latest. If SYNC HMI and SPSS contradict follow the HMI and bring issue of conflict to Ford's attention

Feature Description	**Feature Number**	**Configuration Number**	**HMI selection / Configuration Name**
Trailer A Length (BTT Lite)	0x0931	0x00	~~0.1 meters~~ 0.0 meters
		0x01	~~0.2 meters~~ 0.1 meters

		0x02	~~0.3 meters~~ 0.2 meters
		…	…
		0x7D	12.5 meters
		0x7E	Trailer A Length not set-up / No Data Exists
		0x7F	Faulty (Trailer doesn't meet size requirements)

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Trailer B Length (BTT Lite)	0x0932	0x00	~~0.1 meters~~ 0.0 meters
		0x01	~~0.2 meters~~ 0.1 meters
		0x02	~~0.3 meters~~ 0.2 meters
		…	…
		0x7D	12.5 meters
		0x7E	Trailer B Length not set-up / No Data Exists
		0x7F	Faulty (Trailer doesn't meet size requirements)

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Trailer C Length (BTT Lite)	0x0933	0x00	~~0.1 meters~~ 0.0 meters
		0x01	~~0.2 meters~~ 0.1 meters
		0x02	~~0.3 meters~~ 0.2 meters
		…	…
		0x7D	12.5 meters
		0x7E	Trailer C Length not set-up / No Data Exists
		0x7F	Faulty (Trailer doesn't meet size requirements)

Whether the trailer lengths are in Imperial (ie Feet) or Metric (ex Meters) is based on what the Measure Units is set to. See VS-SR-REQ-234039-Measure Units for details.

- If the units are imperial then the Centerstack HMI Client will have to round the imperial value (feet) received to the closest metric length equivalent.
    - Ex. HMI the user selects 6ft on the HMI. When converted to metric that is 1.8288 meters. For Trailer A/B/C Length the configuration encoding would be rounded to 1.8 meters.

SYNC Gen 3 Screen / ID HMI Number For Trailer Length set-up	SYNC Gen 3 Screen / ID HMI Number For Faulty pop-up / Send Faulty setting	HMI Setting ID
46	45	148

3.1.11.1.3 VS-SR-REQ-273980/D-Pop-up Trailer Set-up Request - BTT Lite

The Centerstack Settings HMI Client shall initiate a BTT Lite trailer pop-up when BttLeft_D_RqDrv changes to Request OR BttRight_D_RqDrv changes to Request AND Ignition_Status = Run.
- If a pop-up event occurs as defined above at start-up when all the settings feature ID's are being queried (ignition = OFF → Run) and the feature numbers 0x930, 0x931, 0x932 and 0x933 have not yet been queried then:
  - The pop-up shall not be shown until feature numbers 0x930, 0x931, 0x932 and 0x933 have all been queried.
  - the next feature numbers to be queried are 0x930, 0x931, 0x932 and 0x933. This means that these feature numbers will jump ahead off all other feature numbers and be queried next. Once queried the BTT Lite trailer pop-up can be shown.

The Centerstack HMI Client shall not initiate the BTT Lite trailer pop-up when BttLeft_D_RqDrv does not equal Request AND BttRight_D_RqDrv does not equal Request.

The Centerstack HMI client shall close any active BTT Lite trailer pop-up when:
- BttLeft_D_RqDrv != Request AND BttRight_D_RqDrv != Request, OR
- The HMI specification calls out closing the pop-up (ex press button on pop-up, speed limited etc)

If Ignition_Status does not equal Run/Crank then the Centerstack HMI Client shall not show the BTT Lite pop-up.

See HMI specs for driver distraction requirements for BTT Lite.
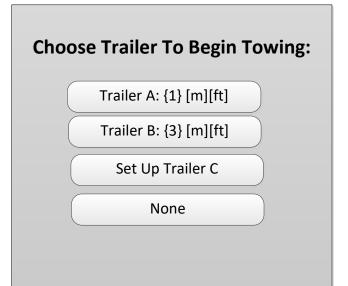- Ex. If the pop-up is shown and the vehicle speed increase above the limit for driver distraction the pop-up shall not be shown.
  - Note: If vehicle slows back down to below the limit for driver distraction (make sure hysteresis protection is added in) and BTTLeft_D_RqDrv or BTTRight_D_RqDrv equals Active then show the pop-up again.

Note (informational only – not to design to):
    One or both of the BTTRight_D_RqDrv / BTTLeft_D_RqDrv signals are typically set to "Request" when a trailer is connected that wasn't connected on the previous ignition cycle.

Example BTT Lite pop-up HMI (see HMI spec for actual HMI)

Choose Trailer To Begin Towing:

Trailer A: {1} [m][ft]

Trailer B: {3} [m][ft]

Set Up Trailer C

None

SYNC Gen 3 Screen / ID HMI Number
48

3.1.11.1.4 MD-REQ-274072/C-BTTLeft_D_RqDrv

Message Type: Request

BTT Lite (Blind spot Trailer Tow Lite) left side detection signal sent to tell if the BTT Lite pop-up should be shown in the Centerstack HMI

Logical Signal Name	Literals	Value	Description
BttLeft_D_RqDrv	Null	0x0	
	No Request	0x1	
	Request	0x2	Used for pop-up
	Not Used	0x3	

3.1.11.1.5 MD-REQ-274073/C-BTTRight_D_RqDrv

Message Type: Request

BTT Lite (Blind spot Trailer Tow Lite) right side detection signal sent to tell if the BTT Lite pop-up should be shown in the Centerstack HMI

Logical Signal Name	Literals	Value	Description
BttRight_D_RqDrv	Null	0x0	
	No Request	0x1	
	Request	0x2	Used for pop-up
	Not Used	0x3	

3.1.12 VS-FUN-REQ-233946/A-Cross Traffic Alert

3.1.12.1 Requirements

3.1.12.1.1 <u>VS-SR-REQ-233948/D-Cross Traffic Alert</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name	HMI MyKey Limited Yes/No
Cross Traffic Alert	0x0922	0x00	OFF / Disabled	Yes
		0x01	ON / Enabled	

There is no HMI shown for this setting when a MyKey is used.

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
2	149

3.1.13 VS-FUN-REQ-233949/A-Wrong Way Alert

3.1.13.1 Requirements

3.1.13.1.1 <u>VS-SR-REQ-233951/D-Wrong Way Alert</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Wrong Way Alert	0x0850	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
2	150

3.1.14 VS-FUN-REQ-234013/A-Driver Alert

3.1.14.1 Requirements

3.1.14.1.1 VS-SR-REQ-234015/D-Driver Alert

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Driver Alert / DAS Customer Enable	0x0808	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
2	152

3.1.15 VS-FUN-REQ-234026/B-Trailer Sway

3.1.15.1 Requirements

3.1.15.1.1 VS-SR-REQ-234028/D-Trailer Sway

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Trailer Sway	0x0E00	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
2	153

3.1.16 VS-FUN-REQ-234029/B-Park Aid

3.1.16.1 Requirements

3.1.16.1.1 <u>VS-SR-REQ-234031/F-Park Aid (not long term)</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name	HMI MyKey Limited Yes/No
Park Aid (~~Reverse Park Aid~~)	0x0950	0x00	OFF / Disabled	Yes
		0x01	ON / Enabled	

There is no HMI shown for this setting when a MyKey is used.

Note: verify with HMI team if this is correct. This is probably the short term park aid setting that is only shown for one ignition cycle

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
2	155

3.1.17 VS-FUN-REQ-312390/A-Long Term Park Aid Disable

3.1.17.1 Requirements

3.1.17.1.1 <u>VS-SR-REQ-312391/A-Long Term Park Aid Disable</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Front Park Aid Long Term Disable	0x0952	0x00	OFF / Disable Switch
		0x01	ON / Enable Switch

SYNC Gen 3 Screen / ID HMI Number	HMI Settings ID
64	301

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Rear Park Aid Long Term Disable	0x0951	0x00	OFF / Disable Switch
		0x01	ON / Enable Switch

SYNC Gen 3 Screen / ID HMI Number	HMI Settings ID
64	300

3.1.18 VS-FUN-REQ-239157/B-Traction Control

3.1.18.1 Requirements

3.1.18.1.1 VS-SR-REQ-239158/F-Traction Control

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name	HMI MyKey Limited Yes / No
Traction Control	0x0E01	0x00	OFF / Disabled	Yes
		0x01	ON / Enabled	

MyKey Limited Setting:
- Traction Control can only be adjusted by a MyKey user when admin user has selected "Selectable" for the MyKey user from the MyKey Settings HMI menu.
    - See MyKey Settings in the Centerstack SPSS for details on the CAN status signals to look at

- There shall be no Traction Control setting HMI for the MyKey user when the admin user selects "Traction Control Always ON" for the MyKey user from the MyKey Settings HMI menu.
    - See MyKey Settings in the Centerstack SPSS for details on the CAN status signals to look at

Note: if there is AdvanceTrac setting in place of Traction Control setting then AdvanceTrac would use the same feature number as above

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
2	221, 222

3.1.19 VS-FUN-REQ-239159/B-Hill Decent Control

3.1.19.1 Requirements

3.1.19.1.1 VS-SR-REQ-239160/C-Hill Decent Control

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Hill Decent Control	0x0E02	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
2	223

3.1.20 VS-FUN-REQ-234003/A-Hill Start Assist

3.1.20.1 Requirements

3.1.20.1.1 VS-SR-REQ-234005/D-Hill Start Assist

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Hill Start Assist	0x0E03	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
2	151

3.1.21 VS-FUN-REQ-239163/A-Tow Haul

3.1.21.1 Requirements

3.1.21.1.1 VS-SR-REQ-239164/E-Tow Haul

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Tow Haul	0x0D02	0x00	OFF / Disabled
		0x01	ON / Enabled
		0x02	Automatic

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
2 / 39	224

3.1.22 VS-FUN-REQ-242438/C-EV+ Mode

3.1.22.1 Requirements

3.1.22.1.1 VS-SR-REQ-242439/B-EV+ Mode

~~For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.~~

~~If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.~~

~~Feature Description~~	~~Feature Number~~	~~Configuration Number~~	~~HMI selection / Configuration Name~~
~~EV+ Mode~~	~~0x0907~~	~~0x00~~	~~OFF / Disabled~~
		~~0x01~~	~~ON / Enabled~~

~~SYNC Gen 3 Screen / ID HMI Number~~
~~2~~

3.1.23 VS-FUN-REQ-272332/A-Grade Assist

3.1.23.1 Requirements

3.1.23.1.1 VS-SR-REQ-272333/B-Grade Assist

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Grade Assist	0x0D04	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
2	154

3.1.24 VS-FUN-REQ-273582/B-Engine Start/Stop Speed Threshold (Auto Start/Stop Speed Threshold)

3.1.24.1 Requirements

3.1.24.1.1 <u>VS-SR-REQ-273583/C-Engine Start/Stop Speed Threshold (Auto StartStop Speed Threshold)</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Engine Start/Stop Speed Threshold (Auto Start/Stop Speed Threshold) HEV Boost Sensitivity /Engine Start Stop Speed Threshold – (Mile Hybrids 48V)	0x0D05	0x00	Undefined / Not Used / Off
		0x01	Low
		0x02	Medium
		0x03	High

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
40	226

3.1.25 VS-FUN-REQ-280534/A-Drive Control (Selectable Drive Mode)
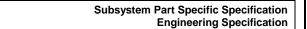Note: Drive Control and Adaptive Steering are mutually exclusive (use some of the same feature numbers).

3.1.25.1 Requirements

3.1.25.1.1 <u>VS-SR-REQ-280535/D-Handling in Drive / Drive Control manual transmission / Driver Select Transmission</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
<u>Gear in Drive – Continuously Controlled Damping</u>	0x0B00	0x00	No Mode Selected
		0x01	Comfort
		0x02	Normal

(Handling in Drive / Handling with Manual Transmission)		0x03	Sport

Req: this shall be used for the handling HMI that doesn't show Drive or Sport for certain configurations.
- Ex when used (see HMI spec for actual HMI):

Drive Control	submenu
comfort	radial
normal	radial
sport	radial

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
78	231

OR,

Driver Select Suspension	
Sport	radial
Normal	radial
Comfort	radial

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
105	238

The two HMI's above would be handled by configurations

Note: see HMI settings ID to see the actual HMI. Above was just for an example for reference only

Req: this shall be used for the Handling HMI that shows gear in Drive for certain configurations.
- Ex when used (see HMI spec for actual HMI):

Drive Control	submenu
Handling in D	submenu
comfort	radial
normal	radial
sport	radial

Note: see HMI settings ID to see the actual HMI. Above was just for an example for reference only

The different HMI's above and which to use would be covered by the configurations in the HMI spec.

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
75	228

3.1.25.1.2 VS-SR-REQ-281380/B-Handling in Sport - Drive Control

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Gear in Sport – Continuously Controlled Damping (Handling in Sport)	0x0B01	0x00	No Mode Selected
		0x01	Comfort
		0x02	Normal
		0x03	Sport

Req: this shall be used for the Handling HMI that shows gear in Sport.
- Ex when used (see HMI spec for actual HMI):

Drive Control	submenu
Handling in S	submenu
normal	radial
sport	radial

Note: see HMI setting ID to see the actual HMI. Above in an example for reference only

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
76	229

3.1.25.1.3 <u>VS-SR-REQ-281381/B-Performance in Sport - Drive Control</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
<u>Performance in Sport – Continuously Controlled Damping</u>	0x0D07	0x00	No Mode Selected
		0x01	Comfort
		0x02	Normal
		0x03	Sport

Req: this shall be used for the performance HMI that shows gear in.
- Ex when used (see HMI spec for actual HMI):

Drive Control	submenu
Performance in S	submenu
normal	radial
sport	radial

Note: see HMI setting ID to see the actual HMI. Above was just for an example for reference only

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
77	230

3.1.26 VS-FUN-REQ-280532/A-Adaptive Steering

Note: Drive Control and Adaptive Steering are mutually exclusive (use some of the same feature numbers).

3.1.26.1 Requirements

3.1.26.1.1 <u>VS-SR-REQ-280533/B-Steering in Drive / Steering with Manual Transmission - Adaptive Steering</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Steering in Drive / Steering with Manual Transmission	0x0B00	0x00	No Mode Selected
		0x01	Comfort
		0x02	Normal
		0x03	Sport

Req: this shall be used for the HMI that doesn't show Drive or Sport.
- Ex when used (see HMI spec for actual HMI):

Adaptive steering	submenu
normal	radial
sport	radial

   Note: see HMI settings ID to see the actual HMI. Above was just for an example

SYNC Gen 3 Screen / ID HMI Number	HMI Settings ID
82	235

Req: this shall be used for the steering HMI that shows gear in Drive.
- Ex when used (see HMI spec for actual HMI):

Adaptive steering	submenu
Steering in D	submenu
comfort	radial
normal	radial
sport	radial

   Note: see HMI settings ID to see the actual HMI. Above was just for an example

The HMI's above regarding what to use would be handled by the configurations in the HMI spec.

SYNC Gen 3 Screen / ID HMI Number	HMI Settings ID
80	233

3.1.26.1.2 <u>VS-SR-REQ-280548/B-Steering in Sport - Adaptive Steering</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Steering in Sport	0x0B01	0x00	No Mode Selected
		0x01	Comfort
		0x02	Normal
		0x03	Sport

Req: this shall be used for the steering HMI that shows gear in Sport.
- Ex when used (see HMI spec for actual HMI):

Adaptive steering	submenu
Steering in S	submenu
normal	radial
sport	radial

Note: see HMI setting ID to see actual HMI. Above was just for an example for reference

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
79, 81	234

3.1.26.1.3 <u>VS-SR-REQ-280549/B-Adaptive Steering</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Adaptive Steering	0x0B02	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
79, 82	236, 237

3.2   General Settings

3.2.1   General Requirements - General Settings

3.2.1.1   *VS-SR-REQ-234428/F-General Settings at Start-up*

General Settings shall be queried by the Centerstack Settings HMI Client when the Ignition_Status changes from OFF/ACC to Run. See the FBMP SPSS for details on querying at start-up when ignition_status changes to Run.

When Ignition_Status changes from Run to OFF/ACC the infotainment Centerstack ~~Driver Information~~ General Settings defined in this General Settings section shall be considered unknown. The HMI should not show any General Settings HMI selections when ~~Driver Assistance~~ General Settings selection information is unknown. In the General Settings HMI for Settings not defined in Settings in the Centerstack SPSS reference the HMI for whether these settings can be shown or not when ignition_status does not equal Run.

3.2.1.2   *VS-SR-REQ-259080/A-HMI Activation during Run - General Settings*

Settings in General Settings Function/Section (not necessarily applicable to carryover functionality not covered in this spec) can only be selected on the HMI when the Ignition_Status = Run.

3.2.1.3   *VS-SR-REQ-232109/J-Carryover General Settings functionality from the Vehicle Settings SPSS*

The functions in the "General Settings" section of this Settings in the Centerstack SPSS specification are only for the general setting items not already covered in the Vehicle Settings (Global) SPSS or some other specification.

The feature/function defined in the Vehicle Settings SPSS shall still be followed and all the requirements in the Vehicle Settings SPSS still apply unless noted otherwise. This includes but is not limited to:
1. 12/24 hour mode
2. Language selection
3. Distance Units (this is only if the HMI has two choices such as "Imperial" and "Metric").
   a. If the HMI has three choices such as "1/100 km", "km/l" and "Miles & Gallons" then use the system interface described in the Measure Units function in this specification.
4. Beep Settings
5. Master Reset
6. Temperature Units
7. Valet Mode settings

If there is no menu in the Cluster for these general settings which are in the Vehicle Settings SPSS (ex distance units, temperature units, language…) and the settings menu is only in the Centerstack all the internal requirements from the Vehicle Settings SPSS for the Cluster still apply. This would mean the Cluster would remain the feature server if it was already the server in the Vehicle Settings SPSS.
- For example if the Cluster is the Temperature Units server in the vehicle settings SPSS then it would still be the Temperature Units server without the menu in the Cluster. The Centerstack module (ex SYNC) would still request the temperature unit setting from the Cluster and the Cluster would respond as defined in the Vehicle Settings SPSS.

3.2.2   **VS-FUN-REQ-234033/B-Tire Pressure Units**

3.2.2.1   *Requirements*

3.2.2.1.1   VS-SR-REQ-234035/E-Tire Pressure Unit

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Tire Pressure Unit	0x0908	0x00	psi
		0x01	kPa
		0x02	bar

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
34	104

3.2.3   VS-FUN-REQ-234037/B-Measure Units

3.2.3.1   Requirements

3.2.3.1.1   VS-SR-REQ-234039/K-Measure Units

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Measure Units	0x0901	0x00	Miles and Gallons
		0x01	Miles and Gallons (UK only)
		0x02	Liter/100 km
		0x03	km/Liter

When the Miles and Gallons HMI is selected the Centerstack Settings HMI Client shall send 0x00 Miles and Gallons to the Measure Units Feature Settings Server.
- The 0x01 Miles and Gallons (UK only) this will not be sent by the Centerstack Settings HMI Client when the Miles and Gallons HMI is selected by the user.
- The Feature Settings Server may respond back to Feature.Rq(Configuration = 0x0 Miles and Gallons) with either Feature.St(Configuration = 0x00 or 0x01) and the Centerstack Settings HMI Client shall treat them the same and update the Miles and Gallons HMI for either response.

Unless noted otherwise what is set in Feature Number 0x0901 will be used by other Settings features with distance units (ex miles or kilometers) in this specification to display those HMI settings as Metric or Imperial units. Speed settings are not covered by Measure Units.
- "Miles and Gallons" set to "Imperial Distance Units for HMI"
- "Liter/100 km" or "km/Liter" set to "Metric Distance units for HMI"

When the Cluster Measure Units feature server responds back to the Feature.Rq signal with the updated FBMP Feature.St signal the Cluster shall also update the non-FBMP Disp_Miles_Kilometers.st CAN Distance status signal below from the Vehicle Settings SPSS.

- "Miles and Gallons" set to "Imperial"
- "Liter/100 km" or "km/Liter" set to "Metric"

MD-REQ-025451-Disp_Miles_Kilometers.St (TcSE ROIN-297373)

Message Type: Status

Status update from the Vehicle Settings Server stating what the setting is for Distance units (from the Vehicle Settings SPSS)

Name	Literals	Value	Description
Mode	-	-	
	Inactive	int *Mode* 0x0: Metric (Kilometers) 0x1: Imperial (Miles)	Status update from the Vehicle settings server stating what the setting is for Distance units.

Note:

- When Distance Units Setting HMI is "Metric" or "Imperial" use the interface defined in the Vehicle Settings (Global) SPSS.
- When Unit Settings HMI is "Miles & Gallon", or "KM & Liters (Liter/100km)", or "Km & Liters (km/liter)" then use the interface described in this requirement.

SYNC Gen 3 Screen / ID HMI Number	HMI Settings ID
33	102

3.3 Vehicle Settings

3.3.1 General Requirements - Vehicle Settings

3.3.1.1 *VS-SR-REQ-234430/D-Vehicle Settings Start-Up*

The functions in this Vehicle Settings section shall be queried by the Centerstack Settings HMI Client
when the Ignition_Status changes from OFF/ACC to Run. See the FBMP SPSS for details on querying at start-up when ignition_status changes to Run.

When Ignition_Status changes from Run to OFF/ACC the infotainment Centerstack Vehicle Settings shall be considered unknown. The HMI should not show any settings selections when Vehicle Settings selection information is unknown.

3.3.1.2 *VS-SR-REQ-234434/C-HMI Activation during Run - Vehicle Settings*

The functions listed in the Vehicle Settings section (not necessarily applicable to carryover functionality not covered in this spec) can only be selected on the HMI when the Ignition_Status = Run.

3.3.1.3 *VS-SR-REQ-234431/D-Carryover Vehicle Settings functionality in Vehicle Settings SPSS*

The functions in the "Vehicle Settings" section of this Settings in the Centerstack SPSS specification are only for the items not already covered in the Vehicle Settings (Global) SPSS or other Centerstack Feature SPSS specifications.

The feature/function defined in the Vehicle Settings SPSS shall still be followed and all the requirements in the Vehicle Settings SPSS still apply unless noted otherwise. This includes but is not limited to:
1. Charge Port Light Ring setting
2. Charge Cord Unlock setting
3. Door KeyCode
4. Ambient Lighting

See Vehicle Setting SPSS, HMI spec, or other Centerstack Feature SPSS specifications for whether these carryover features not covered in this Settings in the Centerstack specification can be selected when ignition does not equal Run.

3.3.2 VS-FUN-REQ-234059/B-Auto Engine OFF / 30min Max Idle

3.3.2.1 *Requirements*

3.3.2.1.1 VS-SR-REQ-234061/F-Auto Engine OFF / 30 min max idle

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Auto Engine OFF	0x0D03	0x00	OFF / Disabled
		0x01	ON / Enabled

Note: may also be called "30 min Max idle". See HMI documents for actual name

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
13	156

3.3.3   VS-FUN-REQ-234233/A-Park Lock Control

3.3.3.1   Requirements

3.3.3.1.1   <u>VS-SR-REQ-234235/D-Park Lock Control</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Park Lock Control (electronic BTSI Manual Override)	0x0414	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
13	160

3.3.4   VS-FUN-REQ-234236/A-Silent Mode

3.3.4.1   Requirements

3.3.4.1.1   <u>VS-SR-REQ-234238/D-Silent Mode</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Silent Mode	0x0418	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
13	161

3.3.5 VS-FUN-REQ-234283/A-Alarm

3.3.5.1 Requirements

3.3.5.1.1 <u>VS-SR-REQ-234285/D-Ask on Exit - Alarm</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Ask on Exit – Perimeter Alarm	0x041C	0x00	0x00 OFF / Disabled
		0x01	0x01 ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
13 / 14	162

3.3.5.1.2 <u>VS-SR-REQ-234286/D-Sensor Set - Alarm</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Sensor Set	0x041D	0x00	All Sensors Active / Full Guard
		0x01	Perimeter Sensing / Reduced Guard

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Motion Sensors	0x041D	0x00	ON
		0x01	OFF

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
14b	163

3.3.6 VS-FUN-REQ-234287/A-Chimes

3.3.6.1 Requirements

3.3.6.1.1 VS-SR-REQ-234289/C-Park Slot - Chimes

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Park Slot - Chimes	0x0904	0x00	0x00 OFF / Disabled
		0x01	0x01 ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
15	164

3.3.6.1.2 VS-SR-REQ-234290/C-Information - Chimes

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Information - Chimes	0x0905	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
15	165

3.3.7   VS-FUN-REQ-234307/A-Remote Start

3.3.7.1   Requirements

3.3.7.1.1   <u>VS-SR-REQ-234312/G-Climate Control (Heater / AC) - Remote Start</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Climate Control – Remote Start (Heater / AC)	0x0509	0x00	Auto
		0x01	Last Setting

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Front Defrost – Remote Start	0x0503	0x00	OFF
		0x01	ON

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Rear Defrost – Remote Start	0x0504	0x00	OFF
		0x01	ON

For the Climate Control Auto / Last Setting HMI if there are not separate Auto / Last Settings HMI selections for the Remote Start Front Defrost (0x0503) and Remote Start Rear Defrost (0x0504) then then the following shall be followed:

- When either "AUTO" or "Last Settings" is selected for the climate control HMI setting selection a series of Feature.Rq (Operation = SET) requests will be initiated in the order as shown below:
    - Climate "AUTO" Selected perform FBMP Feature.Rq Set operation in the following order:
        a) Climate Control (ID 0x509) = Auto
        b) Front Defrost (ID 0x503) = ON
        c) Rear Defrost (ID 0x504) = ON
    - Climate "Last Setting" selected perform FBMP Feature.Rq Set operation in the following order:
        a) Climate Control (ID 0x509) = Last Setting
        b) Front Defrost (ID 0x503) = ON
        c) Rear Defrost (ID 0x504) = ON
- For the FBMP Feature.St response from the Remote Start feature server as soon as Climate Control (ID 0x509) is received, the response will be accepted and appropriate HMI setting selection (AUTO / Last Setting) in the Centerstack HMI will be updated. The Centerstack Settings HMI is not dependent on the 0x0503 and 0x0504 Feature.St responses from the Remote Start feature server and those Feature.St responses are treated as don't cares.

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
17B	167

3.3.7.1.2 VS-SR-REQ-234313/G-Seats and Steering Wheel - Remote Start

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Driver Heated/Cooled Seat – Remote Start	0x0501	0x00	Auto
		0x01	OFF

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Passenger Heated/Cooled Seat – Remote Start	0x0502	0x00	Auto
		0x01	OFF

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Heated Steering Wheel – Remote Start	0x040A	0x00	Auto
		0x01	OFF

For Seats Only HMI or Seats and Steering Wheel HMI with one Auto / OFF HMI selection available for everything (no distinction of front driver seat, front passenger seat, steering wheel control) then the following strategy shall be used when an HMI selection is made:

- Remote Start "AUTO" selected then a series of FBMP Feature.Rq (Operation = SET) requests will be initiated in the order as shown below:
  - o Driver Heated/Cooled Seat (0x0501) = Auto
  - o Passenger Heated/Cooled Seat (0x0502) = Auto
  - o Heated Steering Wheel (0x040A) = Auto
- Remote Start "OFF" selected then a series of FBMP Feature.Rq (Operation = SET) requests will be initiated in the order as shown below:
  - o Driver Heated/Cooled Seat (0x0501) = OFF
  - o Passenger Heated/Cooled Seat (0x0502) = OFF
  - o Heated Steering Wheel (0x040A) = OFF
- For the Feature.St response once the Remote Start Server responds to the 0x0501 FBMP Feature.Rq Set command with the 0x0501 Feature.St value requested then the HMI can be updated to show the new setting as called out in the 0x0501 Feature.St response (the 0x0502 and 0x0503 values can be ignored).

SYNC Gen 3 Screen / ID HMI Number	**HMI Setting ID**
17c / 17d	168, 169

3.3.7.1.3   VS-SR-REQ-234316/F-Duration - Remote Start

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	**Feature Number**	**Configuration Number**	**HMI selection / Configuration Name**
Duration – Remote Start	0x0406	0x00	OFF
		0x01	5 min
		0x02	10 min
		0x03	15 min

Note: If there is HMI for "Activate Remote Start (Enable/Disable) or System (Enable/Disable) etc" then the duration feature number is used for this setting as follows:
- The OFF/Disable Remote Start HMI setting uses the configuration number is 0x00 OFF.
- The ON/Enable Remote Start HMI setting uses the configuration number, 0x02 10 min,

Note: the Activate Remote Start setting HMI would be shown as enabled whenever remote start is active (ie duration at 5 min, 10 min or 15 min). The Active Remote Start setting HMI would be shown as disabled when remote start is not active (ie Duration set to OFF).

SYNC Gen 3 Screen / ID HMI Number	**HMI Setting ID**
17 / 17e	166, 170

3.3.7.1.4 <u>VS-SR-REQ-234315/C-Quiet Start - Remote Start</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Quiet Start – Remote Start	0x0505	0x00	OFF
		0x01	ON

SYNC Gen 3 Screen / ID HMI Number
No SYNC HMI at the time this SPSS was written

3.3.8 VS-FUN-REQ-234317/A-Windows

3.3.8.1 Requirements

3.3.8.1.1 <u>VS-SR-REQ-234319/C-Global Window Open</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Global Window Open / Remote Open	0x0401	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
20	195

3.3.8.1.2   <u>VS-SR-REQ-234320/C-Global Window Close</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Global Window Close / Remote Close	0x0402	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
20	196

3.3.9   VS-FUN-REQ-234329/A-Wipers

3.3.9.1   Requirements

3.3.9.1.1   <u>VS-SR-REQ-234331/C-Courtesy Wiper</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Courtesy Wiper	0x0407	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
21	197

3.3.9.1.2   VS-SR-REQ-234332/C-Rain Sensing Wipers

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Rain Sensing Wipers	0x0408	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
21	198

3.3.9.1.3   VS-SR-REQ-234333/C-Reverse Wipers

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Rear Reverse Gear Wipe	0x0409	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
21	199

3.3.10 VS-FUN-REQ-234334/A-Power Liftgate

3.3.10.1 Requirements

3.3.10.1.1 <u>VS-SR-REQ-234336/D-Power Liftgate</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

~~Feature Description~~	~~Feature Number~~	~~Configuration Number~~	~~HMI selection / Configuration Name~~
~~Power Liftgate~~	~~0x0C50~~	~~0x00~~	~~OFF / Disable Switch~~
		~~0x01~~	~~ON / Enable Switch~~

~~Note: Same feature number used for both Power Liftgate and Power Decklid~~

Duplicate of "<u>VS-REQ-280528-Power Decklid / Liftgate</u>". Please reference that requirement

~~SYNC Gen 3 Screen / ID HMI Number~~	~~HMI Setting ID~~
~~22~~	~~201~~

3.3.11 VS-FUN-REQ-280527/A-Power Decklid / Liftgate

3.3.11.1 Requirements

3.3.11.1.1 <u>VS-SR-REQ-280528/C-Power Decklid / Liftgate</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Power Decklid / Liftgate	0x0C50	0x00	OFF / Disable Switch
		0x01	ON / Enable Switch

Req: Whether the HMI shown for a Decklid or Liftgate the configuration would be shown in the HMI spec. For both those configurations use this feature number

SYNC Gen 3 Screen / ID HMI Number	HMI Settings ID
13, 22	232, 201

3.3.12 VS-FUN-REQ-298601/A-Handsfree Liftgate

3.3.12.1 Requirements

3.3.12.1.1 VS-SR-REQ-298602/A-Handsfree Liftgate

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Handsfree Liftgate	0x041E	0x00	OFF / Disable Switch
		0x01	ON / Enable Switch

SYNC Gen 3 Screen / ID HMI Number	HMI Settings ID
22	305

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Power Decklid / Liftgate	0x0C50	0x00	OFF / Disable Switch
		0x01	ON / Enable Switch

Req: for 0x0C50 above when Hands Free Liftgate is configured ON then 0x0 would correlate with Manual and 0x01 would correlate with Automatic.

Req: Whether the HMI shown for a Decklid or Liftgate the configuration would be shown in the HMI spec. For both those configurations use this feature number

SYNC Gen 3 Screen / ID HMI Number	HMI Settings ID
22	304

3.3.13 VS-FUN-REQ-234337/A-Lighting

3.3.13.1 Requirements

3.3.13.1.1 <u>VS-SR-REQ-234339/E-Auto Highbeam / Adaptive Drivebeam / Glare Free</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Auto Highbeam / Adaptive Drive Beam / Glare Free	0x080C	0x00	OFF / Disabled
		0x01	ON / Enabled

Note: whether the HMI refers to Auto Highbeam or Glare Free/Adaptive Drivebeam depends on the configuration. See HMI spec for details on the configuration.

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
23	202, 203

3.3.13.1.2 <u>VS-SR-REQ-234340/C-Daytime Running Lights</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Daytime Running Lights	0x0415	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
23	204

3.3.13.1.3 VS-SR-REQ-234341/C-Welcome Lighting

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Welcome Lighting / Approach Detection	0x0416	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
23	205

3.3.13.1.4 VS-SR-REQ-234342/C-Adaptive Headlights

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Adaptive Headlamps	0x040E	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
23	206

3.3.13.1.5 VS-SR-REQ-234343/C-Adaptive Headlight Set-Up

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Adaptive Headlamp Set-Up	0x040F	0x00	LHD (Left Hand Drive/Traffic)
		0x01	RHD (Right Hand Drive/Traffic)

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
24	207

3.3.13.1.6 VS-SR-REQ-234344/C-Autolamp Delay

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Autolamp Delay	0x040D	0x00	0 seconds (Off)
		0x01	1 second
		0x02	2 seconds
		…	…
		0xFF	255 seconds

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
25	208

3.3.13.1.7 VS-SR-REQ-272030/B-Predictive Lighting

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Predictive Lighting / Advanced Front Lighting	0x041B	0x00	OFF / Disabled
		0x01	ON / Enabled

Note:
Clarification of the SYNC HMI rule is pasted below in terms of system impact. Please reference the H31K HMI spec in case there are any updates to the rule. The version of the requirement below means that if predictive lighting is configured on with adaptive head lamps configured on that only feature number 0x040E Adaptive Headlamp will be used. Predictive Headlamps feature number 0x041B Predictive Lighting will not be used.

[H31k.R109.01] If vehicle is equipped with both Predictive Lighting and Adaptive Headlamps ((DE08, Byte 1, Bit 4 Adaptive Head Lamp control function = 1, (Enabled) AND Predictive Lighting (DE08, Byte 11, Bit 7 Predictive Lighting = 1 (Enabled)), then the list item "Adaptive Headlamps" will turn both on/off.

SYNC Gen 3 Screen / ID HMI Number
N/A

3.3.14   VS-FUN-REQ-234345/A-Locks

3.3.14.1   Requirements

3.3.14.1.1   VS-SR-REQ-234347/C-AutoLock

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
AutoLock (drive away locking)	0x0403	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
27	209

3.3.14.1.2 VS-SR-REQ-234348/C-AutoUnlock

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
AutoUnlock	0x0404	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
27	210

3.3.14.1.3 VS-SR-REQ-234356/C-Relock

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Auto Relock	0x0413	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number
27

3.3.14.1.4 VS-SR-REQ-234349/C-Mislock

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	**Feature Number**	**Configuration Number**	**HMI selection / Configuration Name**
Mis-lock feedback	0x0411	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	**HMI Setting ID**
27	211

3.3.14.1.5 <u>VS-SR-REQ-234351/D-Lock Trim Switch Inhibit</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	**Feature Number**	**Configuration Number**	**HMI selection / Configuration Name**
Lock Trim Switch Inhibit / Switch Inhibit	0x0410	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	**HMI Setting ID**
27	212

3.3.14.1.6 <u>VS-SR-REQ-234353/C-Audible Locking Feedback</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	**Feature Number**	**Configuration Number**	**HMI selection / Configuration Name**
Audible Locking Feedback	0x0419	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
27	215

3.3.14.1.7 VS-SR-REQ-234354/C-Exterior Lights Feedback - Locking

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Exterior Lights Feedback - Locking	0x041A	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
27	216

3.3.14.1.8 VS-SR-REQ-234357/D-Remote Unlock

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Remote Unlock: One/Two Stage Unlocking	0x0405	0x00	All Doors / One Stage
		0x01	Driver's door / Two Stage

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
26	217

3.3.14.1.9 <u>VS-SR-REQ-272687/B-Global Unlock</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
One/Two Stage Unlocking	0x0405	0x00	One Stage / All Doors / Global Unlock ON(enabled)
		0x01	Two Stage / Drivers Door / Global Unlock OFF(disabled)

Note: created separate requirement numbers for Global Unlock and Remote Unlock but they send the same feature numbers with different HMI labels. HMI labels are determined by configuration. See HMI document for configuration.

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
27	218

3.3.14.1.10 <u>VS-SR-REQ-272694/B-Intelligent Access</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Intelligent Access / Key Free / Passive Entry Customer Enable	0x0412	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
27	213, 214

3.3.14.1.11 <u>VS-SR-REQ-350467/A-Walk Away Lock</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Walk Away Lock	0x0420	0x00	OFF / Disabled
		0x01	ON / Enabled

HMI Setting ID
1034

3.3.14.1.12 VS-SR-REQ-350468/A-Walk Away Lock Feedback

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Walk Away Lock Feedback Audible	0x0421	0x00	OFF / Disabled
		0x01	ON / Enabled

HMI Setting ID
1035

3.3.14.1.13 VS-SR-REQ-350469/A-Double Lock Reminder Feedback

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Double Lock Reminder Feedback	0x0422	0x00	OFF / Disabled
		0x01	ON / Enabled

HMI Setting ID
1036

3.3.15 VS-FUN-REQ-234358/A-Mirrors

3.3.15.1 Requirements

3.3.15.1.1 VS-SR-REQ-234360/C-Auto Fold Mirrors

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Auto Fold Mirrors	0x0702	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
28	219

3.3.15.1.2 VS-SR-REQ-234361/C-Reverse Tilt Mirrors

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Reverse Tilt Mirrors	0x0703	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
28	220

3.3.16 VS-FUN-REQ-234362/B-Park Heater

3.3.16.1 Requirements

3.3.16.1.1 VS-SR-REQ-234364/D-Continue Heat - Park Heater

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Continue Heat – Park Heater	0x0C70	0x00	OFF / Disable
		0x01	ON / Enable

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18	172

3.3.16.1.2 VS-SR-REQ-267623/B-Heater Programming - Park Heater

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Heater Programming – Park Heater	0x0C91	0x00	OFF / Disable
		0x01	ON / Enable

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18b	173

3.3.16.1.3 VS-SR-REQ-234378/E-Programming Single Time - Park Heater

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Single Time – Park Heater	0x0C71	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18c	174

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Hour - Programming Single Time	0x0C72	0x00	Hour 0 (12 AM)
		0x01	Hour 1 (1 AM)
		0x02	Hour 2 (2 AM)
		0x03	Hour 3 (3 AM)
		0x04	…
		…	Hour 21 (9 PM)

0x16	Hour 22 (10 PM)
0x17	Hour 23 (11 PM)

Whether time is displayed in 12 or 24 mode depends what HMI setting is set for 12/24 hour mode.
- Reference function "VS-FUN-REQ-025239-Set 12/24 hour mode setting" in the Vehicle Setting SPSS for details.

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18c, 19a	175

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Minute - Programming Single Time	0x0C73	0x00	Minute 0
		0x01	Minute 1
		0x02	Minute 2
		0x03	Minute 3
		…	….
		0x39	Minute 57
		0x3A	Minute 58
		0x3B	Minute 59

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18c, 19a	175

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Year - Programming Single Time	0x0C74	0x00	2016
		0x01	2017

0x02	2018
…	…
0x51	2097
0x52	2098
0x53	2099

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18c, 19b	176

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Month - Programming Single Time	0x0C75	0x00	January
		0x01	February
		0x02	March
		0x03	April
		0x04	May
		0x05	June
		0x06	July
		0x07	August
		0x08	September
		0x09	October
		0x0A	November
		0x0B	December

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18c, 19b	176

Feature Description	**Feature Number**	**Configuration Number**	**HMI selection / Configuration Name**
Day - Programming Single Time	0x0C76	0x00	Day 1 (1st day of the month)
		0x01	Day 2
		0x02	Day 3
		0x03	Day 4
		…	…
		0x1C	Day 29
		0x1D	Day 30
		0x1E	Day 31

SYNC Gen 3 Screen / ID HMI Number	**HMI Setting ID**
18c, 19b	176

3.3.16.1.4 VS-SR-REQ-234393/F-Programming Time 1 - Park Heater

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	**Feature Number**	**Configuration Number**	**HMI selection / Configuration Name**
Programming Time 1 – Park Heater	0x0C77	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	**HMI Setting ID**
18d	177

Feature Description	**Feature Number**	**Configuration Number**	**HMI selection / Configuration Name**
Hour - Programming Time 1	0x0C78	0x00	Hour 0 (12 AM)
		0x01	Hour 1 (1 AM)
		0x02	Hour 2 (2 AM)
		0x03	Hour 3 (3 AM)
		0x04	…
		…	Hour 21 (9 PM)
		0x16	Hour 22 (10 PM)
		0x17	Hour 23 (11 PM)

Whether time is displayed in 12 or 24 mode depends what HMI setting is set for 12/24 hour mode. Reference function "VS-FUN-REQ-025239-Set 12/24 hour mode setting" in the Vehicle Setting SPSS for details.

SYNC Gen 3 Screen / ID HMI Number	**HMI Setting ID**
18d, 19a	178

Feature Description	**Feature Number**	**Configuration Number**	**HMI selection / Configuration Name**
Minute - Programming Time 1	0x0C79	0x00	Minute 0
		0x01	Minute 1
		0x02	Minute 2
		0x03	Minute 3
		…	….
		0x39	Minute 57
		0x3A	Minute 58
		0x3B	Minute 59

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d, 19a	178

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Time 1 – Monday	0x0C7A	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d	179

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Time 1 – Tuesday	0x0C7B	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d	180

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Time 1 – Wednesday	0x0C7C	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d	181

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Time 1 – Thursday	0x0C7D	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d	182

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Time 1 – Friday	0x0C7E	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d	183

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Time 1 – Saturday	0x0C7F	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d	184

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Time 1 – Sunday	0x0C80	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d	185

3.3.16.1.5 VS-SR-REQ-234394/E-Programming Time 2 - Park Heater

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Time 2 – Park Heater	0x0C81	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d	186

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Hour - Programming Time 2	0x0C82	0x00	Hour 0 (12 AM)
		0x01	Hour 1 (1 AM)
		0x02	Hour 2 (2 AM)
		0x03	Hour 3 (3 AM)
		0x04	…
		…	Hour 21 (9 PM)
		0x16	Hour 22 (10 PM)
		0x17	Hour 23 (11 PM)

Whether time is displayed in 12 or 24 mode depends what HMI setting is set for 12/24 hour mode. Reference function "VS-FUN-REQ-025239-Set 12/24 hour mode setting" in the Vehicle Setting SPSS for details.

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d, 19a	187

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Minute - Programming Time 2	0x0C83	0x00	Minute 0
		0x01	Minute 1
		0x02	Minute 2
		0x03	Minute 3
		…	….
		0x39	Minute 57
		0x3A	Minute 58
		0x3B	Minute 59

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d, 19a	187

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Time 2 – Monday	0x0C84	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d	188

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Time 2 – Tuesday	0x0C85	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d	189

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Time 2 – Wednesday	0x0C86	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d	190

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Time 2 – Thursday	0x0C87	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d	191

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Time 2 – Friday	0x0C88	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d	192

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Time 2 – Saturday	0x0C89	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d	193

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Programming Time 2 – Sunday	0x0C8A	0x00	OFF / Disable
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
18d	194

3.3.17 VS-FUN-REQ-262499/A-Aux Heater

3.3.17.1 Requirements

3.3.17.1.1 VS-SR-REQ-262500/B-Aux Heater

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Aux Heater – Fuel Operated Heater	0x0C90	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
13	171

3.3.18 VS-FUN-REQ-273580/A-Passenger Airbag

3.3.18.1 Requirements

3.3.18.1.1 VS-SR-REQ-273581/D-Passenger Airbag

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Passenger Airbag	0x0E50	0x00	OFF / Disabled
		0x01	ON / Enabled
		0x02	Gray Out Menu

If Feature.st is set as "Passenger Airbag 0x0E50 = 0x2 Gray out Menu" then the passenger airbag menu setting shall be Grayed out and settings not selectable (see HMI spec for exact way the HMI is shown).

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
13 / 54	225

3.3.19 VS-FUN-REQ-274739/A-Tire Mobility Kit

3.3.19.1 Requirements

3.3.19.1.1 <u>VS-SR-REQ-274740/C-Tire Mobility</u>
For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Tire Mobility	0x0909	0x00	1 Year
		0x01	2 Years
		0x02	3 Years
		0x03	4 Years

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
49	227

3.3.20 VS-FUN-REQ-238326/A-Power Running Board

3.3.20.1 Requirements

3.3.20.1.1 <u>VS-SR-REQ-238327/E-Power Running Board</u>
For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

<u>No Longer Supported via feature based message protocol</u>

~~Feature Description~~	~~Feature Number~~	~~Configuration Number~~	~~HMI selection / Configuration Name~~
~~Power Running Board~~	~~0x0C51~~	~~0x00~~	~~Auto~~
		~~0x01~~	~~Off~~
		~~0x02~~	~~Out~~

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
~~51 / 29~~	~~159~~

3.3.21 VS-FUN-REQ-234230/B-Easy Entry / Easy Exit (Seat Adjustment)

3.3.21.1 Requirements

3.3.21.1.1 <u>VS-SR-REQ-234232/F-Easy Entry / Easy Exit (Seat Adjustment)</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Easy Entry / Easy Exit (Seat Adjustment)	0x0701	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
51	157

3.3.22 VS-FUN-REQ-272707/B-Auto Entry/Exit Height (Easy Access Height)

3.3.22.1 Requirements

3.3.22.1.1 <u>VS-SR-REQ-272708/D-Auto Entry/Exit Height (Easy Access Height)</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Auto Entry/Exit Height (Easy Access Height)	0x0B04	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
51	158

3.3.23 VS-FUN-REQ-276182/A-Cargo Loading

3.3.23.1 Requirements

3.3.23.1.1 VS-SR-REQ-276183/A-Cargo Loading

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Cargo Loading	0x0B05	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number
51

3.3.24 VS-FUN-REQ-272705/A-Air Suspension

3.3.24.1 Requirements

3.3.24.1.1 VS-SR-REQ-272706/C-Air Suspension

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Air Suspension	0x0B03	0x00	OFF / Disabled

(Air Suspension Service)		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
13	200

3.3.25 VS-FUN-REQ-279097/A-MyColor

3.3.25.1 Requirements

3.3.25.1.1 <u>VS-SR-REQ-279098/B-Gauge Color / Primary Color - MyColor</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Gauge Color / Primary Color - MyColor	0x0940	0x0	OFF
		0x1	Ice Blue
		0x2	White
		0x3	Green / Highland Green
		0x4	Purple
		0x5	Blue
		0x6	Orange
		0x7	Red
		0x8	MyColor1
		0x9	MyColor2
		0xA	MyColor3

Req: This feature number and the configuration numbers are also used for both "Gauge Color" HMI and "Primary Color" HMI.
- See HMI specification for configuration used to distinguish between Gauge Color and Primary Color HMI.

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
100, 101, 102	241, 254

3.3.25.1.2 VS-SR-REQ-279099/B-Halo Color / Secondary Color - MyColor

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Halo Color / Secondary Color - MyColor	0x0941	0x0	OFF
		0x1	Ice Blue
		0x2	White
		0x3	Green / Highland Green
		0x4	Purple
		0x5	Blue
		0x6	Orange
		0x7	Red
		0x8	MyColor1
		0x9	MyColor2
		0xA	MyColor3

Req: This feature number and the configuration numbers are also used for both "Halo Color" HMI and "Secondary Color" HMI.
- See HMI specification for configuration used to distinguish between Halo Color and Gauge Color HMI.

SYNC Gen 3 Screen / ID HMI Number	HMI Settings ID
100, 101, 102	243, 255

3.3.25.1.3 VS-SR-REQ-279101/B-Halo Lighting - MyColor

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Halo Lighting - MyColor	0x0942	0x0	OFF / Disabled
		0x1	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Settings ID
100	242

3.3.25.1.4 VS-SR-REQ-280522/B-Color Wheel 1 - MyColor

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Color Wheel 1 – MyColor	0x0943	0x00	OFF
		0x01	Color 1
		0x02	Color 2
		0x03	Color 3
		cont.	….
		0x18	Color 24
		0x19	Color 25
		0x1A	Color 26

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
103	247

3.3.25.1.5 VS-SR-REQ-280523/B-Color Wheel 2 - MyColor

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Color Wheel 2 - MyColor	0x0944	0x00	OFF
		0x01	Color 1
		0x02	Color 2
		0x03	Color 3
		cont.	….
		0x18	Color 24
		0x19	Color 25
		0x1A	Color 26

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
103	248

3.3.25.1.6 VS-SR-REQ-280524/B-Color Wheel 3 - MyColor

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Color Wheel 3 - MyColor	0x0945	0x00	OFF

	0x01	Color 1
	0x02	Color 2
	0x03	Color 3
	cont.	….
	0x18	Color 24
	0x19	Color 25
	0x1A	Color 26

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
103	249

3.3.25.1.7 VS-SR-REQ-279104/B-Ambient Lighting - MyColor

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Ambient Lighting - MyColor	0x0946	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
100, 101	244, 256

3.3.25.1.8 VS-SR-REQ-280525/B-Ambient Color - MyColor

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Ambient Color - MyColor	0x0947	0x0	OFF
		0x1	Ice Blue
		0x2	White
		0x3	Green / Highland Green
		0x4	Purple
		0x5	Blue
		0x6	Orange
		0x7	Red
		0x8	MyColor1
		0x9	MyColor2
		0xA	MyColor3

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
100, 101, 102	246, 258

3.3.25.1.9 VS-SR-REQ-280526/B-Ambient Dim - MyColor

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Ambient Dim - MyColor	0x0948	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
100, 101, 104	245, 257

3.3.26   VS-FUN-REQ-280537/A-Auto Regen

3.3.26.1   Requirements

3.3.26.1.1   VS-SR-REQ-280538/B-Auto Regen

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Auto Regen Control / Auto Regeneration Control	0x0D06	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
13	237

3.3.27   VS-FUN-REQ-280668/A-Trailer Brake

3.3.27.1   Requirements

3.3.27.1.1   VS-SR-REQ-280669/A-Mode - Trailer Brake

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Mode – Trailer Brake	0x0E10	0x00	Electric
		0x01	EOH (Electric Over Hydraulic)

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
107	239

3.3.27.1.2 VS-SR-REQ-280670/B-Effort - Trailer Brake

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Effort – Trailer Brake	0x0E10 0x0E11	0x00	Heavy
		0x01	Medium
		0x02	Light

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
108	240

3.3.28 VS-FUN-REQ-280671/A-Exhaust Mode

3.3.28.1 Requirements

3.3.28.1.1 VS-SR-REQ-280672/B-Exhaust Mode

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Exhaust Mode	0x0D09	0x00	Quiet / Stealth
		0x01	Normal
		0x02	Sport
		0x03	Track

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
97	250

3.3.29   VS-FUN-REQ-280678/A-Quiet Start - Exhaust Mode

3.3.29.1   Requirements

3.3.29.1.1   VS-SR-REQ-280679/B-Quiet Start - Exhaust Mode

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Quiet Start – Exhaust Mode	0x0D0A	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
98	251

3.3.30 VS-FUN-REQ-280682/A-Set Quiet Time - Exhaust Mode

3.3.30.1 Requirements

3.3.30.1.1 VS-SR-REQ-280683/B-Set Quiet Time - Exhaust Mode

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Set Quiet Time – Exhaust Mode	0x0D0B	0x00	Hour 0 (12 AM)
		0x01	Hour 1 (1 AM)
		0x02	Hour 2 (2 AM)
		0x03	Hour 3 (3 AM)
		0x04	…
		…	Hour 21 (9 PM)
		0x16	Hour 22 (10 PM)
		0x17	Hour 23 (11 PM)

Whether time is displayed in 12 or 24 mode depends what HMI setting is set for 12/24 hour mode.
Reference function "VS-FUN-REQ-025239-Set 12/24 hour mode setting" in the Vehicle Setting SPSS for details.

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
98, 99	252

3.3.31 VS-FUN-REQ-280684/A-Rev Match (Engine Revolution Match)

3.3.31.1 Requirements

3.3.31.1.1 VS-SR-REQ-280685/B-Rev Match (Engine Revolution Match)

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Rev Match (Engine Revolution Match)	0x0D08	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 3 Screen / ID HMI Number	HMI Setting ID
96	253

3.4 Additional Settings - FBMP based settings

3.4.1 Additional Settings (FBMP based settings) - General Requirements

3.4.1.1 VS-SR-REQ-333163/A-Settings Start-Up

The Settings under Additional Settings (FBMP based) shall be queried by the Centerstack Settings HMI Client when the Ignition_Status changes from OFF/ACC to Run. See the FBMP SPSS for details on querying at start-up when ignition_status changes to Run.

When Ignition_Status changes from Run to OFF/ACC the Settings shall be considered unknown. The HMI should not show any settings selections when Settings selection information is unknown.

3.4.1.2 VS-SR-REQ-333164/A-HMI Activation during Run

Settings in this Additional Settings (FBMP based settings) section can only be selected on the HMI when the Ignition_Status = Run.

3.4.2 VS-FUN-REQ-333131/A-Tire Pressure Reset / Tire Monitor

3.4.2.1 Requirements

3.4.2.1.1 VS-SR-REQ-333089/A-Tire Pressure Reset / Tire Monitor

For this feature when performing the "Set" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Tire Pressure Reset / Tire Monitor	0x0960	0x00	Null / Inactive
		0x01	Reset (Request from Centerstack Settings HMI Client)
		0x2	Tire Pressure Reset Successful (Response from the Feature Server)
		0x3	Tire Pressure Not Reset (Response from the Feature Server)

The Centerstack Settings HMI Client shall not query this feature number at start-up as this is a reset function. If it was queried at start-up as an error state then the Tire Monitor feature Server would respond back with 0x0 Null / Inacitve.

If some kind of Notification/Pop-ups are supported on the Centerstack Settings HMI Client (ex Successful / Not Successful) then configuration numbers 0x2 and 0x3 would be used to indicate success or failure to reset. The Notification/Pop-up shall only occur when 0x2 or 0x3 is first set (periodic message on the bus of the same state would not re-initiate a pop-up).

SYNC Gen 4.0 Screen / ID HMI Number	HMI Setting ID
TBD	1012

3.4.3   VS-FUN-REQ-333128/A-Border Crossing

3.4.3.1   Requirements

3.4.3.1.1   <u>VS-SR-REQ-333100/A-Border Crossing</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Considerate Prompts - Border Crossing	0x0961	0x00	Reminder OFF
		0x01	Reminder ON

SYNC Gen 4.0 Screen / ID HMI Number	HMI Setting ID
TBD	1013

3.4.4   VS-FUN-REQ-333136/A-Ecocoach

3.4.4.1   Requirements

3.4.4.1.1   <u>VS-SR-REQ-333154/A-Ecocoach</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
EcoCoach / Show EcoCoach in Go Mode	0x0962	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 4.0 Screen / ID HMI Number	HMI Setting ID
TBD	1014

3.4.4.1.2 VS-SR-REQ-333155/A-Eco Advices

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Ecocoach - Eco Advices	0x0963	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 4.0 Screen / ID HMI Number	HMI Setting ID
TBD	1015

3.4.4.1.3   <u>VS-SR-REQ-333156/A-Coasting Support</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Ecocoach - Coasting Support	0x0964	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 4.0 Screen / ID HMI Number	HMI Setting ID
TBD	1016

3.4.5   VS-FUN-REQ-333107/B-Speedometer

3.4.5.1   Requirements

3.4.5.1.1   <u>VS-SR-REQ-333114/C-Speedometer MPH</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Speedometer MPH	0x0965	0x00	OFF / Disabled
		0x01	ON / Enabled

Note: the Speedometer MPH and Speedometer Km/h settings are mutually exclusive. Which setting to show is handled via configurations based on market. See table in requirement "<u>VS-REQ-341178-Mapping Table – Speedometer Major Units</u>" for details.

- Ex. If in the Canada the vehicle major speed scale is Km/h on the Cluster speedometer, then:
  - o   the Speedometer MPH setting would be configured enabled to be shown on the HMI, and
  - o   the Speedometer Km/h setting would not be shown

HMI Setting ID
1017

3.4.5.1.2   VS-SR-REQ-333162/C-Speedometer Km/h

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Speedometer Km/h	0x0966	0x00	OFF / Disabled
		0x01	ON / Enabled

Note: the Speedometer MPH and Speedometer Km/h settings are mutually exclusive. Which setting to show is handled via configurations based on market. See table in requirement "VS-REQ-341178-Mapping Table – Speedometer Major Units" for details.
- Ex. If in the US the vehicle major speed scale is MPH on the Cluster speedometer, then:
  - o   the Speedometer Km/h setting would be configured enabled to be shown on the HMI, and
  - o   the Speedometer MPH setting would not be shown

HMI Setting ID
1018

3.4.5.1.3   VS-SR-REQ-341178/B-Mapping Table - Speedometer Major Units

The table below maps the country to the Cluster major speedometer speed scale units (MPH or Km/h).

Market	Cluster Speedometer major speed scale units
US and US Territories	MPH
UK	MPH
All other markets	Km/h

3.4.6   VS-FUN-REQ-333158/A-Brake Coach

3.4.6.1   Requirements

3.4.6.1.1   VS-SR-REQ-333159/A-Brake Coach

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Brake Coach / Show Brake Coach in Go Mode	0x0967	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 4.0 Screen / ID HMI Number	HMI Setting ID
TBD	1019

3.4.7   VS-FUN-REQ-333160/B-Neutral Tow

3.4.7.1   MD-REQ-342193/A-TrnGearNtmAllow_B_Stat

Message Type: Status

Note: Status signal from the Neutral Tow Server indicating if the Neutral Tow HMI needs to be greyed out or not

Logical Signal Name	Literals	Value	Description
TrnGearNtmAllow_B_Stat	No	0x0	Grey out HMI for Neutral Tow
	Yes	0x1	This signal encoding does not cause the Neutral Tow Setting HMI to be greyed out

3.4.7.2   Requirements

3.4.7.2.1   <u>VS-SR-REQ-333161/B-Neutral Tow</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	**Feature Number**	**Configuration Number**	**HMI selection / Configuration Name**
Neutral Tow	0x0968	0x00	OFF / Disabled - not in Neutral Tow (Response/Status from FBMP Feature Server)
		0x01	ON / Enabled - in Neutral tow (Response/Status from FBMP Feature Server)
		0x02	Initialize for Neutral Tow (Set Request from Centerstack Settings HMI Client)

The Centerstack Setting HMI Client shall not Query feature numbers 0x0968 at start-up.
- Note: if query at start-up (if was last item queried by Centerstack Settings HMI Client) the FBMP Neutral Tow Server could potentially keep broadcasting the last state of Disabled which could cause issues with exiting the HMI flow at the incorrect time in the Neutral Tow screen flow.

The Centerstack Settings HMI Client shall grey out the Neutral Tow HMI setting whenever:
1. The Centerstack Settings HMI Client receives TrnGearNtmAllow_B_Stat = No, OR
2. The Centerstack Setting HMI Client receives the Neutral Tow feature number 0x0968 set to 0x01 ON/Enabled
Else
Don't grey out the Neutral Tow "Initialize for Neutral Tow" setting in the HMI.
<u>Note</u>: How to show the greyed out setting is defined by the HMI. HMI may decide not to show the greyed out setting at all (ie remove neutral tow setting). Reference HMI specification for how greyed out setting is shown.

The Centerstack Setting HMI Client shall use the Set command to set feature number 0x0968 Neutral Tow to "0x02 Initialize for Neutral Tow" as defined by the HMI. See HMI for details such as HMI setting being pressed and held for 2 seconds before making the Set request
- Note: when do the Set command there may not be a response from the FBMP Neutral Tow Server module. This may be because the user has not put the vehicle in Neutral and hence the response is in a pending state. The screen flow may take you to a "Place Vehicle in Neutral" HMI screen and there might be no response until the vehicle is put in Neutral or some other state (ex Drive which would disable Neutral Tow). See HMI screen flow for details.

The Neutral Tow setting (ie Initialize for Neutral Tow) is only available to be selected when Neutral Tow is not greyed out.

The Centerstack Settings HMI Client shall never do a Set request for OFF/Disabled or On/Enabled.

The FBMP Neutral Tow Server shall respond to the Set request for Initialize for Neutral Tow request with either OFF/Disabled or ON/Enabled when the conditions are met to send a FBMP response. See FBMP Neutral Tow Server specification for details.
- Note: FBMP Neutral Tow Server also means "Gateway/Translator module" if it is the middle man for CAN signals to the Server module

<u>HMI screen flow rules based on CAN signals:</u>

- When the "Place Vehicle in Neutral" HMI is shown, that HMI screen shall be exited to the appropriate HMI screen whenever the Centerstack Settings HMI Client receives:
  1. TrnGearNtmAllow_B_Stat = No (setting greyed out), or
  2. Neutral Tow feature number 0x0968 set as enabled (setting greyed out), or
  3. Neutral Tow feature number 0x0968 is set to disabled ("Initialize for Neutral Two" setting still available to be selected unless TrnGearNtrmAllow_B_Stat = No)
- If the signal TrnGearNtmAllow_B_Stat = No at any time, then exit the screen flow and the Neutral Tow setting shall be greyed out. See HMI for details
- When TrnGearNtmAllow_B_Stat = Yes and the last state Rx by the Centerstack Settings HMI Client of feature 0x0968 was not 0x01 Enabled for this ignition cycle (ie disabled or no FBMP 0x0968 value Rx), then if the user exits the Neutral Tow HMI on the screen for "Place the Vehicle in Neutral" and re-enters the Neutral Tow settings screen the Initialize for Neutral Tow settings is allowed to be sent again using FBMP (if HMI supports).

HMI Setting ID
1020

3.4.8   VS-FUN-REQ-333185/A-Nav Repeater in Cluster

3.4.8.1   Requirements

3.4.8.1.1   VS-SR-REQ-333186/A-Nav Repeater in the Cluster

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Nav Repeater in the Cluster	0x0969	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 4.0 Screen / ID HMI Number	HMI Setting ID
TBD	1021

3.4.9   VS-FUN-REQ-333189/A-Maps in the Cluster

3.4.9.1   Requirements

3.4.9.1.1   <u>VS-SR-REQ-333192/A-Maps in the Cluster</u>

For this feature when performing the "Set" or "Query" operation the Feature Number and Configuration Number in the Feature.Rq and Feature.St messages shall be used below.

If Enhanced Memory is supported the Active Personality Profile shall be used for PersIndex. If Enhanced Memory is not supported PersIndex shall be set to Vehicle.

Feature Description	Feature Number	Configuration Number	HMI selection / Configuration Name
Maps in the Cluster	0x096A	0x00	OFF / Disabled
		0x01	ON / Enabled

SYNC Gen 4.0 Screen / ID HMI Number	HMI Setting ID
TBD	1022

4   Appendix: Reference Documents

Reference #	Document Title
1	Feature Based Message Protocol SPSS • Nothing earlier than April 2017 release
2	Driver Restrictions SPSS
3	HMI Driver Restriction specification(s) • For SYNC H21J_SYNC_GEN3_Driver_Restrictions
4	Setting in the Centerstack HMI specifications • For SYNC H31k HMI spec and SYNC H31K supplement
5	Vehicle Settings (Global) SPSS
6	MyKey Settings in the Centerstack SPSS
7	Infotainment Diagnostics Specification
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