Research & Vehicle Technology
"Infotainment Systems Product Development"

Feature – Active Park Assist V2

APIM Infotainment Subsystem Part Specific Specification (SPSS)

Version 1.10

UNCONTROLLED COPY IF PRINTED

Version Date: October 18, 2019

FORD CONFIDENTIAL

Revision History

Date	Version	Notes	
October 5, 2015	**1.0**	**Initial Release**	
January 8, 2016	**1.1**		
	CAMERA-FUR-REQ-196898/B-HMI Screen Logical Arbitration - Determine Dynamic Variables (PDC_Stat)	schapeki: Update signal states for PrkAidMsgTxt_D_Rq to match GMRDB	
	202079/E-Active Park Assist (APA) Signal list – Received by Infotainment ECU (from PAM)	Structure only	
	CAMERA-FUR-REQ-131159/D-Active Park Assist (APA) Signal - [ApaAcsy_D_RqDrv]	schapeki: populate state $5 for door ajar	
	CAMERA-FUR-REQ-197168/B-Active Park Assist (APA) Signal - [ApaMsgTxt_D_Rq]	schapeki: update signal name	
	CAMERA-FUR-REQ-203878/A-Active Park Assist (APA) Signal - [ApaTrgtDist_D_Stat]	schapeki: add new signal for target maneuver arrow fill percentage	
	CAMERA-FUR-REQ-131160/E-Active Park Assist (APA) Signal - [PrkAidMsgTxt_D_Rq]	schapeki: add state 0x8 to PrkAidMsgTxt_D_Rq	
	202081/E-Active Park Assist (APA) Signal Processing	Structure only	
	CAMERA-FUR-REQ-130494/E-Active Park Assist (APA) Signal Processing - Positional ScanLeft	schapeki: Update to add column for ApaDistToTrgt_D_Stat	
	CAMERA-FUR-REQ-130495/E-Active Park Assist (APA) Signal Processing - Positional ScanRight	schapeki: Update to add column for ApaDistToTrgt_D_Stat	
	CAMERA-FUR-REQ-130496/E-Active Park Assist (APA) Signal Processing - Positional Symbol1	schapeki: Update to add column for ApaDistToTrgt_D_Stat, update for new FAPA content.	
	CAMERA-FUR-REQ-130497/E-Active Park Assist (APA) Signal Processing - Positional Symbol2	schapeki: Update to add column for ApaDistToTrgt_D_Stat, update for new FAPA content.	
	CAMERA-FUR-REQ-130498/E-Active Park Assist (APA) Signal Processing - Positional Text1	schapeki: Update to add column for ApaDistToTrgt_D_Stat, update for new FAPA content.	
	CAMERA-FUR-REQ-130500/E-Active Park Assist (APA) Signal Processing - Positional Text2	schapeki: Update to add column for ApaDistToTrgt_D_Stat, update for new FAPA content.	
	CAMERA-FUR-REQ-130502/E-Active Park Assist (APA) Signal Processing - Positional CarLeft	schapeki: Update to add column for ApaDistToTrgt_D_Stat	
	CAMERA-FUR-REQ-165423/C-Active Park Assist (APA) Signal Processing - Positional CarRight	schapeki: Update to add column for ApaDistToTrgt_D_Stat	
	CAMERA-FUR-REQ-165424/C-Active Park Assist (APA) Signal Processing - Positional CarPOA	schapeki: Update to add column for ApaDistToTrgt_D_Stat	
	CAMERA-FUR-REQ-130503/F-Active Park Assist (APA) Signal Processing - Positional ParkPilot	schapeki: Update to add column for ApaDistToTrgt_D_Stat	
	CAMERA-FUR-REQ-130504/E-Active Park Assist (APA) Signal Processing - Positional ParkScenarioLeft	schapeki: Update to add column for ApaDistToTrgt_D_Stat	
	CAMERA-FUR-REQ-130505/E-Active Park Assist (APA) Signal Processing - Positional ParkScenarioRight	schapeki: Update to add column for ApaDistToTrgt_D_Stat	
	CAMERA-FUR-REQ-161347/D-Active Park Assist (APA) Signal Processing - Positional ParkScenarioPOA	schapeki: Update to add column for ApaDistToTrgt_D_Stat	
	CAMERA-FUR-REQ-165427/C-Active Park Assist (APA) Signal Processing - Positional CarNonRVCSac	schapeki: Update to add column for ApaDistToTrgt_D_Stat	
	CAMERA-FUR-REQ-165428/C-Active Park Assist (APA) Signal Processing - Positional ParkInArrow	schapeki: Update to add column for ApaDistToTrgt_D_Stat	
	CAMERA-FUR-REQ-161348/D-Active Park Assist (APA) Signal Processing - Positional POAleft	schapeki: Update to add column for ApaDistToTrgt_D_Stat, update for new FAPA content.	
	CAMERA-FUR-REQ-161349/D-Active Park Assist (APA) Signal Processing - Positional POAright	schapeki: Update to add column for ApaDistToTrgt_D_Stat	
	CAMERA-FUR-REQ-165437/C-Active Park Assist (APA) Signal Processing - Positional POArightSelectd	schapeki: Update to add column for ApaDistToTrgt_D_Stat	
	CAMERA-FUR-REQ-165441/C-Active Park Assist (APA) Signal Processing - Positional POAleftSelectd	schapeki: Update to add column for ApaDistToTrgt_D_Stat	
	CAMERA-FUR-REQ-165442/C-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarVisibility	schapeki: Update to add column for ApaDistToTrgt_D_Stat, update for new FAPA content.	

	CAMERA-FUR-REQ-165445/C-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarHighlight	schapeki: Update to add column for ApaDistToTrgt_D_Stat
	CAMERA-FUR-REQ-165446/C-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarGreyout	schapeki: Update to add column for ApaDistToTrgt_D_Stat
	CAMERA-FUR-REQ-165449/C-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuContent	schapeki: Update to add column for ApaDistToTrgt_D_Stat
	235124/C-Reverse Video Camera (RVC) with Active Park Assist (APA) and Park Distance Control (PDC) Signal Interface	Structure only
	235125/C-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) Signal Processing	Structure only
	CAMERA-FUR-REQ-161355/D-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol3	schapeki: Update to add column for ApaDistToTrgt_D_Stat, update for new FAPA content.
	CAMERA-FUR-REQ-161356/D-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol4	schapeki: Update to add column for ApaDistToTrgt_D_Stat, update for new FAPA content.
	CAMERA-FUR-REQ-161357/D-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text3	schapeki: Update to add column for ApaDistToTrgt_D_Stat, update for new FAPA content.
	CAMERA-FUR-REQ-161358/D-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text4	schapeki: Update to add column for ApaDistToTrgt_D_Stat, update for new FAPA content.
	CAMERA-FUR-REQ-204405/A-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text5	Add new table for Text5 positional
March 18, 2016	**1.2**	
	CAMERA-FUR-REQ-165413/B-Active Park Assist Graphical Requirements - 6	schapeki: Update to clarify flicker prevention case
	235042/D-Display HMI Arbitration General Requirements	schapeki: Structure update only.
	CAMERA-FUR-REQ-131013/C-Display HMI Arbitration General Requirements 5	schapeki: Clarify fault requirement for screen timeout.
	CAMERA-FUR-REQ-211760/A-Display HMI Arbitration General Requirements 8	schapeki: Added to specify fault screen design characteristics.
	CAMERA-FUR-REQ-161327/D-Display HMI Arbitration Internal Variable Table (Timers and Debounce)	schapeki: Remove typical time recommendations and end-user control of exit delay.
	CAMERA-FUR-REQ-131020/E-HMI Screen Logical Arbitration - Determine Dynamic Variables (GearPosHMI)	schapeki: Update tables to force reverse gear for RVC entry during SAC.
	CAMERA-FUR-REQ-196898/C-HMI Screen Logical Arbitration - Determine Dynamic Variables (PDC_Stat)	schapeki: update states to match latest core direction for faults and blockage.
	CAMERA-FUR-REQ-131023/D-HMI Screen Logical Arbitration - PDC Dedicated Display	schapeki: Update to allow fault display timeout while latched in fault state.
	CAMERA-FUR-REQ-130496/F-Active Park Assist (APA) Signal Processing - Positional Symbol1	schapeki: Update table for stop, fill % and backward arrow.
	CAMERA-FUR-REQ-130497/F-Active Park Assist (APA) Signal Processing - Positional Symbol2	schapeki: Update first row symbol, add second to last row (wait for steering).
	CAMERA-FUR-REQ-130498/F-Active Park Assist (APA) Signal Processing - Positional Text1	schapeki: Add row for Stop (red text).
	CAMERA-FUR-REQ-130500/F-Active Park Assist (APA) Signal Processing - Positional Text2	schapeki: Update rows for 27,28,29,30 (trailer, sensors, sensors, remove hands), 33 (T/C), 37,38 (fault, brake), 41 (wheel). Add row 43 (wait for steering).
	CAMERA-FUR-REQ-165442/D-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarVisibility	schapeki: Replace with applicable ApaSys_D_Stat signals.
	CAMERA-FUR-REQ-165446/D-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarGreyout	schapeki: Add row 1 for SAPP greyout.
	CAMERA-FUR-REQ-161355/E-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol3	schapeki: Add row 4 for stop, update rows 6-7 for fill arrow, 29 for release wheel.

	CAMERA-FUR-REQ-161356/E-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol4	schapeki: Add row 4 (wait for steering).
	CAMERA-FUR-REQ-161357/E-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text3	schapeki: Add row 5 for stop.
	CAMERA-FUR-REQ-161358/E-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text4	schapeki: Add row 9 check surroundings, row 11 wait for steering.
June 29, 2016	**1.3**	
	CAMERA-FUR-REQ-166820/C-HMI Screen Logical Arbitration - Camera	schapeki: update for fault handling bugfixes
	CAMERA-FUR-REQ-166823/D-HMI Screen Logical Arbitration - APA Dedicated Display	schapeki: update for fault handling bugfixes
	CAMERA-FUR-REQ-131023/E-HMI Screen Logical Arbitration - PDC Dedicated Display	schapeki: update for fault handling bugfixes
	CAMERA-FUR-REQ-130496/G-Active Park Assist (APA) Signal Processing - Positional Symbol1	schapeki: bug fixes, table updates.
	CAMERA-FUR-REQ-130498/G-Active Park Assist (APA) Signal Processing - Positional Text1	schapeki: bug fixes, table updates.
	CAMERA-FUR-REQ-130500/G-Active Park Assist (APA) Signal Processing - Positional Text2	schapeki: bug fixes, table updates.
	CAMERA-FUR-REQ-130503/G-Active Park Assist (APA) Signal Processing - Positional ParkPilot	schapeki: bug fixes, table updates.
	CAMERA-FUR-REQ-130504/F-Active Park Assist (APA) Signal Processing - Positional ParkScenarioLeft	schapeki: bug fixes, table updates.
	CAMERA-FUR-REQ-130505/F-Active Park Assist (APA) Signal Processing - Positional ParkScenarioRight	schapeki: bug fixes, table updates.
	CAMERA-FUR-REQ-165427/D-Active Park Assist (APA) Signal Processing - Positional CarNonRVCSac	schapeki: bug fixes, table updates.
	CAMERA-FUR-REQ-165442/E-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarVisibility	schapeki: bug fixes, table updates.
	CAMERA-FUR-REQ-161355/F-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol3	schapeki: bug fixes, table updates.
	CAMERA-FUR-REQ-161356/F-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol4	schapeki: bug fixes, table updates.
	CAMERA-FUR-REQ-161357/F-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text3	schapeki: bug fixes, table updates.
	CAMERA-FUR-REQ-161358/F-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text4	schapeki: bug fixes, table updates.
September 27, 2016	**1.4**	
	405481/A-HotKey Shortcut Menu General Requirements	schapeki: New general requirements for shortcut menu
	CAMERA-FUR-REQ-236837/A-HotKey Shortcut Menu General Requirements 1	schapeki: New functional requirement for Shortcut Menu
	CAMERA-FUR-REQ-236838/A-HotKey Shortcut Menu General Requirements 2	schapeki: New functional requirement for Shortcut Menu
	CAMERA-FUR-REQ-236839/A-HotKey Shortcut Menu General Requirements 3	schapeki: New functional requirement for Shortcut Menu
	CAMERA-FUR-REQ-235899/A-HotKey Shortcut Menu General Requirements 4	schapeki: New functional requirement for Shortcut Menu
	CAMERA-FUR-REQ-235900/A-HotKey Shortcut Menu General Requirements 5	schapeki: New functional requirement for Shortcut Menu
	CAMERA-FUR-REQ-235901/A-HotKey Shortcut Menu General Requirements 6	schapeki: New functional requirement for Shortcut Menu
	CAMERA-FUR-REQ-236526/A-HotKey Shortcut Menu General Requirements 7	schapeki: New functional requirement for Shortcut Menu
	CAMERA-FUR-REQ-236527/A-HotKey Shortcut Menu General Requirements 8	schapeki: New functional requirement for Shortcut Menu

CAMERA-FUR-REQ-236529/A-HotKey Shortcut Menu General Requirements 9	schapeki: New functional requirement for Shortcut Menu
CAMERA-FUR-REQ-236530/A-HotKey Shortcut Menu General Requirements 10	schapeki: New functional requirement for Shortcut Menu
CAMERA-FUR-REQ-236531/A-HotKey Shortcut Menu General Requirements 11	schapeki: New functional requirement for Shortcut Menu
CAMERA-FUR-REQ-236532/A-HotKey Shortcut Menu General Requirements 12	schapeki: New functional requirement for Shortcut Menu
CAMERA-FUR-REQ-236533/A-HotKey Shortcut Menu General Requirements 13	schapeki: New functional requirement for Shortcut Menu
CAMERA-FUR-REQ-236534/A-HotKey Shortcut Menu General Requirements 14	schapeki: New functional requirement for Shortcut Menu
CAMERA-FUR-REQ-236546/A-HotKey Shortcut Menu General Requirements 15	schapeki: New functional requirement for Shortcut Menu
CAMERA-FUR-REQ-236829/A-HotKey Shortcut Menu General Requirements 16	schapeki: New functional requirement for Shortcut Menu
CAMERA-FUR-REQ-236830/A-HotKey Shortcut Menu General Requirements 17	schapeki: New functional requirement for Shortcut Menu
CAMERA-FUR-REQ-236831/A-HotKey Shortcut Menu General Requirements 18	schapeki: New functional requirement for Shortcut Menu
CAMERA-FUR-REQ-236832/A-HotKey Shortcut Menu General Requirements 19	schapeki: New functional requirement for Shortcut Menu
CAMERA-FUR-REQ-236833/A-HotKey Shortcut Menu General Requirements 20	schapeki: New functional requirement for Shortcut Menu
CAMERA-FUR-REQ-236834/A-HotKey Shortcut Menu General Requirements 21	schapeki: New functional requirement for Shortcut Menu
405476/A-HotKey Shortcut Menu Signal List	schapeki: New signal list requirements
CAMERA-FUR-REQ-235902/A-HotKey Shortcut Menu Signal List - ApaMdeStat_D_RqDrv	schapeki: New signal list functional requirement
CAMERA-FUR-REQ-235903/A-HotKey Shortcut Menu Signal List - ApaSwtch_D_RqMnu	schapeki: New signal list functional requirement
CAMERA-FUR-REQ-235904/A-HotKey Shortcut Menu Signal List - PrkAidSwtch_D_RqMnu	schapeki: New signal list functional requirement
CAMERA-FUR-REQ-236835/A-HotKey Shortcut Menu Signal List - PrkAidFront_D_Stat	schapeki: New signal list functional requirement
CAMERA-FUR-REQ-236836/A-HotKey Shortcut Menu Signal List - PrkAidRear_D_Stat	schapeki: New signal list functional requirement
405489/A-HotKey Shortcut Menu Signal Processing	schapeki: New signal processing requirements
CAMERA-FUR-REQ-235906/A-HotKey Shortcut Menu Signal Processing Requirements 1	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-235908/A-HotKey Shortcut Menu Signal Processing Requirements 2	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-235909/A-HotKey Shortcut Menu Signal Processing Requirements 3	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-235910/A-HotKey Shortcut Menu Signal Processing Requirements 4	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-235911/A-HotKey Shortcut Menu Signal Processing Requirements 5	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-235912/A-HotKey Shortcut Menu Signal Processing Requirements 6	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-235913/A-HotKey Shortcut Menu Signal Processing Requirements 7	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-235914/A-HotKey Shortcut Menu Signal Processing Requirements 8	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-235915/A-HotKey Shortcut Menu Signal Processing Requirements 9	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-236842/A-HotKey Shortcut Menu Signal Processing Requirements 10	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-236843/A-HotKey Shortcut Menu Signal Processing Requirements 11	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-235916/A-HotKey Shortcut Menu Signal Processing Requirements 12	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-236840/A-HotKey Shortcut Menu Signal Processing Requirements 13	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-236841/A-HotKey Shortcut Menu Signal Processing Requirements 14	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-237606/A-HotKey Shortcut Menu Signal Processing Requirements 15	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-235917/A-HotKey Shortcut Menu Signal Processing Requirements 16	schapeki: New signal processing functional requirement

CAMERA-FUR-REQ-235918/A-HotKey Shortcut Menu Signal Processing Requirements 17	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-235920/A-HotKey Shortcut Menu Signal Processing Requirements 18	schapeki: New signal processing functional requirement
CAMERA-FUR-REQ-197168/C-Active Park Assist (APA) Signal - [ApaMsgTxt_D_Rq]	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-203878/B-Active Park Assist (APA) Signal - [ApaTrgtDist_D_Stat]	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-130494/F-Active Park Assist (APA) Signal Processing - Positional ScanLeft	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-130495/F-Active Park Assist (APA) Signal Processing - Positional ScanRight	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-130496/H-Active Park Assist (APA) Signal Processing - Positional Symbol1	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-130497/G-Active Park Assist (APA) Signal Processing - Positional Symbol2	schapeki: add B479/C519 implementation notes, bug fixes per latest ApaCsi.
CAMERA-FUR-REQ-130498/H-Active Park Assist (APA) Signal Processing - Positional Text1	schapeki: add B479/C519 implementation notes, bug fixes per latest ApaCsi.
CAMERA-FUR-REQ-130500/H-Active Park Assist (APA) Signal Processing - Positional Text2	schapeki: add B479/C519 implementation notes, bug fixes per latest ApaCsi.
CAMERA-FUR-REQ-130502/F-Active Park Assist (APA) Signal Processing - Positional CarLeft	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-165423/D-Active Park Assist (APA) Signal Processing - Positional CarRight	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-165424/D-Active Park Assist (APA) Signal Processing - Positional CarPOA	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-130503/H-Active Park Assist (APA) Signal Processing - Positional ParkPilot	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-130504/G-Active Park Assist (APA) Signal Processing - Positional ParkScenarioLeft	schapeki: add B479/C519 implementation notes, bug fixes per latest ApaCsi.
CAMERA-FUR-REQ-130505/G-Active Park Assist (APA) Signal Processing - Positional ParkScenarioRight	schapeki: add B479/C519 implementation notes, bug fixes per latest ApaCsi.
CAMERA-FUR-REQ-161347/E-Active Park Assist (APA) Signal Processing - Positional ParkScenarioPOA	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-165427/E-Active Park Assist (APA) Signal Processing - Positional CarNonRVCSac	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-165428/D-Active Park Assist (APA) Signal Processing - Positional ParkInArrow	schapeki: add B479/C519 implementation notes, bug fixes per latest ApaCsi.
CAMERA-FUR-REQ-161348/E-Active Park Assist (APA) Signal Processing - Positional POAleft	schapeki: add B479/C519 implementation notes, bug fixes per latest ApaCsi.
CAMERA-FUR-REQ-161349/E-Active Park Assist (APA) Signal Processing - Positional POAright	schapeki: add B479/C519 implementation notes, bug fixes per latest ApaCsi.
CAMERA-FUR-REQ-165437/D-Active Park Assist (APA) Signal Processing - Positional POArightSelectd	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-165441/D-Active Park Assist (APA) Signal Processing - Positional POAleftSelectd	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-165442/F-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarVisibility	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-165445/D-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarHighlight	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-165446/E-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarGreyout	schapeki: add B479/C519 implementation notes.
CAMERA-FUR-REQ-165449/D-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuContent	schapeki: add B479/C519 implementation notes.
235125/D-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) Signal Processing	
CAMERA-FUR-REQ-161355/G-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol3	schapeki: add B479/C519 implementation notes.

	CAMERA-FUR-REQ-161356/G-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol4	schapeki: add B479/C519 implementation notes, bug fixes per latest ApaCsi.
	CAMERA-FUR-REQ-161357/G-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text3	schapeki: add B479/C519 implementation notes, bug fixes per latest ApaCsi.
	CAMERA-FUR-REQ-161358/G-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text4	schapeki: add B479/C519 implementation notes, bug fixes per latest ApaCsi.
	CAMERA-FUR-REQ-204405/B-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text5	schapeki: add B479/C519 implementation notes.
October 27, 2016	**1.5**	
	CAMERA-FUR-REQ-131005/C-Active Park Assist Graphical Requirements - 3	schapeki: remove references to deleted variables.
	CAMERA-FUR-REQ-166820/D-HMI Screen Logical Arbitration - Camera	schapeki: update so that APA forces RVC exit delay.
	CAMERA-FUR-REQ-131159/E-Active Park Assist (APA) Signal - [ApaAcsy_D_RqDrv]	schapeki: update to match CMDB
	CAMERA-FUR-REQ-130494/G-Active Park Assist (APA) Signal Processing - Positional ScanLeft	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-130495/G-Active Park Assist (APA) Signal Processing - Positional ScanRight	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-130496/I-Active Park Assist (APA) Signal Processing - Positional Symbol1	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-130497/H-Active Park Assist (APA) Signal Processing - Positional Symbol2	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-130498/I-Active Park Assist (APA) Signal Processing - Positional Text1	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-130500/I-Active Park Assist (APA) Signal Processing - Positional Text2	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-130502/G-Active Park Assist (APA) Signal Processing - Positional CarLeft	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-165423/E-Active Park Assist (APA) Signal Processing - Positional CarRight	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-165424/E-Active Park Assist (APA) Signal Processing - Positional CarPOA	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-130503/I-Active Park Assist (APA) Signal Processing - Positional ParkPilot	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-130504/H-Active Park Assist (APA) Signal Processing - Positional ParkScenarioLeft	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-130505/H-Active Park Assist (APA) Signal Processing - Positional ParkScenarioRight	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-161347/F-Active Park Assist (APA) Signal Processing - Positional ParkScenarioPOA	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-165427/F-Active Park Assist (APA) Signal Processing - Positional CarNonRVCSac	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-165428/E-Active Park Assist (APA) Signal Processing - Positional ParkInArrow	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-161348/F-Active Park Assist (APA) Signal Processing - Positional POAleft	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-161349/F-Active Park Assist (APA) Signal Processing - Positional POAright	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-165437/E-Active Park Assist (APA) Signal Processing - Positional POArightSelectd	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-165441/E-Active Park Assist (APA) Signal Processing - Positional POAleftSelectd	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-165442/G-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarVisibility	schapeki: show both tables, one for 8" and one for 4"

	CAMERA-FUR-REQ-165445/E-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarHighlight	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-165446/F-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarGreyout	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-165449/E-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuContent	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-161355/H-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol3	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-161356/H-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol4	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-161357/H-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text3	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-161358/H-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text4	schapeki: show both tables, one for 8" and one for 4"
	CAMERA-FUR-REQ-204405/C-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text5	schapeki: show both tables, one for 8" and one for 4"
March 10, 2017	**1.6**	
	405481/B-HotKey Shortcut Menu General Requirements	structure update, latest context diagram.
	CAMERA-FUR-REQ-236837/B-HotKey Shortcut Menu General Requirements 1	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-236838/B-HotKey Shortcut Menu General Requirements 2	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-236839/B-HotKey Shortcut Menu General Requirements 3	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-235899/B-HotKey Shortcut Menu General Requirements 4	schapeki: Update per subsystem HMI version -AB, update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-235900/B-HotKey Shortcut Menu General Requirements 5	schapeki: Update per subsystem HMI version -AB, update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-235901/B-HotKey Shortcut Menu General Requirements 6	schapeki: Update per subsystem HMI version -AB, update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-236526/B-HotKey Shortcut Menu General Requirements 7	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-236527/B-HotKey Shortcut Menu General Requirements 8	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-236529/B-HotKey Shortcut Menu General Requirements 9	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-236530/B-HotKey Shortcut Menu General Requirements 10	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-236531/B-HotKey Shortcut Menu General Requirements 11	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-236532/B-HotKey Shortcut Menu General Requirements 12	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-236533/B-HotKey Shortcut Menu General Requirements 13	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-236534/B-HotKey Shortcut Menu General Requirements 14	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-236546/B-HotKey Shortcut Menu General Requirements 15	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-236829/B-HotKey Shortcut Menu General Requirements 16	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-236830/B-HotKey Shortcut Menu General Requirements 17	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-236833/B-HotKey Shortcut Menu General Requirements 20	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-236834/B-HotKey Shortcut Menu General Requirements 21	schapeki: Update to latest HotKey version Release_C.
	CAMERA-FUR-REQ-250044/A-HotKey Shortcut Menu General Requirements 22	schapeki: New HotKey requirement per version Release C.
	CAMERA-FUR-REQ-250046/A-HotKey Shortcut Menu General Requirements 23	schapeki: New HotKey requirement per version Release C.

CAMERA-FUR-REQ-250047/A-HotKey Shortcut Menu General Requirements 24	schapeki: New HotKey requirement per version Release C.
CAMERA-FUR-REQ-250491/A-HotKey Shortcut Menu General Requirements 25	schapeki: New HotKey requirement per version Release C.
CAMERA-FUR-REQ-235902/B-HotKey Shortcut Menu Signal List - ApaMdeStat_D_RqDrv	schapeki: Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-235903/B-HotKey Shortcut Menu Signal List - ApaSwtch_D_RqMnu	schapeki: Update per subsystem HMI version -AB. Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-235904/B-HotKey Shortcut Menu Signal List - PrkAidSwtch_D_RqMnu	schapeki: Update per subsystem HMI version -AB. Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-236835/B-HotKey Shortcut Menu Signal List - PrkAidFront_D_Stat	schapeki: Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-236836/B-HotKey Shortcut Menu Signal List - PrkAidRear_D_Stat	schapeki: Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-235906/B-HotKey Shortcut Menu Signal Processing Requirements 1	schapeki: Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-235908/B-HotKey Shortcut Menu Signal Processing Requirements 2	schapeki: Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-235909/B-HotKey Shortcut Menu Signal Processing Requirements 3	schapeki: Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-235910/B-HotKey Shortcut Menu Signal Processing Requirements 4	schapeki: Update per subsystem HMI version -AB. Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-235911/B-HotKey Shortcut Menu Signal Processing Requirements 5	schapeki: Update per subsystem HMI version -AB. Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-235912/B-HotKey Shortcut Menu Signal Processing Requirements 6	schapeki: Update per subsystem HMI version -AB. Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-235913/B-HotKey Shortcut Menu Signal Processing Requirements 7	schapeki: Update per subsystem HMI version -AB. Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-235914/B-HotKey Shortcut Menu Signal Processing Requirements 8	schapeki: Update per subsystem HMI version -AB. Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-235915/B-HotKey Shortcut Menu Signal Processing Requirements 9	schapeki: Update per subsystem HMI version -AB. Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-236842/B-HotKey Shortcut Menu Signal Processing Requirements 10	schapeki: Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-236843/B-HotKey Shortcut Menu Signal Processing Requirements 11	schapeki: Update per subsystem HMI version -AB. Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-235916/B-HotKey Shortcut Menu Signal Processing Requirements 12	schapeki: Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-236840/B-HotKey Shortcut Menu Signal Processing Requirements 13	schapeki: Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-236841/B-HotKey Shortcut Menu Signal Processing Requirements 14	schapeki: Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-237606/B-HotKey Shortcut Menu Signal Processing Requirements 15	schapeki: Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-235917/B-HotKey Shortcut Menu Signal Processing Requirements 16	schapeki: Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-235918/B-HotKey Shortcut Menu Signal Processing Requirements 17	schapeki: Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-235920/B-HotKey Shortcut Menu Signal Processing Requirements 18	schapeki: Update to latest HotKey version Release_C.
CAMERA-FUR-REQ-250026/A-HotKey Shortcut Menu Signal Processing Requirements 19	schapeki: New HotKey requirement per version Release C.
CAMERA-FUR-REQ-250027/A-HotKey Shortcut Menu Signal Processing Requirements 20	schapeki: New HotKey requirement per version Release C.
CAMERA-FUR-REQ-250028/A-HotKey Shortcut Menu Signal Processing Requirements 21	schapeki: New HotKey requirement per version Release C.
CAMERA-FUR-REQ-250029/A-HotKey Shortcut Menu Signal Processing Requirements 22	schapeki: New HotKey requirement per version Release C.
CAMERA-FUR-REQ-250030/A-HotKey Shortcut Menu Signal Processing Requirements 23	schapeki: New HotKey requirement per version Release C.
CAMERA-FUR-REQ-250031/A-HotKey Shortcut Menu Signal Processing Requirements 25	schapeki: New HotKey requirement per version Release C.
CAMERA-FUR-REQ-250032/A-HotKey Shortcut Menu Signal Processing Requirements 26	schapeki: New HotKey requirement per version Release C.
CAMERA-FUR-REQ-250033/A-HotKey Shortcut Menu Signal Processing Requirements 27	schapeki: New HotKey requirement per version Release C.
CAMERA-FUR-REQ-131020/F-HMI Screen Logical Arbitration - Determine Dynamic Variables (GearPosHMI)	schapeki: GearPosHMI expanded to include new gear signaling

CAMERA-FUR-REQ-196895/B-HMI Screen Logical Arbitration - Determine Dynamic Variables (APA_Mode)	schapeki: Update for new signal per core APA team feedback.
CAMERA-FUR-REQ-196898/D-HMI Screen Logical Arbitration - Determine Dynamic Variables (PDC_Stat)	schapeki: Correciton for fault input processing.
CAMERA-FUR-REQ-166820/E-HMI Screen Logical Arbitration - Camera	schapeki: add clarificaiton note for symbol "=>"
CAMERA-FUR-REQ-166823/E-HMI Screen Logical Arbitration - APA Dedicated Display	schapeki: remove state 5 for "fault" which is already not in any use cases. Add anti-flicker timers transition into state 4, clear variable APADisp.
CAMERA-FUR-REQ-131023/F-HMI Screen Logical Arbitration - PDC Dedicated Display+	schapeki: add anti-flicker timer to transition into states 4, 5; clear PDCDisp
CAMERA-FUR-REQ-131023/G-HMI Screen Logical Arbitration - PDC Dedicated Display	schapeki: Update transition state 1-2
441626/A-Active Park Assist (APA) Signal list - Internal HMI ECU Configuration Variables	schapeki: add in HMI Method 2 variable "Parking Assistance"
CAMERA-FUR-REQ-247261/A-Active Park Assist (APA) Method 2 Configuration - Parking Assistance_Cfg	schapeki: Required per ApaCsi - need to add FAP/SAP/ALL designation.
CAMERA-FUR-REQ-130494/H-Active Park Assist (APA) Signal Processing - Positional ScanLeft	schapeki: add Parking Assistance_Cfg per ApaCsi document
CAMERA-FUR-REQ-130495/H-Active Park Assist (APA) Signal Processing - Positional ScanRight	schapeki: add Parking Assistance_Cfg per ApaCsi document
CAMERA-FUR-REQ-130496/J-Active Park Assist (APA) Signal Processing - Positional Symbol1	schapeki: Update per ApaCsi 12/20/2106, ApaCsi279, 397, 012, 277, 411, 013, 556, 019, 555, 405, 409, Parking Assistance_Cfg per ApaCsi document, delete note for FAPA-only
CAMERA-FUR-REQ-130497/I-Active Park Assist (APA) Signal Processing - Positional Symbol2	schapeki: Update per ApaCsi 12/20/2016: ApaCsi411(del), 257, 011, 412, 912, add Parking Assistance_Cfg per ApaCsi document, delete note for FAPA-only
CAMERA-FUR-REQ-130498/J-Active Park Assist (APA) Signal Processing - Positional Text1	schapeki: Update per ApaCsi 12/20/2016: ApaCsi265, 266, 062, 417, 047, 418, 419, 420, 379, 380, 381, 382, 383, 515, 516, 515, 049, 424, 428, add Parking Assistance_Cfg per ApaCsi document, delete note for FAPA-only
CAMERA-FUR-REQ-130500/J-Active Park Assist (APA) Signal Processing - Positional Text2	schapeki: Update per ApaCsi 12/20/2016: ApaCsi060, 269, 430, 355(del), 360(del), 361, 362, 363, 437, 557, add Parking Assistance_Cfg per ApaCsi document, delete note for FAPA-only
CAMERA-FUR-REQ-130502/H-Active Park Assist (APA) Signal Processing - Positional CarLeft	schapeki: Update per ApaCsi 12/20/2016: ApaCsi561, 562, 563, 564, add Parking Assistance_Cfg per ApaCsi document
CAMERA-FUR-REQ-165423/F-Active Park Assist (APA) Signal Processing - Positional CarRight	schapeki: Update per ApaCsi 12/20/2016: ApaCsi565, 566, 567, 568, add Parking Assistance_Cfg per ApaCsi document
CAMERA-FUR-REQ-165424/F-Active Park Assist (APA) Signal Processing - Positional CarPOA	schapeki: Update per ApaCsi 12/20/2016: ApaCsi569, add Parking Assistance_Cfg per ApaCsi document
CAMERA-FUR-REQ-130503/J-Active Park Assist (APA) Signal Processing - Positional ParkPilot	schapeki: add Parking Assistance_Cfg per ApaCsi document
CAMERA-FUR-REQ-130504/I-Active Park Assist (APA) Signal Processing - Positional ParkScenarioLeft	schapeki: Update per ApaCsi 12/20/2016: ApaCsi523, 524, 570, 571, add Parking Assistance_Cfg per ApaCsi document, split out check mark modifier
CAMERA-FUR-REQ-130505/I-Active Park Assist (APA) Signal Processing - Positional ParkScenarioRight	schapeki: Update per ApaCsi 12/20/2016: ApaCsi525, 526, 572, 573, add Parking Assistance_Cfg per ApaCsi document, split out check mark modifier
CAMERA-FUR-REQ-161347/G-Active Park Assist (APA) Signal Processing - Positional ParkScenarioPOA	schapeki: Update per ApaCsi 12/20/2016: ApaCsi574, add Parking Assistance_Cfg per ApaCsi document
CAMERA-FUR-REQ-165427/G-Active Park Assist (APA) Signal Processing - Positional CarNonRVCSac	schapeki: Update per ApaCsi 12/20/2016: ApaCsi230, 560, add Parking Assistance_Cfg per ApaCsi document
CAMERA-FUR-REQ-165428/F-Active Park Assist (APA) Signal Processing - Positional ParkInArrow	schapeki: add Parking Assistance_Cfg per ApaCsi document, delete note for FAPA-only
CAMERA-FUR-REQ-161348/G-Active Park Assist (APA) Signal Processing - Positional POAleft	schapeki: add Parking Assistance_Cfg per ApaCsi document
CAMERA-FUR-REQ-161349/G-Active Park Assist (APA) Signal Processing - Positional POAright	schapeki: add Parking Assistance_Cfg per ApaCsi document
CAMERA-FUR-REQ-165437/F-Active Park Assist (APA) Signal Processing - Positional POArightSelectd	schapeki: add Parking Assistance_Cfg per ApaCsi document
CAMERA-FUR-REQ-165441/F-Active Park Assist (APA) Signal Processing - Positional POAleftSelectd	schapeki: add Parking Assistance_Cfg per ApaCsi document
CAMERA-FUR-REQ-165442/H-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarVisibility	schapeki: add Parking Assistance_Cfg per ApaCsi document

	CAMERA-FUR-REQ-165445/F-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarHighlight	schapeki: add Parking Assistance_Cfg per ApaCsi document
	CAMERA-FUR-REQ-165446/G-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarGreyout	schapeki: add Parking Assistance_Cfg per ApaCsi document
	CAMERA-FUR-REQ-165449/F-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuContent	schapeki: Clarify reference graphics, add Parking Assistance_Cfg per ApaCsi document
	CAMERA-FUR-REQ-161350/C-Active Park Assist (APA) Soft Menu Interface General Requirements 2a	schapeki: remove SAPP selection grey out comment
	CAMERA-FUR-REQ-165450/B-Active Park Assist (APA) Soft Menu Interface General Requirements 2b	schapeki: update table to latest ApaCsi
	CAMERA-FUR-REQ-165451/B-Active Park Assist (APA) Soft Menu Interface General Requriements 2c	schapeki: update table to latest ApaCsi
	CAMERA-FUR-REQ-131103/C-Active Park Assist (APA) Soft Menu Interface - Soft Button Interface Logic	schapeki: Correction for internal APADisp variable (clerical)
	235124/D-Reverse Video Camera (RVC) with Active Park Assist (APA) and Park Distance Control (PDC) Signal Interface	schapeki: clarify text explanation
	441635/A-Reverse Video Camera (RVC) with Active Park Assist (APA) and Park Distance Control (PDC) Signal List - Received by HMI from PAM	structure only
	CAMERA-FUR-REQ-161353/B-Reverse Video Camera (RVC) with Active Park Assist (APA) and Park Distance Control (PDC) Signal List	schapeki: add signals to match tables (clerical)
	CAMERA-FUR-REQ-247262/A-Reverse Video Camera (RVC) with Active Pak Assist (APA) and Park Distance Control (PDC) Method 2 Configuration	schapeki: Required per ApaCsi - need to add FAP/SAP/ALL designation.
	CAMERA-FUR-REQ-161355/I-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol3	schapeki: add Parking Assistance_Cfg per ApaCsi document, delete note for FAPA-only
	CAMERA-FUR-REQ-161356/I-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol4	schapeki: add Parking Assistance_Cfg per ApaCsi document, delete note for FAPA-only
	CAMERA-FUR-REQ-161357/I-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text3	schapeki: Update per ApaCsi 12/20/2016: ApaCsi127, 517, 464, 518, 519, 462, 463, 464, 465, 520, 521, 388, add Parking Assistance_Cfg per ApaCsi document, delete note for FAPA-only
	CAMERA-FUR-REQ-161358/I-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text4	schapeki: Update per ApaCsi 12/20/2016: ApaCsi475, 558, 522, 134, 368(del), 373(del)374, 364, add Parking Assistance_Cfg per ApaCsi document, delete note for FAPA-only
	CAMERA-FUR-REQ-204405/D-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text5	schapeki: add Parking Assistance_Cfg per ApaCsi document, delete note for FAPA-only
August 18, 2017	**1.7**	
	405481/C-HotKey Shortcut Menu General Requirements	schapeki: structure update, add mykey requirements
	405489/C-HotKey Shortcut Menu Signal Processing	Update
	CAMERA-FUR-REQ-130444/F-Active Park Assist Graphical Layout	schapeki: Remove diagram and reference the appropriate HMI specification.
	CAMERA-FUR-REQ-130498/K-Active Park Assist (APA) Signal Processing - Positional Text1	schapeki: Update /048 text per ApaCsi
	CAMERA-FUR-REQ-130500/K-Active Park Assist (APA) Signal Processing - Positional Text2	schapeki: Delete /071 per ApaCsi
	CAMERA-FUR-REQ-131023/H-HMI Screen Logical Arbitration - PDC Dedicated Display	schapeki: Remove redundant variable setting on exit from states 4 and 5
	CAMERA-FUR-REQ-161348/H-Active Park Assist (APA) Signal Processing - Positional POAleft	schapeki: update reference graphics per ApaCsi direction
	CAMERA-FUR-REQ-161349/H-Active Park Assist (APA) Signal Processing - Positional POAright	schapeki: update reference graphics per ApaCsi direction
	CAMERA-FUR-REQ-161358/J-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text4	schapeki: Update row /134 per ApaCsi
	CAMERA-FUR-REQ-165437/G-Active Park Assist (APA) Signal Processing - Positional POArightSelectd	schapeki: update reference graphics per ApaCsi direction
	CAMERA-FUR-REQ-165441/G-Active Park Assist (APA) Signal Processing - Positional POAleftSelectd	schapeki: update reference graphics per ApaCsi direction

	CAMERA-FUR-REQ-196898/E-HMI Screen Logical Arbitration - Determine Dynamic Variables (PDC_Stat)	schapeki: Add note for how to handle RVC exit delay mode
	CAMERA-FUR-REQ-235910/C-HotKey Shortcut Menu Signal Processing Requirements 4	schapeki: Update per latest VDOC059291
	CAMERA-FUR-REQ-235912/C-HotKey Shortcut Menu Signal Processing Requirements 6	schapeki: fix broken references per latest VDOC059291
	CAMERA-FUR-REQ-235914/C-HotKey Shortcut Menu Signal Processing Requirements 8	schapeki: Update table per latest VDOC059291
	CAMERA-FUR-REQ-236533/C-HotKey Shortcut Menu General Requirements 13	schapeki: Description updates per latest VDOC059291
	CAMERA-FUR-REQ-236837/C-HotKey Shortcut Menu General Requirements 1	schapeki: Description updates per latest VDOC059291
	CAMERA-FUR-REQ-236839/C-HotKey Shortcut Menu General Requirements 3	schapeki: Description updates per latest VDOC059291
	CAMERA-FUR-REQ-236840/C-HotKey Shortcut Menu Signal Processing Requirements 13	schapeki: Updates per latest VDOC059291
	CAMERA-FUR-REQ-237606/C-HotKey Shortcut Menu Signal Processing Requirements 15	schapeki: fix broken references per latest VDOC059291
	CAMERA-FUR-REQ-250031/B-HotKey Shortcut Menu Signal Processing Requirements 25	schapeki: Delete text, this was a incorrectly shown as a duplicate requirement.
	CAMERA-FUR-REQ-250491/B-HotKey Shortcut Menu General Requirements 25	schapeki: Remove duplicate table per latest VDOC059291
	CAMERA-FUR-REQ-250492/B-HotKey Shortcut Menu Signal Processing Requirements 24	schapeki: Description updates per latest VDOC059291
	CAMERA-FUR-REQ-272559/A-HotKey Shortcut Menu General Requirements 26	schapeki: Add for MyKey interdependence per latest VDOC059291
	CAMERA-FUR-REQ-272563/A-HotKey Shortcut Menu General Requirements 27	schapeki: Add per latest VDOC059291
	CAMERA-FUR-REQ-272598/A-HotKey Shortcut Menu Signal Processing Requirements 28	schapeki: Create new anti-race requirement per latest VDOC059291
	MD-REQ-013905/B-ApaMdeStat_D_RqDrv (TcSE ROIN-202254-2)	update signal parameters
	MD-REQ-013908/B-ApaMde_D_Stat (TcSE ROIN-202256-1)	update signal parameters
	MD-REQ-128709/B-ApaActvSide2_D_Stat	update signal parameters
	MD-REQ-128712/D-ApaAcsy_D_RqDrv	update signal parameters
	MD-REQ-128763/B-ApaGearShif_D_RqDrv	update signal parameters
	MD-REQ-128764/C-ApaLongCtl_D_RqDrv	update signal parameters
December 8, 2017	**1.8**	
	CAMERA-FUR-REQ-161327/E-Display HMI Arbitration Internal Variable Table (Timers and Debounce)	schapeki: Clarification-add notes for choosing program-specific timeouts (per F. Krins feedback)
	CAMERA-FUR-REQ-197168/D-Active Park Assist (APA) Signal - [ApaMsgTxt_D_Rq]	schapeki: Clarification-update notes to show an example of how to treat the "signal not present" case.
	CAMERA-FUR-REQ-203878/C-Active Park Assist (APA) Signal - [ApaTrgtDist_D_Stat]+	schapeki: Clarification-update notes to show an example of how to treat the "signal not present" case.
	CAMERA-FUR-REQ-203878/D-Active Park Assist (APA) Signal - [ApaTrgtDist_D_Stat]	schapeki: Clarification-update notes to show an example of how to treat the "signal not present" case.
	CAMERA-FUR-REQ-247261/B-Active Park Assist (APA) Method 2 Configuration - Parking Assistance_Cfg	schapeki: Clarification-add notes for CTR since the usage example is for APIM.
	CAMERA-FUR-REQ-130494/I-Active Park Assist (APA) Signal Processing - Positional ScanLeft	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-130495/I-Active Park Assist (APA) Signal Processing - Positional ScanRight	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-130496/K-Active Park Assist (APA) Signal Processing - Positional Symbol1+	schapeki: Clerical-Switch reference graphics for forward/reverse arrows on #16, #19 and #559. The ApaTrgtDist_D_Stat of 0x0 refers to empty arrow; 0xF is a full arrow. Also update reference graphics for informational #404, it's currently a "book" icon, should be an "i" icon.
	CAMERA-FUR-REQ-130496/L-Active Park Assist (APA) Signal Processing - Positional Symbol1	schapeki: clerical: #404 reference graphic from book to "i" icon, have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-130497/J-Active Park Assist (APA) Signal Processing - Positional Symbol2	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-130498/L-Active Park Assist (APA) Signal Processing - Positional Text1	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-130500/L-Active Park Assist (APA) Signal Processing - Positional Text2	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF

	CAMERA-FUR-REQ-130502/I-Active Park Assist (APA) Signal Processing - Positional CarLeft	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-165423/G-Active Park Assist (APA) Signal Processing - Positional CarRight	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-165424/G-Active Park Assist (APA) Signal Processing - Positional CarPOA	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-130503/K-Active Park Assist (APA) Signal Processing - Positional ParkPilot	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-130504/J-Active Park Assist (APA) Signal Processing - Positional ParkScenarioLeft	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-130505/J-Active Park Assist (APA) Signal Processing - Positional ParkScenarioRight	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-161347/H-Active Park Assist (APA) Signal Processing - Positional ParkScenarioPOA	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-165427/H-Active Park Assist (APA) Signal Processing - Positional CarNonRVCSac	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-165428/G-Active Park Assist (APA) Signal Processing - Positional ParkInArrow	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-161348/I-Active Park Assist (APA) Signal Processing - Positional POAleft	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-161349/I-Active Park Assist (APA) Signal Processing - Positional POAright	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-165437/H-Active Park Assist (APA) Signal Processing - Positional POArightSelectd	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-165441/H-Active Park Assist (APA) Signal Processing - Positional POAleftSelectd	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-165442/I-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarVisibility	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-165445/G-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarHighlight	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-165446/H-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarGreyout	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-165449/G-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuContent	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-161355/J-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol3+	schapeki: Clerical-Switch reference graphics for forward/reverse arrows on #109 and #112. The ApaTrgtDist_D_Stat of 0x0 refers to empty arrow; 0xF is a full arrow.
	CAMERA-FUR-REQ-161355/K-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol3	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-161356/J-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol4	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-161357/J-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text3	schapeki: clerical: #128 and #222 update reference text, have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-161358/K-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text4+	schapeki: Correction-change "Autobrake Activated/377" column "Parking Assistance (Cfg)" from 0x2 --> 0xA|0xB (per F. Krins feedback)
	CAMERA-FUR-REQ-161358/L-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text4	schapeki: clarification: #377 configuration from 0x2->0xA, have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
	CAMERA-FUR-REQ-204405/E-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text5	schapeki: clerical: have ApaTrgtDist_D_Stat refer to 0x0 instead of 0xF
April 10, 2018	**1.9**	
	CAMERA-FUR-REQ-130494/J-Active Park Assist (APA) Signal Processing - Positional ScanLeft	schapeki: update to allow display of VPA (ParkPilot) during scanning. Per M. Mould 2/20/2018
	CAMERA-FUR-REQ-130495/J-Active Park Assist (APA) Signal Processing - Positional ScanRight	schapeki: update to allow display of VPA (ParkPilot) during scanning. Per M. Mould 2/20/2018

	CAMERA-FUR-REQ-130498/M-Active Park Assist (APA) Signal Processing - Positional Text1	schapeki: clerical: updates #053, 054, 055, 056, 057, 349, 350, 379, 383, 050, 428, 429, 426 per HMI and APA team concurrence 2/19/2018.
	CAMERA-FUR-REQ-130500/M-Active Park Assist (APA) Signal Processing - Positional Text2	schapeki: clerical: updates #435, 280, 281, 059, 259, 352, 356, 437, 557, 438, 440, 441, 442, add "Ensure Park Brake Released" per HMI and APA team concurrence 2/19/2018.
October 18, 2019	**1.10**	
	CAMERA-FUR-REQ-161327/F-Display HMI Arbitration Internal Variable Table (Timers and Debounce)	schapeki: Change default for Camra_Exit_Timr_Cfg from 2000ms to 0ms.
	CAMERA-FUR-REQ-197168/E-Active Park Assist (APA) Signal - [ApaMsgTxt_D_Rq]	schapeki: Update note to clarify what to do with data not present.
	CAMERA-FUR-REQ-203878/E-Active Park Assist (APA) Signal - [ApaTrgtDist_D_Stat]	schapeki: Update note to clarify what to do with data not present.
	202081/F-Active Park Assist (APA) Signal Processing	schapeki: Update structure for 8/20/2018 on-cadence release to remove 165423-CarRight and 165424-CarPOA, they are absorbed into the renamed 130502-SmallCar. Delete 161348-POAleft and 161349-POAright, they are absorbed into 130496-Symbol1 and 130497-Symbol2. Rename 165441-POArightSelectd to ParkOutArrow, delete 165441-POAleftSelectd, it's absorbed into ParkOutArrow. Changes are per ApaCsiGEN7
	CAMERA-FUR-REQ-130496/M-Active Park Assist (APA) Signal Processing - Positional Symbol1	schapeki: Update per ApaCsiGEN7: 8" delete #277, update #402, add #243, 365, 540, 553, 580, 584 to capture POA table as symbol1. Update notes. 4": add #402, 243, 540, 365, 553
	CAMERA-FUR-REQ-130497/K-Active Park Assist (APA) Signal Processing - Positional Symbol2	schapeki: Update per ApaCsiGEN7: 8" delete #257, add #244, 366, 545, 554. 4": add #491, 244, 545, 366, 554
	CAMERA-FUR-REQ-130498/N-Active Park Assist (APA) Signal Processing - Positional Text1	schapeki: Update per ApaCsiGEN7: 8" update #265, 266, 420, add #581, 585. 4": Update #037, 048, add #492, 947, 069, 552
	CAMERA-FUR-REQ-130500/N-Active Park Assist (APA) Signal Processing - Positional Text2	schapeki: Update per ApaCsiGEN7: 8" delete #353, 354, 357, 358, 359. 4" add #390, 493, delete #069, 071
	CAMERA-FUR-REQ-130502/J-Active Park Assist (APA) Signal Processing - Positional SmallCar	schapeki: Update per ApaCsiGEN7: change name to "SmallCar". 8" update #075, 076, 236, 561, 562, 563, 564 add #081, 569. 4" update #075, 076, 236, Add #081, 561, 563, 569
	CAMERA-FUR-REQ-130504/K-Active Park Assist (APA) Signal Processing - Positional ParkScenarioLeft	schapeki: Update per ApaCsiGEN7: 4" add #523, 524
	CAMERA-FUR-REQ-130505/K-Active Park Assist (APA) Signal Processing - Positional ParkScenarioRight	schapeki: Update per ApaCsiGEN7: 4" add #525, 526, 574
	CAMERA-FUR-REQ-161347/I-Active Park Assist (APA) Signal Processing - Positional ParkScenarioPOA	fkrins: ApaCsi600: New element for POA-ParkSceanrio on "Release EPB" screens as ApaCsi098 needed to be changed in ApaMsgTxt.
	CAMERA-FUR-REQ-165428/H-Active Park Assist (APA) Signal Processing - Positional ParkInArrow	schapeki: Update per ApaCsiGEN7: 8" add #586, 587, 588, 589
	CAMERA-FUR-REQ-165437/I-Active Park Assist (APA) Signal Processing - Positional ParkOutArrow	schapeki: Update per ApaCsiGEN7: change name to "ParkOutArrow." 8": add #263, 273, 4" add #263, 273
	CAMERA-FUR-REQ-165446/I-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarGreyout	fkrins: ApaCsi590, ApaCsi591, ApaCsi592, ApaCsi593, ApaCsi594, ApaCsi595: New elements to grey out the Off-button (when it is without function from PAM side of view)
	CAMERA-FUR-REQ-161350/D-Active Park Assist (APA) Soft Menu Interface General Requirements 2a	schapeki: Clarify notes to include initialization due to timeout, per F. Krins
	CAMERA-FUR-REQ-165450/C-Active Park Assist (APA) Soft Menu Interface General Requirements 2b	schapeki: Clarify notes to include initialization due to timeout, per F. Krins
	CAMERA-FUR-REQ-165451/C-Active Park Assist (APA) Soft Menu Interface General Requriements 2c	schapeki: Clarify notes to include initialization due to timeout, per F. Krins
	CAMERA-FUR-REQ-161355/L-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol3	Update per ApaCsiGEN7: 8" update #449, add #582. 4" add #494, 449
	CAMERA-FUR-REQ-161356/K-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol4	Update per ApaCsiGEN7: 4" add #495
	CAMERA-FUR-REQ-161357/K-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text3	Update per ApaCsiGEN7: 8" update #465, add #583. 4" add #465
	CAMERA-FUR-REQ-161358/M-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text4	Update per ApaCsiGEN7: 8" delete #367, 370, 371, 372. 4" add #497

Table of Contents

1 Architectural Design

1.1 APA-CLD-REQ-013903/A-Active Park Assist Manager Client (TcSE ROIN-205558-1)

Responsibility: The ActiveParkAssistManagerClient is the interface of the Active Park Assist Manager (APAM) feature. The ActiveParkAssistManagerClient is responsible for displaying the available Active Park Assist (APA) modes to the user. Additionally the ActiveParkAssistManagerClient accepts input from the driver for selection of the desired APA mode, and transmits the selection via CAN signal to the ActiveParkAssistManagerServer.

Review the implementation guide/static view/block diagram to locate the ActiveParkAssistManagerClient object.

1.2 APA-CLD-REQ-013965/A-Active Park Assist Client (TcSE ROIN-204023-1)

Responsibility: The ActiveParkAssistClient is the interface of the Active Park Assist (APA) feature. The ActiveParkAssistClient is responsible for displaying the APA maneuver messages and/or graphics to driver during an APA session.

Review the implementation guide/static view/block diagram to locate the ActiveParkAssistClient object.

1.3 ActiveParkAssistManagerClient Interface

1.3.1 APAM-IIR-REQ-013917/A-ActiveParkAssistManagerClient_Tx (TcSE ROIN-265660-1)

1.3.1.1 MD-REQ-013905/B-ApaMdeStat_D_RqDrv (TcSE ROIN-202254-2)

Message Type: Request

Represents a request from the Active Park Assist Manager Client to the Active Park Assist Manager Server to change the selected Active Park Assist mode .

Name	Literals	Value	Description
Type	-	-	Request for Active Park Assist mode change.
	Inactive	0x0	
	SAPP	0x1	
	PPA	0x2	
	POA	0x3	
	NotUsed1	0x4	
	NotUsed2	0x5	
	Off	0x6	
	Faulty	0x7	

1.3.2 APAMv2-IIR-REQ-128772/A-ActiveParkAssistManagerClient_Rx

1.3.2.1 MD-REQ-128765/A-ApaSys_D_Stat

Message Type: Status

This signal communicates the system's operational state to the driver.

Name	Literals	Value	Description
Type	-	-	This signal communicates the system's operational state to the driver
	Null	0x0	
	Off	0x1	
	On	0x2	
	Overspeed	0x3	

	ApaCancelled	0x4
	NotAccessible	0x5
	Finished	0x6
	Faulty	0x7

1.3.2.2 MD-REQ-128770/B-ApaSteScanMde_D_Stat

Message Type: Status

This signal is sent to the Active Park Assist Manager Client from the Active Park Assist Manager Server to communicate the APA system's operational state.

Name	Literals	Value	Description
Type	-	-	Communicates the system's operational state. It is independent from the system's HMI.
	Null	0x0	
	NotScanning	0x1	
	Scanning	0x2	
	Steering	0x3	

1.3.2.3 MD-REQ-013908/B-ApaMde_D_Stat (TcSE ROIN-202256-1)

Message Type: Status

Represents the status of the Active Park Assist Manager function.

Name	Literals	Value	Description
Type	-	-	Status of the currently selected Active Park Assist Mode
	Null	0x0	
	Off	0x1	
	SAPP	0x2	
	PPA	0x3	
	POA	0x4	
	NotUsed1	0x5	
	NotUsed2	0x6	
	NotUsed3	0x7	

1.3.2.4 MD-REQ-128767/A-ApaSelSapp_D_Stat

Message Type: Status

This signal communicates Active Park Assist sub-feature selectability for Semi Automatic Parallel Parking (SAPP).

Name	Literals	Value	Description
Type	-	-	Communicates if the SAPP feature is selectable.
	Null	0x0	
	Selectable	0x1	
	NotSelectable	0x2	
	NotConfigured	0x3	

1.3.2.5 MD-REQ-128768/A-ApaSelPpa_D_Stat

Message Type: Status

This signal communicates Active Park Assist sub-feature selectability for Perpendicular Park Assist (PPA).

Name	Literals	Value	Description
Type	-	-	Communicates if the PPA feature is selectable.
	Null	0x0	
	Selectable	0x1	
	NotSelectable	0x2	
	NotConfigured	0x3	

1.3.2.6 MD-REQ-128769/A-ApaSelPoa_D_Stat

Message Type: Status

This signal communicates Active Park Assist sub-feature selectability for Pull Out Assist (POA)
.

Name	Literals	Value	Description
Type	-	-	Communicates if the POA feature is selectable.
	Null	0x0	
	Selectable	0x1	
	NotSelectable	0x2	
	NotConfigured	0x3	

1.4 ActiveParkAssistClient Interface

1.4.1 APAv2-IIR-REQ-128529/A-ActiveParkAssistClient_Rx

1.4.1.1 MD-REQ-128765/A-ApaSys_D_Stat

Message Type: Status

This signal communicates the system's operational state to the driver.

Name	Literals	Value	Description
Type	-	-	This signal communicates the system's operational state to the driver
	Null	0x0	
	Off	0x1	
	On	0x2	
	Overspeed	0x3	
	ApaCancelled	0x4	
	NotAccessible	0x5	
	Finished	0x6	
	Faulty	0x7	

1.4.1.2 MD-REQ-128770/B-ApaSteScanMde_D_Stat

Message Type: Status

This signal is sent to the Active Park Assist Manager Client from the Active Park Assist Manager Server to communicate the APA system’s operational state.

Name	Literals	Value	Description
Type	-	-	Communicates the system's operational state. It is independent from the system's HMI.
	Null	0x0	
	NotScanning	0x1	
	Scanning	0x2	
	Steering	0x3	

1.4.1.3 MD-REQ-128767/A-ApaSelSapp_D_Stat

Message Type: Status

This signal communicates Active Park Assist sub-feature selectability for Semi Automatic Parallel Parking (SAPP).

Name	Literals	Value	Description
Type	-	-	Communicates if the SAPP feature is selectable.
	Null	0x0	
	Selectable	0x1	
	NotSelectable	0x2	
	NotConfigured	0x3	

1.4.1.4 MD-REQ-128768/A-ApaSelPpa_D_Stat

Message Type: Status

This signal communicates Active Park Assist sub-feature selectability for Perpendicular Park Assist (PPA).

Name	Literals	Value	Description
Type	-	-	Communicates if the PPA feature is selectable.
	Null	0x0	
	Selectable	0x1	
	NotSelectable	0x2	
	NotConfigured	0x3	

1.4.1.5 MD-REQ-128769/A-ApaSelPoa_D_Stat

Message Type: Status

This signal communicates Active Park Assist sub-feature selectability for Pull Out Assist (POA)
.

Name	Literals	Value	Description
Type	-	-	Communicates if the POA feature is selectable.
	Null	0x0	
	Selectable	0x1	
	NotSelectable	0x2	
	NotConfigured	0x3	

1.4.1.6 MD-REQ-013908/B-ApaMde_D_Stat (TcSE ROIN-202256-1)

Message Type: Status

Represents the status of the Active Park Assist Manager function.

Name	Literals	Value	Description
Type	-	-	Status of the currently selected Active Park Assist Mode
	Null	0x0	
	Off	0x1	
	SAPP	0x2	
	PPA	0x3	
	POA	0x4	
	NotUsed1	0x5	
	NotUsed2	0x6	
	NotUsed3	0x7	

1.4.1.7 MD-REQ-128709/B-ApaActvSide2_D_Stat

Message Type: Status

This method is sent to the Active Park Assist Client from the Active Park Assist Server to communicate the APA system's operational state. The status represents side of the vehicle for which the APA feature is offering slots when the system is activated.

Name	Literals	Value	Description
Type	-	-	Communicates the side of vehicle offering for APA scanning/parking function
	Null	0x0	
	Left	0x1	
	Right	0x2	
	NoSide	0x3	

1.4.1.8 MD-REQ-128766/A-ApaScan_D_Stat

Message Type: Status

This method is sent to the Active Park Assist Client from the Active Park Assist Server to communicate the APA system's park slot scanning status.

Name	Literals	Value	Description
Type	-	-	Communicates if parking slot is found / ready
	Null	0x0	
	NoParkSlot	0x1	
	ParkSlotFound	0x2	
	ParkSlotReady	0x3	

1.4.1.9 MD-REQ-128764/C-ApaLongCtl_D_RqDrv

Message Type: Request

This signal is used to tell the driver if the APA system expects them to stop the vehicle or drive forward or backward.

Name	Literals	Value	Description
Type	-	-	Stop , front, and back Maneuver commands to the driver
	Null	0x0	
	NoRequest	0x1	
	Stop	0x2	
	DriveForward	0x3	
	DriveBackward	0x4	
	ReleaseBrake	0x5	

NotUsed2	0x6	
NotUsed3	0x7	

1.4.1.10 MD-REQ-128763/B-ApaGearShif_D_RqDrv

Message Type: Request

This signal is used to tell the driver what gear the APA system expects them to shift to.

Name	Literals	Value	Description
Type	-	-	APA system gear shift request to the driver.
	Null	0x0	
	NoRequest	0x1	
	ShiftToR	0x2	
	ShiftToD	0x3	
	ShiftToN	0x4	
	ShiftToP	0x5	
	NotUsed1	0x6	
	NotUSed2	0x7	

1.4.1.11 MD-REQ-128771/A-ApaSteWhl_D_RqDrv

Message Type: Request

This signal is sent to the Active Park Assist Client from the Active Park Assist Server as an APA system request to the driver for control of the steering wheel.

Name	Literals	Value	Description
Type	-	-	Used to tell the driver if the APA system expects them to let go of the steering wheel or take control.
	Null	0x0	
	NoRequest	0x1	
	RemoveHands	0x2	
	TakeControl	0x3	

1.4.1.12 MD-REQ-128712/D-ApaAcsy_D_RqDrv

Message Type: Request

This signal is used to communicates various APA system requests to the driver..

Name	Literals	Value	Description
Type	-	-	Signal is used to inform the driver of "accessory" APA system requests
	Null	0x0	
	NoRequest	0x1	
	SelectSide	0x2	
	PressApaButton	0x3	
	CheckForObject	0x4	
	SelectSideLeft	0x5	
	SelectSideRight	0x6	
	CloseDoor	0x7	

2 General Requirements

2.1 General Signal Interface

2.1.1 CAMERA-FUR-REQ-130570/B-General Signal Interface 1

Any signals received or sent as part of a message defined by the CMDB but NOT listed in the following requirements shall be disregarded by the infotainment display system.
Note:
Examples: At the time of release of this document, the signals [PrkAidSnsRlSide_D_Stat] and [PrkAidSnsRrSide_D_Stat] are not functionally supported by the PAM for any configuration. They are, however, included in the message ParkAid_Aud_Warn_Stat2 which is sent out by the PAM. Similarly, the signals [PrkAidFront_D_Stat] and [PrkAidFront_D_RqDrv] need not be supported by the cluster even if they are still sent by the PAM with messages ParkAid_Aud_Warn_Stat2 and Cluster_Info4_HS1 (see Y2013_CGEA1.3_CMDB_v13.09_Export).

2.1.2 CAMERA-FUR-REQ-130571/B-General Signal Interface 2

If the infotainment display is not a direct receiver of the signals described in this section, the signals shall be transmitted by a gateway module. While uncommon, some gateways may change the signal names; the infotainment display shall map the signals accordingly.
Note:
In general, gateway specifications are beyond the scope of this document. In case signal names are changed by the gateway, the gateway spec owner shall respect the requirements of this specification.

2.1.3 CAMERA-FUR-REQ-157189/B-General Signal Interface 3

Unless otherwise specified, the Infotainment ECU shall respond to a signal state change by updating the display within 100ms of receipt.

Note: If the display system is in process of showing “non-functional” startup screens but functionally fully initialized and receives APA, BPA or camera requests other than “off” or “initialize” (so any of the features requests a screen), the display system shall show the requested screen. This is so that interruption of any screen animations is consistent across features.

2.2 Graphical Position Definition

2.2.1 CAMERA-FUR-REQ-130574/B-Infotainment Graphical Position Definition 1

The HMI system shall provide graphics with fixed assignments for each dedicated display area per HMI program-specific graphical specifications.

2.2.2 CAMERA-FUR-REQ-130575/B-Infotainment Graphical Position Definition 2

The infotainment system shall only show sectors/ execute the below requirements if a screen has been requested as per the HMI arbitration defined in this specification.

2.2.3 CAMERA-FUR-REQ-130576/B-Infotainment Graphical Position Definition 3

Specific graphical display locations and content per program shall be provided by HMI and concurred upon by VE and E/ESE Parking Assistance Engineering.

Note:

The above requirement means that the graphical examples provided in this specification are for functional direction only and are not to be implemented exactly as they have been drawn herein.

2.2.4 CAMERA-FUR-REQ-130577/B-Infotainment Graphical Position Definition 4

All defined graphics shall always be supported. Should HMI deem a particular graphic not applicable, it shall achieve this appearance by defining the various states of that graphic as identical to the background.

2.3 Active Park Assist Graphical Requirements

2.3.1 CAMERA-FUR-REQ-130444/F-Active Park Assist Graphical Layout

Actual HMI graphics will be application specific.

Reference latest HMI specification “H36m APACSI” for graphical positional layout.

2.3.2 CAMERA-FUR-REQ-131003/B-Active Park Assist Graphical Requirements - 1

The APA screen content shall be developed in close cooperation between the APA function owner, HMI and VE.

2.3.3 CAMERA-FUR-REQ-131004/B-Active Park Assist Graphical Requirements - 2

The HMI team shall design the APA screens such that they reflect the detailed instructions that the driver must follow.

2.3.4 CAMERA-FUR-REQ-131005/C-Active Park Assist Graphical Requirements - 3

The HMI system screen designer shall meet the functional direction of this interface specification (e.g. a graphic shall be provided for each functional block) however the actual graphic and its position shall be placed per HMI direction.

2.3.5 CAMERA-FUR-REQ-131006/B-Active Park Assist Graphical Requirements - 4

It is acceptable for the HMI design to overlap positionals as deemed necessary per HMI direction. Should this be required, all overlaps shall be reviewed with parking assistance engineering to ensure proper foreground/background priority has been assigned to the overlapping positionals.

2.3.6 CAMERA-FUR-REQ-131007/B-Active Park Assist Graphical Requirements - 5

Each logical value of the simplified signals shall determine the display of each positional as defined in section Active Park Assist (APA) Signal Processing.

2.3.7 CAMERA-FUR-REQ-165413/B-Active Park Assist Graphical Requirements - 6

If Reverse Video Camera (RVC) and Active Park Assist (APA) are equipped and operational, (ApaSteScanMde_D_Stat == Scanning) and a transition from (Gear ~= Reverse) to (Gear == Reverse) takes place:

- The HMI system shall memorize the SAP system's current screen request "SapScrn@Rentry".
- The RVC base screen shall be built (including the VPA overlay) prior to populating any APA overlay.
- The HMI display shall (only) populate the SAP-BPA- RVC base screen with SAP text and symbols if it receives a SAP system screen request other than "SapScrn@Rentry".

Note: this is for flicker prevention. The HMI ECU memorizes the state of the APA signals at APA screen transition and does not overlay any APA positionals until there is a state change of the input signals.

2.4 Active Park Assist (APA) and Park Distance Control (PDC) during Rear Video Camera (RVC) Graphical Requirements

2.4.1 CAMERA-FUR-REQ-161276/B-Active Park Assist (APA) and Park Distance Control (PDC) during Rear Video Camera (RVC) Graphical Layout

Actual HMI graphics will be application specific.

Position	Abbreviation
Driver Instruction/Information	Symbol 3
Driver Instruction/Information	Symbol 4
Driver Instruction/Information	Text3
Driver Instruction/Information	Text4
Visual Park Aid Zone Graphic	ParkPilot

HMI Zone Assignment for APA and PDC during RVC

2.4.2 CAMERA-FUR-REQ-161271/B-Active Park Assist (APA) and Park Distance Control (PDC) during Rear Video Camera (RVC) Graphical Requirements 1

The APA and PDC during RVC screen content shall be developed in close cooperation between the APA function owner, HMI and VE.

2.4.3 CAMERA-FUR-REQ-161272/B-Active Park Assist (APA) and Park Distance Control (PDC) during Rear Video Camera (RVC) Graphical Requirements 2

The HMI team shall design the screens such that they reflect the detailed instructions that the driver must follow.

2.4.4 CAMERA-FUR-REQ-161273/B-Active Park Assist (APA) and Park Distance Control (PDC) during Rear Video Camera (RVC) Graphical Requirements 3

The HMI system screen designer shall meet the functional direction of this interface specification (e.g. a graphic shall be provided for each functional block) however the actual graphic and its position shall be placed per HMI team direction.

2.4.5 CAMERA-FUR-REQ-161274/B-Active Park Assist (APA) and Park Distance Control (PDC) during Rear Video Camera (RVC) Graphical Requirements 4

It is acceptable for the HMI design to overlap positionals as deemed necessary. Should this be required, all overlaps shall be reviewed with parking assistance engineering to ensure proper foreground/background priority has been assigned to the overlapping positionals.

2.4.6 CAMERA-FUR-REQ-161275/B-Active Park Assist (APA) and Park Distance Control (PDC) during Rear Video Camera (RVC) Graphical Requirements 5

Each logical value of the simplified signals shall determine the display of each positional as defined in section Active Park Assist (APA) and Park Distance Control (PDC) during Rear Video Camera (RVC) Signal Processing.

2.4.7 CAMERA-FUR-REQ-165415/A-Active Park Assist (APA) and Park Distance Control (PDC) during Rear Video Camera (RVC) Graphical Requirements 6

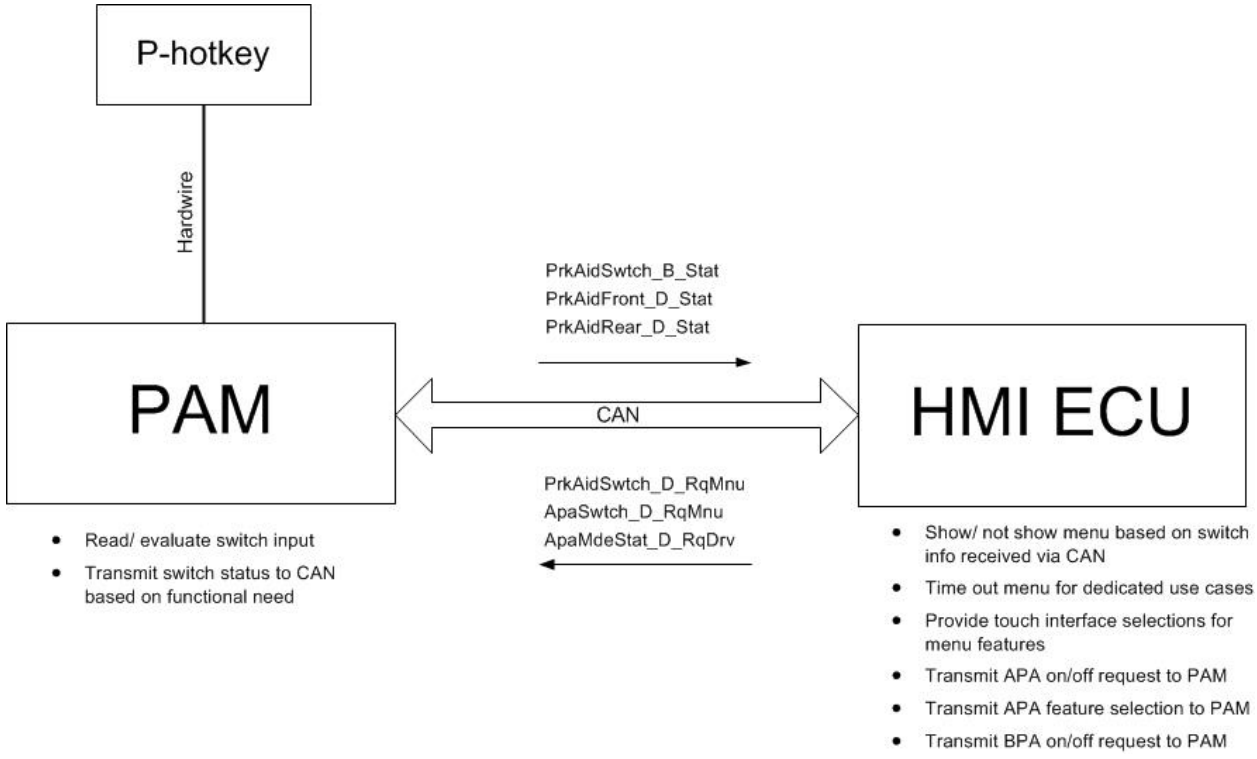
Upon transition into or out of "Active Park Assist (APA) and Park Distance Control (PDC) during Rear Video Camera (RVC)," active park positionals shall not be displayed until the state of the active park input signals has changed.
Note: this is for flicker prevention. The HMI ECU memorizes the state of the APA signals at RVC screen transition and does not overlay any APA positionals until there is a state change of the input sign

2.5 HotKey Shortcut Menu Interface

The interface requirements of this section shall be met by the HMI in order to support the HotKey shortcut menu high level functional requirements.

2.5.1 HotKey Shortcut Menu General Requirements

A high level sketch of the functional distribution that is the baseline of the hotkey logic is depicted below. Note that the signal interface for triggering visual APA and BPA indication is intentionally excluded from the sketch.



High level functional distribution for hotkey logic (visual indication excluded)

2.5.1.1 CAMERA-FUR-REQ-236837/C-HotKey Shortcut Menu General Requirements 1

The P-hotkey menu shall offer to select the active park assist feature ("APA-option"), de-activate or activate the BPA feature ("BPA-option") or select "other features" ("Other-option").

Note:

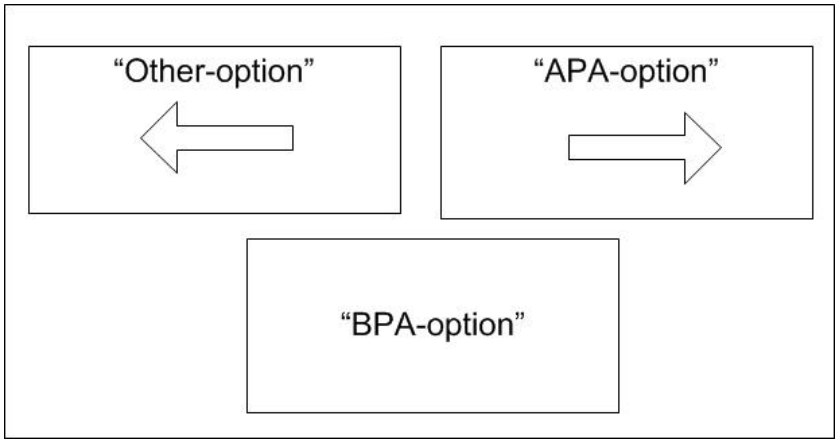
This specification is established by the APA/BPA feature owners. Hence, the "other features" are not within author's responsibility. Still, the way they are presented has an impact on the APA/BPA feature activation and deactivation. The detailed layout is of course the HMI design/ ergo team's responsibility. The sketch deliberately does not provide any details with respect to the MyKey use case and the BPA option. It is expected that the HMI team decides what the menu should look like, e.g. greyed out not-selectable option or not shown at all. (P-HotkeyReq014)

2.5.1.2 CAMERA-FUR-REQ-236838/B-HotKey Shortcut Menu General Requirements 2

The P-hotkey menu shall only be accessible via the hotkey.

Note:

For the FAP feature we expect to always see a button press before we go active. If the menu would be available via any kind of SYNC menu (thus avoiding use of the hotkey) this concept would no longer work. So it must be guaranteed that the menu (and thus FAP) can only be called when the button is pressed.



High level sketch of possible hotkey menu design
(P-HotkeyReq015)

2.5.1.3 CAMERA-FUR-REQ-236839/C-HotKey Shortcut Menu General Requirements 3

If the P-hotkey is concept is applied, all APA full screen scanning screens shall show the feature selection menu bar.

Note:

This requirement needs to be respected by the HMI system. As we lose the possibility to toggle features via the hard button, availability of the feature selection menu must be guaranteed.
(P-HotkeyReq067)

2.5.1.4 CAMERA-FUR-REQ-235899/B-HotKey Shortcut Menu General Requirements 4

If the p-hotkey menu is currently shown when reverse gear is engaged, the HMI system shall close the p-hotkey menu and show the RVC view as defined by requirements from the reverse camera team.
Note:
Requirements applicable for RVC indication as applicable at the time of release of this specification remain in place.
(P-HotkeyReq104)

2.5.1.5 CAMERA-FUR-REQ-235900/B-HotKey Shortcut Menu General Requirements 5

If the p-hotkey menu is closed due to reverse gear being engaged, the HMI system shall not show APA information on the RVC screen.
Note:
We need to avoid race conditions. Imagine that the APA feature may be slower to change from the mode it is in if the hotkey menu is shown to the mode it is in when the menu is off. Mind that both systems use reverse gear and have to process it to change states. In this case the HMI could then still receive APA information that was sent to adapt the appearance of the APA selection option because the PAM may be slower processing/ receiving reverse gear. We do not want this information to appear on the RVC screen.
(P-HotkeyReq105)

2.5.1.6 CAMERA-FUR-REQ-235901/B-HotKey Shortcut Menu General Requirements 6

The HMI system shall never change from a non p-hotkey screen to full screen APA.
Note:
We need to make sure we avoid flicker. When the button is pressed the PAM goes into a dedicated operational mode associated to showing information while the menu is shown. Now imagine we have an overspeed use case. This means when the PAM goes into this "menu mode" it provides the ApaCsi signals that in non-hotkey variants trigger the APA overspeed screen. Imagine now that the HMI would interpret the ApaCsi signals for overspeed first and only afterwards

consider the signal from the switch (which should be send by the PAM simultaneously, but there are multiple messages to read). When pressing the switch we could then have a brief flicker of today's APA overspeed screen followed by the p-hotkey menu. And this is something we surely don't want. So the HMI system needs to make sure all signals/ messages are evaluated, before it reacts. If the switch signal is received as pressed simultaneously with the ApaCsi signals for e.g. APA overspeed, then we want to see "just" the p-hotkey menu with the APA option shown for the overspeed condition.
(P-HotkeyReq100)

2.5.1.7 CAMERA-FUR-REQ-236526/B-HotKey Shortcut Menu General Requirements 7

The BPA feature activation status shall be clearly reflected in the P-hotkey menu.
(P-HotkeyReq068)

2.5.1.8 CAMERA-FUR-REQ-236527/B-HotKey Shortcut Menu General Requirements 8

If the driver has called up the P-hotkey menu and has selected the "BPA-option", the p-hotkey menu shall time out after [tCloseConfirm].
Note:
It should be safe to assume that when the driver has opened the menu to activate or deactivate the BPA option this was the only action they wanted to perform. Thus the menu can be automatically closed. We add the delay [tCloseConfirm], though, to make sure the driver sees the confirmation of his/her action by a change of state of the BPA ON/Off menu.
(P-HotkeyReq051)

2.5.1.9 CAMERA-FUR-REQ-236529/B-HotKey Shortcut Menu General Requirements 9

If the driver has called up the P-hotkey menu and successfully selected the "APA-option", the hotkey menu shall be closed and the APA feature shall be shown full screen.
Note:
The driver can of course only "successfully" select the "APA-option" if it is selectable.
(P-HotkeyReq069)

2.5.1.10 CAMERA-FUR-REQ-236530/B-HotKey Shortcut Menu General Requirements 10

The "BPA-option" of the P-hotkey menu shall have an "ON/ ENABLED" and "OFF/ DISABLED" state.
Note:
The design of this interface is the responsibility of HMI, but the BPA feature owner needs to sign off.
(P-HotkeyReq064)

2.5.1.11 CAMERA-FUR-REQ-236531/B-HotKey Shortcut Menu General Requirements 11

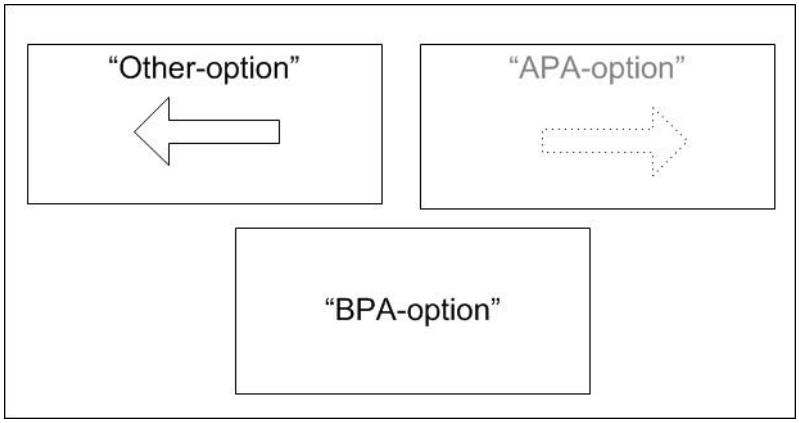
The "APA-option" of the P-hotkey menu shall have a "normal" state, an "overspeed" state, an "unavalaible" state and a "fault" state.
(P-HotkeyReq019)

2.5.1.12 CAMERA-FUR-REQ-236532/B-HotKey Shortcut Menu General Requirements 12

When in "normal" state the "APA-option" shall be designed to indicate that the feature is selectable.
(P-HotkeyReq020)

2.5.1.13 CAMERA-FUR-REQ-236533/C-HotKey Shortcut Menu General Requirements 13

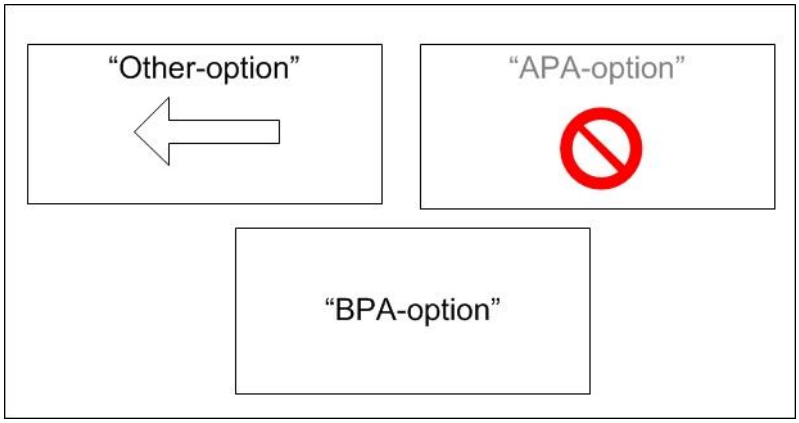
When in "overspeed" state, the "APA-option" shall provide additional symbols or text to indicate that the vehicle is operated outside of the APA feature's speed envelope, but the "APA-option" shall be shown as selectable.



Sketch for possible design of APA feature selection during overspeed
(P-HotkeyReq021)

2.5.1.14 CAMERA-FUR-REQ-236534/B-HotKey Shortcut Menu General Requirements 14

When in "unavailable" state, the "APA-option" shall be "greyed out" or provide additional symbols or text to indicate that (and why) the APA feature is not available and cannot be selected.



Sketch for possible design of APA feature selection when APA is not available.
(P-HotkeyReq022)

2.5.1.15 CAMERA-FUR-REQ-236546/B-HotKey Shortcut Menu General Requirements 15

When in "fault" state, the "APA-option" shall be "greyed out" or provide additional symbols or text to indicate that the APA feature is faulted and cannot be selected.
(P-HotkeyReq023)

2.5.1.16 CAMERA-FUR-REQ-236829/B-HotKey Shortcut Menu General Requirements 16

When the "APA.-option" is in "overspeed" state, feature selection and thus a change to full screen APA mode shall remain available.
Note:
We here consider that the vehicle may be driven just slightly outside of the APA feature's speed envelope. So we do allow selecting the feature. Note that when activated in overspeed condition the APA feature controls the screen time out. This is the same behavior as for APA implementations with a hard button directly communicating with the APA feature. This is supported by PAM signals.
(P-HotkeyReq024)

2.5.1.17 CAMERA-FUR-REQ-236830/B-HotKey Shortcut Menu General Requirements 17

When the "APA-option" is in "fault" or "unavailable" state, feature selection shall not be available and a change to full screen APA mode shall not be possible.
(P-HotkeyReq025)

2.5.1.18 CAMERA-FUR-REQ-236833/B-HotKey Shortcut Menu General Requirements 20

All APA screens shall feature an “APA off” option.
Note:
The “off option” is today already part of the scanning screens. This requirement extends its availability to the screens for active steering. This is necessary as we no longer have the hardbutton to deactivate active steering.
(P-HotkeyReq046)

2.5.1.19 CAMERA-FUR-REQ-236834/B-HotKey Shortcut Menu General Requirements 21

The RVC screen shall provide an interface to activate/ deactivate BPA.
Note:
With the introduction with the p-hotkey we lose the standalone BPA switch. And as the p-hotkey is not available in reverse gear, we do need another possibility to deactivate BPA.
(P-HotkeyReq099)

2.5.1.20 CAMERA-FUR-REQ-250044/A-HotKey Shortcut Menu General Requirements 22

If the driver has called up the P-hotkey menu and selects the “Other-option”, the p-hotkey menu shall be immediately closed and the “Other-option” shall be shown full screen.
(P-Hotkey126)

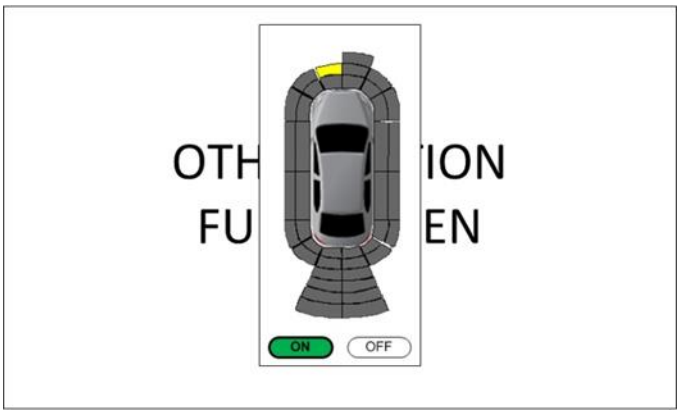
2.5.1.21 CAMERA-FUR-REQ-250046/A-HotKey Shortcut Menu General Requirements 23

If the p-hotkey menu has been shown without interruption for [tCloseNoSelection], the hotkey menu shall be closed.

Note;
An interruption in this context could e.g. be the indication of the BPA “full screen” overlay on top of the p-hotkey menu or selection of any of the p-hotkey menu’s options.
(P-HotkeyReq129)

2.5.1.22 CAMERA-FUR-REQ-250047/A-HotKey Shortcut Menu General Requirements 24

If the hotkey concept is applied, all “full screen” BPA overlays shall include a BPA “ON/OFF” option as symbolically shown by the Figure.
Note:
The final design fulfilling all ergo and BPA requirements has to be defined by the HMI design team and signed off by the BPA feature owner.



sketch of BPA overlay with ON/OFF (HMI to decide on final design)
(P-HotkeyReq159)

2.5.1.23 CAMERA-FUR-REQ-250491/B-HotKey Shortcut Menu General Requirements 25

If the hotkey menu offers any “on-screen close option” that can be used to deactivate the P-hotkey menu;
If the P-hotkey menu closes due to activation of the on-screen deactivation option, the operational table for [ApaMdeStat_D_RqDrv] shall be respected.

This requirement covers the possibility that the generic hotkey menu design includes a “Cancel” or “Close” option on the touch screen. This option is not part of the APA/ BPA feature specifications, but seems to be a generic design. So it is important to respect this requirement as when the menu closes, the PAM/ APA feature always needs to be informed.

(P-HotKeyReq170)

2.5.1.24 CAMERA-FUR-REQ-272559/A-HotKey Shortcut Menu General Requirements 26

If MyKey is present the BPA on/off selection of the BPA overlay shall not be shown.

Note:
In case of the BPA overlay it does not make much sense to show the On/Off option, but make it not selectable. This might confuse people more than it helps. With the On/Off option simply not being there, the message that BPA cannot be deactivated in case of MyKey is clear.
(P-HotkeyReq173)

2.5.1.25 CAMERA-FUR-REQ-272563/A-HotKey Shortcut Menu General Requirements 27

If the P-hotkey menu closes due to [tCloseConfirm] timeout, [tCloseNoSelection] timeout or any on-screen deactivation option: The P-Hotkey menu shall be closed without any discernable flicker.
(P-HotkeyReq171)

2.5.2 HotKey Shortcut Menu Signal List

2.5.2.1 CAMERA-FUR-REQ-235902/B-HotKey Shortcut Menu Signal List - ApaMdeStat_D_RqDrv

The HMI system shall transmit the signal [ApaMdeStat_D_RqDrv] to the PAM.
Note:
This signal already exists today. It is used for feature selection via the APA feature menu. The associated functional logic is a little expanded to support the hotkey concept.
(P-HotkeyReq033)

2.5.2.2 CAMERA-FUR-REQ-235903/B-HotKey Shortcut Menu Signal List - ApaSwtch_D_RqMnu

The HMI system shall transmit the signal [ApaSwtch_D_RqMnu] to the PAM.
Note:
The signal is used to activate/ deactivate APA active scanning. See requirements of this section.
(P-HotkeyReq058)

2.5.2.3 CAMERA-FUR-REQ-235904/B-HotKey Shortcut Menu Signal List - PrkAidSwtch_D_RqMnu

The HMI system shall transmit the signal [PrkAidSwtch_D_RqMnu] to the PAM.
Note:
The signal is used to activate/ deactivate BPA. See requirements of this section.
(P-HotkeyReq059)

2.5.2.4 CAMERA-FUR-REQ-236835/B-HotKey Shortcut Menu Signal List - PrkAidFront_D_Stat

The HMI system shall receive the signal PrkAidFront_D_Stat from the PAM.
Note:
We don’t know today if the Hotkey logic will be used only with park aid variants >4channel. In theory, if that’s the case we could use a single signal. For timing reasons and to protect potential later usage with 4channel/ RPA-only variants we here take two existing signals.
(P-HotkeyReq111)

2.5.2.5 CAMERA-FUR-REQ-236836/B-HotKey Shortcut Menu Signal List - PrkAidRear_D_Stat

The HMI system shall receive the signal PrkAidRear_D_Stat from the PAM.
Note:
We don’t know today if the Hotkey logic will be used only with park aid variants >4channel. In theory, if that’s the case we could use a single signal. For timing reasons and to protect potential later usage with 4channel/ RPA-only variants we here take two existing signals.
(P-HotkeyReq111)

2.5.3 HotKey Shortcut Menu Signal Processing

2.5.3.1 CAMERA-FUR-REQ-235906/B-HotKey Shortcut Menu Signal Processing Requirements 1

When the HMI system initializes, the default of the signal [ApaMdeStat_D_RqDrv] shall be “0x0 – Inactive”. (P-HotkeyReq034)

2.5.3.2 CAMERA-FUR-REQ-235908/B-HotKey Shortcut Menu Signal Processing Requirements 2

When the HMI system initializes, the default of the signal [ApaSwtch_D_RqMnu] shall be “0x0 – Not pressed”. (P-HotkeyReq060)

2.5.3.3 CAMERA-FUR-REQ-235909/B-HotKey Shortcut Menu Signal Processing Requirements 3

When the HMI system initializes, the default of the signal [PrkAidSwtch_D_RqMnu] shall be “0x0 – Not pressed”. (P-HotkeyReq061)

2.5.3.4 CAMERA-FUR-REQ-235910/C-HotKey Shortcut Menu Signal Processing Requirements 4

The HMI system shall react on [PrkAidSwtch_B_Stat] (received from the PAM) as defined by the following table.

Initial HMI p-hotkey menu status		**Status of [PrkAidSwtch_B_Stat]**		**Resulting p-hotkey menu status**
p-hotkey menu not shown	AND	0x0 “Not pressed”	⇨	p-hotkey menu not shown, any other screen remains shown
p-hotkey menu not shown *	AND	Transition from 0x0 “Not pressed” to 0x1 “Pressed”	⇨	Show p-hotkey menu
p-hotkey menu shown	AND	Transitionfrom 0x0 “Not pressed” to 0x1 “Pressed”	⇨	Close p-hotkey menu (Return to active screen prior to activation of p-hotkey menu)
* Note that this state includes full screen APA mode and the BPA “full screen” overlay on top of the menu screen.				

HMI system reaction to PrkAidSwtch_B_Stat
(P-HotkeyReq056)

2.5.3.5 CAMERA-FUR-REQ-235911/B-HotKey Shortcut Menu Signal Processing Requirements 5

The HMI system shall change the state of the signal [ApaSwtch_D_RqMnu] as per the following table.

p-hotkey menu state	**AND**	**driver action**		**State of [ApaSwtch_D_RqMnu]**
p-hotkey menu not shown	-	don’t care	⇨	“0x0 Not pressed”
p-hotkey menu shown	**AND**	None	⇨	“0x0 Not pressed”
p-hotkey menu shown	**AND**	driver selects “BPA-option” of p-hotkey menu	⇨	“0x0 Not pressed”
p-hotkey menu shown	**AND**	driver selects “Other-option” of p-hotkey menu	⇨	“0x0 Not pressed”
p-hotkey menu shown	**AND**	driver selects “APA-option” of p-hotkey menu	⇨	Cycle

HMI system logic for ApaSwtch_D_RqMnu – Change from 0x0 to “other”
(P-HotkeyReq036)

2.5.3.6 CAMERA-FUR-REQ-235912/C-HotKey Shortcut Menu Signal Processing Requirements 6

The HMI system shall change the state of the signal [ApaMdeStat_D_RqDrv] as per the following tables.
Note:

The logic with respect to the state of [ApaMdeStat_D_RqDrv] and [ApaMde_D_Stat] is already in place today. This table should not be in conflict with that existing logic, but is added here to complete this specification.

	HMI screen		driver action / menu state		State of [ApaMdeStat_D_RqDrv]
1	any screen shown but not the p-hotkey menu	**AND**	don't care	⇨	"0x0 Inactive"
2	p-hotkey menu shown	**AND**	None	⇨	"0x0 Inactive"
3	p-hotkey menu shown	**AND**	driver selects "BPA-option" of p-hotkey menu	⇨	"0x0 Inactive"
4	p-hotkey menu shown	**AND**	driver selects "Other-option" of p-hotkey menu	⇨	"0x0 Off"
5	p-hotkey menu shown	**AND**	driver selects "APA-option" of p-hotkey menu	⇨	"0x0 Inactive"
6	APA menu bar shown on full APA screen	**AND**	None	⇨	"0x0 Inactive"
7	APA menu bar shown on full APA screen	**AND**	driver selects "IPa" option	⇨	"0x1 SAPP"
8	APA menu bar shown on full APA screen	**AND**	driver selects "IPe" option	⇨	"0x2 PPA"
9	APA menu bar shown on full APA screen	**AND**	driver selects "OPa" option	⇨	"0x3 POA"
10	APA menu bar shown on full APA screen	**AND**	driver selects "Off" option	⇨	"0x6 Off"
11	APA "off" option shown on full APA screen	**AND**	driver selects "Off" option	⇨	"0x6 Off"
12	p-hotkey menu shown	**AND**	p-hotkey menu closes due to [tCloseConfirm] timeout, [tCloseNoSelection] timeout or any other on-screen deactivation option	⇨	"0x6 Off"

HMI system logic for [ApaMdeStat_D_RqDrv] – Change from 0x0 to "other"

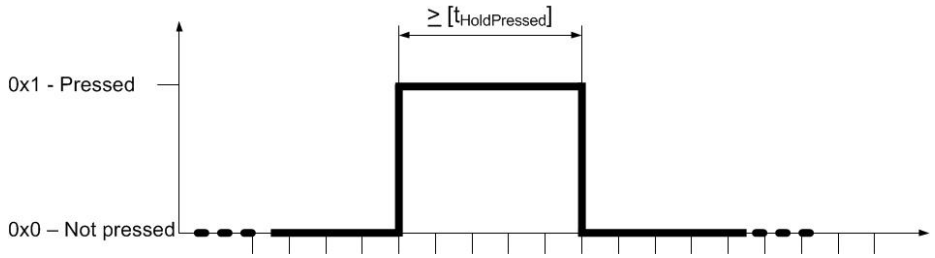
Initial state of [ApaMdeStat_D_RqDrv]		State of [ApaMde_D_Stat] (received from PAM)		Resulting state of [ApaMdeStat_D_RqDrv]
0x0 "Inactive"	**AND**	Any change	⇨	"0x0 Inactive"
0x1 "SAPP"	**AND**	Changes from "Any" to "0x2 SAPP"	⇨	"0x0 Inactive"
0x1 "SAPP"	**AND**	Is/remains "0x2 SAPP"	⇨	"0x0 Inactive"
0x2 "PPA"	**AND**	Changes from "Any" to "0x3 PPA"	⇨	"0x0 Inactive"
0x2 "PPA"	**AND**	Is/remains "0x3 PPA"	⇨	"0x0 Inactive"
0x3 "POA"	**AND**	Changes from "Any" to "0x4 POA"	⇨	"0x0 Inactive"
0x3 "POA"	**AND**	Is/remains "0x4 POA"	⇨	"0x0 Inactive"
0x6 "Off"	**AND**	Changes from "Any" to "0x1 OFF"	⇨	"0x0 Inactive"

HMI system logic for [ApaMdeStat_D_RqDrv] – Change from "other "to 0x0
(P-HotkeyReq057)

2.5.3.7 CAMERA-FUR-REQ-235913/B-HotKey Shortcut Menu Signal Processing Requirements 7

When the trigger conditions for cycling are fulfilled, the HMI system shall change [ApaSwtch_D_RqMnu] from state "0x0" to state "0x1", hold this state for at least [tHoldPressed] and end the cycle with the transition back to state "0x0".
Note:

See figure. The requirement to keep the pressed state set at least [tHoldPressed] aims at assuring the PAM detects the change. You may consider this requirement fulfilled if the minimum SeperationTime as defined per applicable CAN specifications for event periodic signals or if the message rate of the signal [ApaSwtch_D_RqMnu] is the same or bigger than [tHoldPressed].



Cycle for [ApaSwtch_D_RqMnu] and [PrkAidSwtch_D_RqMnu]
(P-HotkeyReq038)

2.5.3.8 CAMERA-FUR-REQ-235914/C-HotKey Shortcut Menu Signal Processing Requirements 8

If the hotkey menu is shown, the APA feature selection interface shall depend on the signal [ApaSys_D_Stat] as detailed by the following table.

[ApaSys_D_Stat]		
State	**Description**	**If hotkey menu is shown, APA feature selection option shall show that:**
0x0	Null	APA option is selectable: ***No*** APA option additional info: ***None*** ***Note:*** *When this state is set the APA system is initializing. So this is a theoretical case as it should be assumed that during initialization the p-hotkey does not work and hence the menu*
0x1	Off	APA option is selectable: ***Yes*** APA option additional info: ***None*** ***Note:*** *This is a standard use case that occurs every time the p-hotkey calls up the menu and speed is within range and APA is available.*
0x2	On	n/a – in this case the full APA screen is shown, no hotkey menu available ***Note:*** *When [ApaSys_D_Stat] is "On", APA must be in full screen mode. Therefore this state cannot coincide with the menu being shown. Mind that changes from full screen APA to the P-hotkey menu can only be achieved by pressing the P-hotkey. As the P-hotkey is controlled by the PAM/ APA feature, however, the PAM can control that [ApaSys_D_Stat] is set to "Off" simultaneously with the change of [PrkAidSwtch_B_Stat].*
0x3	Overspeed	APA option is selectable: ***Yes*** APA option additional info: ***Overspeed condition*** (show symbol or text) ***Note:*** *This is a standard use case if the vehicle is driven above scanning speed. So the HMI does not need to look at speed. It can use this state from the PAM.*
0x4	ApaCancelled	APA option is selectable: ***Yes*** APA option additional info: ***None*** ***Note:*** *The states "ApaCancelled" and "Finished" can only occur during APA full screen mode. The only way to change from APA full screen mode back to showing the menu is via a press of the P_Hotkey. Imagine that the customer pushes the p-hotkey while the APA system is triggering a message for cancellation or has just finished and is still triggering the finish screen. As per the overall architecture, the P-hotkey is connected to the APA module. So the APA module can then always reset [ApaSys_D_Stat to "Off"] simultaneously with sending the signal for switch pressed [PrkAidSwtch_B_Stat]. Therefore, for the architecture in place the APA feature can prevent these states from appearing when the menu is shown. We still do define HMI system reaction for these states. Just in case.*
0x5	NotAccessible	APA option is selectable: ***No*** APA option additional info: ***Read additional signals to show info:*** *if [ApaMsgTxt_D_Rq] == 0x3 "TcsDisabled"* *Indicate TCS needs to be enabled to use APA (wording or symbol tbd)* *elseif [ApaMsgTxt_D_Rq] ~= 0x3 "TcsDisabled" (includes signal n/a)* *check [TrlrLampCnnct_B_Actl]*

[ApaSys_D_Stat]		If hotkey menu is shown, APA feature selection option shall show that:
State	Description	
		end *if [TrlrLampCnnct_B_Actl] == 0x1* *Indicate APA cannot be used with a trailer attached (wording or symbol tbd)* *else* *Don't show additional info* *end* ***Note:*** *This logic considers that the driver could have hooked up a trailer or disabled traction control prior to pressing the P-hotkey or while the menu was shown. In both cases the APA feature is not available. The reason for the unavailability can easily be derived from existing signals. Showing additional information aims at reducing TGW in case of users that are unaware of these limitations.*
0x6	Finished	APA option is selectable: ***Yes***[4] APA option additional info: ***No*** ***Note:*** *See note to 0x4.*
0x7	Faulty	APA option is selectable: ***No*** APA option additional info: ***APA is faulted*** (show symbol or text)

APA feature selection option with regard to ApaSys_D_Stat
(P-HotkeyReq044)

2.5.3.9 CAMERA-FUR-REQ-235915/B-HotKey Shortcut Menu Signal Processing Requirements 9

If [ApaSys_D_Stat] changes from any state to "0x2 – On", the HMI system shall show APA screens in full screen mode according to the ApaCsi interface specifications.

Note:
Remember that when the APA feature option is selected, the HMI system cycles the signal [ApaSwtch_D_RqMnu] and this makes the PAM change from its menu mode to full screen mode. We intentionally wait for the PAM response before the full screen mode is launched. While this could produce "slow reaction", it should reduce the risk of undefined states. These undefined states would occur if the HMI immediately jumped to full screen mode with the APA feature initially being still in menu mode.
(P-HotkeyReq096)

2.5.3.10 CAMERA-FUR-REQ-236842/B-HotKey Shortcut Menu Signal Processing Requirements 10

If the p-hotkey menu is shown **AND**
[ApaSys_D_Stat] has any state other than ("0x0 – Null") or ("0x2 – On") or ("0x5 – NotAccessible") or ("0x7 – Faulty"), **AND**
the driver selects the APA option in the p-hotkey menu,
the HMI system shall cycle the signal [ApaSwtch_D_RqMnu].
(P-HotKeyReq097)

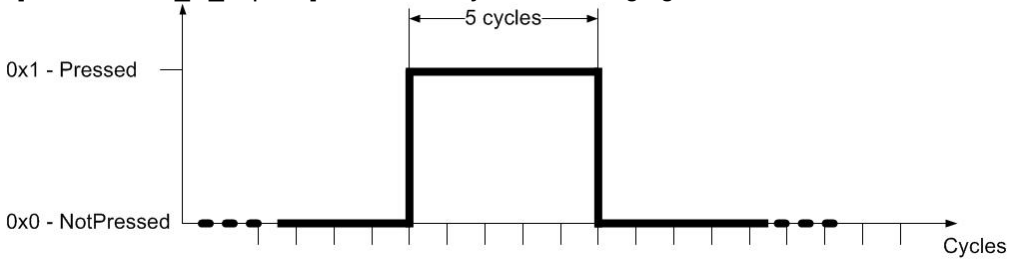
2.5.3.11 CAMERA-FUR-REQ-236843/B-HotKey Shortcut Menu Signal Processing Requirements 11

If the p-hotkey menu is shown **AND**
[ApaSys_D_Stat] has the state ("0x0 – Null") or ("0x2 – On") or ("0x5 – NotAccessible") or ("0x7 – Faulty"),
the driver shall not be able to select the APA option in the p-hotkey menu.

Note:
The state "0x2 – On" here is only mentioned for completeness. Per overall system interface design [ApaSys_D_Stat] can never be "0x2 – On" when the menu is shown. For this state we will always have the full screen APA mode.
(P-HotKeyReq048)

2.5.3.12 CAMERA-FUR-REQ-235916/B-HotKey Shortcut Menu Signal Processing Requirements 12

If the p-hotkey menu is shown and the "BPA-option" is selectable and the driver selects the "BPA-option", the HMI system shall cycle the signal [PrkAidSwtch_D_RqMnu] as defined by the following figure.



Cycle for [PrkAidSwtch_D_RqMnu]
(P-HotkeyReq106)

2.5.3.13 CAMERA-FUR-REQ-236840/C-HotKey Shortcut Menu Signal Processing Requirements 13

The status of the "BPA-option" shall be set as per the table.

						"BPA-option"	
HMI p-hotkey menu status		**PrkAidFront_D_Stat**		**PrkAidRear_D_Stat**		**Style**	**Selectability**
not shown	**-**	Don't' care	**-**	Don't' care	⇨	Don't care	None
Shown	**AND**	0x1 "Enabled"	**OR**	0x1 "Enabled"	⇨	BPA enabled	Selectable
Shown	**AND**	0x0 "Disabled"	**AND**	0x0 "Disabled"	⇨	BPA disabled	Selectable
Shown	**AND**	0x2 "Not used" ***OR*** 0x3 "Faulty"	**OR**	0x2 "Not used" ***OR*** 0x3 "Faulty"	⇨	BPA disabled	Not Selectable
Note: *As per PAM specification the combinations "Faulty" and "Enabled" for front/rear (or vice versa) are not possible. Whenever any of the two signals assumes the state "Faulty" while the menu is shown, the HMI system shall apply the last requirement line of the above table.*							

State of BPA selection option as a function of ParkAidFront_D_Stat / ParkAidRear_D_Stat

BPA selection interface	**[IgnKeyType_D_Actl]**		**Style / consequence**
Hotkey menu	Is 0x2 "Key In Ignition MyKey"	⇨	***Either*** show current state of BPA option with the BPA option being not selectable ***or*** do not show BPA option at all. The HMI team shall decide from one of these alternatives based on the different possible Hotkey menu content.
On/Off interface on top of/ as part of the BPA overlay.	Is not 0x2 "Key In Ignition MyKey"	⇨	Do not show On/Off interface on top of BPA overlay,

State of BPA selection option as a function of MyKey

(P-HotkeyReq110)

2.5.3.14 CAMERA-FUR-REQ-236841/B-HotKey Shortcut Menu Signal Processing Requirements 14

If the p-hotkey menu or any other screen is currently shown **AND**
the signal [PrkAidMsgTxt_D_Rq] cycles from any state for which no BPA overlay is requested to any state for which a BPA overlay is requested,
the BPA "full screen" visual indication shall be shown on top of the p-hotkey menu or other currently shown screen (as per existing requirements for BPA).

Note:
The requirements for activation of the BPA warning remain unaffected. Compared to the first release of this specification the above requirements changed such that the p-hotkey menu remains active in the back and the BPA overlay is shown full screen on top of the p-hotkey menu. This enables the driver to turn BPA off via the option built into the BPA overlay and then continue selecting an option from the p-hotkey menu. The underlying use case is that the driver called the menu, a BPA event "intervened" and upon closing the BPA overlay the menu is immediately available again. Make sure to respect that we specifically want the screen to be shown only when a signal transition/ cycle occurs!
(P-HotKeyReq052)

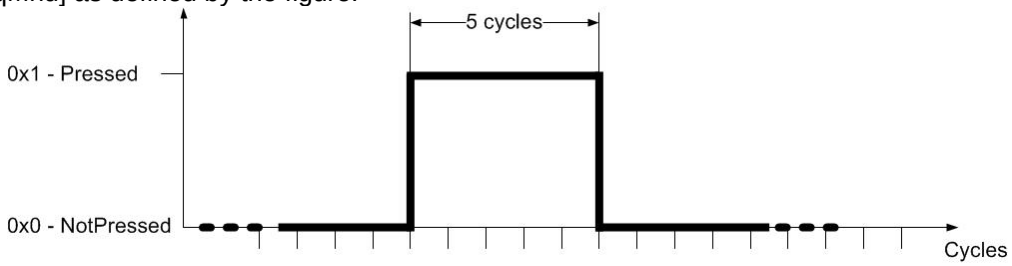
2.5.3.15 CAMERA-FUR-REQ-237606/C-HotKey Shortcut Menu Signal Processing Requirements 15

If [PrkAidMsgTxt_D_Rq] requests to show the BPA "full screen" overlay AND
the p-hotkey menu is triggered AND
the state of [PrkAidMsgTxt_D_Rq] remains "steady"/ does not cycle;

the BPA full screen overlay shall be closed AND
the p-hotkey menu shall be shown AND
the p-hotkey menu shall remain shown until another requirement to close the p-hotkey menu applies.
Note:
This requirement primarily aims at assuring that the hotkey menu remains shown when it has been called while a BPA warning is requested and BPA continues to request the visual warning. A potential use case is that a BPA warning is requested and shown and the driver presses the P-hotkey. Pressing the hotkey makes the APA system cycle the signal [PrkAidSwtch_B_Stat] which in turn triggers the menu. The driver could that while BPA still requested the BPA full screen overlay, but we here follow the driver's wish to see the menu as long as we have "the same" warning from BPA. "The same" is derived from [PrkAidMsgTxt_D_Rq] being steady.
(P-HotkeyReq114)

2.5.3.16 CAMERA-FUR-REQ-235917/B-HotKey Shortcut Menu Signal Processing Requirements 16

If the RVC screen is shown and the driver selects the "BPA-option", the HMI system shall cycle the signal [PrkAidSwtch_D_RqMnu] as defined by the figure.



Cycle for [PrkAidSwtch_D_RqMnu]
(P-HotkeyReq107)

2.5.3.17 CAMERA-FUR-REQ-235918/B-HotKey Shortcut Menu Signal Processing Requirements 17

If the p-hotkey menu is shown and the driver selects any option other than the "BPA-option", the HMI system shall keep the signal [PrkAidSwtch_D_RqMnu] set to "0x0 – Not pressed".
(P-HotkeyReq108)

2.5.3.18 CAMERA-FUR-REQ-235920/B-HotKey Shortcut Menu Signal Processing Requirements 18

If the RVC screen is shown and the driver selects any option other than the “BPA-option”, the HMI system shall keep the signal [PrkAidSwtch_D_RqMnu] set to “0x0 – Not pressed”.
Note:
This should be clear as only the “BPA-option” can change BPA status. Still this requirement was added for completeness.
(P-HotkeyReq109)

2.5.3.19 CAMERA-FUR-REQ-250026/A-HotKey Shortcut Menu Signal Processing Requirements 19

If [ApaSys_D_Stat] is “0x3 – Overspeed”, AND
the driver selects the APA option
the HMI system shall show APA screens in full screen mode according to the ApaCsi interface specifications.

Note:
If the vehicle is driven above the APA operational speed the APA system sets the signal [ApaSys_D_Stat] to “ox3” so that the HMI system can already show overspeed information in the P-Hotkey menu. However, that means we cannot use the state of [ApaSys_D_Stat] to determine when to change to full screen mode. Because the state in case of overspeed is the same regardless of menu or full screen mode. Therefore, in this case we allow the system to go the full screen mode just based on the APA option selection.
(P-HotkeyReq165)

2.5.3.20 CAMERA-FUR-REQ-250027/A-HotKey Shortcut Menu Signal Processing Requirements 20

If the p-hotkey menu is closed and the signal [PrkAidMsgTxt_D_Rq] requests a BPA warning, the HMI system shall immediately show the appropriate BPA visual indication as per existing requirements for BPA visual indication.
Note:
Imagine a use case for which the menu is requested to be shown while the BPA overlay is shown. If the menu is then closed again either by the timeout or via driver action (i.e. CAN signal), and a request to show the BPA overlay is still present, the BPA overlay shall be shown. Mind that the BPA overlay is shown on top of the screen that was shown before the hotkey menu was called.
(P-HotkeyReq130)

2.5.3.21 CAMERA-FUR-REQ-250028/A-HotKey Shortcut Menu Signal Processing Requirements 21

The transition from the P-hotkey menu w/o BPA “full screen” overlay to the BPA overlay shown on top of the screen active before the hotkey menu was shown shall occur seamless and w/o any discernible flicker.
Note:
Imagine that prior to the hotkey menu being shown the HMI was showing the “home screen” or the “home screen” with the BPA overlay. Now, at the time the p-hotkey menu is closed either by the CAN signal or by the timeout condition, the HMI system needs to check if a BPA request for an overlay is present. This check has to be performed before the new screen is build. If the request to show a BPA overlay is present, the HMI system must then immediately show the BPA overlay on top of the “home screen”. We could consider it to be “flicker” if first the “home screen” would be shown and then the BPA overlay on top of it.
(P-HotkeyReq160)

2.5.3.22 CAMERA-FUR-REQ-250029/A-HotKey Shortcut Menu Signal Processing Requirements 22

If the BPA “full screen” overlay is shown AND
[PrkAidMsgTxt_D_Rq] no longer requests to show the BPA “full screen” overlay
the BPA “full screen” overlay shall be closed as per existing BPA interface requirements.
Note:
This is not a new requirement. The existing BPA requirements do apply. The requirement is still added for completeness of the hotkey requirement set.
(P-HotkeyReq164)

2.5.3.23 CAMERA-FUR-REQ-250030/A-HotKey Shortcut Menu Signal Processing Requirements 23

If the BPA overlay is shown on top of the p-hotkey menu, the timer [$t_{CloseNoSelection}$] shall be stopped and reset.
Note:
We want to avoid that while the BPA overlay is shown, the background image changes. This could create flicker. Therefore we freeze the p-hotkey menu in the background of the BPA warning overlay as long as the BPA warning is shown.

(P-hotkey168)

2.5.3.24 CAMERA-FUR-REQ-250492/B-HotKey Shortcut Menu Signal Processing Requirements 24

If the [PrkAidMsgTxt_D_Rq] changes to “0x0 - All Park Sensors OFF” when the BPA overlay is shown on top of the p-hotkey menu), the timer [$t_{CloseNoSelection}$] shall again be applied.

Note:

So we restart the timer from zero and the driver has again the [$t_{CloseNoSelection}$] until the menu closes.

(P-HotKeyReq169)

2.5.3.25 CAMERA-FUR-REQ-250031/B-HotKey Shortcut Menu Signal Processing Requirements 25

Deleted: was a duplicate of CAMERA-FUR-REQ-250492/A-HotKey Shortcut Menu Signal Processing Requirements 24.

2.5.3.26 CAMERA-FUR-REQ-250032/A-HotKey Shortcut Menu Signal Processing Requirements 26

If the BPA “full screen” overlay is shown and the driver selects the “OFF” option, the HMI system shall cycle the signal [PrkAidSwtch_D_RqMnu].

Note:

This signal transition is used by the PAM to disable the BPA request. If the PAM disable the BPA request, the signal [PrkAidMsgTxt_D_Rq] will change states. The change of state of [PrkAidMsgTxt_D_Rq] finally terminates the BPA “full screen” overlay.

(P-HotkeyReq161)

2.5.3.27 CAMERA-FUR-REQ-250033/A-HotKey Shortcut Menu Signal Processing Requirements 27

If the BPA “full screen” overlay is shown (compare Figure 2 2) and the driver selects the “ON” option, the HMI system shall keep the signal [PrkAidSwtch_D_RqMnu] set to “0x0 – Not pressed”.

(P-HotkeyReq162)

2.5.3.28 CAMERA-FUR-REQ-272598/A-HotKey Shortcut Menu Signal Processing Requirements 28

If the P-hotkey menu is shown **AND**
[tCloseConfirm] timer has expired **OR** [tCloseNoSelection] timer has expired **OR** on-screen deactivation option selected **AND**

[ApaSys_D_Stat] has any state other than “0x1 – Off”;
the HMI system shall (temporarily) ignore any APA screen request until [ApaSys_D_Stat] changes to a state other than “0x1 – Off”.

Note:

We need to avoid race conditions. For the above cases, the P-hotkey menu is closed based on HMI logic. Closing is communicated by the HMI system via the signal [ApaMde_D_RqDrv]. This potentially creates a race condition as the APA feature needs to receive the signal and change its status. So for a brief period of time, the signal [ApaSys_D_Stat] may unintentionally be set to a value other than “Off” (as APA needs to leave the “preview”/ n”menu” mode). If we don’t take care this may lead to brief indication of the respective APA (full) screen, so flicker. The most robust solution to fulfill the above requirement appears to monitor the state of the signal [ApaSys_D_Stat] at the time the HMI logic decides the menu needs to be closed.

(P-HotkeyReq172)

2.6 Display HMI Arbitration

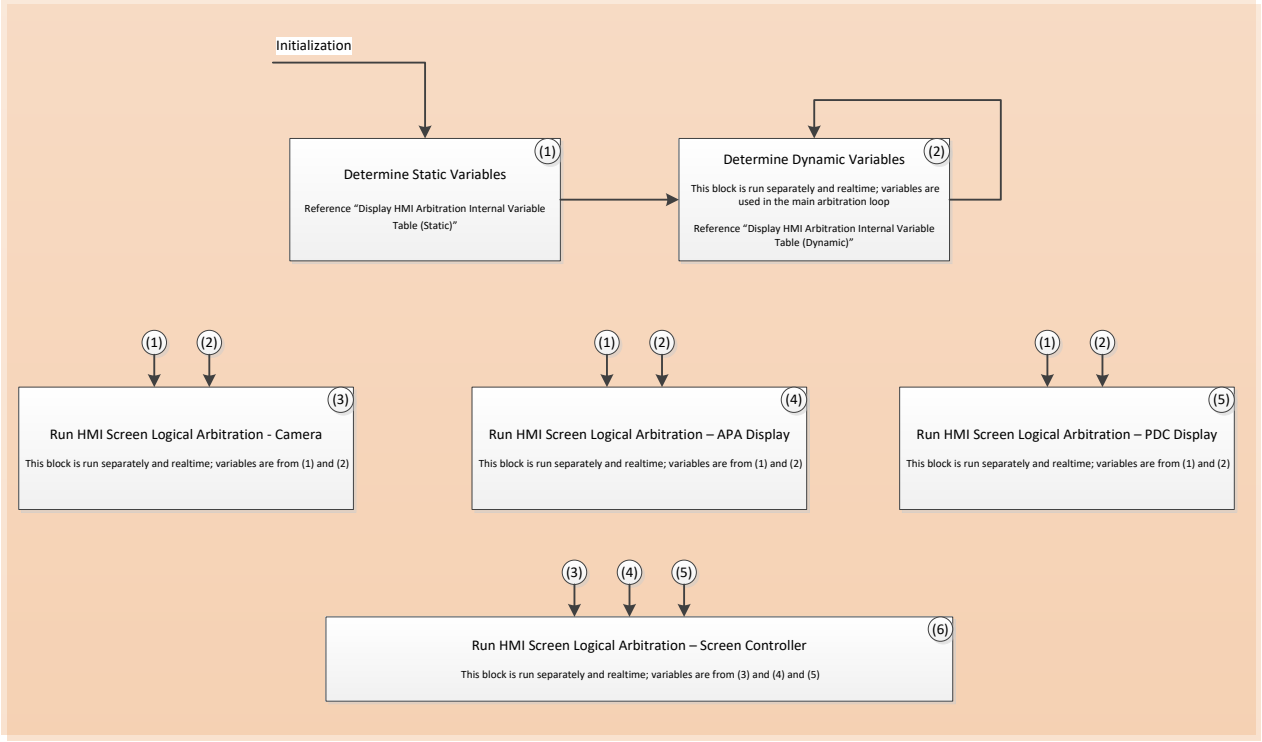
It is essential that the Infotainment ECU seamlessly integrates the Visual Park Aid and Active Park Assist screens into the overall display arbitration.

2.6.1 Display HMI Arbitration General Requirements

HMI Screen Logical Arbitration – Use Diagram
(Reference Only)

The operational steps through this section of the specification are:
1) Determine Static Variables at initialization
2) Determine Dynamic Variables (continuous)
3, 4, 5) Run Camera, APA and PDC engines (continuous)
6) Run screen controller (continuous)

Scheduler Layout



Display HMI Arbitration Use Diagram

2.6.1.1 CAMERA-FUR-REQ-131009/C-Display HMI Arbitration General Requirements 1

The HMI system shall arbitrate between screens with no discernable flicker as per HMI arbitration state machines.

2.6.1.2 CAMERA-FUR-REQ-131010/B-Display HMI Arbitration General Requirements 2

Within the Infotainment ECU overall display arbitration, the Camera, Active Park Assist and Visual Park Assist screens shall have the highest priority. No provision has been made in the screen arbitration to allow for higher priority displays, so any deviations require review and sign-off by Parking Assistance Core Engineering.

Note:

A legal requirement for APA exists. This states, the driver needs to be informed if the function is active and when it has been finished. In some legacy projects an indicator in the APA button has supported this requirement. However, the current design approach is to not use an indicator in the APA switch. The second part of the above requirement respects that (today) "Emergency Assist" has a higher priority than APA.

2.6.1.3 CAMERA-FUR-REQ-131011/C-Display HMI Arbitration General Requirements 3

Static Variables (e.g. configuration checks) shall be determined at transition to stable RUN operating mode, power-on initialization or ECU reset as per the arbitration tables.

2.6.1.4 CAMERA-FUR-REQ-131012/B-Display HMI Arbitration General Requirements 4

Static variables shall hold their state in KAM at key OFF. This is to provide a prior value during key RUN initialization.

2.6.1.5 CAMERA-FUR-REQ-131013/C-Display HMI Arbitration General Requirements 5

If a Park Aid fault screen is shown, the infotainment display system shall time out after a HMI-defined time. In addition to this time out, HMI may also allow a user input to acknowledge the fault and then close the screen.

2.6.1.6 CAMERA-FUR-REQ-131014/B-Display HMI Arbitration General Requirements 6

The HMI display client shall provide for internal timers. Operational value of the non-customer-selectable timers shall be programmable via direct memory write to EEPROM OR via a constant change in flash ROM (Individual vehicle applications may adjust the timers as program requirements dictate). At initialization (entry into stabilized RUN mode, power on reset, ECU reset), all timers shall initialize into state STOPPED AND RESET.

2.6.1.7 CAMERA-FUR-REQ-131015/C-Display HMI Arbitration General Requirements 7

Customer-selectable settings shall store the customer preference in KAM within a key cycle. At key OFF, if the customer-selected value is different than the stored value, the KAM location shall be committed to EEPROM or flash ROM appropriately.

2.6.1.8 CAMERA-FUR-REQ-211760/A-Display HMI Arbitration General Requirements 8

Fault screen appearance shall be approved by the camera, active park and park aid core teams respectively.

2.6.2 Display HMI Arbitration Internal Arbitration Variables

2.6.2.1 CAMERA-FUR-REQ-131016/D-Display HMI Arbitration Internal Variable Table (Static)

Variable Name	Value at initialization (battery connect)	Value at transition into RUN state	Notes
APA_Cfg	False	Use prior value	This looks at method II variables in the HMI ECU to determine whether or not to show the APA screens
Camra_Cfg	False	Use prior value	This looks at method II variables in the HMI ECU to determine whether or not to show the camera screens
FVC_Cfg	False	Use prior value	This looks at method II variables in the HMI ECU to determine maximum allowable speed limit for RVC exit
PDC_Cfg	False	Use prior value	This looks at method II variables in the HMI ECU to determine whether or not to show the PDC screens
OffRoadCamera_Cfg	False	Use prior value	This looks at method II variables in the HMI ECU to determine the speed thresholds for FVC screen deactivation
CamraDisable_Cfg	Use stored value	Use stored value	This is a internal parameter (not method 2 configurable) representing the vehicle speed at which the camera delay is overridden. **Typical setting is 10kph.**
CamraOffRoadDisable_Cfg	Use stored value	Use stored value	This is a internal parameter (not method 2 configurable) representing the vehicle speed at which the front camera delay is overridden when off-road capability has been enabled by the user. **Typical setting is 24kph.**

2.6.2.2 CAMERA-FUR-REQ-161326/C-Display HMI Arbitration Internal Variable Table (Dynamic)

Variable Name	Value at initialization (battery connect)	Value at transition into RUN state	Notes
APADisp	FALSE	FALSE	Internal parameter that represents the real-time state of the APA screen request. Used by the screen controller.
APA_Mode	NOT_APA	NOT_APA	Real-time (not debounced) variable used by the APA state machine. Debounce is handled on the PAM side.
APA_Sys_Stat	OFF	OFF	Real-time (not debounced) variable used by the APA state machine. Debounce is handled on the PAM side.
APA_Gear_Shif	NO_REQUEST	NO_REQUEST	Real-time (not debounced) variable used by the APA state machine. Debounce is handled on the PAM side.
FVCDisp	FALSE	FALSE	Internal parameter that represents the real-time state of the FVC screen request. Used by the screen controller.
FVC_OverSpd_Thres	CamraDisable_Cfg	CamraDisable_Cfg	Used as speed threshold for FVC screen deactivation
FVCScrRq	FALSE	FALSE	Internal parameter that is used to represent the real-time state of the Front Video Camera (FVC) user request status
GearPosHMI	PARK	PARK	Debounced internal parameter (see timer section for debounce characteristics) that is set and used within the arbitration state machines
Park_Brake_Merged	NOT_APPLIED	NOT_APPLIED	Real-time (not debounced) variable used in the gear input processing table – park brake status is required in order to determine PARK on manual transmission variants
PDC_Stat	INACTIVE	INACTIVE	
PDCDisp	FALSE	FALSE	Internal parameter that represents the real-time state of the PDC screen request. Used by the screen controller.
RVC_OverSpd_Thres	CamraDisable_Cfg	CamraDisable_Cfg	Used as speed threshold for RVC screen deactivation
RVCDisp	FALSE	FALSE	Internal parameter that represents the real-time state of the RVC screen request. Used by the screen controller.

2.6.2.3 CAMERA-FUR-REQ-161327/F-Display HMI Arbitration Internal Variable Table (Timers and Debounce)

Variable Name	Minimum Programmable Value	Maximum Programmable Value	Initial (default, not program specific) Value	Notes†
APA_Actv_MM_Timr_Cfg	0	5000ms	250ms	Time to missing message fault while APA is actively displaying
APA_Mode_Timr_Cfg	0	2000ms	0ms	Timer for debouncing active park input data Note: should already be debounced by source.
Camra_Actv_MM_Timer_Cfg	0	5000ms	1000ms	Time to missing message fault while camera is actively displaying
Camra_Exit_Timr_Cfg	0	5000ms	0ms	Minimum RVC camera screen display time when exiting using Camera Exit Delay.
GearPosHMI_Timr_Cfg	0	2000ms	250ms	Camera screen entry time Note: 2000ms is the FMVSS111 maximum time. Ford maximum per Rqt131305-007773 is 750ms for the entire system.
Camra_Fault_Timr_Cfg	0	5000ms	1000ms	Timer for debouncing data “faulty”
Park_Brake_Timr_Cfg	0	2000ms	0ms	Timer for debouncing park brake input data Note: should already be debounced by source.
PDC_Stat_Timr_Cfg	0	2000ms	0ms	Timer for debouncing park aid input data Note: should already be debounced by source.
PDC_Actv_MM_Timr_Cfg	0	5000ms	250ms	Time to missing message fault while PDC is actively displaying

Variable Name	Minimum Programmable Value	Maximum Programmable Value	Initial (default, not program specific) Value	Notes†
PDC_Fault_Timr_Cfg	0	5000ms	250ms	Timer for debouncing data "faulty"

2.6.3 CAMERA-FUR-REQ-131018/D-HMI Screen Logical Arbitration - Determine Static Variables (Camra_Cfg)

The following decision table creates Camra_Cfg based on Method II camera configuration values.

Method 2 "Rear Camera"	Method 2 "RVC Split View"	Method 2 "DAFVC Split View"	Method 2 "360 Camera View"	"Camra_Cfg"
NOT_ AVAILABLE	NOT_ AVAILABLE	NOT_ AVAILABLE	NOT_ AVAILABLE	**FALSE**
All Other Cases				**TRUE**

Screen Arbitration Configuration Variables: Camera

2.6.4 CAMERA-FUR-REQ-131019/C-HMI Screen Logical Arbitration - Determine Static Variables (APA_Cfg, PDC_Cfg)

HMI Configuration for Parking Assistance	APA_Cfg	PDC_Cfg
NO_PDC_PSM_SAPP (or NOT_USED)	**FALSE**	**FALSE**
REAR_PDC | REARFRONT_PDC	**FALSE**	**TRUE**
REARFRONT_PDC_SAPP_NA | REAR_SAPP_NA | REARFRONT_PDC_EU | REAR_SAPP_EU | REARFRONT_PDC_APA | APALITE | APALITE_PLUS	**TRUE**	**TRUE**

Screen Arbitration Configuration Variables: Active Park Assist (APA) & Park Distance Control (PDC)

2.6.5 CAMERA-FUR-REQ-131020/F-HMI Screen Logical Arbitration - Determine Dynamic Variables (GearPosHMI)

The following decision table determines the parking brake status for use in the gear input processing table associated with manual transmissions. The parking brake may be mechanical or electronic-based, and there are separate CAN signals for each.
PrkBrkStatus is a CAN signal that contains numerous states such as REAR_CALIPER_CLOSED and REAR_CALIPER_TRANSITION. The table below assumes a simplified mapping of the signal into ACTIVE and INACTIVE.

PrkBrkActv_B_Actl	PrkBrkStatus	Park_Brake_Merged
DON'T CARE	ACTIVE consecutive samples for (T>= Park_Brake_Timr_Cfg)	**APPLIED**
DON'T CARE	INACTIVE consecutive samples for (T>= Park_Brake_Timr_Cfg)	**NOT_APPLIED**
ACTIVE consecutive samples for (T>= Park_Brake_Timr_Cfg)	DON'T CARE	**APPLIED**
INACTIVE consecutive samples for (T>= Park_Brake_Timr_Cfg)	DON'T CARE	**NOT_APPLIED**

The following decision tables take the Gear Lever Position and Gear Reverse CAN input signals that are used for automatic and manual transmissions, respectively, and produce GearPosHMI.

Note that per the tables, ApaSteScanMde_D_Stat can prohibit transitions into PARK or NOT_PARK_REVERSE while actively steering (ApaSteScanMde_D_Stat=STEERING). This feature allows GearPosHMI to hold the RVC during active park maneuvering.

TrnType	GearRvrse_ D_Actl_ ComStat	GearRvrse_D_Actl	Park_Brake_ Merged	ApaSteScanMde_D_Stat	GearPosHMI
MANUAL	MISSING for >=Camra_Actv_ MM_Timr_Cfg	DON'T CARE	DON'T CARE	DON'T CARE	MISSING
MANUAL	PRESENT	ACTIVE_CONFIRMED | ACTIVE_NOT_ CONFIRMED consecutive samples for (T>=GearPosHMI_Timr_Cfg)	DON'T CARE	DON'T CARE	REVERSE
MANUAL	PRESENT	INACTIVE_ NOT_CONFIRMED | INACTIVE_ CONFIRMED After consecutive samples for (T>=GearPosHMI_Timr_Cfg)	APPLIED	NULL | NOT_SCANNING | SCANNING (No debounce)	PARK
MANUAL	PRESENT	INACTIVE_ NOT_CONFIRMED | INACTIVE_ CONFIRMED After consecutive samples for (T>=GearPosHMI_Timr_Cfg)	NOT_ APPLIED	NULL | NOT_SCANNING | SCANNING (No debounce)	NOT_PARK_ REVERSE
MANUAL	PRESENT	FAULT for >= Camra_Fault_Timr_Cfg	DON'T CARE	DON'T CARE	GEAR_FAULT

For programs using OLD transmission gear signals

TrnType	Reverse Gear*	GearLvrPos_ D_Actl_ComStat	GearLvrPos_D_Actl	ApaSteScanMde_ D_Stat	GearPosHMI
AUTO	0	MISSING for >= Camra_Actv_ MM_Timr_Cfg	DON'T CARE	DON'T CARE	MISSING
AUTO	0	PRESENT	REVERSE After consecutive samples for (T>=GearPosHMI_Timr_Cfg)	NULL | NOT_SCANNING | SCANNING (No debounce)	REVERSE
AUTO	0	PRESENT	DON'T CARE	STEERING (No debounce)	REVERSE
AUTO	0	PRESENT	FAULT for >= Camra_Fault_Timr_Cfg	DON'T CARE	GEAR_FAULT

AUTO	0	PRESENT	PARK After consecutive samples for (T>=GearPosHMI_Timr_Cfg)	NULL | NOT_SCANNING | SCANNING (No debounce)	PARK
AUTO	0	PRESENT	NEUTRAL | DRIVE | SPORT_DRIVESPORT | LOW | FIRST | SECOND | THIRD | FOURTH | FIFTH | SIXTH | UNKNOWN_POSITION After consecutive samples for (T>=GearPosHMI_Timr_Cfg)	NULL | NOT_SCANNING | SCANNING (No debounce)	NOT_PARK_ REVERSE

General Screen Arbitration: Gear Position Determination for programs using old gear signaling
*This is an existing configuration (DE05 byte 1 bit 4 on APIM) which points to old or new messaging

For programs using NEW transmission gear signals

TrnType	Reverse Gear*	TrnRng_D_Rq_ComStat	TrnRng_D_Rq	ApaSteScanMde_D_Stat	GearPosHMI
AUTO	1	MISSING for >= Camra_Actv_MM_Timr_Cfg	DON'T CARE	DON'T CARE	MISSING
AUTO	1	PRESENT	REVERSE After consecutive samples for (T>=GearPosHMI_Timr_Cfg)	NULL | NOT_SCANNING | SCANNING (No debounce)	REVERSE
AUTO	1	PRESENT	DON'T CARE	STEERING (No debounce)	REVERSE
AUTO	1	PRESENT	FAULT	DON'T CARE	GEAR_FAULT
AUTO	1	PRESENT	PARK	NULL | NOT_SCANNING | SCANNING (No debounce)	PARK
AUTO	1	PRESENT	NEUTRAL | DRIVE | SPORT_DRIVESPORT_MPOSITION | LOW | RANGE1_M1_L1 | RANGE2_M2_L2 | RANGE3_M3_L3 | RANGE4 | RANGE5 | RANGE6 | NOTUSED_1 | NOTUSED_2 | UNKNOWN POSITION After consecutive samples for (T>=GearPosHMI_Timr_Cfg)	NULL | NOT_SCANNING | SCANNING (No debounce)	NOT_PARK_ REVERSE

General Screen Arbitration: Gear Position Determination for programs using new gear signaling

*This is an existing configuration (DE05 byte 1 bit 4 on APIM) which points to old or new messaging

2.6.6 CAMERA-FUR-REQ-161328/B-HMI Screen Logical Arbitration - Determine Dynamic Variables (FVCScrRq)

CtrStkFeatNoActl (FeatConfig for 0x081B)	FVCScrRq
OFF	OFF
FRONT360 | FRONTNORMAL | FRONTSPLIT (feature number coded; no debounce)	FRONT
REAR | REAR360 | REARNORMAL | REARSPLIT | REARZOOM | CHMSL | CHMSLZOOM | AUX | TRG | TRGREARNORMAL | STRAIGHTBACKUP MODE (feature number coded; no debounce)	REAR

General Screen Arbitration: Front Camera Status Determination

2.6.7 CAMERA-FUR-REQ-196894/A-HMI Screen Logical Arbitration - Determine Dynamic Variables (RVC_OverSpd_Thres)

The following decision table creates FVC_OverSpd_Thres based on the Off Road status and mode. RVC_OverSpd_Thres is set to CamraDisable_Cfg (only one speed threshold applies to rear camera).

OffRoad Camera_Cfg	AWDStat_D_RqDsply	FVC_OverSpd_Thres	RVC_OverSpd_Thres
TRUE	_4x4_Off_Road_Mode | _4x4_Exiting_Off_Road | _4x4_Extreme_Off_Road_Mode | _4x4_Off_Road_Speed (No debounce)	Value of CamraOffRoadDisable_Cfg (24 KPH)	Value of CamraDisable_Cfg (10 KPH)
TRUE	!=(_4x4_Off_Road_Mode | _4x4_Exiting_Off_Road | _4x4_Extreme_Off_Road_Mode | _4x4_Off_Road_Speed) (No debounce)	Value of CamraDisable_Cfg (10 KPH)	Value of CamraDisable_Cfg (10 KPH)
FALSE	DON'T CARE	Value of CamraDisable_Cfg (10 KPH)	Value of CamraDisable_Cfg (10 KPH)
FALSE	DON'T CARE	Value of CamraDisable_Cfg (10 KPH)	Value of CamraDisable_Cfg (10 KPH)

Front & Rear Camera Overspeed Threshold Input Processing Table

2.6.8 CAMERA-FUR-REQ-196895/B-HMI Screen Logical Arbitration - Determine Dynamic Variables (APA_Mode)

The following decision table creates APA_Mode from the ApaSys_D_Stat CAN signal.

ApaSys_D_Stat_ComStat	ApaSys_D_Stat	APA_Mode
MISSING for >= APA_Actv_MM_Timr_Cfg	DON'T CARE	MISSING
PRESENT	On | Overspeed | ApaCancelled | NotAccessible | Finished | Faulty After consecutive samples for (T>=APA_Mode_Timr_Cfg)	APA
PRESENT	NULL | OFF After consecutive samples for (T>=APA_Mode_Timr_Cfg)	NOT_APA

APA Mode Input Processing Table

2.6.9 CAMERA-FUR-REQ-196896/A-HMI Screen Logical Arbitration - Determine Dynamic Variables (APA_Sys_Stat)

ApaSys_D_Stat	**APA_Sys_Stat**
NULL (No Debounce)	NULL
OFF (No Debounce)	OFF
ON (No Debounce)	ON
OVERSPEED (No Debounce)	OVERSPEED
APA_CANCELLED (No Debounce)	APA_CANCELLED
NOT_ACCESSIBLE (No Debounce)	NOT_ACCESSIBLE
FINISHED (No Debounce)	FINISHED
FAULTY for >=APA_Fault_Timr_Cfg	APA_SYS_FAULT

APA System Status Input Processing Table

2.6.10 CAMERA-FUR-REQ-196897/A-HMI Screen Logical Arbitration - Determine Dynamic Variables (APA_Gear_Shif)

ApaGearShif_D_RqDrv	APA_Gear_Shif
NULL (No Debounce)	NULL
NO_REQUEST (No Debounce)	NO_REQUEST
SHIFT_TO_R (No Debounce)	SHIFT_TO_R
SHIFT_TO_D (No Debounce)	SHIFT_TO_D
SHIFT_TO_N (No Debounce)	SHIFT_TO_N
SHIFT_TO_P (No Debounce)	SHIFT_TO_P

APA Gear Shift Input Processing Table

2.6.11 CAMERA-FUR-REQ-196898/E-HMI Screen Logical Arbitration - Determine Dynamic Variables (PDC_Stat)

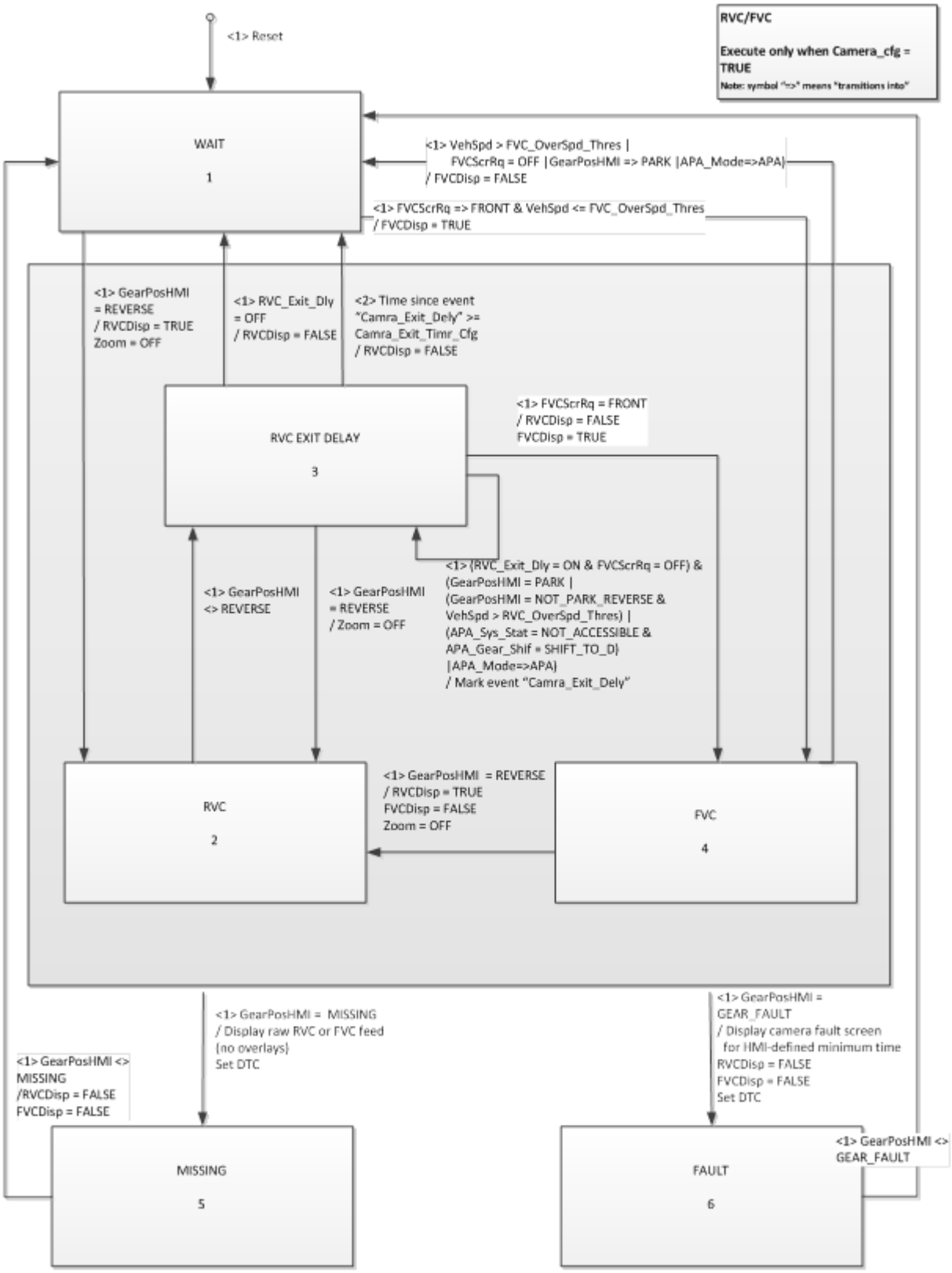
PrkAidMsgTxt_D_Rq_ComStat	PrkAidMsgTxt_D_Rq	PDC_Stat
MISSING for >= PDC_ Actv_MM_Timr_Cfg	DON'T CARE	MISSING
PRESENT	R_SNSRS_ON_F_SNSRS_OFF | R_SNSRS_OFF_F_SNSRS_ON | R_SNSRS_ON_F_SNSRS_ON | |R_SNS_INACTIVE_TRLR_ATCH | R_Sns_Trlr_F_Sns_Blk | R_Sns_Blk_F_Sns_On | R_Sns_On_F_Sns_Blk | All_Sns_Blk After consecutive samples for (T>=PDC_Stat_Timr_Cfg)	ACTIVE
PRESENT	ALL_PARK_SENSORS_OFF | PARK_SYS_ALTERNATE_MODE | NOT_USED | NOT_AVAIL_TRLR_ATTCHD After consecutive samples for (T>=PDC_Stat_Timr_Cfg)	INACTIVE*
PRESENT	FAIL_MODE_NO_CHIME for >= PDC_Fault_Timr_Cfg | FAIL_MODE_WITH_CHIME for >= PDC_Fault_Timr_Cfg	PDC_STAT_ FAULT

*PDC_Stat shall only transition into INACTIVE if RVC is not in delay mode (RVC_Exit_Dly=OFF)

This is so that the PDC image, if displayed, remains on RVC until the RVC is closed.

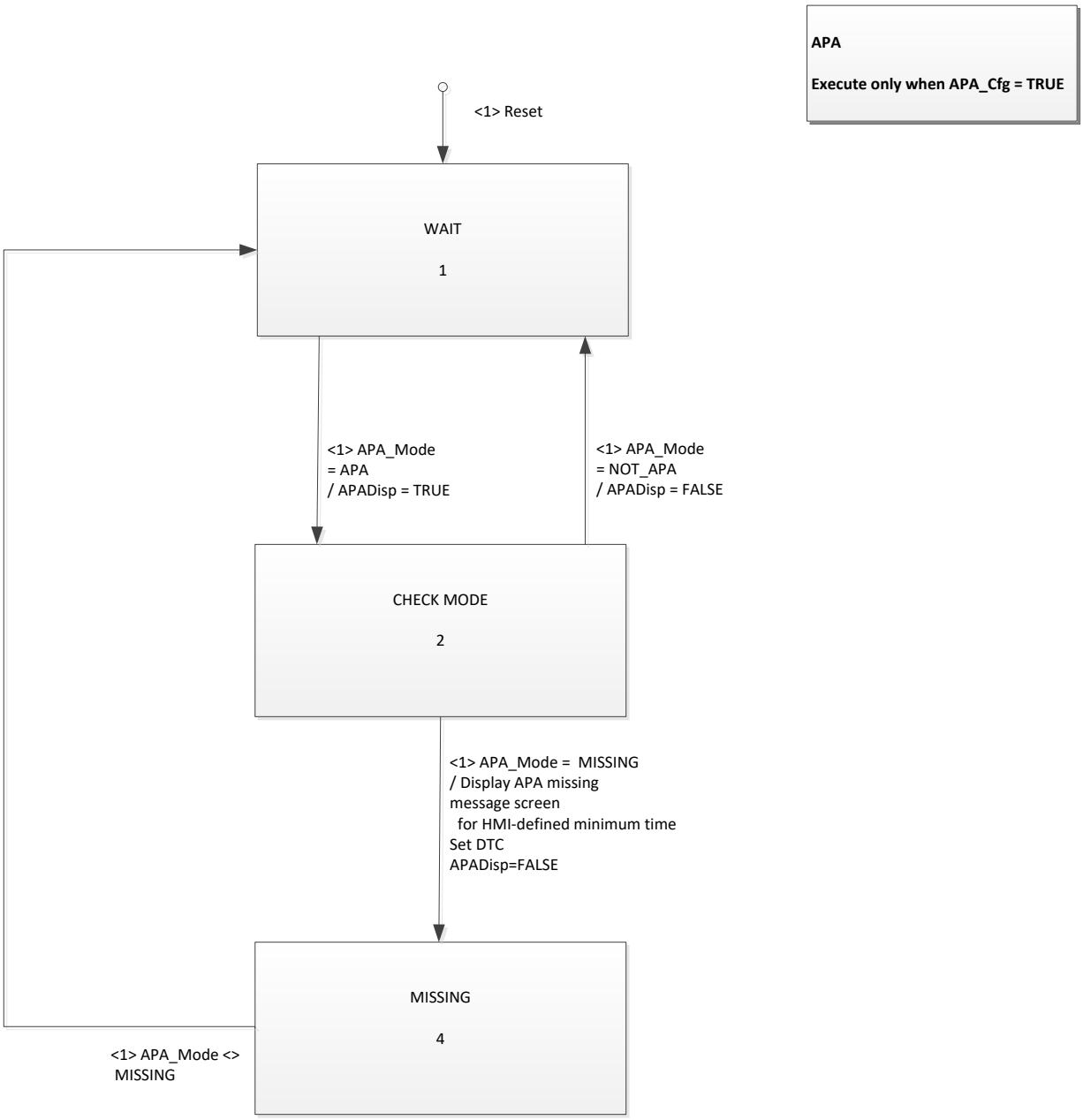
Park Aid Message Text Input Processing Table

2.6.12 CAMERA-FUR-REQ-166820/E-HMI Screen Logical Arbitration - Camera



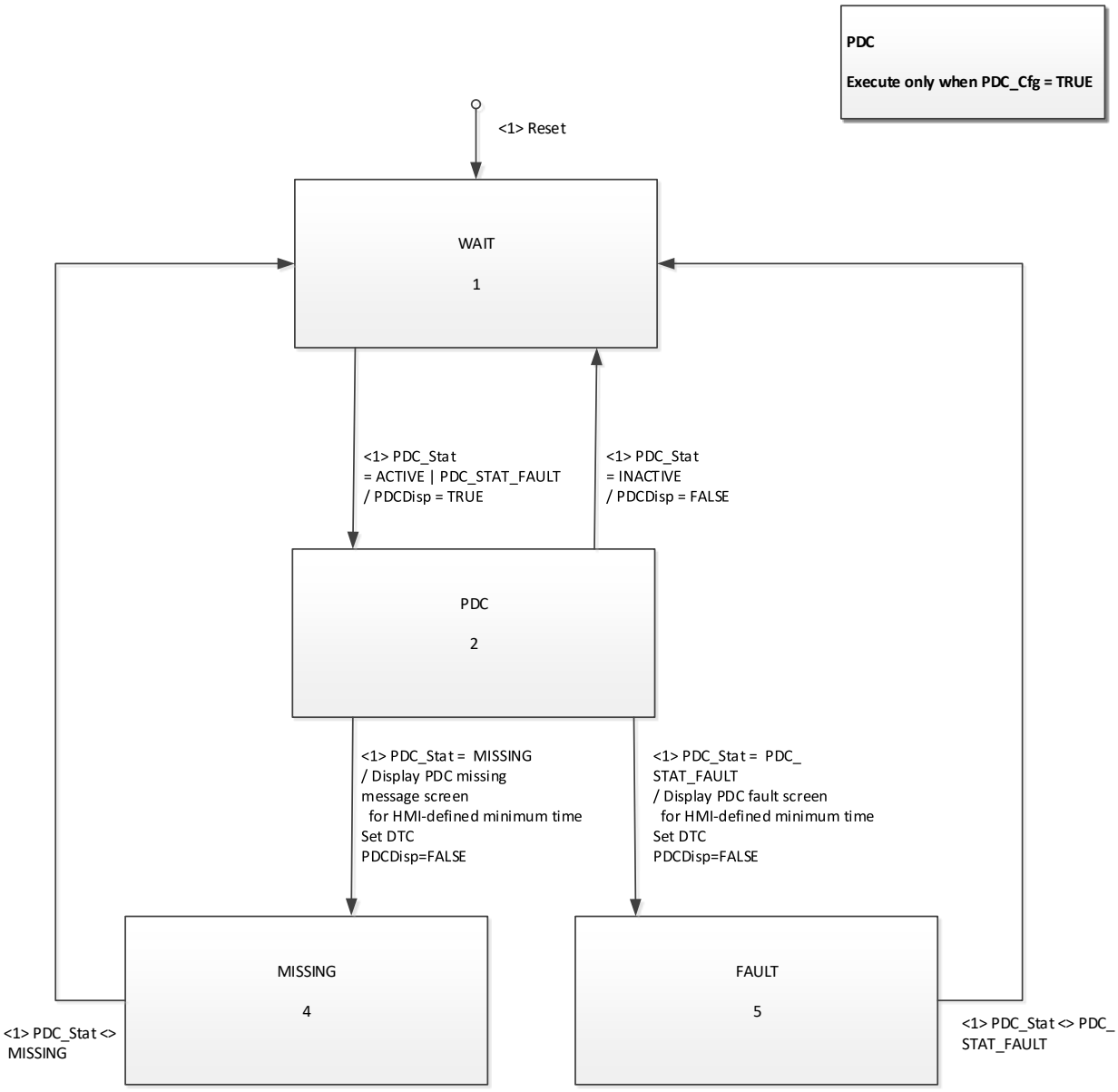
General Screen Arbitration: Step #1 Camera

2.6.13 CAMERA-FUR-REQ-166823/E-HMI Screen Logical Arbitration - APA Dedicated Display



General Screen Arbitration: Active Park Assist (APA)

2.6.14 CAMERA-FUR-REQ-131023/H-HMI Screen Logical Arbitration - PDC Dedicated Display

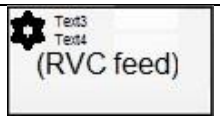
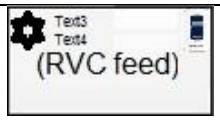
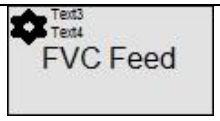
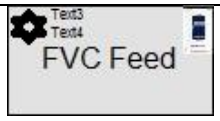


General Screen Arbitration: Park Distance Control (PDC)

2.6.15 CAMERA-FUR-REQ-196899/A-HMI Screen Logical Arbitration - Screen Controller

Screens shall be assigned real time as per the following state table

FVCDisp	RVCDisp	APADisp	PDCDisp	Screen displayed	Reference: Sample Screen
0	0	0	0	No display (release control to HMI ECU)	
0	0	0	1	Dedicated PDC	

0	0	1	0	APA (PDC will not be shown)	
0	0	1	1	APA (PDC will be shown)	
0	1	0	0	RVC (APA instructions not shown, PDC will not be shown)	
0	1	0	1	RVC (APA instructions not shown, PDC will be shown)	
0	1	1	0	RVC (APA instructions will be shown, PDC will not be shown)	
0	1	1	1	RVC (APA instructions will be shown, PDC will be shown)	
1	0	0	0	FVC (APA instructions not shown, PDC will not be shown)	
1	0	0	1	FVC (APA instructions not shown, PDC will be shown)	
1	0	1	0	FVC (APA instructions will be shown, PDC will not be shown)	
1	0	1	1	FVC (APA instructions will be shown, PDC will be shown)	
1	1	0	0	Combination prohibited by the RVC/FVC state machine (FVC & RVC images not displayed simultaneously)	N/A
1	1	0	1		
1	1	1	0		
1	1	1	1		

Screen Arbitration Controller

2.7 Active Park Assist (APA) Signal Interface

This section lists all the signals that shall be used by the infotainment display to show the Active Park Assist (APA) graphic.

2.7.1 Active Park Assist (APA) Signal list – Received by Infotainment ECU (from PAM)

2.7.1.1 CAMERA-FUR-REQ-130490/C-Active Park Assist (APA) Signal - [ApaSys_D_Stat]

Signal Received By Infotainment	Signal Parameters	Affected Display Position
[ApaSys_D_Stat]	State Encoded: $0: Null $1: Off $2: On $3: Overspeed $4: ApaCancelled $5: NotAccessible $6: Finished $7: Faulty	ScanLeft ScanRight Symbol1 Symbol2 Text1 Text2 CarLeft CarRight CarPOA ParkPilot ParkScenarioLeft ParkScenarioRight ParkScenarioPOA CarNonRVCSac ParkInArrow POAleft POAright POArightSelectd POAleftSelectd SAPFeatureMenuBarVisibility Symbol3 Symbol4 Text3 Text4

2.7.1.2 CAMERA-FUR-REQ-131149/C-Active Park Assist (APA) Signal - [ApaSteScanMde_D_Stat]

Signal Received By Infotainment	Signal Parameters	Affected Display Position
[ApaSteScanMde_D_Stat]	State Encoded: $0: Null $1: NotScanning $2: Scanning $3: Steering	ScanLeft ScanRight Symbol1 Symbol2 Text1 Text2 CarLeft CarRight CarPOA ParkPilot ParkScenarioLeft ParkScenarioRight ParkScenarioPOA CarNonRVCSac ParkInArrow POAleft POAright POArightSelectd POAleftSelectd SAPFeatureMenuBarVisibility Symbol3 Text3 Text4

2.7.1.3 CAMERA-FUR-REQ-131150/C-Active Park Assist (APA) Signal - [ApaActvSide2_D_Stat]

Signal Received By Infotainment	Signal Parameters	Affected Display Position
[ApaActvSide2_D_Stat]	State Encoded: $0: Null $1: Left $2: Right $3: No_Side	ScanLeft ScanRight Text1 Text2 CarLeft CarRight ParkScenarioLeft ParkScenarioRight ParkInArrow POAleft POAright POArightSelectd POAleftSelectd

2.7.1.4 CAMERA-FUR-REQ-131151/C-Active Park Assist (APA) Signal - [ApaMde_D_Stat]

Signal Received By Infotainment	Signal Parameters	Affected Display Position
[ApaMde_D_Stat]	State Encoded: $0: Null $1: Off $2: SAPP $3: PPA $4: POA $5: NotUsed1 $6: NotUsed2 $7: NotUsed3	ScanLeft ScanRight Symbol1 Symbol2 Text1 Text2 CarLeft CarRight CarPOA ParkScenarioLeft ParkScenarioRight ParkScenarioPOA ParkInArrow POAleft POAright POArightSelectd POAleftSelectd SAPFeatureMenuBarHighlight Symbol3 Text3 Text4

2.7.1.5 CAMERA-FUR-REQ-131152/C-Active Park Assist (APA) Signal - [ApaSelSapp_D_Stat]

Signal Received By Infotainment	Signal Parameters	Affected Display Position
[ApaSelSapp_D_Stat]	State Encoded: $0: Null $1: Selectable $2: NotSelectable $3: NotConfigured	N/A*

*Signal is defined here to protect-for future use.

2.7.1.6 CAMERA-FUR-REQ-131153/C-Active Park Assist (APA) Signal - [ApaSelPpa_D_Stat]

Signal Received By Infotainment	Signal Parameters	Affected Display Position
[ApaSelPpa_D_Stat]	State Encoded: $0: Null $1: Selectable $2: NotSelectable $3: NotConfigured	SAPFeatureMenuBarGreyout SAPFeatureMenuBarContent

2.7.1.7 CAMERA-FUR-REQ-131154/C-Active Park Assist (APA) Signal - [ApaSelPoa_D_Stat]

Signal Received By Infotainment	Signal Parameters	Affected Display Position
[ApaSelPoa_D_Stat]	State Encoded: $0: Null $1: Selectable $2: NotSelectable $3: NotConfigured	SAPFeatureMenuBarGreyout

2.7.1.8 CAMERA-FUR-REQ-131155/C-Active Park Assist (APA) Signal - [ApaScan_D_Stat]

Signal Received By Infotainment	Signal Parameters	Affected Display Position
[ApaScan_D_Stat]	State Encoded: $0: Null $1: NoParkSlot $2: ParkSlotFound $3: ParkSlotReady	Symbol1 Symbol2 Text1 Text2 ParkScenarioLeft ParkScenarioRight ParkInArrow POArightSelectd POAleftSelectd

2.7.1.9 CAMERA-FUR-REQ-131156/D-Active Park Assist (APA) Signal - [ApaLongCtl_D_RqDrv]

Signal Received By Infotainment	Signal Parameters	Affected Display Position
[ApaLongCtl_D_RqDrv]	State Encoded: $0: Null $1: NoRequest $2: Stop $3: DriveForward $4: DriveBackward $5: ReleaseBrake $6: NotUsed1 $7: NotUsed2	Symbol1 Symbol2 Text1 Text2 ParkInArrow Symbol3 Text3 Text4

2.7.1.10 CAMERA-FUR-REQ-131157/C-Active Park Assist (APA) Signal - [ApaGearShif_D_RqDrv]

Signal Received By Infotainment	Signal Parameters	Affected Display Position
[ApaGearShif_D_RqDrv]	State Encoded: $0: Null $1: NoRequest $2: ShiftToR $3: ShiftToD $4: ShiftToN $5: ShiftToP $6: NotUsed1 $7: NotUsed2	Symbol1 Symbol2 Text1 Text2 ParkInArrow Symbol3 Text3 Text4

2.7.1.11 CAMERA-FUR-REQ-131158/C-Active Park Assist (APA) Signal - [ApaSteWhl_D_RqDrv]

Signal Received By Infotainment	Signal Parameters	Affected Display Position
[ApaSteWhl_D_RqDrv]	State Encoded: $0: Null $1: NoRequest $2: RemoveHands $3: TakeControl	Symbol1 Symbol2 Text1 Text2 ParkInArrow Symbol3 Text3 Text4

2.7.1.12 CAMERA-FUR-REQ-131159/E-Active Park Assist (APA) Signal - [ApaAcsy_D_RqDrv]

Signal Received By Infotainment	Signal Parameters	Affected Display Position
[ApaAcsy_D_RqDrv]	State Encoded: $0: Null $1: NoRequest $2: SelectSide $3: PressApaButton $4: CheckForObject $5: SelectSideLeft $6: SelectSideRight $7: CloseDoor	Symbol1 Symbol2 Text1 Text2 POAleft POAright POArightSelectd POAleftSelectd Symbol3 Text3 Text4

2.7.1.13 CAMERA-FUR-REQ-197168/E-Active Park Assist (APA) Signal - [ApaMsgTxt_D_Rq]

Signal Received By Infotainment	Signal Parameters	Affected Display Position
[ApaMsgTxt_D_Rq]‡	State Encoded: $0: Null $1: None $2: WheelSlip $3: TcsDisabled $4: SpeedLimitExceeded $5: HighInclination $6: BrakingActive $7: SteeringInteraction $8: WrongDirection $9: AccelPedalInactive $A: NotUsed1 $B: NotUsed2 $C: NotUsed3 $D: NotUsed4 $E: NotUsed5 $F: NotUsed6	Text1 Text2

‡ - Only if supported by the implementing program as per REQ-130570. For any carlines not supporting signal ApaMsgTxt_D_Rq:
The HMI display shall internally set variable ApaMsgTxt_D_Rq to status "None" (0x1). To make the display aware of this situation a dedicated M2 configuration parmater has to be set. A simple way to achieve this could be by using SYNC method 2 configuration variable “APACSI Signal Strategy” which directs signal usage based on the configuration settings.

2.7.1.14 CAMERA-FUR-REQ-203878/E-Active Park Assist (APA) Signal - [ApaTrgtDist_D_Stat]

Signal Received By Infotainment	Signal Parameters	Affected Display Position
[ApaTrgtDist_D_Stat]†	State Encoded: $0: Off $1: Step1 $2: Step2 $3: Step3 $4: Step4 $5: Step5 $6: Step6 $7: Step7 $8: Step8 $9: Step9 $A: Step10 $B: Step11 $C: Step12 $D: Step13 $E: Step14 $F: Step15	Symbol1

† - Only if supported by the implementing program as per REQ-130570. For any carlines not supporting signal ApaTrgtDist_D_Stat:
The HMI display shall internally set variable ApaTrgtDist_D_Stat to status "Off" (0x0). To make the display aware of this situation a dedicated M2 configuration parmater has to be set. A simple way to achieve this could be by using SYNC method 2 configuration variable “APACSI Signal Strategy” which directs signal usage based on the configuration settings.

2.7.1.15 CAMERA-FUR-REQ-131160/F-Active Park Assist (APA) Signal - [PrkAidMsgTxt_D_Rq]

Signal Received By Infotainment	**Signal Parameters**	**Affected Display Position**
[PrkAidMsgTxt_D_Rq]	State Encoded: $0: All_Park_Sensors_Off $1: R_Snsrs_On_F_Snsrs_Off $2: R_Snsrs_Off_F_Snsrs_On $3: NotUsed $4: NotUsed $5: R_Snsrs_On_F_Snsrs_On $6: Park_Sys_Alternate_Mode $7: NotUsed $8: R_Sns_Trlr_F_Sns_Blk $9: Fail_Mode_with_Chime $A: Fail_Mode_no_Chime $B: Not_Avail_Trlr_attchd $C: R_Sns_Inactive_Trlr_atch $D: R_Sns_Blk_F_Sns_On $E: R_Sns_On_F_Sns_Blk $F: All_Sns_Blk	ScanLeft ScanRight Text2 ParkPilot

2.7.2 Active Park Assist (APA) Signal list - Internal HMI ECU Configuration Variables

2.7.2.1 CAMERA-FUR-REQ-247261/B-Active Park Assist (APA) Method 2 Configuration - Parking Assistance_Cfg

For affected variants, a method 2 configuration variable shall be stored internally within the HMI ECU. **This is an already-existing method 2 variable within the APIM HMI ECU.** Other HMI ECUs to map their existing configurations to these states when interpreting “Parking Assistance” configuration columns in the signal processing section (e.g. CTR currently assigns state 0x6 for “APACSI”, APIM assigns state 0xA. Signal processing tables always use 0xA for “APACSI”).

Contact the HMI ECU applications engineer if clarification is necessary on configuration variable assignment for “Parking Assistance.”

Method 2 Configuration Variable (stored within HMI ECU)	Data Size (bytes)	Signal Parameters	Affected Display Position
Parking Assistance	1	State Encoded: $00: No PDC/PSM/SAPP $01: Rear PDC $02: Rear/Front PDC $03: Rear/Front PDC/SAPP $04: Rear/SAPP $05: Rear/Front PDC/SAPP $06: Rear/SAPP $07: Rear/Front PDC with APA $08: APA Lite $09: APA Lite Plus $0A: APACSI $0B: FAPA $C-FF: Reserved	All 8“ tables

2.7.3 Active Park Assist (APA) Signal Processing

2.7.3.1 CAMERA-FUR-REQ-130494/J-Active Park Assist (APA) Signal Processing - Positional ScanLeft

8” (or equivalent) displays

Operational Mode	Parking Assistance_Cfg	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelScanLgt_D_Stat]	[ApaSelPnaLgt_D_Stat]	[ApaSelPnaLgt_D_Stat]	[ApaScanLgt_D_Stat]	[ApaLongCtlLgt_D_RqDrv]	[ApaGearShftLgt_D_RqDrv]	[ApaSteWhlLgt_D_RqDrv]	[ApaAcsyLgt_D_RqDrv]	[ApaTrgtDistLgt_D_Stat‡]	[ApaMsgTxtLgt_D_Rq‡]	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and Voltage Range Definition)	0xA| 0xB	0x2	0x2	0x1	0x2	X	X	X	X	X	X	X	X	X	X	X	Active /001
	0xA| 0xB	0x2	0x2	0x1	0x3	X	X	X	X	X	X	X	X	X	X	X	Active /002
	0xA| 0xB	0x2	0x2	0x2	0x2	X	X	X	X	X	X	X	X	X	X	X	Passive /003

Operational Mode	Parking Assistance_Cfg	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
	0xA| 0xB	0x2	0x2	0x2	0x3	X	X	X	X	X	X	X	X	X	X	X	Passive /004
All Other Cases																	Blank (Do not show ScanLeft)

Active Park Assist (APA) Positional ScanLeft

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage Range Definition)	0x2	0x2	0x1	0x2	X	X	X	X	X	X	X	X	X	Active /001
	0x2	0x2	0x1	0x3	X	X	X	X	X	X	X	X	X	Active /002
	0x2	0x2	0x2	0x2	X	X	X	X	X	X	X	X	X	Passive /003
	0x2	0x2	0x2	0x3	X	X	X	X	X	X	X	X	X	Passive /004
All Other Cases														Blank (Do not show ScanLeft)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.2 CAMERA-FUR-REQ-130495/J-Active Park Assist (APA) Signal Processing - Positional ScanRight

8” (or equivalent) displays

Operational Mode	Parking Assistance_Cfg	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI /REF#
Run (as per Operational Modes and Voltage Range Definition)	0xA 0xB	0x2	0x2	0x2	0x2	X	X	X	X	X	X	X	X	X	X	X	Active /006
	0xA 0xB	0x2	0x2	0x2	0x3	X	X	X	X	X	X	X	X	X	X	X	Active /007
	0xA 0xB	0x2	0x2	0x1	0x2	X	X	X	X	X	X	X	X	X	X	X	Passive /008
	0xA 0xB	0x2	0x2	0x1	0x3	X	X	X	X	X	X	X	X	X	X	X	Passive /009
All Other Cases																	Blank (Do not show ScanRight)

Active Park Assist (APA) Positional ScanRight

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.
‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4” displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage	0x2	0x2	0x2	0x2	X	X	X	X	X	X	X	X	X	Active /006
	0x2	0x2	0x2	0x3	X	X	X	X	X	X	X	X	X	Active /007

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
	0x2	0x2	0x1	0x2	X	X	X	X	X	X	X	X	X	Passive  /008
	0x2	0x2	0x1	0x3	X	X	X	X	X	X	X	X	X	Passive  /009
All Other Cases														Blank (Do not show ScanRight)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.3 CAMERA-FUR-REQ-130496/M-Active Park Assist (APA) Signal Processing - Positional Symbol1

8" (or equivalent) displays (CGEAx only)

Operational Mode	Parking Assistance_Cfg	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI /REF#
Run (see non-Operational Modes and Voltage Range)	0xA	0x2	0x2	X	X	X	X	X	X	0x2	0x2	X	0x1	X	X	X	 /279
	0xB	0x2	0x2	X	X	X	X	X	0x3	X	0x4	0x2	0x1	X	X	X	 /397
	0xA	0x2	0x2	X	0x4	X	X	X	0x3	X	0x3	X	0x1	X	X	X	 /012
	0xA	0x2	0x2	X	0x4	X	X	X	0x3	X	0x2	X	0x1	X	X	X	 /277
	0xB	0x2	0x2	X	0x4	X	X	X	X	X	0x5	X	0x1	X	X	X	 /411
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x2	0x1	X	0x7‡	X	 /399
	0xA | 0xB	0x2	0x2	0x1	X	X	X	X	X	0x2	0x1	X	X	X	X	X	 /013
	0xA | 0xB	0x2	0x2	0x2	X	X	X	X	X	0x2	0x1	X	X	X	X	X	 /556
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	X	X	X	X	X	X	 /015
	0xA | 0xB	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	0x0†	X	X	 /016

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]1	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSann_D_Stat]	[ApaSelPna_D_Stat]	[ApaSelPna_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
	0xA | 0xB	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	0x1-0xE†	X	X	With fill %*/016
	0xA | 0xB	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	0xF†	X	X	/016
	0xA | 0xB	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	X	X	X	X	/017
	0xA | 0xB	0x2	X	X	X	X	X	X	X	0x3	0x1	X	0x1	0x0†	X	X	/019
	0xA | 0xB	0x2	X	X	X	X	X	X	X	0x3	0x1	X	0x1	0x1-0xE†	X	X	With fill %*/019
	0xA | 0xB	0x2	X	X	X	X	X	X	X	0x3	0x1	X	0x1	0xF†	X	X	/019
	0xB	0x2	X	X	X	X	X	X	X	0x3	0x1	X	0x4	0x0†	X	X	/559
	0xB	0x2	X	X	X	X	X	X	X	0x3	0x1	X	0x4	0x1-0xE†	X	X	With fill %*/559
	0xB	0x2	X	X	X	X	X	X	X	0x3	0x1	X	0x4	0xF†	X	X	/559
	0xA | 0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	X	X	/014
	0xA | 0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	X	X	/025
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x4	X	X	X	/402
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x7	X	X	X	/403
	0xA | 0xB	0x3	0x1	X	X	X	X	X	X	X	X	X	X	X	X	X	/018
	0xA	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	X	X	/020
	0xA | 0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	X	X	/021
	0xB	0x2	X	X	X	X	X	X	X	0x1	0x1	0x1	0x4	X	X	X	/404
	0xA | 0xB	0x5	X	X	X	X	X	X	X	X	0x3	X	X	X	X	X	1 (Manual) or D (Auto) /022
	0xA | 0xB	0x6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	/023
	0xA | 0xB	0x7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	/024
	0xB	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x1	0x7	X	X	X	/405
	0xB	0x2	0x2	X	X	X	X	X	X	X	0x1	X	0x3	X	X	X	/406
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x3	X	0x1‡	X	/407

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSann_D_Stat]	[ApaSelPna_D_Stat]	[ApaSelPna_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x3	X	0x9‡	X	/555
	0xB	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	0x1	X	0x9‡	X	/409
	All Other Cases																Blank (Do not show Symbol1)

Active Park Assist (APA) Positional Symbol1

*Fill % represents arrow with empty/full ratio of ApaTrgtDist_D_Stat/15. Arrow will start to reveal the background starting at the tail and unfilling toward the direction of arrow as the values increase toward 0xF.

The remaining distance for an APA SAC maneuver shall be shown in a smooth animation triggered by the signal ApaTrgtDist_D_Stat, which provides incremental steps:

a) If ApaTrgtDist_D_Stat is in the state "Off" the HMI system shall assume that the vehicle is at its start position and show the remaining distance "at full length". If a progress bar is used, this state could e.g. correspond to a completely filled progress bar.

b) If ApaTrgtDist_D_Stat is in the state "Step15" the HMI system shall assume that the vehicle has reached its target position. If a progress bar is used, this state could e.g. correspond to an unfilled progress bar.

c) If ApaTrgtDist_D_Stat is in a state other than "Off" or "Step15" the HMI system shall assume the vehicle has left its start position but has not yet reached target position. If a progress bar is used, the bar shall then be unfilled corresponding to the state of ApaTrgtDist_D_Stat (e.g. Step1, Step2...).

d) The graphic element driven by ApaTrgtDist_D_Stat shall change in a smooth animation triggered by incremental/equal steps as per the number of available steps.

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

8" (or equivalent) displays (FNVx only)

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSann_D_Stat]	[ApaSelPna_D_Stat]	[ApaSelPna_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and Voltage Range Definition)	0xA	0x2	0x2	X	X	X	X	X	X	0x2	0x2	X	0x1	X	X	X	/279
	0xB	0x2	0x2	X	X	X	X	X	0x3	X	0x4	0x2	0x1	X	X	X	/397
	0xA	0x2	0x2	X	0x4	X	X	X	0x3	X	0x3	X	0x1	X	X	X	/012
	0xB	0x2	0x2	X	0x4	X	X	X	X	X	0x5	X	0x1	X	X	X	/411
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x2	0x1	X	0x7‡	X	/399
	0xA | 0xB	0x2	0x2	0x1	X	X	X	X	X	0x2	0x1	X	X	X	X	X	/013

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSann_D_Stat]	[ApaSelPna_D_Stat]	[ApaSelPna_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
	0xA | 0xB	0x2	0x2	0x2	X	X	X	X	X	0x2	0x1	X	X	X	X	X	 /556
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	X	X	X	X	X	X	 /015
	0xA | 0xB	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	0x0†	X	X	 /016
	0xA | 0xB	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	0x1-0xE†	X	X	With fill %* /016
	0xA | 0xB	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	0xF†	X	X	 /016
	0xA | 0xB	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	X	X	X	X	 /017
	0xA | 0xB	0x2	X	X	X	X	X	X	X	0x3	0x1	X	0x1	0x0†	X	X	 /019
	0xA | 0xB	0x2	X	X	X	X	X	X	X	0x3	0x1	X	0x1	0x1-0xE†	X	X	With fill %* /019
	0xA | 0xB	0x2	X	X	X	X	X	X	X	0x3	0x1	X	0x1	0xF†	X	X	 /019
	0xB	0x2	X	X	X	X	X	X	X	0x3	0x1	X	0x4	0x0†	X	X	 /559
	0xB	0x2	X	X	X	X	X	X	X	0x3	0x1	X	0x4	0x1-0xE†	X	X	With fill %* /559
	0xB	0x2	X	X	X	X	X	X	X	0x3	0x1	X	0x4	0xF†	X	X	 /559
	0xA | 0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	X	X	 /014
	0xA | 0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	X	X	 /025
	0xA | 0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x4	X	X	X	 /402
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x7	X	X	X	 /403
	0xA | 0xB	0x3	0x1	X	X	X	X	X	X	X	X	X	X	X	X	X	 /018
	0xA	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	X	X	 /020
	0xA | 0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	X	X	 /021
	0xB	0x2	X	X	X	X	X	X	X	0x1	0x1	0x1	0x4	X	X	X	 /404
	0xA | 0xB	0x5	X	X	X	X	X	X	X	X	0x3	X	X	X	X	X	1 (Manual) or D (Auto) /022
	0xA | 0xB	0x6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	 /023
	0xA | 0xB	0x7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	 /024

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSann_D_Stat]	[ApaSelPna_D_Stat]	[ApaSelPna_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
	0xB	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x1	0x7	X	X	X	/405
	0xB	0x2	0x2	X	X	X	X	X	X	X	0x1	X	0x3	X	X	X	/406
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x3	X	0x1‡	X	/407
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x3	X	0x9‡	X	/555
	0xB	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	0x1	X	0x9‡	X	/409
	0xA | 0xB	0x2	0x2	0x3	0x4	X	X	X	X	X	X	X	0x2	X	X	X	/243
	0xA | 0xB	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x6	X	X	X	/365
	0xA | 0xB	0x2	0x2	0x3	0x4	X	X	X	X	0x1	X	X	0x5	X	X	X	/540
	0xA | 0xB	0x2	0x2	0x3	0x4	X	X	X	X	0x1	0x1	0x1	0x1	X	0x1	X	/553
	0xA | 0xB	0x2	X	X	X	X	X	X	X	0x1	0x1	0x1	0x1	X	0xA	X	/580
	0xB	0x2	0x2	X	X	X	X	X	0x3	0x1	0x1	0x1	0x1	X	0xB	X	/584
	All Other Cases																Blank (Do not show Symbol1)

Active Park Assist (APA) Positional Symbol1

*Fill % represents arrow with empty/full ratio of ApaTrgtDist_D_Stat/15. Arrow will start to reveal the background starting at the tail and unfilling toward the direction of arrow as the values increase toward 0xF.

The remaining distance for an APA SAC maneuver shall be shown in a smooth animation triggered by the signal ApaTrgtDist_D_Stat, which provides incremental steps:

a) If ApaTrgtDist_D_Stat is in the state "Off" the HMI system shall assume that the vehicle is at its start position and show the remaining distance "at full length". If a progress bar is used, this state could e.g. correspond to a completely filled progress bar.

b) If ApaTrgtDist_D_Stat is in the state "Step15" the HMI system shall assume that the vehicle has reached its target position. If a progress bar is used, this state could e.g. correspond to an unfilled progress bar.

c) If ApaTrgtDist_D_Stat is in a state other than "Off" or "Step15" the HMI system shall assume the vehicle has left its start position but has not yet reached target position. If a progress bar is used, the bar shall then be unfilled corresponding to the state of ApaTrgtDist_D_Stat (e.g. Step1, Step2...).

d) The graphic element driven by ApaTrgtDist_D_Stat shall change in a smooth animation triggered by incremental/equal steps as per the number of available steps.

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage Range Definition)	0x2	0x2	X	X	X	X	X	X	0x2	0x2	X	0x1	X	/279
	0x2	0x2	X	0x4	X	X	X	0x3	X	0x3	X	0x1	X	/012
	0x2	0x2	0x1	X	X	X	X	X	0x2	0x1	X	X	X	/013
	0x2	0x2	0x2	X	X	X	X	X	0x2	0x1	X	X	X	/556
	0x2	0x3	X	X	X	X	X	X	0x2	X	X	X	X	/015
	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	X	/016
	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	X	X	/017
	0x2	X	X	X	X	X	X	X	0x3	0x1	X	0x1	X	/019
	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	/014
	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	/025
	0x4	X	X	X	X	X	X	X	X	X	X	0x4	X	/402
	0x3	0x1	X	X	X	X	X	X	X	X	X	X	X	/018
	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	/020
	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	/021
	0x5	X	X	X	X	X	X	X	X	0x3	X	X	X	1 (Manual) or D (Auto) /022
	0x6	X	X	X	X	X	X	X	X	X	X	X	X	/023
	0x7	X	X	X	X	X	X	X	X	X	X	X	X	/024
	0x2	0x2	0x3	0x4	X	X	X	X	X	X	X	0x2	X	/243
	0x2	0x2	0x3	0x4	X	X	X	X	0x1	X	X	0x5	X	/540
	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x6	X	/365
	0x2	0x2	0x3	0x4	X	X	X	X	0x1	0x1	0x1	0x1	X	/553
	All Other Cases													Blank (Do not show Symbol1)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.4 CAMERA-FUR-REQ-130497/K-Active Park Assist (APA) Signal Processing - Positional Symbol2

8" (or equivalent) displays

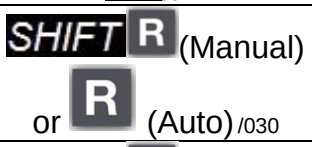
Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPpa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI /REF#
	0xA	0x2	0x2	X	X	X	X	X	X	0x2	0x2	X	0x1	X	X	X	 /011
	0xB	0x2	0x2	X	X	X	X	X	0x3	X	0x4	X	0x1	X	X	X	 /412
	0xA	0x2	0x2	X	0x4	X	X	X	0x3	X	0x3	X	0x1	X	X	X	 /912
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	X	X	X	X	R (Manual or Auto) /030
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	X	X	X	X	 (Manual) or  (Auto) /031
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	X	X	 /491
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	X	X	 /275
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	X	X	X	0x2	X	X	X	 /244
	0xA |0xB	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x5	X	X	X	 /366
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	0x1	X	X	0x6	X	X	X	 /545
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	0x1	0x1	0x1	0x1	X	0x1	X	 /554
	All Other Cases																Blank (Do not show Symbol2)

Active Park Assist (APA) Positional Symbol2

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
	0x2	0x2	X	X	X	X	X	X	0x2	0x2	X	0x1	X	 /011
	0x2	0x2	X	0x4	X	X	X	0x3	X	0x3	X	0x1	X	 /912
	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	X	X	 (Manual) or (Auto) /030
	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	X	X	 (Manual) or (Auto) /031
	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	 /491
	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	 /275
	0x2	0x2	0x3	0x4	X	X	X	X	X	X	X	0x2	X	 /244
	0x2	0x2	0x3	0x4	X	X	X	X	0x1	X	X	0x6	X	 /545
	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x5	X	 /366
	0x2	0x2	0x3	0x4	X	X	X	X	0x1	0x1	0x1	0x1	X	 /554
	All Other Cases													Blank (Do not show Symbol2)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.5 CAMERA-FUR-REQ-130498/N-Active Park Assist (APA) Signal Processing - Positional Text1

8" (or equivalent) displays (CGEAx only)

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI /REF#
Run (as per	0xA |0xB	0x2	0x2	X	0x2	X	X	X	0x1	0x3	X	X	X	X	X	X	Scanning-Use Turn Indicator /053

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
	0xA |0xB	0x2	0x2	X	0x3	X	X	X	0x1	0x3	X	X	X	X	X	X	Scanning-Use Turn Indicator/054
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	X	X	X	0x2	X	X	X	Select Side-Use Turn Indicator/055
	0xA |0xB	0x2	0x2	0x2	0x4	X	X	X	0x1	X	0x1	X	0x1	X	X	X	Right Side Selected/270
	0xA |0xB	0x2	0x2	0x1	0x4	X	X	X	0x1	X	0x1	X	0x1	X	X	X	Left Side Selected/271
	0xA |0xB	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x5	X	X	X	Select Side-Use Turn Indicator/349
	0xA |0xB	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x6	X	X	X	Select Side-Use Turn Indicator/350
	0xA |0xB	0x2	0x2	X	X	X	X	X	0x3	X	X	0x2	0x1	X	X	X	Release Steering Wheel/037
	0xA |0xB	0x2	0x2	X	0x2	X	X	X	0x2	X	X	X	X	X	X	X	Space Found/038
	0xA |0xB	0x2	0x2	X	0x3	X	X	X	0x2	X	X	X	X	X	X	X	Space Found/258
	0xA |0xB	0x2	0x2	X	0x2	X	X	X	0x3	X	X	0x1	0x1	X	X	X	Space Found/265
	0xA |0xB	0x2	0x2	X	0x3	X	X	X	0x3	X	X	0x1	0x1	X	X	X	Space Found/266
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	0x1	X	X	X	Stop/040
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	0x1	X	X	X	Stop/041
	0xA |0xB	0x2	0x3	X	X	X	X	X	X	0x2	X	X	0x4	X	X	X	Stop/042
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	X	X	Stop/492
	0xA	0x2	0x3	X	X	X	X	X	X	0x3	X	X	X	X	X	X	Drive Forward/043
	0xA	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	X	X	X	Drive Backward/044
	0xA |0xB	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	0x1	X	0x1	X	Finished/062
	0xA	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	X	X	Slow Down/046
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x1‡	≠0x8| 0xC| 0xD| 0xE| 0xF	Cancelled/417
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x2‡	X	Cancelled by Wheel Slip/047
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x7	X	0x1‡	X	Cancelled by Door Open/418
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x5‡	X	Cancelled by High Inclination/419
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x4	X	0x1‡	X	Cancelled by Obstacle in Path/420
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x3‡	X	Cancelled by Traction Control Event/379
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x7‡	X	Cancelled by Steering intervention/380
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x8‡	X	Cancelled by Wrong Direction/381
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x4‡	X	Cancelled by High Speed/382
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x6‡	X	Cancelled by Brake System Intervention/383

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0x8	Cancelled by Blocked Sensors/515
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xC	Cancelled by Attached Trailer/516
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xD	Cancelled by Blocked Sensors/515
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xE	Cancelled by Blocked Sensors/515
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xF	Cancelled by Blocked Sensors/515
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x7	X	0x1‡	X	Paused/421
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x2	0x1	X	0x7‡	X	Paused/422
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x3	X	0x1‡	X	Paused/423
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	X	X	Release Steering Wheel/039
	0xA |0xB	0x7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Active Park Assist – System Fault/048
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x3	X	X	X	0x1	X	Shift to 1 (Manual) Shift to D (Auto) /049
	0xB	0x2	0x2	X	0x4	X	X	X	0x1	X	0x5	X	0x1	X	X	X	Shift to P/424
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	X	X	Active Park Assist - Not Available/050
	0xA |0xB	0x3	0x1	X	X	X	X	X	X	X	X	X	X	X	X	X	Slow Down/069
	0xA |0xB	0x6	X	X	0x2	X	X	X	X	X	X	X	X	X	X	X	Finished/051
	0xA |0xB	0x6	X	X	0x3	X	X	X	X	X	X	X	X	X	X	X	Finished/276
	0xB	0x2	0x2	X	X	X	X	X	X	X	X	X	0x3	X	X	X	Release Brake to Start/426
	0xB	0x2	0x3	X	X	X	X	X	X	0x4	0x1	X	0x4	X	0x1‡	X	Attention! /427
	0xB	0x2	0x3	X	X	X	X	X	X	0x3	0x1	X	0x4	X	0x1‡	X	Attention! /482
	0xB	0x2	X	X	X	X	X	X	X	0x1	X	X	0x4	X	0x1	X	Obstacle in Path/428
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	X	X	X	0x9‡	X	Accel Pedal Inactive/429
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	0x1	0x1	0x1	0x1	X	0x1	X	Both Sides Blocked/552
	All Other Cases																Blank (Do not show Text1)

Active Park Assist (APA) Positional Text1

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

8" (or equivalent) displays (FNVx only)

Active Park Assist (APA) Positional Text1

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI /REF#
Run (as per Operational Modes and Voltage Range Definition)	0xA |0xB	0x2	0x2	X	0x2	X	X	X	0x1	0x3	X	X	X	X	X	X	Scanning-Use Turn Indicator/053
	0xA |0xB	0x2	0x2	X	0x3	X	X	X	0x1	0x3	X	X	X	X	X	X	Scanning-Use Turn Indicator/054
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	X	X	X	0x2	X	X	X	Select Side-Use Turn Indicator/055
	0xA |0xB	0x2	0x2	0x2	0x4	X	X	X	0x1	X	0x1	X	0x1	X	X	X	Right Side Selected/270
	0xA |0xB	0x2	0x2	0x1	0x4	X	X	X	0x1	X	0x1	X	0x1	X	X	X	Left Side Selected/271
	0xA |0xB	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x5	X	X	X	Select Side-Use Turn Indicator/349
	0xA |0xB	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x6	X	X	X	Select Side-Use Turn Indicator/350
	0xA |0xB	0x2	0x2	X	X	X	X	X	0x3	X	X	0x2	0x1	X	X	X	Release Steering Wheel/037
	0xA |0xB	0x2	0x2	X	0x2	X	X	X	0x2	X	X	X	X	X	X	X	Space Found/038
	0xA |0xB	0x2	0x2	X	0x3	X	X	X	0x2	X	X	X	X	X	X	X	Space Found/258
	0xA |0xB	0x2	0x2	X	0x2	X	X	X	0x3	X	X	0x1	0x1	X	0x1	X	Space Found/265
	0xA |0xB	0x2	0x2	X	0x3	X	X	X	0x3	X	X	0x1	0x1	X	0x1	X	Space Found/266
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	0x1	X	X	X	Stop/040
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	0x1	X	X	X	Stop/041
	0xA |0xB	0x2	0x3	X	X	X	X	X	X	0x2	X	X	0x4	X	X	X	Stop/042
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	X	X	Stop/492
	0xA	0x2	0x3	X	X	X	X	X	X	0x3	X	X	X	X	X	X	Drive Forward/043
	0xA	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	X	X	X	Drive Backward/044
	0xA |0xB	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	0x1	X	0x1	X	Finished/062
	0xA	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	X	X	Slow Down/046
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x1‡	≠0x8| 0xC| 0xD| 0xE| 0xF	Cancelled/417
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x2‡	X	Cancelled by Wheel Slip/047
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x7	X	0x1‡	X	Cancelled by Door Open/418
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x5‡	X	Cancelled by High Inclination/419
	0xA| 0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x4	X	0x1‡	X	Cancelled by Obstacle in Path/420
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x3‡	X	Cancelled by Traction Control Deactivation/379
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x7‡	X	Cancelled by Steering intervention/380
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x8‡	X	Cancelled by Wrong Direction/381
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x4‡	X	Cancelled by High Speed/382

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x6‡	X	Cancelled by Brake System Intervention/383
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0x8	Cancelled by Blocked Sensors/515
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xC	Cancelled by Attached Trailer/516
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xD	Cancelled by Blocked Sensors/515
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xE	Cancelled by Blocked Sensors/515
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xF	Cancelled by Blocked Sensors/515
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x7	X	0x1‡	X	Paused/421
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x2	0x1	X	0x7‡	X	Paused/422
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x3	X	0x1‡	X	Paused/423
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	X	X	Release Steering Wheel/039
	0xA |0xB	0x7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Active Park Assist – System Fault/048
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x3	X	X	X	0x1	X	Shift to 1 (Manual) Shift to D (Auto) /049
	0xB	0x2	0x2	X	0x4	X	X	X	0x1	X	0x5	X	0x1	X	X	X	Shift to P/424
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	X	X	Active Park Assist - Not Available/050
	0xA |0xB	0x3	0x1	X	X	X	X	X	X	X	X	X	X	X	X	X	Slow Down/069
	0xA |0xB	0x6	X	X	0x2	X	X	X	X	X	X	X	X	X	X	X	Finished/051
	0xA |0xB	0x6	X	X	0x3	X	X	X	X	X	X	X	X	X	X	X	Finished/276
	0xB	0x2	0x2	X	X	X	X	X	X	X	X	X	0x3	X	X	X	Release Brake to Start/426
	0xB	0x2	0x3	X	X	X	X	X	X	0x4	0x1	X	0x4	X	0x1‡	X	Attention! /427
	0xB	0x2	0x3	X	X	X	X	X	X	0x3	0x1	X	0x4	X	0x1‡	X	Attention! /482
	0xB	0x2	X	X	X	X	X	X	X	0x1	X	X	0x4	X	0x1	X	Obstacle in Path/428
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	X	X	X	0x9‡	X	Accel Pedal Inactive/429
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	0x1	0x1	0x1	0x1	X	0x1	X	Both Sides Blocked/552
	0xA |0xB	0x2	X	X	X	X	X	X	X	0x1	0x1	0x1	0x1	X	0xA	X	Trailer Feature Not Available During Active Parking/581
	0xB	0x2	0x2	X	X	X	X	X	0x3	0x1	0x1	0x1	0x1	X	0xB	X	Release EPB /585
	All Other Cases																Blank (Do not show Text1)

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.
‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage Range Definition)	0x2	0x2	X	0x2	X	X	X	0x1	0x3	X	X	X	X	Scanning-Use Turn Indicator/053
	0x2	0x2	X	0x3	X	X	X	0x1	0x3	X	X	X	X	Scanning-Use Turn Indicator/054
	0x2	0x2	0x3	0x4	X	X	X	X	X	X	X	0x2	X	Select Side-Use Turn Indicator/055
	0x2	0x2	0x2	0x4	X	X	X	0x1	X	0x1	X	0x1	X	Right Side Selected/270
	0x2	0x2	0x1	0x4	X	X	X	0x1	X	0x1	X	0x1	X	Left Side Selected/271
	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x5	X	Select Side-Use Turn Indicator/056
	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x6	X	Select Side-Use Turn Indicator/057
	0x2	0x2	X	X	X	X	X	0x3	X	X	0x2	0x1	X	Release Steering Wheel/037
	0x2	0x2	X	0x2	X	X	X	0x2	X	X	X	X	X	Space Found/038
	0x2	0x2	X	0x3	X	X	X	0x2	X	X	X	X	X	Space Found/258
	0x2	0x2	X	0x2	X	X	X	0x3	X	X	0x1	0x1	X	Space Found/265
	0x2	0x2	X	0x3	X	X	X	0x3	X	X	0x1	0x1	X	Space Found/266
	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	0x1	X	Stop /040
	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	0x1	X	Stop /041
	0x2	0x3	X	X	X	X	X	X	0x2	X	X	0x4	X	Stop /042
	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	Stop /492
	0x2	0x3	X	X	X	X	X	X	0x3	X	X	X	X	Drive Forward/043
	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	X	Drive Backward/044
	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	X	X	Finished/062
	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	Slow Down/046
	0x4	X	X	X	X	X	X	X	X	X	X	0x1	≠0x8| 0xB| 0xC| 0xD| 0xE| 0xF	Cancelled/047
	0x4	X	X	X	X	X	X	X	X	X	X	0x4	X	Cancelled/947
	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	Release Steering Wheel/039
	0x7	X	X	X	X	X	X	X	X	X	X	X	X	Active Park Assist – System Fault/048
	0x5	X	X	X	X	X	X	X	X	0x3	X	X	X	Shift to 1 (Manual) Shift to D (Auto) /049
	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	Active Park Assist - Not Available/050
	0x3	0x1	X	X	X	X	X	X	X	X	X	X	X	Slow Down/069
	0x6	X	X	0x2	X	X	X	X	X	X	X	X	X	Finished/051
	0x6	X	X	0x3	X	X	X	X	X	X	X	X	X	Finished/276
	0x2	0x2	0x3	0x4	X	X	X	X	0x1	0x1	0x1	0x1	X	Both Sides Blocked/552
	All Other Cases													Blank (Do not show Text1)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.6 CAMERA-FUR-REQ-130500/N-Active Park Assist (APA) Signal Processing - Positional Text2

8" (or equivalent) displays

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and Voltage Range Definition)	0xA |0xB	0x2	0x2	X	X	X	X	X	X	0x2	0x1	X	0x1	X	X	X	Stop/058
	0xA |0xB	0x2	0x2	X	0x2	X	X	X	0x1	0x3	X	X	X	X	X	X	Please Drive Forward/280
	0xA |0xB	0x2	0x2	X	0x3	X	X	X	0x1	0x3	X	X	X	X	X	X	Please Drive Forward/281
	0xA |0xB	0x2	0x2	X	0x2	X	X	X	0x2	0x3	X	X	X	X	X	X	Please Drive Forward/059
	0xA |0xB	0x2	0x2	X	0x3	X	X	X	0x2	0x3	X	X	X	X	X	X	Please Drive Forward/259
	0xA	0x2	0x2	X	0x4	X	X	X	0x3	X	0x3	0x2	0x1	X	X	X	Shift to 1 (Manual) Shift to D (Auto)/060
	0xA	0x2	0x2	X	0x2	X	X	X	X	0x2	0x2	X	X	X	X	X	Shift to Reverse/061
	0xA	0x2	0x2	X	0x3	X	X	X	X	0x2	0x2	X	X	X	X	X	Shift to Reverse/260
	0xA	0x2	0x2	X	0x4	X	X	X	0x3	X	0x2	0x2	0x1	X	X	X	Shift to Reverse/269
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	0x1	X	X	X	Shift to 1 (Manual) Shift to D (Auto)/063
	0xB	0x2	0x2	X	X	X	X	X	X	X	0x4	X	0x1	X	X	X	Shift to N/430
	0xA	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	X	X	X	Prepare to Stop/065
	0xA	0x2	0x3	X	X	X	X	X	X	0x3	X	X	X	X	X	X	Prepare to Stop/066
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	0x1	X	X	X	Shift to Reverse/067
	0xB	0x6	X	X	X	X	X	X	X	X	X	0x3	X	X	X	X	Take Control/433
	0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	X	X	X	X	Take Control/434
	0xA |0xB	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	X	X	X	X	Take Control/390
	0xA	0x2	X	X	X	X	X	X	X	0x2	X	X	0x4	X	X	X	Object in Path/068
	0xA	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	0x6‡	X	Brake System Intervention/352
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	X	X	Press Button to Resume/064
	0xA	0x4	X	X	X	X	X	X	X	X	X	0x1	0x1	X	0x6‡	X	Use Brakes /356
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1‡	0xC	Trailer Attached/361
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x3‡	X	T/C OFF/362
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1‡	0x8	Sensors Blocked/363
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1‡	0xD	Sensors Blocked/363
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1‡	0xE	Sensors Blocked/363
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1‡	0xF	Sensors Blocked/363
	0xB	0x2	0x2	X	X	X	X	X	0x3	0x5	0x1	X	0x3	X	X	X	Hold Park Button/435
	0xB	0x2	0x3	X	X	X	X	X	X	0x3	X	X	0x4	X	0x1‡	X	Check Surroundings/437
	0xB	0x2	0x3	X	X	X	X	X	X	0x4	X	X	0x4	X	0x1‡	X	Check Surroundings/557
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x7	X	0x1‡	X	Close Door/438
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x2	0x1	X	0x7‡	X	Release Steering Wheel/439
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x3	X	0x1‡	X	Hold Button to Resume/440
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	X	X	Wait for Steering/493
	0xB	0x7	X	X	X	X	X	X	X	X	X	0x3	X	X	X	X	Take Control/441
	0xB	0x5	X	X	X	X	X	X	X	X	X	X	X	X	0x5‡	X	High Inclination/442
	0xA |0xB	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x5	X	X	X	Ensure Park Brake Released/575
	0xA |0xB	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x6	X	X	X	Ensure Park Brake Released/576
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	X	X	X	0x2	X	X	X	Ensure Park Brake Released/577
	All Other Cases																Blank (Do not show Text2)

Active Park Assist (APA) Positional Text2

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage Range Definition)	0x2	0x2	X	X	X	X	X	X	0x2	0x1	X	0x1	X	Stop/058
	0x2	0x2	X	0x2	X	X	X	0x1	0x3	X	X	X	X	Please Drive Forward/280
	0x2	0x2	X	0x3	X	X	X	0x1	0x3	X	X	X	X	Please Drive Forward/281
	0x2	0x2	X	0x2	X	X	X	0x2	0x3	X	X	X	X	Please Drive Forward/059
	0x2	0x2	X	0x3	X	X	X	0x2	0x3	X	X	X	X	Please Drive Forward/259
	0x2	0x2	X	0x4	X	X	X	0x3	X	0x3	0x2	0x1	X	Shift to 1 (Manual) Shift to D (Auto) /060
	0x2	0x2	X	0x2	X	X	X	X	0x2	0x2	X	X	X	Shift to Reverse/061
	0x2	0x2	X	0x3	X	X	X	X	0x2	0x2	X	X	X	Shift to Reverse/260
	0x2	0x2	X	0x4	X	X	X	0x3	X	0x2	0x2	0x1	X	Shift to Reverse/269
	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	0x1	X	Shift to 1 (Manual) Shift to D (Auto)/063
	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	X	Prepare to Stop/065
	0x2	0x3	X	X	X	X	X	X	0x3	X	X	X	X	Prepare to Stop/066
	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	0x1	X	Shift to Reverse/067
	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	X	X	Take Control/390
	0x2	X	X	X	X	X	X	X	0x2	X	X	0x4	X	Object in Path/068
	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	Press Button to Resume/064
	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	Wait for Steering/493
	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x5	X	Ensure Park Brake Released/575
	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x6	X	Ensure Park Brake Released/576
	0x2	0x2	0x3	0x4	X	X	X	X	X	X	X	0x2	X	Ensure Park Brake Released/577
	All Other Cases													Blank (Do not show Text2)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.7 CAMERA-FUR-REQ-130502/J-Active Park Assist (APA) Signal Processing - Positional SmallCar

8" (or equivalent) displays

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and Voltage Range Definition)	0xA |0xB	0x2	0x2	X	0x2	X	X	X	X	X	X	X	X	X	X	X	/075
	0xA |0xB	0x2	0x2	X	0x3	X	X	X	X	X	X	X	X	X	X	X	/076
	0xA |0xB	0x2	0x2	X	0x4	X	X	X	X	X	X	X	X	X	X	X	/081
	0xA |0xB	0x3	0x1	X	X	X	X	X	X	X	X	X	X	X	X	X	/236
	0xA |0xB	0x5	X	X	0x2	X	X	X	X	X	0x3	X	X	X	0x1	X	/561
	0xA |0xB	0x5	X	X	0x2	X	X	X	X	X	0x1	X	X	X	0x5	X	/562

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI /REF#
	0xA |0xB	0x5	X	X	0x3	X	X	X	X	X	0x3	X	X	X	0x1	X	 /563
	0xA |0xB	0x5	X	X	0x3	X	X	X	X	X	0x1	X	X	X	0x5	X	 /564
	0xA	0x5	X	X	0x4	X	X	X	X	X	0x3	X	X	X	0x1	X	 /569
	All Other Cases																Blank (Do not show SmallCar)

Active Park Assist (APA) Positional CarLeft

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4" displays

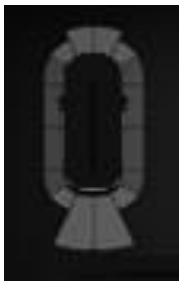
Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage	0x2	0x2	X	0x2	X	X	X	X	X	X	X	X	X	 /075

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
	0x2	0x2	X	0x3	X	X	X	X	X	X	X	X	X	 /076
	0x2	0x2	X	0x4	X	X	X	X	X	X	X	X	X	 /081
	0x3	0x1	X	X	X	X	X	X	X	X	X	X	X	 /236
	0x5	X	X	0x2	X	X	X	X	X	0x3	X	X	X	 /561
	0x5	X	X	0x3	X	X	X	X	X	0x3	X	X	X	 /563
	0x5	X	X	0x4	X	X	X	X	X	0x3	X	X	X	 /569
	All Other Cases													Blank (Do not show SmallCar)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.8 CAMERA-FUR-REQ-130503/K-Active Park Assist (APA) Signal Processing - Positional ParkPilot

8" (or equivalent) displays

Operational Mode	Parking Assistance (Cfg)	[AnaSys_D_Stat]	[AnaSteScanMde_D_Stat]	[AnaActvSide2_D_Stat]	[AnaMde_D_Stat]	[AnaSelSann_D_Stat]	[AnaSelPna_D_Stat]	[AnaSelPna_D_Stat]	[AnaScan_D_Stat]	[AnaLongCtl_D_RqDrvl]	[AnaGearShif_D_RqDrvl]	[AnaSteWhl_D_RqDrvl]	[AnaAcsy_D_RqDrvl]	[AnaTrgtDist_D_Stat]†	[AnaMsgTxt_D_Rqd]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and	0xA |0xB	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0x1	 Follow Base Park Aid Signal Interface/083
	0xA |0xB	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0x2	
	0xA |0xB	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0x5	
	0xA |0xB	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0x8	
	0xA |0xB	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0x9	
	0xA |0xB	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0xA	
	0xA |0xB	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0xC	
	0xA |0xB	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0xD	
	0xA |0xB	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0xE	
	0xA |0xB	X	X	X	X	X	X	X	X	X	X	X	X	X	X	0xF	
All Other Cases																Blank (Do not show ParkPilot)	

Active Park Assist (APA) Positional ParkPilot

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

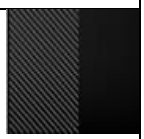
4" displays

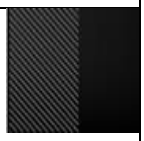
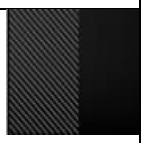
Operational Mode	[AnaSys_D_Stat]	[AnaSteScanMde_D_Stat]	[AnaActvSide2_D_Stat]	[AnaMde_D_Stat]	[AnaSelSann_D_Stat]	[AnaSelPna_D_Stat]	[AnaSelPna_D_Stat]	[AnaScan_D_Stat]	[AnaLongCtl_D_RqDrvl]	[AnaGearShif_D_RqDrvl]	[AnaSteWhl_D_RqDrvl]	[AnaAcsy_D_RqDrvl]	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes	X	X	X	X	X	X	X	X	X	X	X	X	0x1	 Follow Base Park Aid Signal Interface/083
	X	X	X	X	X	X	X	X	X	X	X	X	0x2	
	X	X	X	X	X	X	X	X	X	X	X	X	0x5	
	X	X	X	X	X	X	X	X	X	X	X	X	0x8	
	X	X	X	X	X	X	X	X	X	X	X	X	0x9	
	X	X	X	X	X	X	X	X	X	X	X	X	0xA	
	X	X	X	X	X	X	X	X	X	X	X	X	0xC	
	X	X	X	X	X	X	X	X	X	X	X	X	0xD	
	X	X	X	X	X	X	X	X	X	X	X	X	0xE	
	X	X	X	X	X	X	X	X	X	X	X	X	0xF	
All Other Cases													Blank (Do not show ParkPilot)	

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.9 CAMERA-FUR-REQ-130504/K-Active Park Assist (APA) Signal Processing - Positional ParkScenarioLeft

8" (or equivalent) displays

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSann_D_Stat]	[ApaSelPna_D_Stat]	[ApaSelPna_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI /REF#
Run (as per Operational Modes and Voltage Range Definition)	0xA |0xB	0x2	0x2	0x1	0x2	X	X	X	0x1	X	X	X	X	X	X	X	no slot found graphic SAPP L /084 
	0xA |0xB	0x2	0x2	0x1	0x3	X	X	X	0x1	X	X	X	X	X	X	X	no slot found graphic PPA L /085 
	0xA |0xB	0x2	0x2	0x1	0x2	X	X	X	0x2	X	X	X	X	X	X	X	slot found graphic SAPP L /086 
	0xA |0xB	0x2	0x2	0x1	0x3	X	X	X	0x2	X	X	X	X	X	X	X	slot found graphic PPA L /087 
	0xA |0xB	0x2	0x2	0x1	0x2	X	X	X	0x3	X	X	X	X	X	X	X	slot found graphic SAPP L /088 
	0xA |0xB	0x2	0x2	0x1	0x3	X	X	X	0x3	X	X	X	X	X	X	X	slot found graphic PPA L /089 
	0xA |0xB	0x3	0x1	0x1	0x2	X	X	X	X	X	X	X	X	X	X	X	no slot found graphic SAPP L /238 
	0xA |0xB	0x3	0x1	0x1	0x3	X	X	X	X	X	X	X	X	X	X	X	no slot found graphic PPA L /239 
	0xA |0xB	0x5	X	0x1	0x2	X	X	X	X	X	0x3	X	X	X	0x1	X	no slot found graphic SAPP L /523 

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSann_D_Stat]	[ApaSelPna_D_Stat]	[ApaSelPna_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI /REF#
	0xA |0xB	0x5	X	0x1	0x2	X	X	X	X	X	0x1	X	X	X	0x5	X	no slot found graphic SAPP L /570 
	0xA |0xB	0x5	X	0x1	0x3	X	X	X	X	X	0x3	X	X	X	0x1	X	no slot found graphic PPA L /524 
	0xA |0xB	0x5	X	0x1	0x3	X	X	X	X	X	0x1	X	X	X	0x5	X	no slot found graphic PPA L /571 
	All Other Cases																Blank (Do not show ParkScenarioLeft)

Use this table together with the Check Mark Modifier table immediately below.

Check Mark Modifier

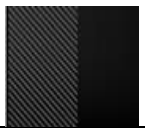
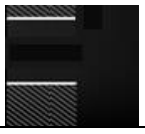
Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsv_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
	0xA |0xB	0x2	0x2	0x1	0x2	X	X	X	0x3	0x2	0x1	X	X	X	X	X	Add Check Mark ✔ Inside Open Parallel Park Space on the Left/311
	0xA |0xB	0x2	0x2	0x1	0x3	X	X	X	0x3	0x2	0x1	X	X	X	X	X	Add Check Mark ✔ Inside Open Perpendicular Park Space on the Left/312
	All Other Cases																Do Not Add Check Mark

Active Park Assist (APA) Positional ParkScenarioLeft with Check Mark Modifier

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsv_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage Range	0x2	0x2	0x1	0x2	X	X	X	0x1	X	X	X	X	X	no slot found graphic SAPP L/084 
	0x2	0x2	0x1	0x3	X	X	X	0x1	X	X	X	X	X	no slot found graphic PPA L/085 
	0x2	0x2	0x1	0x2	X	X	X	0x2	X	X	X	X	X	slot found graphic SAPP L/086 
	0x2	0x2	0x1	0x3	X	X	X	0x2	X	X	X	X	X	slot found graphic PPA L/087 

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
	0x2	0x2	0x1	0x2	X	X	X	0x3	X	X	X	X	X	slot found graphic SAPP L/088 
	0x2	0x2	0x1	0x3	X	X	X	0x3	X	X	X	X	X	slot found graphic PPA L/089 
	0x3	0x1	0x1	0x2	X	X	X	X	X	X	X	X	X	no slot found graphic SAPP L/238 
	0x3	0x1	0x1	0x3	X	X	X	X	X	X	X	X	X	no slot found graphic PPA L/239 
	0x5	X	0x1	0x2	X	X	X	X	X	0x3	X	X	X	no slot found graphic SAPP L/523 
	0x5	X	0x1	0x3	X	X	X	X	X	0x3	X	X	X	no slot found graphic PPA L/524 
	All Other Cases													Blank (Do not show ParkScenarioLeft)

Use this table together with the Check Mark Modifier table immediately below.

Check Mark Modifier

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
	0x2	0x2	0x1	0x2	X	X	X	0x3	X	0x1	X	X	X	Add Check Mark ✔ Inside Open Parallel Park Space on the Left$_{/311}$
	0x2	0x2	0x1	0x3	X	X	X	0x3	X	0x1	X	X	X	Add Check Mark ✔ Inside Open Perpendicular Park Space on the Left$_{/311}$
	All Other Cases													Do Not Add Check Mark

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.10 CAMERA-FUR-REQ-130505/K-Active Park Assist (APA) Signal Processing - Positional ParkScenarioRight

8" (or equivalent) displays

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI$_{/REF\#}$
Run (as per Operational Modes and Voltage Range Definition)	0xA | 0xB	0x2	0x2	0x2	0x2	X	X	X	0x1	X	X	X	X	X	X	X	no slot found graphic SAPP R$_{/091}$ 
	0xA | 0xB	0x2	0x2	0x2	0x3	X	X	X	0x1	X	X	X	X	X	X	X	no slot found graphic PPA R$_{/092}$ 
	0xA | 0xB	0x2	0x2	0x2	0x2	X	X	X	0x2	X	X	X	X	X	X	X	slot found graphic SAPP R$_{/093}$ 
	0xA | 0xB	0x2	0x2	0x2	0x3	X	X	X	0x2	X	X	X	X	X	X	X	slot found graphic PPA R$_{/094}$ 
	0xA | 0xB	0x2	0x2	0x2	0x2	X	X	X	0x3	X	X	X	X	X	X	X	slot found graphic SAPP R$_{/095}$ 

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
	0xA |0xB	0x2	0x2	0x2	0x3	X	X	X	0x3	X	X	X	X	X	X	X	slot found graphic PPA R/096 
	0xA |0xB	0x3	0x1	0x2	0x2	X	X	X	X	X	X	X	X	X	X	X	no slot found graphic SAPP R/240 
	0xA |0xB	0x3	0x1	0x2	0x3	X	X	X	X	X	X	X	X	X	X	X	no slot found graphic PPA R/241 
	0xA |0xB	0x5	X	0x2	0x2	X	X	X	X	X	0x3	X	X	X	0x1	X	no slot found graphic SAPP R/525 
	0xA |0xB	0x5	X	0x2	0x2	X	X	X	X	X	0x1	X	X	X	0x5	X	no slot found graphic SAPP R/572 
	0xA |0xB	0x5	X	0x2	0x3	X	X	X	X	X	0x3	X	X	X	0x1	X	no slot found graphic PPA R/526 
	0xA |0xB	0x5	X	0x2	0x3	X	X	X	X	X	0x1	X	X	X	0x5	X	no slot found graphic PPA R/573 
	All Other Cases																Blank (Do not show ParkScenarioRight)

Use this table together with the Check Mark Modifier table immediately below.

Check Mark Modifier

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
	0xA |0xB	0x2	0x2	0x2	0x2	X	X	X	0x3	0x2	0x1	X	X	X	X	X	Add Check Mark ✔ Inside Open Parallel Park Space on the Right/307
	0xA |0xB	0x2	0x2	0x2	0x3	X	X	X	0x3	0x2	0x1	X	X	X	X	X	Add Check Mark ✔ Inside Open Perpendicular Park Space on the Right/308
	All Other Cases																Do Not Add Check Mark

Active Park Assist (APA) Positional ParkScenarioRight and Check Mark Modifier

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage Range	0x2	0x2	0x2	0x2	X	X	X	0x1	X	X	X	X	X	no slot found graphic SAPP R/091 
	0x2	0x2	0x2	0x3	X	X	X	0x1	X	X	X	X	X	no slot found graphic PPA R/092 
	0x2	0x2	0x2	0x2	X	X	X	0x2	X	X	X	X	X	slot found graphic SAPP R/093 
	0x2	0x2	0x2	0x3	X	X	X	0x2	X	X	X	X	X	slot found graphic PPA R/094 

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
	0x2	0x2	0x2	0x2	X	X	X	0x3	X	X	X	X	X	slot found graphic SAPP R/095 
	0x2	0x2	0x2	0x3	X	X	X	0x3	X	X	X	X	X	slot found graphic PPA R/096 
	0x3	0x1	0x2	0x2	X	X	X	X	X	X	X	X	X	no slot found graphic SAPP R/240 
	0x3	0x1	0x2	0x3	X	X	X	X	X	X	X	X	X	no slot found graphic PPA R/241 
	0x5	X	0x2	0x2	X	X	X	X	X	0x3	X	X	X	no slot found graphic SAPP R/525 
	0x5	X	0x2	0x3	X	X	X	X	X	0x3	X	X	X	no slot found graphic PPA R/526 
	0x5	X	X	0x4	X	X	X	X	X	0x3	X	X	X	no slot found graphic POA R/574 
	All Other Cases													Blank (Do not show ParkScenarioRight)

Use this table together with the Check Mark Modifier table immediately below.

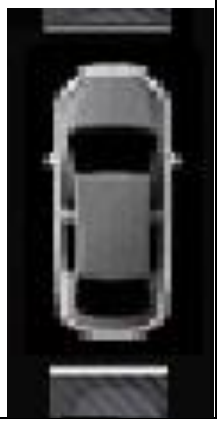
Check Mark Modifier

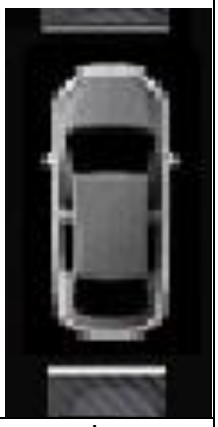
Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
	0x2	0x2	0x2	0x2	X	X	X	0x3	X	0x1	X	X	X	Add Check Mark ✔ Inside Open Parallel Park Space on the Right[/307]
	0x2	0x2	0x2	0x3	X	X	X	0x3	X	0x1	X	X	X	Add Check Mark ✔ Inside Open Perpendicular Park Space on the Right[/308]
	All Other Cases													Do Not Add Check Mark

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.11 CAMERA-FUR-REQ-161347/I-Active Park Assist (APA) Signal Processing - Positional ParkScenarioPOA

8" (or equivalent) displays (CGEAx only)

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI[/REF#]
Run (as per Operational Modes and	0xA |0xB	0x2	0x2	X	0x4	X	X	X	X	X	X	X	X	X	X	X	Park Scenario POA graphic[/098] 

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
	0xA |0xB	0x5	X	X	0x4	X	X	X	X	X	0x3	X	X	X	0x1	X	Park Scenario POA graphic/574 
	All Other Cases																Blank (Do not show ParkScenarioPOA)

Active Park Assist (APA) Positional ParkScenarioPOA

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

8" (or equivalent) displays (FNVx only)

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes)	0xA |0xB	0x2	0x2	X	0x4	X	X	X	X	X	X	X	X	X	0x1	X	Park Scenario POA graphic/098 
	0xA |0xB	0x5	X	X	0x4	X	X	X	X	X	0x3	X	X	X	0x1	X	Park Scenario POA graphic/574 

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
	0xA |0xB	0x2	0x2	X	0x4	X	X	X	X	X	X	X	X	X	0xB	X	Park Scenario POA graphic/098 
	All Other Cases																Blank (Do not show ParkScenarioPOA)

Active Park Assist (APA) Positional ParkScenarioPOA

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage	0x2	0x2	X	0x4	X	X	X	X	X	X	X	X	X	Park Scenario POA graphic/098 
	All Other Cases													Blank (Do not show ParkScenarioPOA)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.12 CAMERA-FUR-REQ-165427/H-Active Park Assist (APA) Signal Processing - Positional CarNonRVCSac

8" (or equivalent) displays

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and Voltage Range Definition)	0xA |0xB	0x2	0x3	X	X	X	X	X	X	X	X	X	X	X	X	X	/228
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	/229
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1	X	/230
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x3	X	/560
	0xA |0xB	0x7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	/231
	0xA |0xB	0x6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	/232
	0xA |0xB	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	X	X	/234
	All Other Cases																Blank (Do not show CarNonRVCSac)

Active Park Assist (APA) Positional CarNonRVCSac

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

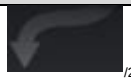
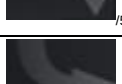
4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage Range Definition)	0x2	0x3	X	X	X	X	X	X	X	X	X	X	X	 /228
	0x4	X	X	X	X	X	X	X	X	X	X	X	X	 /229
	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	 /230
	0x7	X	X	X	X	X	X	X	X	X	X	X	X	 /231
	0x6	X	X	X	X	X	X	X	X	X	X	X	X	 /232
	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	 /234
All Other Cases														Blank (Do not show CarNonRVCSac)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.13 CAMERA-FUR-REQ-165428/H-Active Park Assist (APA) Signal Processing - Positional ParkInArrow

8" (or equivalent) displays

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and Voltage Range Definition)	0xA	0x2	0x2	0x1	0x2	X	X	X	0x3	0x2	0x2	0x2	X	X	X	X	 /223
	0xA	0x2	0x2	0x1	0x3	X	X	X	0x3	0x2	0x2	0x2	X	X	X	X	 /224
	0xA	0x2	0x2	0x2	0x2	X	X	X	0x3	0x2	0x2	0x2	X	X	X	X	 /225
	0xA	0x2	0x2	0x2	0x3	X	X	X	0x3	0x2	0x2	0x2	X	X	X	X	 /226
	0xB	0x2	0x2	0x1	0x2	X	X	X	0x3	0x2	0x4	0x2	X	X	X	X	 /527
	0xB	0x2	0x2	0x1	0x3	X	X	X	0x3	0x2	0x4	0x2	X	X	X	X	 /528
	0xB	0x2	0x2	0x2	0x2	X	X	X	0x3	0x2	0x4	0x2	X	X	X	X	 /529
	0xB	0x2	0x2	0x2	0x3	X	X	X	0x3	0x2	0x4	0x2	X	X	X	X	 /530
	0xB	0x2	0x2	0x1	0x2	X	X	X	0x3	0x5	0x1	X	0x3	X	X	X	 /531
	0xB	0x2	0x2	0x1	0x3	X	X	X	0x3	0x5	0x1	X	0x3	X	X	X	 /532
	0xB	0x2	0x2	0x2	0x2	X	X	X	0x3	0x5	0x1	X	0x3	X	X	X	 /533
	0xB	0x2	0x2	0x2	0x3	X	X	X	0x3	0x5	0x1	X	0x3	X	X	X	 /534
	0xB	0x2	0x2	0x1	0x2	X	X	X	0x3	0x1	0x1	X	X	X	0xB	X	 /586
	0xB	0x2	0x2	0x1	0x3	X	X	X	0x3	0x1	0x1	X	X	X	0xB	X	 /587
	0xB	0x2	0x2	0x2	0x2	X	X	X	0x3	0x1	0x1	X	X	X	0xB	X	 /588
	0xB	0x2	0x2	0x2	0x3	X	X	X	0x3	0x1	0x1	X	X	X	0xB	X	 /589
	All Other Cases																Blank (Do not show ParkInArrow)

Active Park Assist (APA) Positional ParkInArrow

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

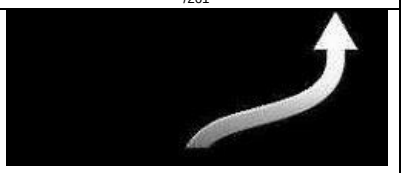
4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage Range Definition)	0x2	0x2	0x1	0x2	X	X	X	0x3	0x2	0x2	0x2	X	X	 /223
	0x2	0x2	0x1	0x3	X	X	X	0x3	0x2	0x2	0x2	X	X	 /224
	0x2	0x2	0x2	0x2	X	X	X	0x3	0x2	0x2	0x2	X	X	 /225
	0x2	0x2	0x2	0x3	X	X	X	0x3	0x2	0x2	0x2	X	X	 /226
	All Other Cases													Blank (Do not show ParkInArrow)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.14 CAMERA-FUR-REQ-165437/I-Active Park Assist (APA) Signal Processing - Positional ParkOutArrow

8" (or equivalent) displays

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPpa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrvl]	[ApaGearShif_D_RqDrvl]	[ApaSteWhl_D_RqDrvl]	[ApaAcsy_D_RqDrvl]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and Voltage Range Definition)	0xA |0xB	0x2	0x2	0x2	0x4	X	X	X	0x3	X	X	X	X	X	X	X	 /261
	0xA |0xB	0x2	0x2	0x2	0x4	X	X	X	0x1	X	X	X	X	X	X	X	 /272
	0xA |0xB	0x2	0x2	0x1	0x4	X	X	X	0x3	X	X	X	X	X	X	X	 /263
	0xA |0xB	0x2	0x2	0x1	0x4	X	X	X	0x1	X	X	X	X	X	X	X	 /273
	All Other Cases																Blank (Do not show ParkOutArrow)

Active Park Assist (APA) Positional ParkOutArrow

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage Range Definition)	0x2	0x2	0x2	0x4	X	X	X	0x3	X	X	X	X	X	 /261
	0x2	0x2	0x2	0x4	X	X	X	0x1	X	X	X	X	X	 /272
	0x2	0x2	0x1	0x4	X	X	X	0x3	X	X	X	X	X	 /263
	0x2	0x2	0x1	0x4	X	X	X	0x1	X	X	X	X	X	 /273
All Other Cases														Blank (Do not show ParkOutArrow)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.15 *CAMERA-FUR-REQ-165442/I-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarVisibility*

8" (or equivalent) displays

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI /REF#
Run (as per	0xA |0xB	0x2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X /498
	0xA |0xB	0x3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X /499
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X /500

	0xA |0xB	0x5	X	X	X	X	X	X	X	X	X	X	X	X	X	 /501
	0xA |0xB	0x6	X	X	X	X	X	X	X	X	X	X	X	X	X	 /502
	0xA |0xB	0x7	X	X	X	X	X	X	X	X	X	X	X	X	X	 /503
	All Other Cases															Blank (Do not show SAPFeatureMenuBarVisibility)

Active Park Assist (APA) Positional SAPFeatureMenuBarVisibility for larger screens without display size limitations

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

*Note: this is the bottom layer of the menu bar. Modifiers such as selection highlights and nonavailability gray-outs will be overlayed as per the other menu bar positionals.

*Note: this is intended to depict only the graphical portion of the soft menu interface. The functional characteristics of button press CAN commands are defined in the Soft Menu Interface section.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPoa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrvl]	[ApaGearShif_D_RqDrvl]	[ApaSteWhl_D_RqDrvl]	[ApaAcsy_D_RqDrvl]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage Range Definition)	0x2	0x2	X	X	X	X	X	X	X	X	X	X	X	 /283
	0x3	0x1	X	X	X	X	X	X	X	X	X	X	X	 /284
	All Other Cases													Blank (Do not show SAPFeatureMenuBarVisibility)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.16 CAMERA-FUR-REQ-165445/G-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarHighlight

8" (or equivalent) displays

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrvl]	[ApaGearShif_D_RqDrvl]	[ApaSteWhl_D_RqDrvl]	[ApaAcsy_D_RqDrvl]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and Voltage Range	0xA |0xB	X	X	X	0x2	X	X	X	X	X	X	X	X	X	X	X	TRANSPARENT /287 Example 5-button Example 4-button
	0xA |0xB	X	X	X	0x3	X	X	X	X	X	X	X	X	X	X	X	TRANS-PARENT TRANSPARENT /288 Example
	0xA |0xB	X	X	X	0x4	X	X	X	X	X	X	X	X	X	X	X	TRANSPARENT TRANSPARENT /289 Example 5-button Example 4-button
	All Other Cases																Blank (Do not overlay SAPFeatureMenuBarHighlight)

Active Park Assist (APA) Positional SAPFeatureMenuBarHighlight

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

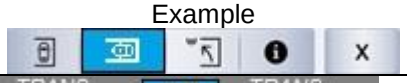
‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

*Note: this is an overlay on the menu bar. It is implied that SAPFeatureMenuBarVisibility is active in order to show these overlay modifiers.

*Note: this is intended to depict only the graphical portion of the soft menu interface. The functional characteristics of button press CAN commands are defined in the Soft Menu Interface section.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrvl]	[ApaGearShif_D_RqDrvl]	[ApaSteWhl_D_RqDrvl]	[ApaAcsy_D_RqDrvl]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational	X	X	X	0x2	X	X	X	X	X	X	X	X	X	TRANSPARENT /287 Example 5-button Example 4-button

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrvl]	[ApaGearShif_D_RqDrvl]	[ApaSteWhl_D_RqDrvl]	[ApaAcsy_D_RqDrvl]	[PrkAidMsgTxt_D_Rql]	Display HMI
	X	X	X	0x3	X	X	X	X	X	X	X	X	X	TRANS-PARENT TRANSPARENT /288 Example 
	X	X	X	0x4	X	X	X	X	X	X	X	X	X	TRANS-PARENT TRANS-PARENT /289 Example 5-button  Example 4-button 
	All Other Cases													Blank (Do not overlay SAPFeatureMenuBarHighlight)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.17 *CAMERA-FUR-REQ-165446/I-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuBarGreyout*

8" (or equivalent) displays (CGEAx only)

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrvl]	[ApaGearShif_D_RqDrvl]	[ApaSteWhl_D_RqDrvl]	[ApaAcsy_D_RqDrvl]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rql] ‡	[PrkAidMsgTxt_D_Rql]	Display HMI /REF#
Run (as per Operational Modes and	0xA |0xB	X	X	X	X	0x2	X	X	X	X	X	X	X	X	X	X	TRANSPARENT /511 Example 5-button  Example 4-button 
	0xA |0xB	X	X	X	X	X	0x2	X	X	X	X	X	X	X	X	X	TRANS-PARENT TRANSPARENT /290 Example 

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI /REF#
	0xA |0xB	X	X	X	X	X	X	0x2	X	X	X	X	X	X	X	X	TRANSPARENT / TRANS-PARENT /291,292 Example 5-button Example 4-button
	All Other Cases																Blank (Do not overlay SAPFeatureMenuBarGreyout)

Active Park Assist (APA) Positional SAPFeatureMenuBarGreyout

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

*Note: this is an overlay on the menu bar. It is implied that SAPFeatureMenuBarVisibility is active in order to show these overlay modifiers.

*Note: this is intended to depict only the graphical portion of the soft menu interface. The functional characteristics of button press CAN commands are defined in the Soft Menu Interface section.

8" (or equivalent) displays (FNVx only)

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI /REF#
Run (as per Operational Modes and	0xA |0xB	X	X	X	X	0x2	X	X	X	X	X	X	X	X	X	X	TRANSPARENT *1 /511
	0xA |0xB	X	X	X	X	X	0x2	X	X	X	X	X	X	X	X	X	TRANS-PARENT TRANSPARENT *2 /290
	0xA |0xB	X	X	X	X	X	X	0x2	X	X	X	X	X	X	X	X	TRANSPARENT TRANS-PARENT *3 /291,292
	0xA |0xB	0x6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	TRANSPARENT X *4 /590
	0xA |0xB	0x7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	TRANSPARENT X *4 /591
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	X	X	TRANSPARENT X *4 /592
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x7	X	X	X	TRANSPARENT X *4 /593
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x4	X	X	X	TRANSPARENT X *4 /594

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI /REF#
	0xA | 0xB	0x2	0x3	X	0x4	X	X	X	X	0x1	X	X	0x1	X	0x1	X	TRANSPARENT X *4 /595
	All Other Cases																Blank (Do not overlay SAPFeatureMenuBarGreyout)

Active Park Assist (APA) Positional SAPFeatureMenuBarGreyout

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

*Note: this is an overlay on the menu bar. It is implied that SAPFeatureMenuBarVisibility is active in order to show these overlay modifiers.

*Note: this is intended to depict the graphical portion of the soft menu interface and the ability of selecting buttons. Greyed out buttons are non-functional.

*1-Note: SAPP-5-Button Example: 

SAPP-4-Button Example: 

*2-Note: PPA-5-Button Example: 

*3-Note: POA/Info-5-Button Example: 

POA/Info-4-Button Example: 

*4-Note: Off-5-Button Example: 

Off-4-Button Example: 

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational	X	X	X	X	X	0x2	X	X	X	X	X	X	X	TRANS-PARENT  TRANSPARENT *2 /290
	X	X	X	X	X	X	0x2	X	X	X	X	X	X	TRANSPARENT  TRANS-PARENT *3 /291,292
	All Other Cases													Blank (Do not overlay SAPFeatureMenuBarGreyout)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.3.18 CAMERA-FUR-REQ-165449/G-Active Park Assist (APA) Signal Processing - Positional SAPFeatureMenuContent

8" (or equivalent) displays

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrvl]	[ApaGearShif_D_RqDrvl]	[ApaSteWhl_D_RqDrvl]	[ApaAcsy_D_RqDrvl]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and	0xA |0xB	X	X	X	X	X	0x3	X	X	X	X	X	X	X	X	X	TRANS-PARENT BLOCK OUT PPA TRANSPARENT /294 Example X
All Other Cases																	Blank (Do not overlay SAPFeatureMenuContent)

Active Park Assist (APA) Positional SAPFeatureMenuContent

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrvl]	[ApaGearShif_D_RqDrvl]	[ApaSteWhl_D_RqDrvl]	[ApaAcsy_D_RqDrvl]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage Range Definition)	X	X	X	X	X	0x3	X	X	X	X	X	X	X	TRANS-PARENT BLOCK OUT PPA TRANSPARENT /294 Example X
All Other Cases														Blank (Do not overlay SAPFeatureMenuContent)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.7.4 Active Park Assist (APA) Soft Menu Interface

2.7.4.1 CAMERA-FUR-REQ-130508/C-Active Park Assist (APA) Soft Menu Interface General Requirements 1

The infotainment display system shall provide a suitable means to allow mode selection of the APA functions SAPP, PPA and POA.

Note: This would consist of either touch screen keys or soft buttons, depending on HMI ECU hardware.

2.7.4.2 Active Park Assist (APA) Soft Menu Interface General Requirements 2

2.7.4.2.1 CAMERA-FUR-REQ-166829/A-Active Park Assist (APA) Soft Menu Interface General Requirements 2

[APA_SMenu] is an internal HMI parameter containing the current state of the soft menu display. It is derived from CAN signals [ApaMde_D_Stat], [ApaSelSapp_D_Stat], [ApaSelPpa_D_Stat] and [ApaSelPoa_D_Stat].
"Allowed Soft Buttons" refers to the soft button keys that may be selected by the customer. If a soft button is not allowed, it may still be displayed but must be shown as "grayed out" or otherwise denoted as not-selectable per HMI team direction. Reference positional "MenuBar" in the active park assist signal processing section for a graphical example.

2.7.4.2.2 CAMERA-FUR-REQ-161350/D-Active Park Assist (APA) Soft Menu Interface General Requirements 2a

Operational Mode	**[ApaMde_D_Stat]**	**[ApaSelSapp_D_Stat]**	**[ApaSelPpa_D_Stat]**	**[ApaSelPoa_D_Stat]**	**APA_SB1 (SAPP) selection allowed?**	**APA_SB2 (PPA) selection allowed?**	**APA_SB3 (POA) selection allowed?**	**APA_SB4 (OFF) selection allowed?**	**APA_SB5 (INFO) selection allowed?**	**[APA_SMenu]**
Run (as per Operational Modes and Voltage Range Definition)	0x2-SAPP 0x3 PPA 0x4 POA	X	X	X	Yes	No Change	No Change	Yes	No Change	Set equal to [ApaMde_D_Stat]
All other cases					None					Inactive

Active Park Assist (APA) Internal Variable [APA_SMenu]

[APA_SMenu] shall initialize to state 'inactive' at battery connect, transition to key RUN, and after 5 seconds of no signal change from the target ECU.

2.7.4.2.3 CAMERA-FUR-REQ-165450/C-Active Park Assist (APA) Soft Menu Interface General Requirements 2b

Operational Mode	**[ApaMde_D_Stat]**	**[ApaSelSapp_D_Stat]**	**[ApaSelPpa_D_Stat]**	**[ApaSelPoa_D_Stat]**	**APA_SB1 (SAPP) selection allowed?**	**APA_SB2 (PPA) selection allowed?**	**APA_SB3 (POA) selection allowed?**	**APA_SB4 (OFF) selection allowed?**	**APA_SB5 (INFO) selection allowed?**	**[APA_SMenu]**

Run (as per Operational Modes and Voltage Range Definition)	0x2-SAPP 0x3 PPA 0x4 POA	X	0x1	X	No Change	Yes	No Change	No Change	No Change	Set equal to [ApaMde_D_Stat]
		X	0x2	X	No Change	No	No Change	No Change	No Change	
All other cases					None					Inactive

Active Park Assist (APA) Internal Variable [APA_SMenu]
[APA_SMenu] shall initialize to state 'inactive' at battery connect, transition to key RUN, and after 10 seconds of no signal change from the target ECU.
PPA selection is "greyed out" if PPA signal indicates "Not Selectable."

2.7.4.2.4 CAMERA-FUR-REQ-165451/C-Active Park Assist (APA) Soft Menu Interface General Requriements 2c

Operational Mode	**[ApaMde_D_Stat]**	**[ApaSelSapp_D_Stat]**	**[ApaSelPpa_D_Stat]**	**[ApaSelPoa_D_Stat]**	**APA_SB1 (SAPP) selection allowed?**	**APA_SB2 (PPA) selection allowed?**	**APA_SB3 (POA) selection allowed?**	**APA_SB4 (OFF) selection allowed?**	**APA_SB5 (INFO) selection allowed?**	**[APA_SMenu]**
Run (as per Operational Modes and Voltage Range Definition)	0x2-SAPP 0x3 PPA 0x4 POA	X	X	0x1	No Change	No Change	Yes	No Change	Yes	Set equal to [ApaMde_D_Stat]
		X	X	0x2	No Change	No Change	No	No Change	No	
All other cases					None					Inactive

Active Park Assist (APA) Internal Variable [APA_SMenu]
[APA_SMenu] shall initialize to state 'inactive' at battery connect, transition to key RUN, and after 5 seconds of no signal change from the target ECU.
POA and INFO selections are "greyed out" if POA signal indicates "Not Selectable."

2.7.4.3 Active Park Assist (APA) Soft Menu Interface General Requirements 3

2.7.4.3.1 CAMERA-FUR-REQ-166831/A-Active Park Assist (APA) Soft Menu Interface General Requirements 3

[APA_SBtn] is an internal HMI parameter that tracks button press status. Debounce and arbitration of this variable (e.g. how to handle multiple presses, simultaneous presses and other error cases) shall be defined and contained within the HMI ECU and shall follow all applicable Ford design standards.

[APA_SBtn] may only have one active state at any given time no matter how many buttons the vehicle user is simultaneously pressing.

2.7.4.3.2 FUR-REQ-161351/A-Active Park Assist (APA) Soft Menu Interface General Requirements 3a

HMI debounced button press status	[APA_SBtn] State
No soft button is pressed	APA_SB0
Soft button 1 (SAPP) is pressed	APA_SB1
Soft button 2 (PPA) is pressed	APA_SB2
Soft button 3 (POA) is pressed	APA_SB3
Soft button 4 (OFF) is pressed	APA_SB4
Soft button 5 (INFO) is pressed	APA_SB5

Active Park Assist (APA) Internal Variable [APA_SBtn]

2.7.4.4 Active Park Assist (APA) Soft Menu Interface General Requirements 4

2.7.4.4.1 CAMERA-FUR-REQ-166832/A-Active Park Assist (APA) Soft Menu Interface General Requirements 4

The infotainment display system shall set the APA command request based on the current status of the internal variable [APA_SMenu] and [APA_SBtn].

2.7.4.4.2 FUR-REQ-161352/A-Active Park Assist (APA) Soft Menu Interface General Requirements 4a

[APA_SMenu]	[APA_SBtn]	[ApaMdeStat_D_RqDrv]
➔ Transition into Inactive (OFF)	X	0x0-Inactive*
Inactive	APA_SB0	0x0-Inactive
	APA_SB1	0x1-SAPP
	APA_SB2	0x2-PPA
	APA_SB3	0x3-POA
	APA_SB4	0x0-Inactive
➔ Transition into SAPP	X	0x0-Inactive*
SAPP	APA_SB0	No State Change*
	APA_SB1	0x0-Inactive
	APA_SB2	0x2-PPA
	APA_SB3	0x3-POA
	APA_SB4	0x6-Off
➔ Transition into PPA	X	0x0-Inactive*
PPA	APA_SB0	No State Change*

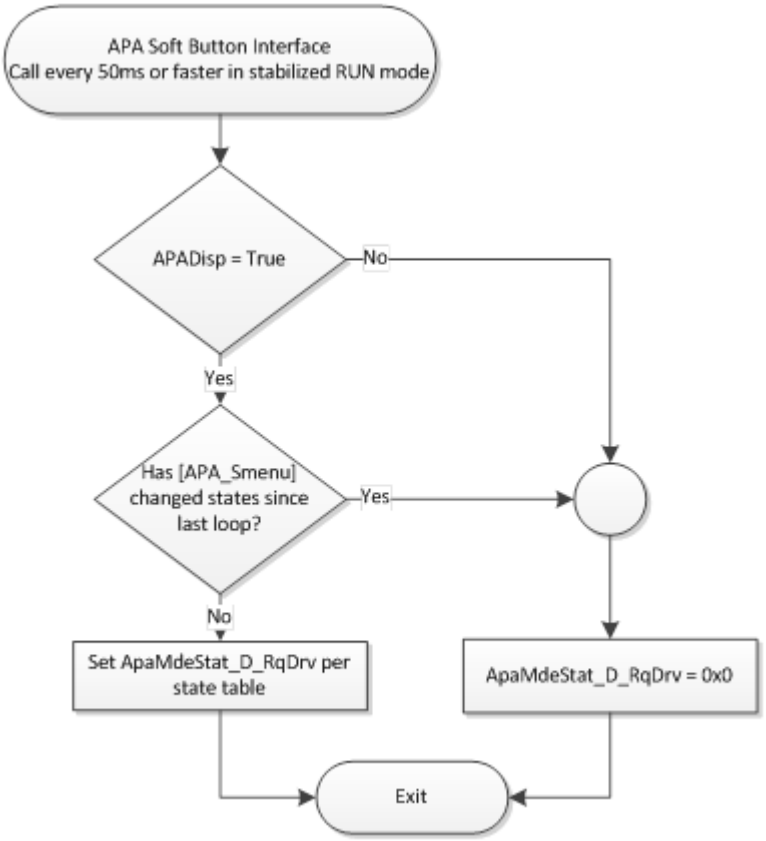
	APA_SB1	0x1-SAPP
	APA_SB2	0x0-Inactive
	APA_SB3	0x3-POA
	APA_SB4	0x6-Off
➔ Transition into POA	X	0x0-Inactive*
POA	APA_SB0	No State Change*
	APA_SB1	0x1-SAPP
	APA_SB2	0x2-PPA
	APA_SB3	0x0-Inactive
	APA_SB4	0x6-Off
X	APA_SB5	No State Change*

Active Park Assist (APA) CAN Command [ApaMdeStat_D_RqDrv]

*[ApaMdeStat_D_RqDrv] latches until either [APA_SMenu] changes to the desired state (a successful user selection) or the user presses a different button. If the button is pressed and the request goes out on the bus as [ApaMdeStat_D_RqDrv], the intention is to leave the request out there and published until PAM reacts to it. At that point it changes back to 0x0-Inactive.

Note: The information button (info screen to be displayed) is handled within the HMI ECU and is transparent to operation of the system; this is why it has no impact on [ApaMdeStat_D_RqDrv].

2.7.4.5 CAMERA-FUR-REQ-131103/C-Active Park Assist (APA) Soft Menu Interface - Soft Button Interface Logic



Active Park Assist (APA) Soft Button Interface Logic

2.8 Reverse Video Camera (RVC) with Active Park Assist (APA) and Park Distance Control (PDC) Signal Interface

When the camera channel is open to RVC with a PDC/APA overlay that is generated by the HMI ECU, the screen shall be generated as depicted in this section. This defines the cases where RVCDisp=TRUE with [APADisp=TRUE | PDCDisp=TRUE].

2.8.1 Reverse Video Camera (RVC) with Active Park Assist (APA) and Park Distance Control (PDC) Signal List - Received by HMI from PAM

2.8.1.1 CAMERA-FUR-REQ-161353/B-Reverse Video Camera (RVC) with Active Park Assist (APA) and Park Distance Control (PDC) Signal List

Signal Received By Infotainment	Signal Parameters	Affected Display Position
[Parking Assistance_Cfg]	As per Active Park Assist (APA) Signal Interface	All 8“
[ApaSys_D_Stat]		Symbol3, Symbol4, Text3, Text4, Text5
[ApaSteScanMde_D_Stat]		Symbol3, Symbol4, Text3, Text4, Text5
[ApaActvSide2_D_Stat]		Not used
[ApaMde_D_Stat]		Symbol3, Text3, Text4
[ApaSelSapp_D_Stat]		Not used
[ApaSelPpa_D_Stat]		Not used
[ApaSelPoa_D_Stat]		Not used
[ApaScan_D_Stat]		Symbol4, Text4
[ApaLongCtl_D_RqDrv]		Symbol3, Text3, Text4
[ApaGearShif_D_RqDrv]		Symbol3, Text3, Text4, Text5
[ApaSteWhl_D_RqDrv]		Symbol3, Text3, Text4
[ApaAcsy_D_RqDrv]		Symbol3, Text3, Text4
[ApaTrgtDist_D_Stat]		Symbol 3
[ApaMsgTxt_D_Rq]		Symbol 3, Text3, Text4
[PrkAidMsgTxt_D_Rq]		Text3, Text4

2.8.2 Reverse Video Camera (RVC) with Active Park Assist (APA) and Park Distance Control (PDC) Signal List - HMI configuration

2.8.2.1 CAMERA-FUR-REQ-247262/A-Reverse Video Camera (RVC) with Active Pak Assist (APA) and Park Distance Control (PDC) Method 2 Configuration

As per Active Park Assist (APA) Signal Interface – Internal HMI ECU Configuration Variables

2.8.3 Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) Signal Processing

2.8.3.1 CAMERA-FUR-REQ-161354/A-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional ParkPilot

As per Active Park Assist (APA) Signal Interface

2.8.3.2 CAMERA-FUR-REQ-161355/L-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol3

8" (or equivalent) displays (CGEAx only)

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and Voltage Range Definition)	0xA |0xB	0x2	0x2	X	X	X	X	X	X	0x2	X	X	X	X	X	X	/105
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	0x1	X	X	X	/106
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	0x1	X	X	X	/107
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	X	X	/494
	0xA |0xB	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	0x0†	X	X	/109
	0xA |0xB	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	0x1-0xE†	X	X	With fill %* /109
	0xA |0xB	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	0xF†	X	X	/109
	0xB	0x2	X	X	X	X	X	X	X	X	0x1	0x1	0x7	X	0x9‡	X	/445
	0xB	0x2	X	X	X	X	X	X	X	X	0x1	0x2	0x1	X	0x9‡	X	/446
	0xB	0x2	X	X	X	X	X	X	X	X	0x1	0x1	0x3	X	0x9‡	X	/447
	0xA |0xB	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	X	X	X	X	/110
	0xA	0x2	X	X	X	X	X	X	X	0x2	X	X	0x4	X	X	X	/111
	0xA |0xB	0x2	X	X	X	X	X	X	X	0x3	X	X	X	0x0†	X	X	/112
	0xA |0xB	0x2	X	X	X	X	X	X	X	0x3	X	X	X	0x1-0xE†	X	X	With fill %* /112
	0xA |0xB	0x2	X	X	X	X	X	X	X	0x3	X	X	X	0xF†	X	X	/112
	0xA	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	X	X	/256
	0xA |0xB	0x6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	/115
	0xA |0xB	0x7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	/116

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x3	X	X	X	X	X	SHIFT 1 (Manual) or D (Auto) /117
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	X	X	/267
	0xB	0x2	X	X	X	X	X	X	X	0x1	X	X	0x4	X	X	X	/448
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	X	X	/118
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x4	X	X	X	/449
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x7	X	X	X	/450
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x2	0x1	X	0x7‡	X	/452
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x7	X	0x1‡	X	/453
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x3	X	0x1‡	X	/454
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	X	X	/514
	All Other Cases																Blank (Do not show Symbol3)

Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) Positional Symbol3

*Fill % represents arrow with empty/full ratio of ApaTrgtDist_D_Stat/15. Arrow will start to reveal the background starting at the tail and unfilling toward the direction of arrow as the values increase toward 0xF.

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

8" (or equivalent) displays (FNVx only)

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational	0xA |0xB	0x2	0x2	X	X	X	X	X	X	0x2	0x2	X	0x1	X	X	X	STOP /105
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	0x1	X	X	X	STOP /106

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI /REF#
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	0x1	X	X	X	 /107
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	X	X	 /494
	0xA |0xB	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	0x0†	X	X	 /109
	0xA |0xB	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	0x1-0xE†	X	X	With fill %* /109
	0xA |0xB	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	0xF†	X	X	 /109
	0xB	0x2	X	X	X	X	X	X	X	X	0x1	0x1	0x7	X	0x9‡	X	 /445
	0xB	0x2	X	X	X	X	X	X	X	X	0x1	0x2	0x1	X	0x9‡	X	 /446
	0xB	0x2	X	X	X	X	X	X	X	X	0x1	0x1	0x3	X	0x9‡	X	 /447
	0xA |0xB	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	X	X	X	X	 /110
	0xA	0x2	X	X	X	X	X	X	X	0x2	X	X	0x4	X	X	X	 /111
	0xA |0xB	0x2	0x3	X	X	X	X	X	X	0x3	X	X	X	0x0†	X	X	 /112
	0xA |0xB	0x2	0x3	X	X	X	X	X	X	0x3	X	X	X	0x1-0xE†	X	X	With fill %* /112
	0xA |0xB	0x2	0x3	X	X	X	X	X	X	0x3	X	X	X	0xF†	X	X	 /112
	0xA	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	X	X	 /256
	0xA |0xB	0x6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	 /115
	0xA |0xB	0x7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	 /116
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x3	X	X	X	X	X	SHIFT 1 (Manual) or D (Auto) /117
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	X	X	 /267
	0xB	0x2	X	X	X	X	X	X	X	0x1	X	X	0x4	X	X	X	/448
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	X	X	 /118
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x4	X	X	X	 /449

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x7	X	X	X	 /450
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x2	0x1	X	0x7‡	X	 /452
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x7	X	0x1‡	X	 /453
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x3	X	0x1‡	X	 /454
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	X	X	 /514
	0xA |0xB	0x2	X	X	X	X	X	X	X	0x1	0x1	0x1	0x1	X	0xA	X	 /582
	0xA	0x2	0x2	X	0x4	X	X	X	0x3	X	0x3	0x2	0x1	X	X	X	 /596
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	X	X	X	0x2	X	X	X	 /601
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	0x1	X	X	0x5	X	X	X	 /602
	0xA |0xB	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x6	X	X	X	 /603
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	0x1	0x1	0x1	0x1	X	0x1	X	 /604
	0xB	0x2	0x2	X	X	X	X	X	0x3	0x1	0x1	0x1	0x1	X	0xB	X	 /619
	0xB	0x2	0x2	X	X	X	X	X	0x3	X	0x4	0x2	0x1	X	X	X	 /621
	All Other Cases																Blank (Do not show Symbol3)

Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) Positional Symbol3

*Fill % represents arrow with empty/full ratio of ApaTrgtDist_D_Stat/15. Arrow will start to reveal the background starting at the tail and unfilling toward the direction of arrow as the values increase toward 0xF.

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage Range Definition)	0x2	0x2	X	X	X	X	X	X	0x2	X	X	X	X	 /105
	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	0x1	X	 /106
	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	0x1	X	 /107
	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	 /494
	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	X	 /109
	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	X	X	 /110
	0x2	X	X	X	X	X	X	X	0x2	X	X	0x4	X	 /111
	0x2	X	X	X	X	X	X	X	0x3	X	X	X	X	 /112
	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	 /256
	0x6	X	X	X	X	X	X	X	X	X	X	X	X	 /115
	0x7	X	X	X	X	X	X	X	X	X	X	X	X	 /116
	0x5	X	X	X	X	X	X	X	X	0x3	X	X	X	SHIFT 1 (Manual) or D (Auto) /117
	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	 /267
	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	 /118
	0x4	X	X	X	X	X	X	X	X	X	X	0x4	X	 /449
	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	 /317
	All Other Cases													Blank (Do not show Symbol3)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.8.3.3 *CAMERA-FUR-REQ-161356/K-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol4*

8" (or equivalent) displays (CGEAx only)

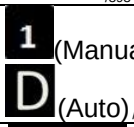
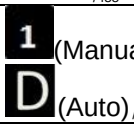
Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and Voltage Range Definition)	0xA	0x2	0x2	X	X	X	X	X	X	0x2	X	X	X	X	X	X	 /392
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	X	X	X	X	 (Manual) or  (Auto) /393
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	X	X	X	X	(Manual) or  (Auto) /394
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	X	X	 /495
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	X	X	 /108
	0xB	0x2	0x2	X	X	X	X	X	0x3	X	0x4	X	X	X	X	X	 /455
	All Other Cases																Blank (Do not show Symbol4)

Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) Positional Symbol4

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

8” (or equivalent) displays (FNVx only)

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and Voltage Range Definition)	0xA	0x2	0x2	X	X	X	X	X	X	0x2	0x2	X	0x1	X	X	X	 /392
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	X	X	X	X	 /393
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	X	X	X	X	 (Manual) (Auto) /394
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	X	X	 /495
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	X	X	 /108
	0xB	0x2	0x2	X	X	X	X	X	0x3	X	0x4	X	0x1	X	X	X	 /455
	0xA	0x2	0x2	X	0x4	X	X	X	0x3	X	0x3	0x2	0x1	X	X	X	 (Manual) (Auto) /597
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	X	X	X	0x2	X	X	X	 /605
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	0x1	X	X	0x6	X	X	X	 /606
	0xA |0xB	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x5	X	X	X	 /607
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	0x1	0x1	0x1	0x1	X	0x1	X	 /608
	All Other Cases																Blank (Do not show Symbol4)

Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) Positional Symbol4

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage Range Definition)	0x2	0x2	X	X	X	X	X	X	0x2	X	X	X	X	 /319
	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	X	X	 (Manual) or  (Auto) /393
	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	X	X	 (Manual) or  (Auto) /394
	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	 /495
	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	 /108
	All Other Cases													Blank (Do not show Symbol4)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.8.3.4 CAMERA-FUR-REQ-161357/K-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text3

8" (or equivalent) displays (CGEAx only)

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
\Run (as per Operational Modes and Voltage Range Definition)	0xA	0x2	0x2	X	X	X	X	X	X	0x2	X	X	X	X	X	X	Stop/124
	0xA |0xB	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	X	X	X	X	Finished/123
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	X	X	X	X	X	X	Stop/969
	0xA	0x2	0x3	X	X	X	X	X	X	0x3	X	X	X	X	X	X	Drive Forward Slowly/125
	0xA	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	X	X	X	Drive Backward Slowly/126
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x2‡	X	Cancelled by Wheel slip/127
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x3‡	X	Cancelled by Traction Control/517
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x1‡	≠0x8| 0xC| 0xD| 0xE| 0xF	Cancelled/461
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x8‡	X	Cancelled by Wrong Direction/518
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x4‡	X	Cancelled by High Speed/519
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x7‡	X	Cancelled by Steering Intervention/462
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x7	X	0x1‡	X	Cancelled by Door Open/463
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x5‡	X	Cancelled by High Inclination/464
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x4	X	0x1‡	X	Cancelled by Obstacle in Path/465
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0x8	Cancelled by Blocked Sensors/520
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xD	Cancelled by Blocked Sensors/520
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xE	Cancelled by Blocked Sensors/520
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xF	Cancelled by Blocked Sensors/520
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xC	Cancelled by Attached Trailer/521
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x6‡	X	Cancelled by Autobrake/388
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	X	X	Release Steering Wheel/122
	0xA |0xB	0x7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Active Park Assist - System Fault/128
	0xA |0xB	0x6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Finished/129
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x3	X	X	X	X	X	Shift to 1 (Manual) Shift to D (Auto) /130
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	X	X	Active Park Not Available/222
	0xA	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	X	X	Slow Down/131
	0xB	0x2	0x3	X	X	X	X	X	X	0x3	0x1	X	0x4	X	0x1‡	X	Attention/467
	0xB	0x2	0x3	X	X	X	X	X	X	0x4	0x1	X	0x4	X	0x1‡	X	Attention/550
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x7	X	0x1‡	X	Paused/468
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x2	0x1	X	0x7	X	Paused/469
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x3	X	0x1‡	X	Paused/470
	0xB	0x2	X	X	X	X	X	X	X	0x1	X	X	0x4	X	X	X	Obstacle in path/471
	0xB	0x2	X	X	X	X	X	X	X	X	0x1	X	X	X	0x9‡	X	Accel pedal inactive/472
	All Other Cases																Blank (Do not show Text3)

Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) Positional Text3

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

8” (or equivalent) displays (FNVx only)

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
\Run (as per Operational Modes and Voltage Range Definition)	0xA	0x2	0x2	X	X	X	X	X	X	0x2	0x2	X	0x1	X	X	X	Stop/124
	0xA |0xB	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	X	X	X	X	Finished/123
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	X	X	X	X	X	X	Stop/969
	0xA	0x2	0x3	X	X	X	X	X	X	0x3	X	X	X	X	X	X	Drive Forward Slowly/125
	0xA	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	X	X	X	Drive Backward Slowly/126
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x2‡	X	Cancelled by Wheel slip/127
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x3‡	X	Cancelled by Traction Control/517
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x1‡	≠0x8| 0xC| 0xD| 0xE| 0xF	Cancelled/461
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x8‡	X	Cancelled by Wrong Direction/518
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x4‡	X	Cancelled by High Speed/519
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x7‡	X	Cancelled by Steering Intervention/462
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x7	X	0x1‡	X	Cancelled by Door Open/463
	0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x5‡	X	Cancelled by High Inclination/464
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	X	0x4	X	0x1‡	X	Cancelled by Obstacle in Path/465
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0x8	Cancelled by Blocked Sensors/520
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xD	Cancelled by Blocked Sensors/520
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xE	Cancelled by Blocked Sensors/520
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xF	Cancelled by Blocked Sensors/520
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	0x1	X	0x1‡	0xC	Cancelled by Attached Trailer/521
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x6‡	X	Cancelled by Autobrake/388
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	X	X	Release Steering Wheel/122
	0xA |0xB	0x7	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Active Park Assist - System Fault/128
	0xA |0xB	0x6	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Finished/129
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x3	X	X	X	X	X	Shift to 1 (Manual) Shift to D (Auto) /130
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	X	X	Active Park Not Available/222
	0xA	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	X	X	Slow Down/131
	0xB	0x2	0x3	X	X	X	X	X	X	0x3	0x1	X	0x4	X	0x1‡	X	Attention/467
	0xB	0x2	0x3	X	X	X	X	X	X	0x4	0x1	X	0x4	X	0x1‡	X	Attention/550
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x7	X	0x1‡	X	Paused/468
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x2	0x1	X	0x7‡	X	Paused/469
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x3	X	0x1‡	X	Paused/470
	0xA |0xB	0x2	X	X	X	X	X	X	X	0x1	0x1	0x1	0x1	X	0xA‡	X	Trailer Feature Not Available During Parking/583
	0xB	0x2	X	X	X	X	X	X	X	0x1	X	X	0x4	X	X	X	Obstacle in path/471
	0xB	0x2	X	X	X	X	X	X	X	X	0x1	X	X	X	0x9‡	X	Accel pedal inactive/472
	0xA	0x2	0x2	X	0x4	X	X	X	0x3	X	0x3	0x2	0x1	X	X	X	Release Steering Wheel/598
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	X	X	X	0x2	X	X	X	Select Side-Use Turn Indicator/609

	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	0x1	X	X	0x5	X	X	X	Select Side-Use Turn Indicator/610
	0xA |0xB	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x6	X	X	X	Select Side-Use Turn Indicator/611
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	0x1	0x1	0x1	0x1	X	0x1	X	Both Sides Blocked/612
	0xA |0xB	0x2	0x2	0x2	0x4	X	X	X	0x1	X	0x1	X	0x1	X	X	X	Right Side Selected/616
	0xA |0xB	0x2	0x2	0x1	0x4	X	X	X	0x1	X	0x1	X	0x1	X	X	X	Left Side Selected/617
	0xB	0x2	0x2	X	X	X	X	X	0x3	0x1	0x1	0x1	0x1	X	0xB	X	Release EPB/618
	0xB	0x2	0x2	X	X	X	X	X	0x3	X	X	0x2	0x1	X	X	X	Release Steering Wheel/620
	All Other Cases																Blank (Do not show Text3)

Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) Positional Text3

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
\Run (as per Operational Modes and Voltage Range Definition)	0x2	0x2	X	X	X	X	X	X	0x2	X	X	X	X	Stop/124
	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	X	X	Finished/123
	0x2	0x3	X	X	X	X	X	X	0x2	X	X	X	X	Stop/969
	0x2	0x3	X	X	X	X	X	X	0x3	X	X	X	X	Drive Forward Slowly/125
	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	X	Drive Backward Slowly/126
	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	Cancelled/127
	0x4	X	X	X	X	X	X	X	X	X	X	0x4	X	Cancelled by Obstacle in Path/465
	0x4	X	X	X	X	X	X	X	X	X	X	0x3	X	Release Steering Wheel/122
	0x7	X	X	X	X	X	X	X	X	X	X	X	X	Active Park Assist System Fault/128
	0x6	X	X	X	X	X	X	X	X	X	X	X	X	Finished/129
	0x5	X	X	X	X	X	X	X	X	0x3	X	X	X	Shift to 1 (Manual) Shift to D (Auto)/130
	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	Active Park Not Available/222
	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	Slow Down/131
	All Other Cases													Blank (Do not show Text3)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.8.3.5 CAMERA-FUR-REQ-161358/M-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text4

8" (or equivalent) displays (CGEAx only)

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPpa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and Voltage Range Definition)	0xA	0x2	0x2	X	X	X	X	X	X	0x2	X	X	X	X	X	X	Release Steering/133
	0xA |0xB	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	X	X	X	X	Take Control/141
	0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	X	X	X	X	Take Control/522
	0xB	0x6	X	X	X	X	X	X	X	X	X	0x3	X	X	X	X	Take Control/473
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	0x1	X	X	X	Shift to 1 (Manual) Shift to D (Auto)/135
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	0x1	X	X	X	Shift to Reverse/136
	0xB	0x2	0x2	X	0x4	X	X	X	0x3	X	0x4	X	X	X	X	X	Shift to Neutral/474
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	X	X	0x4	X	X	X	Object in Path/137
	0xA	0x2	0x3	X	X	X	X	X	X	0x3	X	X	X	X	X	X	Prepare to Stop/138
	0xA	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	X	X	X	Prepare to Stop/139
	0xB	0x2	0x3	X	X	X	X	X	X	0x3	X	X	0x4	X	0x1	X	Check Surroundings/475
	0xB	0x2	0x3	X	X	X	X	X	X	0x4	X	X	0x4	X	0x1	X	Check Surroundings/558
	0xA	0x4	X	X	X	X	X	X	X	X	X	0x2	0x3	X	X	X	Press Button To Resume/134
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	X	X	Wait for Steering/497
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x1	0x1	X	0x2‡	X	Wheel Slip/378
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x1	0x1	X	0x3‡	X	T/C OFF/367
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x6‡	X	Driver: Use Brakes! /369
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x1	0x1	X	0x1‡	0x8	Sensors Blocked/370
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x1	0x1	X	0x1‡	0xC	Trailer Attached/371
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x1	0x1	X	0x1‡	0xD	Sensors Blocked/370
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x1	0x1	X	0x1‡	0xE	Sensors Blocked/370
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x1	0x1	X	0x1‡	0xF	Sensors Blocked/370
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x1	0x1	X	0x7‡	X	Remove Hands/372
	0xA	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	0x6‡	X	Autobrake Activated/377
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1‡	0xC	Trailer Attached/374
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	X	X	X	X	0x3‡	X	T/C OFF/375
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1‡	0x8	Sensors Blocked/364
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1‡	0xD	Sensors Blocked/364
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1‡	0xE	Sensors Blocked/364
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1‡	0xF	Sensors Blocked/364
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x7	X	0x1‡	X	Close door/476
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x2	0x1	X	0x7	X	Release steering wheel/477
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x3	X	0x1‡	X	Hold button to resume/478
	0xB	0x7	X	X	X	X	X	X	X	X	X	0x3	X	X	X	X	Take control/479
	0xB	0x5	X	X	X	X	X	X	X	X	X	X	X	X	0x5‡	X	High inclination/480
	All Other Cases																Blank (Do not show Text4)

Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) Positional Text4

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

8" (or equivalent) displays (FNVx only)

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat]†	[ApaMsgTxt_D_Rq]‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and Voltage Range Definition)	0xA	0x2	0x2	X	X	X	X	X	X	0x2	0x2	X	0x1	X	X	X	Release Steering/133
	0xA |0xB	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	X	X	X	X	Take Control/141
	0xB	0x4	X	X	X	X	X	X	X	X	X	0x3	X	X	X	X	Take Control/522
	0xB	0x6	X	X	X	X	X	X	X	X	X	0x3	X	X	X	X	Take Control/473
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	0x1	X	X	X	Shift to 1 (Manual) Shift to D (Auto)/135
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	0x1	X	X	X	Shift to Reverse/136
	0xB	0x2	0x2	X	0x4	X	X	X	0x3	X	0x4	X	0x1	X	X	X	Shift to Neutral/474
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	X	X	0x4	X	X	X	Object in Path/137
	0xA	0x2	0x3	X	X	X	X	X	X	0x3	X	X	X	X	X	X	Prepare to Stop/138
	0xA	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	X	X	X	Prepare to Stop/139
	0xB	0x2	0x3	X	X	X	X	X	X	0x3	X	X	0x4	X	0x1	X	Check Surroundings/475
	0xB	0x2	0x3	X	X	X	X	X	X	0x4	X	X	0x4	X	0x1	X	Check Surroundings/558
	0xA	0x4	X	X	X	X	X	X	X	X	X	0x2	0x3	X	X	X	Press Button To Resume/134
	0xA	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	X	X	Wait for Steering/497
	0xA |0xB	0x4	X	X	X	X	X	X	X	X	X	0x1	0x1	X	0x2‡	X	Wheel Slip/378
	0xA	0x4	X	X	X	X	X	X	X	X	X	X	0x1	X	0x6‡	X	Driver: Use Brakes! /369
	0xA	0x3	0x3	X	X	X	X	X	X	X	X	X	X	X	0x6‡	X	Autobrake Activated/377
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1‡	0xC	Trailer Attached/374
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	X	X	X	X	0x3‡	X	T/C OFF/375
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1‡	0x8	Sensors Blocked/364
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1‡	0xD	Sensors Blocked/364
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1‡	0xE	Sensors Blocked/364
	0xA |0xB	0x5	X	X	X	X	X	X	X	X	0x1	X	X	X	0x1‡	0xF	Sensors Blocked/364
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x7	X	0x1‡	X	Close door/476
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x2	0x1	X	0x7‡	X	Release steering wheel/477
	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	0x1	0x3	X	0x1‡	X	Hold button to resume/478
	0xB	0x7	X	X	X	X	X	X	X	X	X	0x3	X	X	X	X	Take control/479
	0xB	0x5	X	X	X	X	X	X	X	X	X	X	X	X	0x5‡	X	High inclination/480
	0xA	0x2	0x2	X	0x4	X	X	X	0x3	X	0x3	0x2	0x1	X	X	X	Shift to 1 (Manual) Shift to D (Auto)/599
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	X	X	X	0x2	X	X	X	Ensure Park Brake Released/613
	0xA |0xB	0x2	0x2	0x3	0x4	X	X	X	X	0x1	X	X	0x5	X	X	X	Ensure Park Brake Released/614
	0xA |0xB	0x2	0x2	X	0x4	X	X	X	X	0x1	X	X	0x6	X	X	X	Ensure Park Brake Released/615
	All Other Cases																Blank (Do not show Text4)

Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) Positional Text4

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

4" displays

Operational Mode	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[PrkAidMsgTxt_D_Rq]	Display HMI
Run (as per Operational Modes and Voltage Range Definition)	0x2	0x2	X	X	X	X	X	X	0x2	X	X	X	X	Release Steering/133
	0x2	0x3	X	0x4	X	X	X	X	0x1	X	0x3	X	X	Take Control/141
	0x2	0x3	X	X	X	X	X	X	0x2	0x3	X	0x1	X	Shift to 1 (Manual) Shift to D (Auto)/135
	0x2	0x3	X	X	X	X	X	X	0x2	0x2	X	0x1	X	Shift to Reverse/136
	0x2	0x3	X	X	X	X	X	X	0x2	X	X	0x4	X	Object in Path/137
	0x2	0x3	X	X	X	X	X	X	0x3	X	X	X	X	Prepare to Stop/138
	0x2	0x3	X	X	X	X	X	X	0x4	X	X	X	X	Prepare to Stop/139
	0x4	X	X	X	X	X	X	X	X	X	0x2	0x3	X	Press Button To Resume/134
	0x2	0x3	X	X	X	X	X	X	0x2	0x1	0x2	X	X	Wait for Steering/497
	All Other Cases													Blank (Do not show Text4)

4" supports semi-assisted park (SAP) only, configuration Parking Assistance_Cfg is not required.

2.8.3.6 CAMERA-FUR-REQ-204405/E-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Text5

8" (or equivalent) displays

Operational Mode	Parking Assistance (Cfg)	[ApaSys_D_Stat]	[ApaSteScanMde_D_Stat]	[ApaActvSide2_D_Stat]	[ApaMde_D_Stat]	[ApaSelSapp_D_Stat]	[ApaSelPpa_D_Stat]	[ApaSelPoa_D_Stat]	[ApaScan_D_Stat]	[ApaLongCtl_D_RqDrv]	[ApaGearShif_D_RqDrv]	[ApaSteWhl_D_RqDrv]	[ApaAcsy_D_RqDrv]	[ApaTrgtDist_D_Stat] †	[ApaMsgTxt_D_Rq] ‡	[PrkAidMsgTxt_D_Rq]	Display HMI/REF#
Run (as per Operational Modes and Voltage Range Definition)	0xB	0x2	0x3	X	X	X	X	X	X	X	0x1	X	X	X	X	X	Shift to cancel/486
	All Other Cases																Blank (Do not show Text5)

Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) Positional Text5

† - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x0.

‡ - Only if supported by the implementing program as per REQ-130570. If not supported but required by signal processing tables, treat as data 0x1.

3 Functional Definition

3.1 Active Park Assist Manager

3.1.1 APAMv2-FUN-REQ-131088/A-Select Active Park Assist Mode

3.1.1.1 Use Cases

3.1.1.1.1 APAM-UC-REQ-013892/A-HMI Offers Active Park Assist Mode Selection (TcSE ROIN-290408)

Linked Elements
APA-UC-REQ-131659/B-Display Active Park Assist Instructions with Rear Camera Active
APA-UC-REQ-131660/B-Display Active Park Assist Instructions with Rear Camera Inactive
APAM-UC-REQ-013897/A-Display Active Park Assist Mode Selected (TcSE ROIN-290413)
APA-UC-REQ-013931/A-Display Active Park Assist Instructions with Rear Camera Active (TcSE ROIN-290414)
APA-UC-REQ-013932/A-Display Active Park Assist Instructions with Rear Camera Inactive (TcSE ROIN-290415)

Actors	Vehicle Occupant
Pre-conditions	The infotainment system is powered on. At least one Active Park Assist (APA) mode is available for selection as indicated by the vehicle system.
Scenario Description	The user activates the APA system via hard button interface. The vehicle system interface triggers the HMI to offer the user the option to select a particular APA mode.
Post-conditions	The user selects a particular APA mode or accepts the default mode selection.
List of Exception Use Cases	NA
Interfaces	G-HMI Dedicated Hard Button Vehicle System Interface

3.1.1.1.2 APAM-UC-REQ-013893/A-Semi-Automatic Parallel Parking Selected (TcSE ROIN-290409)

Linked Elements
APA-UC-REQ-131659/B-Display Active Park Assist Instructions with Rear Camera Active
APA-UC-REQ-131660/B-Display Active Park Assist Instructions with Rear Camera Inactive
APAM-UC-REQ-013892/A-HMI Offers Active Park Assist Mode Selection (TcSE ROIN-290408)
APAM-UC-REQ-013897/A-Display Active Park Assist Mode Selected (TcSE ROIN-290413)
APA-UC-REQ-013931/A-Display Active Park Assist Instructions with Rear Camera Active (TcSE ROIN-290414)
APA-UC-REQ-013932/A-Display Active Park Assist Instructions with Rear Camera Inactive (TcSE ROIN-290415)

Actors	Vehicle Occupant
Pre-conditions	The infotainment system is powered on. The Active Park Assist (APA) system is activated. The HMI has offered the APA mode selection. Semi-Automatic Parallel Parking (SAPP) mode is available for selection as indicated by the vehicle system.
Scenario Description	The user selects SAPP mode.
Post-conditions	SAPP mode is selected and active.
List of Exception Use Cases	NA
Interfaces	G-HMI Dedicated Hard Button Vehicle System Interface

3.1.1.1.3 APAM-UC-REQ-013894/A-Perpendicular Park Assist Selected (TcSE ROIN-290410)

Linked Elements

APA-UC-REQ-131659/B-Display Active Park Assist Instructions with Rear Camera Active
APA-UC-REQ-131660/B-Display Active Park Assist Instructions with Rear Camera Inactive
APAM-UC-REQ-013892/A-HMI Offers Active Park Assist Mode Selection (TcSE ROIN-290408)
APAM-UC-REQ-013897/A-Display Active Park Assist Mode Selected (TcSE ROIN-290413)
APA-UC-REQ-013931/A-Display Active Park Assist Instructions with Rear Camera Active (TcSE ROIN-290414)
APA-UC-REQ-013932/A-Display Active Park Assist Instructions with Rear Camera Inactive (TcSE ROIN-290415)

Actors	Vehicle Occupant
Pre-conditions	The infotainment system is powered on. The Active Park Assist (APA) system is activated. The HMI has offered the APA mode selection. Perpendicular Park Assist (PPA) mode is available for selection as indicated by the vehicle system.
Scenario Description	The user selects PPA mode.
Post-conditions	PPA mode is selected and active.
List of Exception Use Cases	NA
Interfaces	G-HMI Dedicated Hard Button Vehicle System Interface

3.1.1.1.4 APAM-UC-REQ-013895/A-Park Out Assist Selected (TcSE ROIN-290411)

Linked Elements
APA-UC-REQ-131659/B-Display Active Park Assist Instructions with Rear Camera Active
APA-UC-REQ-131660/B-Display Active Park Assist Instructions with Rear Camera Inactive
APAM-UC-REQ-013892/A-HMI Offers Active Park Assist Mode Selection (TcSE ROIN-290408)
APAM-UC-REQ-013897/A-Display Active Park Assist Mode Selected (TcSE ROIN-290413)
APA-UC-REQ-013931/A-Display Active Park Assist Instructions with Rear Camera Active (TcSE ROIN-290414)
APA-UC-REQ-013932/A-Display Active Park Assist Instructions with Rear Camera Inactive (TcSE ROIN-290415)

Actors	Vehicle Occupant
Pre-conditions	The infotainment system is powered on. The Active Park Assist (APA) system is activated. The HMI has offered the APA mode selection. Park Out Assist (POA) mode is available for selection as indicated by the vehicle system.
Scenario Description	The user selects POA mode.
Post-conditions	POA mode is selected and active.
List of Exception Use Cases	NA
Interfaces	G-HMI Dedicated Hard Button Vehicle System Interface

3.1.1.1.5 APAM-UC-REQ-013896/A-Off Selected (TcSE ROIN-290412)

Linked Elements
APAM-UC-REQ-013892/A-HMI Offers Active Park Assist Mode Selection (TcSE ROIN-290408)

Actors	Vehicle Occupant
Pre-conditions	The infotainment system is powered on. The Active Park Assist (APA) system is activated. The HMI has offered the APA mode selection.
Scenario Description	The user selects APA Off.
Post-conditions	The Active Park Assist session is cancelled via vehicle system interface.

List of Exception Use Cases	NA
Interfaces	G-HMI Dedicated Hard Button Vehicle System Interface

3.1.1.1.6 APAM-UC-REQ-013897/A-Display Active Park Assist Mode Selected (TcSE ROIN-290413)

Actors	Vehicle Occupant
Pre-conditions	The infotainment system is powered on. The Active Park Assist (APA) system has been activated. An APA mode has been selected.
Scenario Description	The HMI displays which APA mode is selected and active as indicated by the vehicle system.
Post-conditions	The HMI indicates the active APA mode.
List of Exception Use Cases	NA
Interfaces	G-HMI Dedicated Hard Button Vehicle System Interface

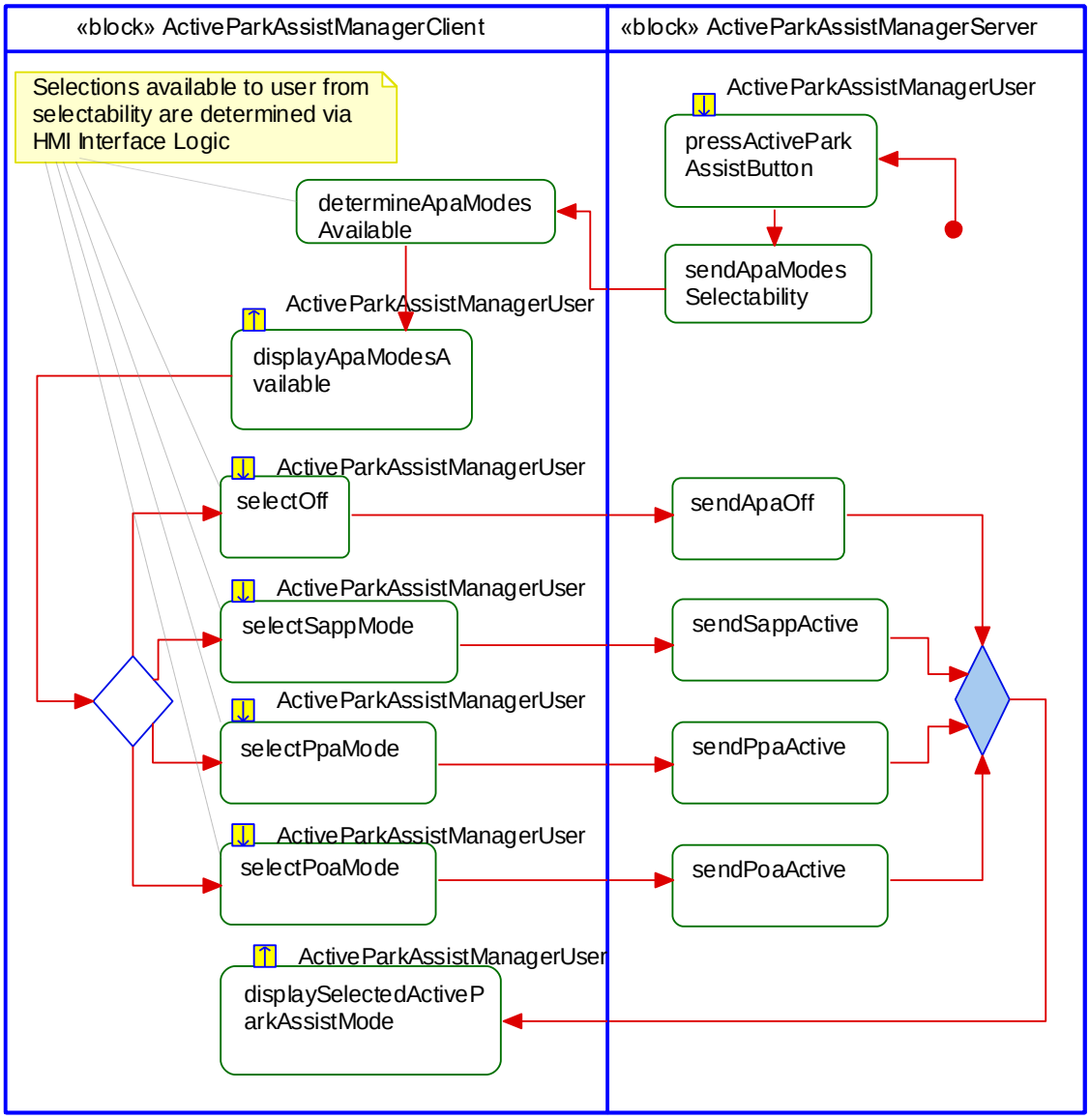
3.1.1.2 White Box View

3.1.1.2.1 Activity Diagrams

3.1.1.2.1.1 APAMv2-ACT-REQ-162488/A-Select Active Park Assist Mode

Linked Elements
APA-SD-REQ-013898/A-Select Active Park Assist Mode (TcSE ROIN-292955)

Activity Diagram



3.1.1.2.2 Sequence Diagrams

3.1.1.2.2.1 APAv2-SD-REQ-162489/A-Select Active Park Assist Mode

Scenarios

Normal Usage

The user selects an Active Park Assist mode.

Constraints

Pre-condition

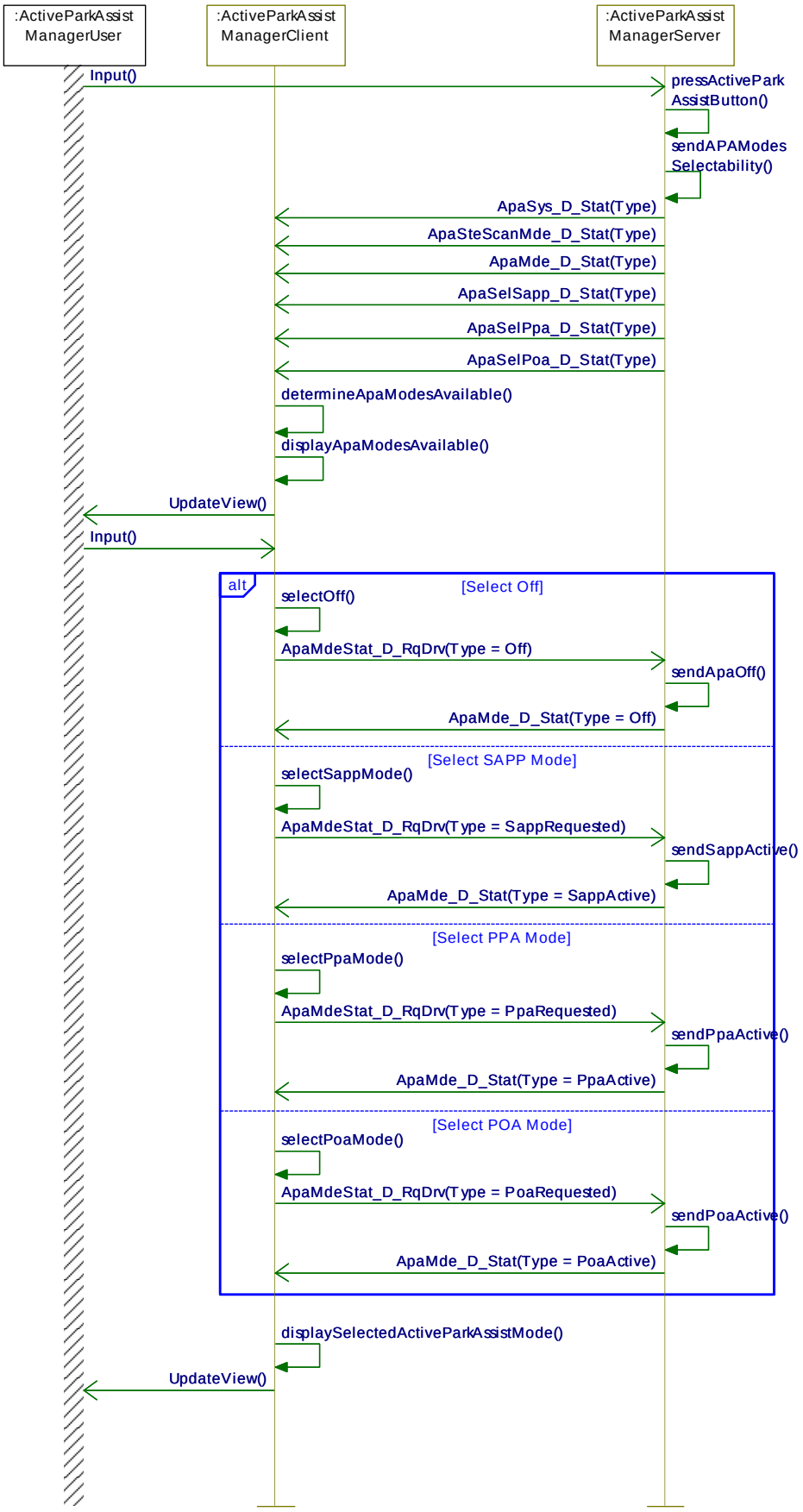
The infotainment system is powered on.

At least one Active Park Assist (APA) mode is available for selection as indicated by the vehicle system.

Post-condition

The infotainment system indicates the user's Active Park Assist mode selection.

Sequence Diagram



3.2 Active Park Assist

3.2.1 APAv2-FUN-REQ-131658/A-Activate Active Park Assist

3.2.1.1 Use Cases

3.2.1.1.1 APA-UC-REQ-131659/B-Display Active Park Assist Instructions with Rear Camera Active

Actors	Vehicle Occupant
Pre-conditions	The infotainment system is powered on. The Active Park Assist (APA) system has been activated. An APA mode has been selected.
Scenario Description	The HMI displays maneuvering instructions and status on the rear camera image as indicated by the vehicle system. The messages and display states are defined ~~in the latest version of the "APA_HmiStatus_Coding"~~per this specification document.
Post-conditions	The HMI displays APA instructions and graphics as defined ~~by the latest version of the "APA_HmiStatus_Coding" document.~~elsewhere in this specification and applicable HMI specifications.
List of Exception Use Cases	NA
Interfaces	G-HMI Dedicated Hard Button Vehicle System Interface

3.2.1.1.2 APA-UC-REQ-131660/B-Display Active Park Assist Instructions with Rear Camera Inactive

Actors	Vehicle Occupant
Pre-conditions	The infotainment system is powered on. The Active Park Assist (APA) system has been activated. An APA mode has been selected.
Scenario Description	The HMI displays maneuvering instructions and status without the rear camera image as indicated by the vehicle system. The messages and display states are defined per this specification~~in the latest version of the "APA_HmiStatus_Coding"~~ document.
Post-conditions	The HMI displays APA instructions and graphics as defined elswhere in this specification and applicable HMI specifications~~by the latest version of the "APA_HmiStatus_Coding" document~~.
List of Exception Use Cases	NA
Interfaces	G-HMI Dedicated Hard Button Vehicle System Interface

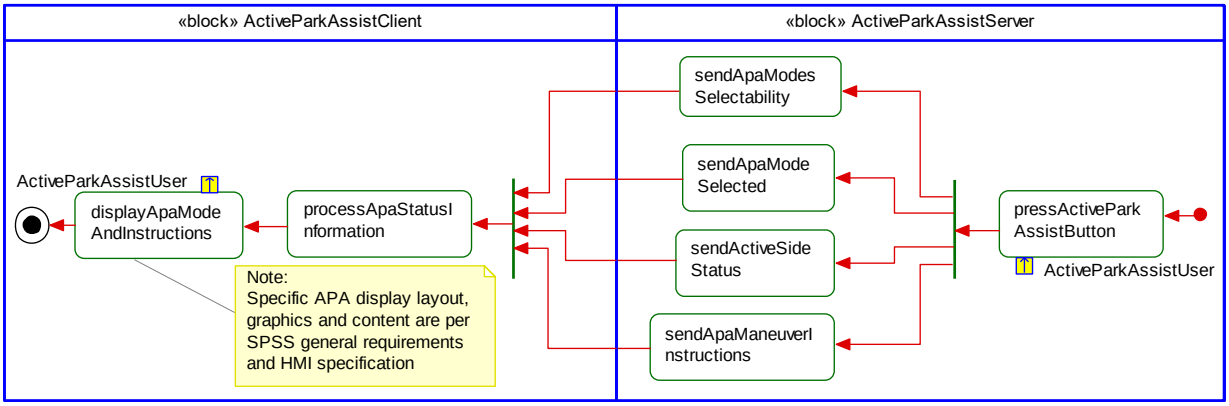
3.2.1.2 White Box View

3.2.1.2.1 Activity Diagrams

3.2.1.2.1.1 APAv2-ACT-REQ-131661/A-Display Active Park Assist Instructions

Linked Elements
APAv2-SD-REQ-131662/A-Display Active Park Assist Instructions

Activity Diagram



3.2.1.2.2 Sequence Diagrams

3.2.1.2.2.1 APAv2-SD-REQ-131662/A-Display Active Park Assist Instructions

Scenarios

Normal Usage

The driver activates the Active Park Assist system and performs a park maneuver by following the instructions given via the HMI display.

Constraints

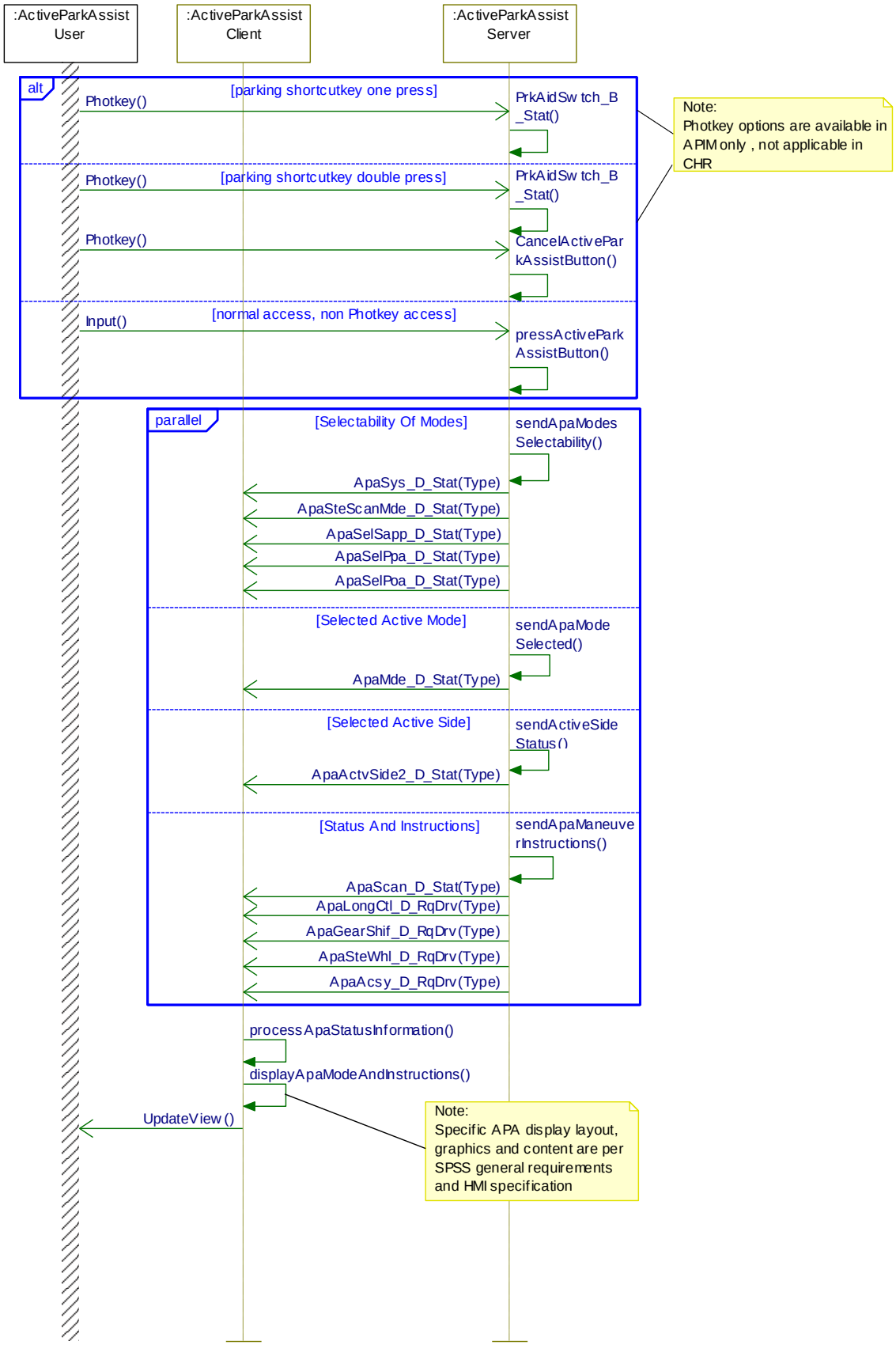
Pre-condition

The infotainment system is powered on.
The Active Park Assist (APA) system has been activated.
An APA mode has been selected.

Post-condition

The HMI displays APA instructions and graphics as defined elsewhere in this specification and applicable HMI specifications~~by the latest version of the "APA_HmiStatus_Coding" document~~.

Sequence Diagram



4 Appendix: Reference Documents

Reference #	Document Title
1	APA_HmiStatus_Coding
2	
3	
4	
5	