

**Research & Vehicle Technology**

**“Infotainment Systems Product Development”**

**Feature – Active Park Assist V2**

**APIM Infotainment Subsystem Part Specific Specification (SPSS)**

Version 1.11

**UNCONTROLLED COPY IF PRINTED**

**Version Date: March 23, 2020**

**FORD CONFIDENTIALF**

**Revision History**

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| **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 | |
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| **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. | |
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| **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. | |
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| **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. | |
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| **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" | |
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| **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 | |
|  |  |  |  | |
| **March 23, 2020** | **1.11** |  | | |
|  | 405481/D-HotKey Shortcut Menu General Requirements | | tmertiri: add additional requirements for hotkey | |
|  | CAMERA-FUR-REQ-236838/C-HotKey Shortcut Menu General Requirements 2 | | tmertiri: update requirement. | |
|  | CAMERA-FUR-REQ-236529/C-HotKey Shortcut Menu General Requirements 9 | | tmertiri: update requirement. | |
|  | CAMERA-FUR-REQ-250046/B-HotKey Shortcut Menu General Requirements 23 | | tmertiri: update requirement. | |
|  | CAMERA-FUR-REQ-250491/C-HotKey Shortcut Menu General Requirements 25 | | tmertiri: update requirement. | |
|  | CAMERA-FUR-REQ-384844/A-HotKey Shortcut Menu General Requirements 28 | | tmertiri: new requirement | |
|  | CAMERA-FUR-REQ-384848/A-HotKey Shortcut Menu General Requirements 29 | | tmertiri: new requirement | |
|  | CAMERA-FUR-REQ-384849/A-Hotkey Shortcut Menu General Requirements 30 | | tmertiri: new requirement | |
|  | CAMERA-FUR-REQ-235910/D-HotKey Shortcut Menu Signal Processing Requirements 4 | | tmertiri: add new items in the table | |
|  | CAMERA-FUR-REQ-235911/C-HotKey Shortcut Menu Signal Processing Requirements 5 | | tmertiri: add new items in the table | |
|  | CAMERA-FUR-REQ-235912/D-HotKey Shortcut Menu Signal Processing Requirements 6 | | tmertiri: add new items in the table | |
|  | CAMERA-FUR-REQ-130496/N-Active Park Assist (APA) Signal Processing - Positional Symbol1 | | tmertiri: update table symbol | |
|  | CAMERA-FUR-REQ-130497/L-Active Park Assist (APA) Signal Processing - Positional Symbol2 | | tmertiri: update table symbol | |
|  | CAMERA-FUR-REQ-161355/M-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol3 | | tmertiri: update table symbol | |
|  | CAMERA-FUR-REQ-161356/L-Reverse Video Camera with Active Park Assist (APA) and Park Distance Control (PDC) - Positional Symbol4 | | tmertiri: update table symbol | |

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# Architectural Design

## 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.

## 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.

## ActiveParkAssistManagerClient Interface

### APAM-IIR-REQ-013917/A-ActiveParkAssistManagerClient\_Tx (TcSE ROIN-265660-1)

#### 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 |  |

### APAMv2-IIR-REQ-128772/A-ActiveParkAssistManagerClient\_Rx

#### 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 |
|  | Null | 0x0 | to the driver |
|  | Off | 0x1 |  |
|  | On | 0x2 |  |
|  | Overspeed | 0x3 |  |
|  | ApaCancelled | 0x4 |  |
|  | NotAccessible | 0x5 |  |
|  | Finished | 0x6 |  |
|  | Faulty | 0x7 |  |

#### 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 |
|  | Null | 0x0 | independent from the system's HMI. |
|  | NotScanning | 0x1 |  |
|  | Scanning | 0x2 |  |
|  | Steering | 0x3 |  |

#### 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 |  |

#### 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 |  |

#### 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 |  |

#### 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 |  |

## ActiveParkAssistClient Interface

### APAv2-IIR-REQ-128529/A-ActiveParkAssistClient\_Rx

#### 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 |
|  | Null | 0x0 | to the driver |
|  | Off | 0x1 |  |
|  | On | 0x2 |  |
|  | Overspeed | 0x3 |  |
|  | ApaCancelled | 0x4 |  |
|  | NotAccessible | 0x5 |  |
|  | Finished | 0x6 |  |
|  | Faulty | 0x7 |  |

#### 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 |
|  | Null | 0x0 | independent from the system's HMI. |
|  | NotScanning | 0x1 |  |
|  | Scanning | 0x2 |  |
|  | Steering | 0x3 |  |

#### 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 |  |

#### 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 |  |

#### 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 |  |

#### 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 |  |

#### 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 |
|  | Null | 0x0 | APA scanning/parking function |
|  | Left | 0x1 |  |
|  | Right | 0x2 |  |
|  | NoSide | 0x3 |  |

#### 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 |  |

#### 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 |
|  | Null | 0x0 | the driver |
|  | NoRequest | 0x1 |  |
|  | Stop | 0x2 |  |
|  | DriveForward | 0x3 |  |
|  | DriveBackward | 0x4 |  |
|  | ReleaseBrake | 0x5 |  |
|  | NotUsed2 | 0x6 |  |
|  | NotUsed3 | 0x7 |  |

#### 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 |  |

#### 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 |
|  | Null | 0x0 | let go of the steering wheel or take control. |
|  | NoRequest | 0x1 |  |
|  | RemoveHands | 0x2 |  |
|  | TakeControl | 0x3 |  |

#### 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 |
|  | Null | 0x0 | "accessory" APA system requests |
|  | NoRequest | 0x1 |  |
|  | SelectSide | 0x2 |  |
|  | PressApaButton | 0x3 |  |
|  | CheckForObject | 0x4 |  |
|  | SelectSideLeft | 0x5 |  |
|  | SelectSideRight | 0x6 |  |
|  | CloseDoor | 0x7 |  |

# General Requirements

## General Signal Interface

### 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).

### 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.

### 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.

## Graphical Position Definition

### 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.

### 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.

### 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.

### 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.

## Active Park Assist Graphical Requirements

### 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.

### 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.

### 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.

### 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.

### 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.

### 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.

### 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".

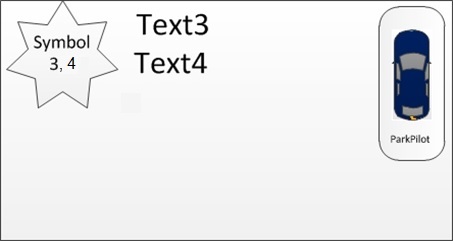
- The RVC base screen shall be built (including the VPA overlay) prior to populating any APA overlay.

- 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.

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

### 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

### 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.

### 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.

### 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.

### 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.

### 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.

### 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.

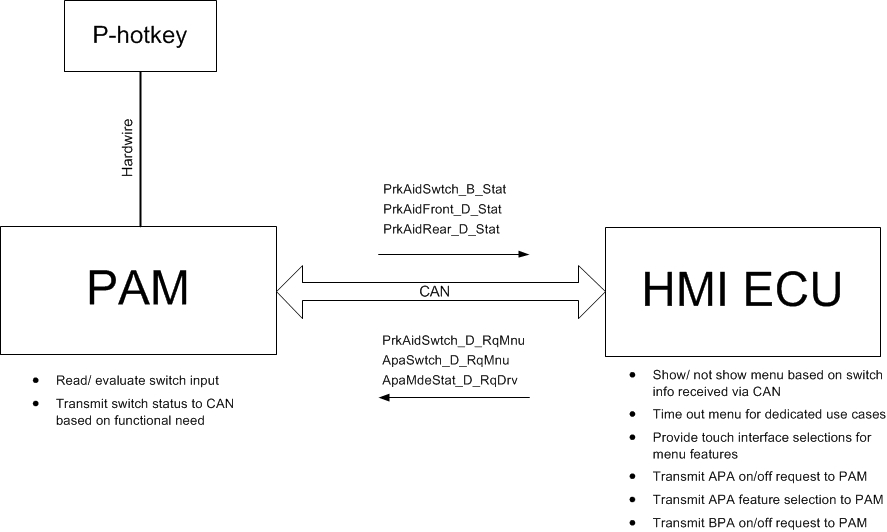
Note: this is for flicker prevention. The HMI ECU memorizes the state of the APA signals at RVC screen transition and does not overlay any APA positionals until there is a state change of the input sign

## 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.

### 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)

#### 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:***

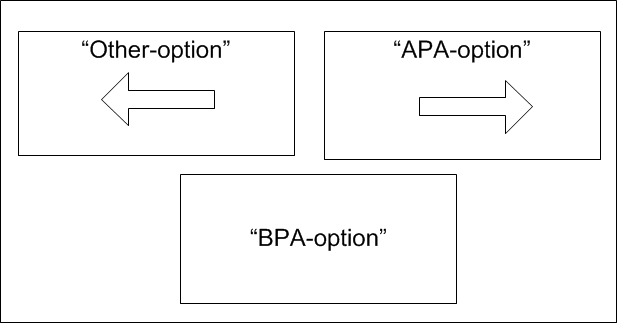
*This specification is established by the APA/BPA feature owners. Hence, the “other features” are not within author’s responsibility. Still, the way they are presented has an impact on the APA/BPA feature activation and deactivation. The detailed layout is of course the HMI design/ ergo team’s responsibility. 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)*

#### CAMERA-FUR-REQ-236838/C-HotKey Shortcut Menu General Requirements 2

The P-hotkey menu shall only allow activation of Active Park Assist, if the P-Hotkey Hard Button has been pressed and released at least once during the activation process.

***Note:***

*For the FAP feature we expect to always see a button press before we go active. If the feature 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 there is at least one button press/release cycle before APA goes active.*



High level sketch of possible hotkey menu design

(P-HotkeyReq015)

#### 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)*

#### 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)

#### 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)

#### 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)

#### 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)

#### 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)

#### CAMERA-FUR-REQ-236529/C-HotKey Shortcut Menu General Requirements 9

If the driver has called up the P-hotkey menu via the P-Hotkey Hardbutton 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)

#### 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)

#### 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)

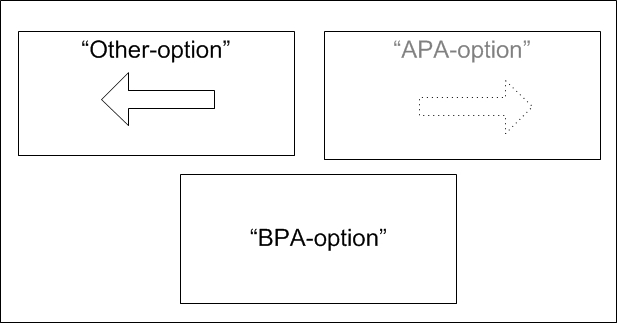
#### CAMERA-FUR-REQ-236532/B-HotKey Shortcut Menu General Requirements 12

When in “normal” state the “APA-option” shall be designed to indicate that the feature is selectable.

(P-HotkeyReq020)

#### 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.

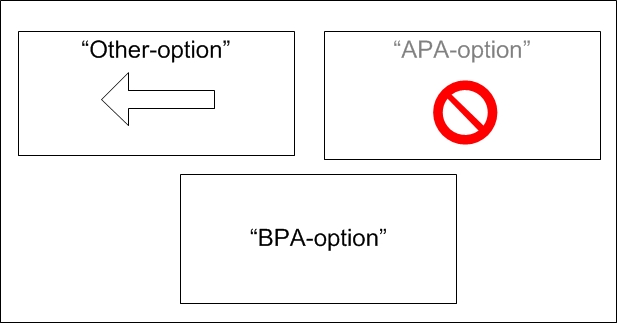


Sketch for possible design of APA feature selection during overspeed

(P-HotkeyReq021)

#### 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)

#### 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)

#### 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)

#### 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)

#### 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)

#### 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)

#### 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)

#### CAMERA-FUR-REQ-250046/B-HotKey Shortcut Menu General Requirements 23

If the p-hotkey menu has been shown without interruption for [tCloseNoSelection], the hotkey menu shall be closed or Active Park Assist shall not be available without pressing and releasing the P-Hotkey Button at least once after [tCloseNoSelection] has passed.

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.

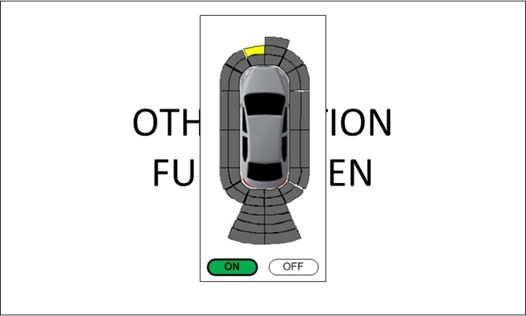
(P-HotkeyReq129)

#### 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)

#### CAMERA-FUR-REQ-250491/C-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. This includes changing into other screens or menus that don’t include the APA option directly on the screen.

(P-HotKeyReq170)

#### 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)

#### 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)

#### CAMERA-FUR-REQ-384844/A-HotKey Shortcut Menu General Requirements 28

If the P-hotkey menu has been opened in any way other than pressing the P-hotkey Hardbutton, the APA Softkey shall be unavailable to the driver.

#### CAMERA-FUR-REQ-384848/A-HotKey Shortcut Menu General Requirements 29

If the APA Softkey is currently unavailable to the driver due to a missing Hardbutton press/release cycle, the driver shall be informed via a text to press and release the |P| Hardbutton once to access Active Park Assist.

#### CAMERA-FUR-REQ-384849/A-Hotkey Shortcut Menu General Requirements 30

If the P-Hotkey Menu has been brought up via the |P|-Hotkey and has been shown for [tCloseNoSelection] without any interruption, the APA option shall become unavailable and the driver shall be informed via a text to press and release the |P| Hardbutton once to enable the APA option.

Ein Bild, das Screenshot enthält.

Automatisch generierte Beschreibung

Sketch of P-Hotkey Menu implemented as Controls Menu with unaccessable Active Park Assist softkey

### HotKey Shortcut Menu Signal List

#### 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)

#### 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)

#### 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)

#### 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)

#### 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)

### HotKey Shortcut Menu Signal Processing

#### 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)

#### 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)

#### 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)

#### CAMERA-FUR-REQ-235910/D-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) |
| P-Hotkey Menu shown but |P| Hotkey not used to open P-Hotkey Menu | AND | Transition from 0x0 “Not pressed” to 0x1 “Pressed” |  | Open APA Fullscreen  Cycle ApaSwtch\_D\_RqMnu |
| APA Option available to the driver | AND | Transition from 0x0 “Not pressed” to 0x1 “Pressed” |  | Close controls 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)

#### CAMERA-FUR-REQ-235911/C-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 by P-Hotkey Hardbutton Actuation | **AND** | driver selects “APA-option” of p-hotkey menu |  | Cycle |
| P-Hotkey Menu shown but |P| Hotkey not used to open P-Hotkey Menu | **AND** | Driver selects “APA-option” of p-hotkey menu |  | “0x0 Not pressed” |
| “Press |P|-Hotkey to confirm APA selection” text shown | **AND** | [PrkAidSwtch\_B\_Stat] transition from 0x0 “Not pressed” to 0x1 “Pressed” |  | Cycle |
| p-hotkey menu shown and APA option is available | **AND** | driver selects “APA-option” of p-hotkey menu |  | Cycle |

HMI system logic for ApaSwtch\_D\_RqMnu – Change from 0x0 to “other”

(P-HotkeyReq036)

#### CAMERA-FUR-REQ-235912/D-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 APA option is available to the driver | **AND** | p-hotkey menu closes due to [tCloseConfirm] timeout, [tCloseNoSelection] timeout or any other on-screen deactivation option |  | “0x6 Off” |
| 13 | P-Hotkey Menu shown but |P| Hotkey not used to open P-Hotkey Menu and “Press |P| Hotkey” text is shown | **AND** | Driver presses P-Hotkey  ([PrkAidSwtch\_B\_Stat] transition from 0x0 “Not pressed” to 0x1 “Pressed”) |  | “0x0 Inactive” |
| 14 | p-hotkey menu shown and APA option is available to the driver | **AND** | Driver presses P-Hotkey  ([PrkAidSwtch\_B\_Stat] transition from 0x0 “Not pressed” to 0x1 “Pressed”) |  | “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

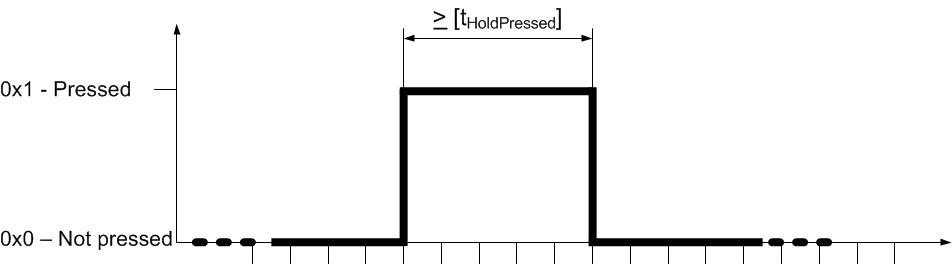
(P-HotkeyReq057)

#### 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)

#### 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]** | | **If hotkey menu is shown, APA feature selection option shall show that:** |
| --- | --- | --- |
| **State** | **Description** |
| 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]*  *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)

#### 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)

#### 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)

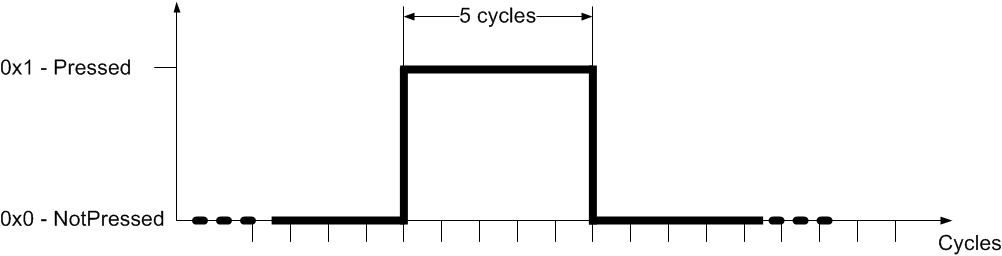
#### CAMERA-FUR-REQ-236843/B-HotKey Shortcut Menu Signal Processing Requirements 11

|  |  |  |
| --- | --- | --- |
| 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)

#### 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)

#### 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)

#### 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)

#### 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.

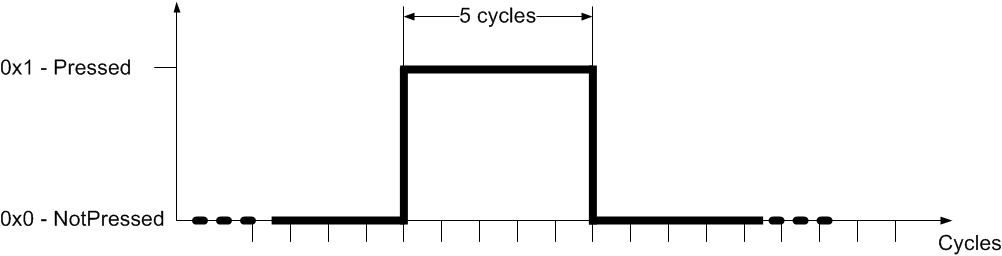
Note:

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)

#### 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)

#### 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)

#### 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)

#### 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)

#### 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)

#### 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)

#### 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)

#### 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 [tCloseNoSelection] 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)

#### 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 [tCloseNoSelection] shall again be applied.

***Note:***

*So we restart the timer from zero and the driver has again the [tCloseNoSelection] until the menu closes.*

(P-HotKeyReq169)

#### 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.

#### 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)

#### 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)

#### 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)

## 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.

### Display HMI Arbitration General Requirements



Display HMI Arbitration Use Diagram

#### 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.

#### 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.

#### 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.

#### 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.

#### 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.

#### 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.

#### 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.

#### 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.

### Display HMI Arbitration Internal Arbitration Variables

#### 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.** |

#### 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. |

#### 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 |
| PDC\_Fault\_Timr\_Cfg | 0 | 5000ms | 250ms | Timer for debouncing data “faulty” |

### 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

### 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)

### 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

### 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

### 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

### 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

### 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

### 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

### CAMERA-FUR-REQ-196898/E-HMI Screen Logical Arbitration - Determine Dynamic Variables (PDC\_Stat)

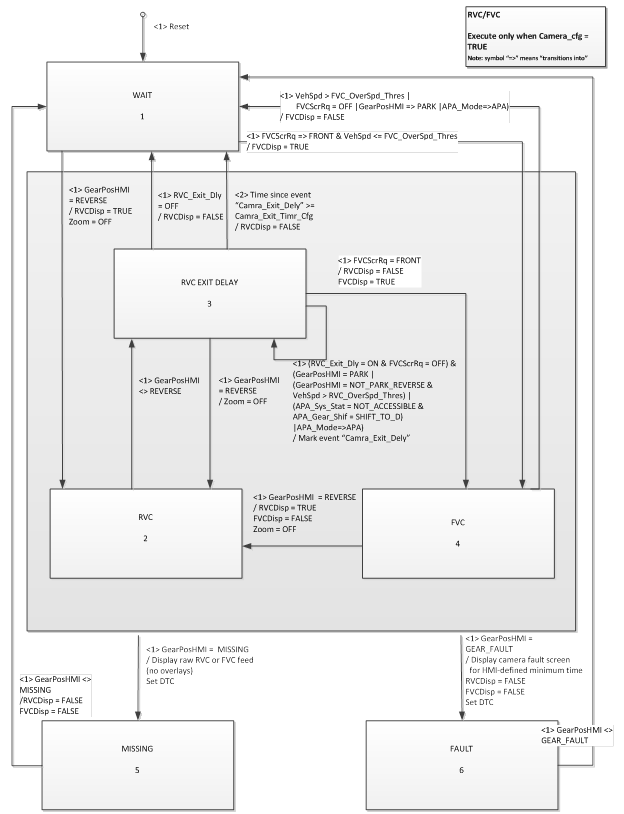
|  |  |  |
| --- | --- | --- |
| **PrkAidMsgTxt\_D\_Rq\_ComStat** | **PrkAidMsgTxt\_D\_Rq** | **PDC\_Stat** |
| MISSING for >= PDC\_ Actv\_MM\_Timr\_Cfg | DON'T CARE | MISSING |
| PRESENT | R\_SNSRS\_ON\_F\_SNSRS\_OFF |  R\_SNSRS\_OFF\_F\_SNSRS\_ON |  R\_SNSRS\_ON\_F\_SNSRS\_ON |  |R\_SNS\_INACTIVE\_TRLR\_ATCH |  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

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



General Screen Arbitration: Step #1 Camera

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



General Screen Arbitration: Active Park Assist (APA)

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



General Screen Arbitration: Park Distance Control (PDC)

### 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) | 0000 |
| 0 | 0 | 0 | 1 | Dedicated PDC | 0001 |
| 0 | 0 | 1 | 0 | APA (PDC will not be shown) | 0010 |
| 0 | 0 | 1 | 1 | APA (PDC will be shown) | 0011 |
| 0 | 1 | 0 | 0 | RVC (APA instructions not shown, PDC will not be shown) | 0100 |
| 0 | 1 | 0 | 1 | RVC (APA instructions not shown, PDC will be shown) | 0101 |
| 0 | 1 | 1 | 0 | RVC (APA instructions will be shown, PDC will not be shown) | 0110 |
| 0 | 1 | 1 | 1 | RVC (APA instructions will be shown, PDC will be shown) | 0111 |
| 1 | 0 | 0 | 0 | FVC (APA instructions not shown, PDC will not be shown) | 1000 |
| 1 | 0 | 0 | 1 | FVC (APA instructions not shown, PDC will be shown) | 1001 |
| 1 | 0 | 1 | 0 | FVC (APA instructions will be shown, PDC will not be shown) | 1010 |
| 1 | 0 | 1 | 1 | FVC (APA instructions will be shown, PDC will be shown) | 1011 |
| 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

## 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.

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

#### 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 |

#### 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 |

#### 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 |

#### 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 |

#### 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.

#### 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 |

#### 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 |

#### 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 |

#### 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 |

#### 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 |

#### 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 |

#### 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 |

#### 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  360 Display  $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.

#### 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  360 Display  $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.

#### 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  360 Display  $D: R\_Sns\_Blk\_F\_Sns\_On  $E: R\_Sns\_On\_F\_Sns\_Blk  $F: All\_Sns\_Blk | ScanLeft  ScanRight  Text2  ParkPilot |

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

#### 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 |

### Active Park Assist (APA) Signal Processing

#### 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] | [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 | 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 |
| 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.

#### 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 Range Definition) | 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 |
| 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.

#### CAMERA-FUR-REQ-130496/N-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  (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 |
| 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 |
| 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 | (Manual) or (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 | /(Non-Hotkey) or Ein Bild, das ClipArt enthält.  Automatisch generierte Beschreibung (Hotkey) 406 |
| 0xB | 0x2 | 0x3 | X | X | X | X | X | X | X | 0x1 | 0x1 | 0x3 | X | 0x1‡ | X | (Non-Hotkey) or Ein Bild, das ClipArt enthält.  Automatisch generierte Beschreibung (Hotkey) /407 |
| 0xB | 0x2 | 0x3 | X | X | X | X | X | X | X | 0x1 | 0x1 | 0x3 | X | 0x9‡ | X | (Non-Hotkey) or Ein Bild, das ClipArt enthält.  Automatisch generierte Beschreibung (Hotkey) /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] | [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 | /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 |
| 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 | (Manual) or (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 | (Non-Hotkey) or Ein Bild, das ClipArt enthält.  Automatisch generierte Beschreibung (Hotkey) /406 |
| 0xB | 0x2 | 0x3 | X | X | X | X | X | X | X | 0x1 | 0x1 | 0x3 | X | 0x1‡ | X | (Non-Hotkey) or Ein Bild, das ClipArt enthält.  Automatisch generierte Beschreibung (Hotkey) /407 |
| 0xB | 0x2 | 0x3 | X | X | X | X | X | X | X | 0x1 | 0x1 | 0x3 | X | 0x9‡ | X | (Non-Hotkey) or Ein Bild, das ClipArt enthält.  Automatisch generierte Beschreibung (Hotkey) /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 | apa_arrow_left_side/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 | apa_arrow_left_side/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 | (Manual) or (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 | apa_arrow_left_side/243 |
| 0x2 | 0x2 | 0x3 | 0x4 | X | X | X | X | 0x1 | X | X | 0x5 | X | apa_arrow_left_side/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.

#### CAMERA-FUR-REQ-130497/L-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] | [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 | 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 | (Non-Hotkey) or Ein Bild, das ClipArt enthält.  Automatisch generierte Beschreibung (Hotkey) /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 | (Non-Hotkey) or Ein Bild, das ClipArt enthält.  Automatisch generierte Beschreibung (Hotkey)/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.

#### 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 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 | 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 |
| 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 |
| 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.

#### 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.

#### 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 |
| 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 Range Definition) | 0x2 | 0x2 | X | 0x2 | X | X | X | X | X | X | X | X | X | /075 |
| 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.

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

**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 | 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 | [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/REF# |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Run  (as per Operational Modes and Voltage Range Definition) | 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.

#### 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] | [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 | 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 |
| 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] | [ApaAcsy\_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] | [ApaAcsy\_D\_RqDrv] | [PrkAidMsgTxt\_D\_Rq] | Display HMI |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Run  (as per Operational Modes and Voltage Range Definition) | 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 |
| 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.

#### 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 |
| 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 Definition) | 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 |
| 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.

#### 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 Voltage Range Definition) | 0xA |0xB | 0x2 | 0x2 | X | 0x4 | X | X | X | X | X | X | X | X | X | X | 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 |
| 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 and Voltage Range Definition) | 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 |
| 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 Range Definition) | 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.

#### 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.

#### 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.

#### 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] | [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 | 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.

#### 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 Operational Modes and Voltage Range Definition) | 0xA |0xB | 0x2 | 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 | /499 |
| 0xA |0xB | 0x4 | 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 | X | /501 |
| 0xA |0xB | 0x6 | X | 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 | 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] | [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 | 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.

#### 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\_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 | X | X | X | 0x2 | X | X | X | X | X | X | X | X | X | X | X | /287  Example 5-button  Example 4-button |
| 0xA |0xB | X | X | X | 0x3 | X | X | X | X | X | X | X | X | X | X | X | /288  Example |
| 0xA |0xB | X | X | X | 0x4 | X | X | X | X | X | X | X | X | X | X | X | /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\_RqDrv] | [ApaGearShif\_D\_RqDrv] | [ApaSteWhl\_D\_RqDrv] | [ApaAcsy\_D\_RqDrv] | [PrkAidMsgTxt\_D\_Rq] | Display HMI |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Run  (as per Operational Modes and Voltage Range Definition) | X | X | X | 0x2 | X | X | X | X | X | X | X | X | X | /287  Example 5-button  Example 4-button |
| X | X | X | 0x3 | X | X | X | X | X | X | X | X | X | /288  Example |
| X | X | X | 0x4 | X | X | X | X | X | X | X | X | X | /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.

#### 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\_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 | X | X | X | X | 0x2 | X | X | X | X | X | X | X | X | X | X | /511  Example 5-button  Example 4-button |
| 0xA |0xB | X | X | X | X | X | 0x2 | X | X | X | X | X | X | X | X | X | /290  Example |
| 0xA |0xB | X | X | X | X | X | X | 0x2 | X | X | X | X | X | X | X | X | /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 Voltage Range Definition) | 0xA |0xB | X | X | X | X | 0x2 | X | X | X | X | X | X | X | X | X | X | \*1/511 |
| 0xA |0xB | X | X | X | X | X | 0x2 | X | X | X | X | X | X | X | X | X | \*2/290 |
| 0xA |0xB | X | X | X | X | X | X | 0x2 | X | X | X | X | X | X | X | X | \*3/291,292 |
| 0xA |0xB | 0x6 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | \*4/590 |
| 0xA |0xB | 0x7 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | \*4/591 |
| 0xA |0xB | 0x4 | X | X | X | X | X | X | X | X | X | X | 0x1 | X | X | X | \*4/592 |
| 0xA |0xB | 0x4 | X | X | X | X | X | X | X | X | X | X | 0x7 | X | X | X | \*4/593 |
| 0xA |0xB | 0x4 | X | X | X | X | X | X | X | X | X | X | 0x4 | X | X | X | \*4/594 |
| 0xA |0xB | 0x2 | 0x3 | X | 0x4 | X | X | X | X | 0x1 | X | X | 0x1 | X | 0x1 | 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 Modes and Voltage Range Definition) | X | X | X | X | X | 0x2 | X | X | X | X | X | X | X | \*2/290 |
| X | X | X | X | X | X | 0x2 | X | X | X | X | X | X | \*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.

#### 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\_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 | X | X | X | X | X | 0x3 | X | X | X | X | X | X | X | X | X | /294  Example |
| 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\_RqDrv] | [ApaGearShif\_D\_RqDrv] | [ApaSteWhl\_D\_RqDrv] | [ApaAcsy\_D\_RqDrv] | [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 | /294  Example |
| All Other Cases | | | | | | | | | | | | | Blank (Do not overlay SAPFeatureMenuContent) |

4” supports semi-assisted park (SAP) only, configuration Parking Assistance\_Cfg is not required.

### Active Park Assist (APA) Soft Menu Interface

#### 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.

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

##### 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.

##### 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.

##### 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.”

##### 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.”

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

##### 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.

##### 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]

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

##### 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].

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

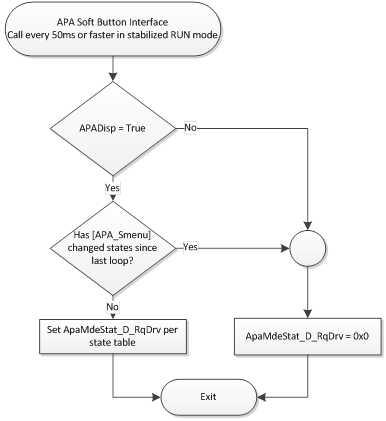
|  |  |  |
| --- | --- | --- |
| **[APA\_SMenu]** | **[APA\_SBtn]** | **[ApaMdeStat\_D\_RqDrv]** |
| * Transition into Inactive (OFF) | X | 0x0-Inactive\* |
| Inactive | APA\_SB0 | 0x0-Inactive |
| APA\_SB1 | 0x1-SAPP |
| APA\_SB2 | 0x2-PPA |
| APA\_SB3 | 0x3-POA |
| APA\_SB4 | 0x0-Inactive |
| * Transition 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].

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



Active Park Assist (APA) Soft Button Interface Logic

## 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].

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

#### 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 |

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

#### 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

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

#### 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

#### CAMERA-FUR-REQ-161355/M-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 | (Non-Hotkey) or Ein Bild, das ClipArt enthält.  Automatisch generierte Beschreibung (Hotkey) /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 | info/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 | (Manual)  or (Auto) /117 |
| 0xA |0xB | 0x5 | X | X | X | X | X | X | X | X | 0x1 | X | X | X | X | X | info/267 |
| 0xB | 0x2 | X | X | X | X | X | X | X | 0x1 | X | X | 0x4 | X | X | X | info/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 | (Non-Hotkey) or Ein Bild, das ClipArt enthält.  Automatisch generierte Beschreibung (Hotkey) /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 Modes and Voltage Range Definition) | 0xA |0xB | 0x2 | 0x2 | X | X | X | X | X | X | 0x2 | 0x2 | X | 0x1 | 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 | /(Non-Hotkey) or Ein Bild, das ClipArt enthält.  Automatisch generierte Beschreibung (Hotkey) 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 | info/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 | (Manual)  or (Auto) /117 |
| 0xA |0xB | 0x5 | X | X | X | X | X | X | X | X | 0x1 | X | X | X | X | X | info/267 |
| 0xB | 0x2 | X | X | X | X | X | X | X | 0x1 | X | X | 0x4 | X | X | X | info/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 |
| 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 | (Non-Hotkey) or Ein Bild, das ClipArt enthält.  Automatisch generierte Beschreibung (Hotkey) /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 | info/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 | apa_arrow_left_side/601 |
| 0xA |0xB | 0x2 | 0x2 | 0x3 | 0x4 | X | X | X | X | 0x1 | X | X | 0x5 | X | X | X | apa_arrow_left_side/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 | info/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 | info/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 | (Manual)  or (Auto)/117 |
| 0x5 | X | X | X | X | X | X | X | X | 0x1 | X | X | X | info/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.

#### CAMERA-FUR-REQ-161356/L-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 | (Non-Hotkey) or Ein Bild, das ClipArt enthält.  Automatisch generierte Beschreibung (Hotkey) /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 | (Non-Hotkey) or Ein Bild, das ClipArt enthält.  Automatisch generierte Beschreibung (Hotkey) /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 | (Non-Hotkey) or Ein Bild, das ClipArt enthält.  Automatisch generierte Beschreibung (Hotkey)/108 |
| All Other Cases | | | | | | | | | | | | | Blank (Do not show Symbol4) |

4” supports semi-assisted park (SAP) only, configuration Parking Assistance\_Cfg is not required.

#### 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.

#### 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] | [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 | 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.

#### 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.

# Functional Definition

## Active Park Assist Manager

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

#### Use Cases

##### 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 |

##### 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 |

##### 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 |

##### 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 |

##### 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 |

##### 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 |

#### White Box View

##### Activity Diagrams

###### 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



##### Sequence Diagrams

###### 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



## Active Park Assist

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

#### Use Cases

##### 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 per this specification document. |
| **Post-conditions** | The HMI displays APA instructions and graphics as defined elsewhere in this specification and applicable HMI specifications. |
| **List of Exception Use Cases** | NA |
| **Interfaces** | G-HMI  Dedicated Hard Button  Vehicle System Interface |

##### 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 document. |
| **Post-conditions** | The HMI displays APA instructions and graphics as defined elswhere in this specification and applicable HMI specifications. |
| **List of Exception Use Cases** | NA |
| **Interfaces** | G-HMI  Dedicated Hard Button  Vehicle System Interface |

#### White Box View

##### Activity Diagrams

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

**Linked Elements**

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

Activity Diagram



##### Sequence Diagrams

###### 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.

Sequence Diagram



# Appendix: Reference Documents

|  |  |
| --- | --- |
| Reference # | Document Title |
| 1 | APA\_HmiStatus\_Coding |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |