



Research & Vehicle Technology
“Infotainment Systems Product Development”

Feature – Driver Assist VIP/CCPU Interface

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

Version 1.2

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FORD CONFIDENTIAL



Revision History

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	1011250/A-ADAS	tmertiri:Update structure below
	DAVIP-REQ-425378/B-Feature Based Message Protocol Signal Mapping for Camera Showing 0x081B	tmertiri:upgrade content and design
	DAVIP-REQ-425379/B-Feature Based Message Protocol Signal Mapping for TBA2 Pan 0x0827	tmertiri:upgrade content and design
	DAVIP-REQ-425380/B-Feature Based Message Protocol Signal Mapping for TBA2 Pan Enable 0x0828	tmertiri:upgrade content and design
	DAVIP-REQ-425381/B-Feature Based Message Protocol Signal Mapping for TBA2 Auto Mode 0x0826	tmertiri:upgrade content and design
	DAVIP-REQ-425382/B-Feature Based Message Protocol Signal Mapping for TBA2 Zoom 0x0829	tmertiri:upgrade content and design
	DAVIP-REQ-425383/B-Feature Based Message Protocol Signal Mapping for Camera PictureInPicture 0x082A	tmertiri:upgrade content and design
	DAVIP-REQ-425384/B-Feature Based Message Protocol Signal Mapping for Rear Camera Visual Park Aid Overlays 0x080A	tmertiri:upgrade content and design
	DAVIP-REQ-425385/B-Feature Based Message Protocol Signal Mapping for All Overlays 0x0812	tmertiri:upgrade content and design
	DAVIP-REQ-425386/B-Feature Based Message Protocol Signal Mapping for Rear Camera Static Overlays 0x0818	tmertiri:upgrade content and design
	DAVIP-REQ-425387/B-Feature Based Message Protocol Signal Mapping for Rear Camera Dynamic Overlays 0x0819	tmertiri:upgrade content and design
	DAVIP-REQ-425388/B-Feature Based Message Protocol Signal Mapping for Manual Zoom 0x081A	tmertiri:upgrade content and design
	DAVIP-REQ-425389/B-Feature Based Message Protocol Signal Mapping for TRG Zoom In 0x0820	tmertiri:upgrade content and design
	DAVIP-REQ-425390/B-Feature Based Message Protocol Signal Mapping for TRG Pan Button 0x0823	tmertiri:upgrade content and design
	DAVIP-REQ-425391/B-Feature Based Message Protocol Signal Mapping for TRG Button Enable 0x0824	tmertiri:upgrade content and design
	DAVIP-REQ-425392/B-Feature Based Message Protocol Signal Mapping for TRG Auto Mode 0x0825	tmertiri:upgrade content and design
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	DAVIP-REQ-425393/B-Feature Based Message Protocol Signal Mapping for Display State 0x0030	tmertiri:upgrade content and design
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	DAVIP-REQ-425379/C-Feature Based Message Protocol Signal Mapping for TBA2 Pan 0x0827	tmertiri:Add errors and Timeouts
	DAVIP-REQ-425380/C-Feature Based Message Protocol Signal Mapping for TBA2 Pan Enable 0x0828	tmertiri:Add errors and Timeouts
	DAVIP-REQ-425381/C-Feature Based Message Protocol Signal Mapping for TBA2 Auto Mode 0x0826	tmertiri:Add errors and Timeouts
	DAVIP-REQ-425382/C-Feature Based Message Protocol Signal Mapping for TBA2 Zoom 0x0829	tmertiri:Add errors and Timeouts
	DAVIP-REQ-425383/C-Feature Based Message Protocol Signal Mapping for Camera PictureInPicture 0x082A	tmertiri:Add errors and Timeouts
	DAVIP-REQ-425384/C-Feature Based Message Protocol Signal Mapping for Rear Camera Visual Park Aid Overlays 0x080A	tmertiri:Add errors and Timeouts
	DAVIP-REQ-425385/C-Feature Based Message Protocol Signal Mapping for All Overlays 0x0812	tmertiri:Add errors and Timeouts
	DAVIP-REQ-425386/C-Feature Based Message Protocol Signal Mapping for Rear Camera Static Overlays 0x0818	tmertiri:Add errors and Timeouts



DAVIP-REQ-425387/C-Feature Based Message Protocol Signal Mapping for Rear Camera Dynamic Overlays 0x0819	tmertiri:Add errors and Timeouts
DAVIP-REQ-425388/C-Feature Based Message Protocol Signal Mapping for Manual Zoom 0x081A	tmertiri:Add errors and Timeouts
DAVIP-REQ-425389/C-Feature Based Message Protocol Signal Mapping for TRG Zoom In 0x0820	tmertiri:Add errors and Timeouts
DAVIP-REQ-425390/C-Feature Based Message Protocol Signal Mapping for TRG Pan Button 0x0823	tmertiri:Add errors and Timeouts
DAVIP-REQ-425391/C-Feature Based Message Protocol Signal Mapping for TRG Button Enable 0x0824	tmertiri:Add errors and Timeouts
DAVIP-REQ-425392/C-Feature Based Message Protocol Signal Mapping for TRG Auto Mode 0x0825	tmertiri:Add errors and Timeouts
DAVIP-REQ-425394/C-FBMP Translation Mapping Diagram	tmertiri:update diagram
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DAVIP-REQ-425393/C-Feature Based Message Protocol Signal Mapping for Display State 0x0030	tmertiri:Remove St



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1.1 FBMP Translation Mapping Overview

This specification provides mapping tables between FBMP signals and their respective internal signal that are to be used in Phoenix-based architectures.

1.2 ADAS

For the features in this group, Phoenix communicates with ADAS modules.

Message 0x3EE is Phoenix RX. It provides Camera Status.

Message 0x3E2 is Phoenix Tx. It is centerstack requests.

1.2.1 DAVIP-REQ-474938/A-Definitions

Timeout: Refer to 299675/A-Retry Strategy of Personalization Display Setup Overview.

Error: If the response is out of range for the values, invalid or error bit set by the bus.

1.2.2 DAVIP-REQ-425378/C-Feature Based Message Protocol Signal Mapping for Camera Showing 0x081B

Feature Name	Camera Showing
Feature ID	0x081B
Signal Length	7 bit
VIP-CCPU	CameraShowing_Mc_St
CCPU-VIP	CameraShowing_Mc_Cmd

Configuration name	Configuration Value
Off	0x00
Front	0x01
Rear	0x02
Remote	0x03
Rear360	0x04
RearNormal	0x05
RearSplit	0x06
Front360	0x07
FrontNormal	0x08
FrontSplit	0x09
RearZoom	0x0A
CHMSL	0x0B
CHMSLZoom	0x0C
Aux	0x0D
Straight Back-up Mode	0x10
TBA2 RearSplit	0x11
TBA2 Rear360	0x12
TBA2 CHMSL	0x13
TBA2 AUX	0x14
TBA2 5050	0x15
TBA2 RearNormal	0x16
Auto Hitch RearNormal	0x17
RearFWDOffset	0x18



RearRWDOffset	0x19
FrontFWDOffset	0x1A
FrontRWDOffset	0x1B
RearFLCorner	0x1C
RearFRCorner	0x1D
RearRLCorner	0x1E
RearRRCorner	0x1F
FrontFLCorner	0x20
FrontFRCorner	0x21
FrontRLCorner	0x22
FrontRRCorner	0x23
FrontRockCrawl	0x24
RearRockCrawl	0x25
Hitch	0x26
Rcod	0x27
Hitch at speed	0x28
Rcod at speed	0x29
Aux at speed	0x2A
Chmsl at speed	0x2B
TRGOD	0x2C
TRGOD at speed	0x2D
CHMSL_IOD	0x2E
TURN_SGLVIEW_LEFT	0x2F
TURN_SGLVIEW_RIGHT	0x30
TRAILER360	0x31
TRAILERREARNORMAL	0x32
TRAILERINTERIOR_VIEW1	0x33
TRAILERINTERIOR_VIEW2	0x34
TRAILERLEFT	0x35
TRAILERRIGHT	0x36
TBA2_TRAILER360	0x37
TBA2_TRAILERREARNORMAL	0x38
TBA2_TRAILERINTERIOR_VIEW1	0x39
TBA2_TRAILERINTERIOR_VIEW2	0x3A
TBA2_TRAILERLEFT	0x3B
TBA2_TRAILERRIGHT	0x3C
TRAILERREARNORMAL_AT_SPEED	0x3D
TRAILERINTERIOR_VIEW1_AT_SPEED	0x3E
TRAILERINTERIOR_VIEW2_AT_SPEED	0x3F
IVV	0x40
PIP_TRGOD	0x41
PIP_TRGOD_AT_SPEED	0x42
PIP_AUX	0x43
PIP_AUX_AT_SPEED	0x44
PIP_TRAILERREARNORMAL	0x45
PIP_TRAILERREARNORMAL_AT_SPEED	0x46
Auto Hitch Rear Camera Zoom view	0x47
Front Left Side Offset	0x48
Front Right Side Offset	0x49



Rear Left Side Offset	0x4A
Rear Right Side Offset	0x4B
AUX IOD	0x4C
Not Used	04D-0x7D
Timeout	0x7E
Error	0x7F

1.2.3 DAVIP-REQ-425379/C-Feature Based Message Protocol Signal Mapping for TBA2 Pan 0x0827

Feature Name TBA2 Pan
Feature ID 0x0827
Signal Length 2 bits
VIP-CCPU TBA2Pan_Mc_St
CCPU-VIP TBA2Pan_Mc_Cmd

Configuration name	Configuration Value
Right	0x0
Left	0x1
Timeout	0x2
Error	0x3

1.2.4 DAVIP-REQ-425380/C-Feature Based Message Protocol Signal Mapping for TBA2 Pan Enable 0x0828

Feature Name TBA2 Pan Enable
Feature ID 0x0828
Signal Length 3 bit
VIP-CCPU TBA2PanEnable_Mc_St
CCPU-VIP TBA2PanEnable_Mc_Cmd

Configuration name	Configuration Value
Disable Left	0x0
Disable Right	0x1
Enable Left	0x2
Enable Right	0x3
Not Used	0x4-0x5
Timeout	0x6
Error	0x7

1.2.5 DAVIP-REQ-425381/C-Feature Based Message Protocol Signal Mapping for TBA2 Auto Mode 0x0826

Feature Name TBA2 Auto Mode
Feature ID 0x0826
Signal Length 3 bit
VIP-CCPU TBA2AutoMode_Mc_St



CCPU-VIP TBA2AutoMode_Mc_Cmd

Configuration name	Configuration Value
Off	0x0
On	0x1
Not Available	0x2
Not Used	0x3-0x5
Timeout	0x6
Error	0x7

1.2.6 DAVIP-REQ-425382/C-Feature Based Message Protocol Signal Mapping for TBA2 Zoom 0x0829

Feature Name TBA2 Zoom
Feature ID 0x0829
Signal Length 3 bit
VIP-CCPU TBA2Zoom_Mc_St
CCPU-VIP TBA2Zoom_Mc_Cmd

Configuration name	Configuration Value
Off	0x00
Level 1	0x01
Level 2	0x02
Level 3	0x03
Not Used	0x04-0x05
Timeout	0x06
Error	0x07

1.2.7 DAVIP-REQ-425383/C-Feature Based Message Protocol Signal Mapping for Camera PictureInPicture 0x082A

Feature Name Camera PictureInPicture
Feature ID 0x082A
Signal Length 3 bit
VIP-CCPU CameraPictureInPicture_Mc_St
CCPU-VIP CameraPictureInPicture_Mc_Cmd

Configuration name	Configuration Value
Standard View	0x0
Picture-In-Picture View	0x01
Swap	0x02
Not Used	0x03-0x05
Timeout	0x06
Error	0x07

**1.2.8 DAVIP-REQ-425384/C-Feature Based Message Protocol Signal Mapping for Rear Camera Visual Park Aid Overlays 0x080A**

Feature Name Rear Camera Visual Park Aid Overlays
Feature ID 0x080A
Signal Length 2 bit
VIP-CCPU RearCameraVisualParkAidOverlays_Mc_St
CCPU-VIP RearCameraVisualParkAidOverlays_Mc_Cmd

Configuration name	Configuration Value
Off	0x00
On	0x01
Timeout	0x02
Error	0x03

1.2.9 DAVIP-REQ-425385/C-Feature Based Message Protocol Signal Mapping for All Overlays 0x0812

Feature Name All Overlays
Feature ID 0x0812
Signal Length 2 bit
VIP-CCPU AllOverlays_Mc_St
CCPU-VIP AllOverlays_Mc_Cmd

Configuration name	Configuration Value
Off	0x00
On	0x01
Timeout	0x02
Error	0x03

1.2.10 DAVIP-REQ-425386/C-Feature Based Message Protocol Signal Mapping for Rear Camera Static Overlays 0x0818

Feature Name Rear Camera Static Overlays
Feature ID 0x0818
Signal Length 2 bit
VIP-CCPU RearCameraStaticOverlays_Mc_St
CCPU-VIP RearCameraStaticOverlays_Mc_Cmd

Configuration name	Configuration Value
Off	0x00
On	0x01
Timeout	0x02



Error

0x03

1.2.11 DAVIP-REQ-425387/C-Feature Based Message Protocol Signal Mapping for Rear Camera Dynamic Overlays 0x0819

Feature Name Rear Camera Dynamic Overlays
Feature ID 0x0819
Signal Length 2 bit
VIP-CCPU RearCameraDynamicOverlays_Mc_St
CCPU-VIP RearCameraDynamicOverlays_Mc_Cmd

Configuration name	Configuration Value
Off	0x00
On	0x01
Timeout	0x02
Error	0x03

1.2.12 DAVIP-REQ-425388/C-Feature Based Message Protocol Signal Mapping for Manual Zoom 0x081A

Feature Name Manual Zoom
Feature ID 0x081A
Signal Length 3 bit
VIP-CCPU ManualZoom_Mc_St
CCPU-VIP ManualZoom_Mc_Cmd

Configuration name	Configuration Value
Off	0x00
Level 1	0x01
Level2	0x02
Level3	0x03
Not Used	0x04-0x05
Timeout	0x06
Error	0x07

1.2.13 DAVIP-REQ-425389/C-Feature Based Message Protocol Signal Mapping for TRG Zoom In 0x0820

Feature Name TRG Zoom In
Feature ID 0x0820
Signal Length 3 bit
VIP-CCPU TRGZoomIn_Mc_St
CCPU-VIP TRGZoomIn_Mc_Cmd



Configuration name	Configuration Value
Off	0x00
Level 1 (Not used)	0x01
Level2 (Not Used)	0x02
Level3	0x03
Not Used	0x04-0x05
Timeout	0x06
Error	0x07

1.2.14 DAVIP-REQ-425390/C-Feature Based Message Protocol Signal Mapping for TRG Pan Button 0x0823

Feature Name TRG Pan Button
Feature ID 0x0823
Signal Length 2 bit
VIP-CCPU TRGPanButton_Mc_St
CCPU-VIP TRGPanButton_Mc_Cmd

Configuration name	Configuration Value
Right Press	0x00
Left Press	0x01
Timeout	0x02
Error	0x03

1.2.15 DAVIP-REQ-425391/C-Feature Based Message Protocol Signal Mapping for TRG Button Enable 0x0824

Feature Name TRG Button Enable
Feature ID 0x0824
Signal Length 3 bit
VIP-CCPU TRGButtonEnable_Mc_St
CCPU-VIP TRGButtonEnable_Mc_Cmd

Configuration name	Configuration Value
Disable Left	0x00
Disable Right	0x01
Enable Left	0x02
Enable Right	0x03
Not Used	0x04-0x05
Timeout	0x06
Error	0x07

1.2.16 DAVIP-REQ-425392/C-Feature Based Message Protocol Signal Mapping for TRG Auto Mode 0x0825

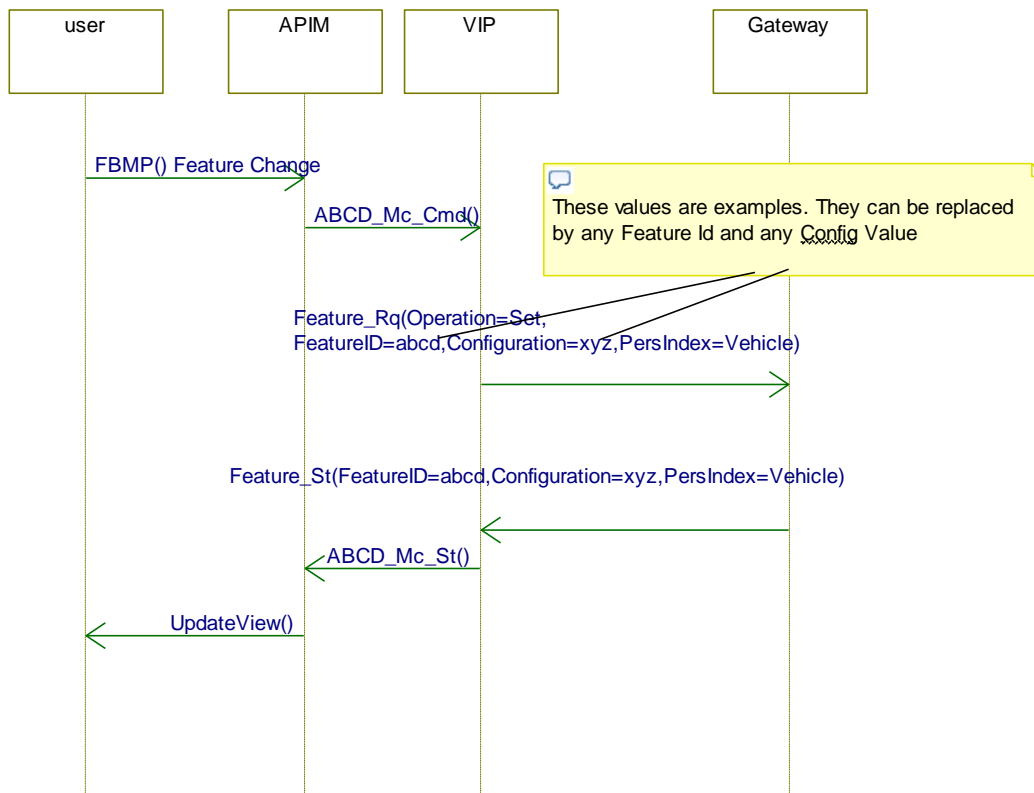
Feature Name TRG Auto Mode



Feature ID 0x0825
Signal Length 3 bit
VIP-CCPU TRGAutoMode_Mc_St
CCPU-VIP TRGAutoMode_Mc_Cmd

Configuration name	Configuration Value
Off	0x00
On	0x01
Not Available	0x02
Not Used	0x03-0x05
Timeout	0x06
Error	0x07

1.3 DAVIP-REQ-425394/C-FBMP Translation Mapping Diagram



1.4 APIM_AOS

For the features in this group, Phoenix sends this content in the bus.

Feature 0x0030, Display State, is used as “Heart Beat” from other receiving modules. VIP should send a 0x01 (No Display Fault) , every 5 sec from Ignition =Run, until CCPU sends a command with a new value.

1.4.1 DAVIP-REQ-425393/C-Feature Based Message Protocol Signal Mapping for Display State 0x0030

Feature Name Display State
Feature ID 0x0030



Signal Length 2 bit

CCPU-VIP DisplayState_Mc_Cmd

Configuration name	Configuration Value
Not Used	0x00
No Display Fault	0x01
Display Faulted	0x02
SDM Failure	0x03



2 Appendix: Reference Documents

Reference #	Document Title
1	
2	
3	
4	
5	