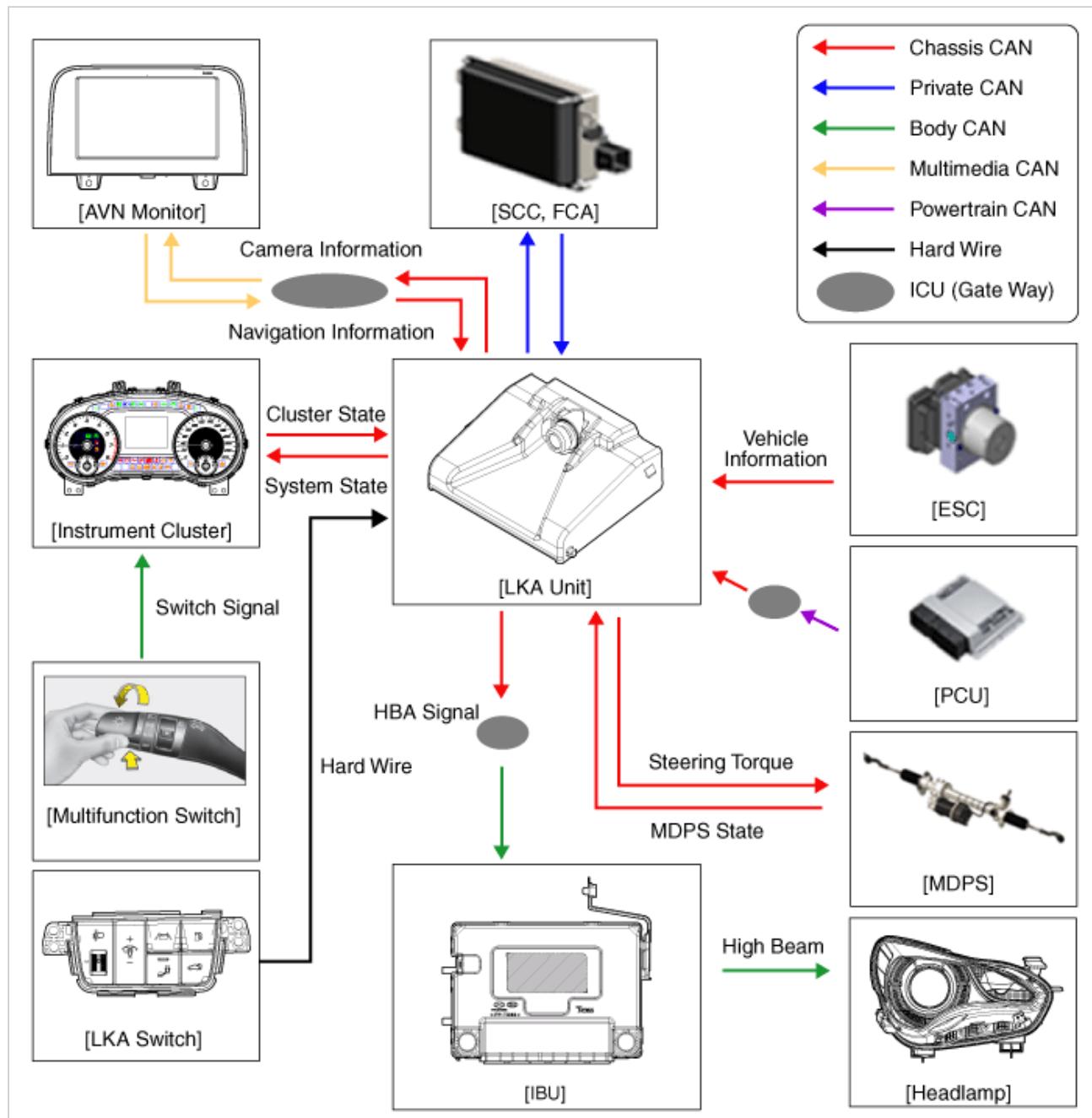




## Description

### System block diagram

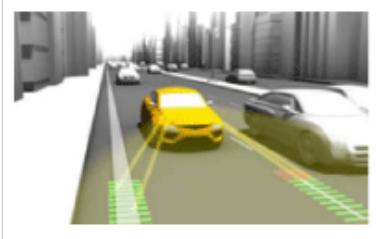
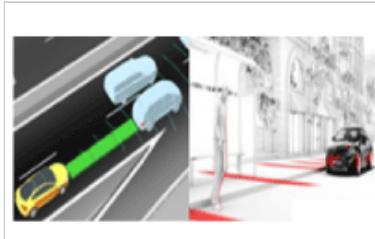


### System function

Camera unit of the LKA processes below function with the video signal inputted

1. **LKA (Lane Keeping Assist)** : The system is designed to help recognize the lane ahead and to give off a lane departure warning when the vehicle starts moving out of the lane by using the camera image and vehicle signal information.
2. **High Beam Assist (HBA)** : Detects head lamp and tail lamp lights of vehicle ahead and turns the high beam ON/OFF.
3. **Intelligent Speed Limit Warning (ISLW)** : Detects traffic signs by using the camera and displays the speed limit by using the map data from navigation.
4. It supports Forward Collision-Avoidance Assist (FCA) systems.

Lane Keeping Assist (LKA)	High Beam Assist (HBA)

	
Lane Keeping Assist	When detecting light from vehicle in front
<b>Intelligent Speed Limit Warning (ISLW)</b> 	<b>Forward Collision-Avoidance Assist (FCA)</b> 
Speed Limit Information	Vehicle and pedestrian detection

## System Activation Conditions

### LKA Controller Typical Operating Conditions

Note that operating conditions are tuned to meet the customer requirements .

- Vehicle speed within 60 kph – 175 kph
- A lane is clearly visible.
- Driver is not overriding the system – applying a large steering torque
- Directional (including hazard) signals are off.
- The lane width is within 2.8m to 4.3m
- The driver's hands are on the steering wheel.
- The absolute steering angle is < a given value (e.g 90 degrees).
- The maximum allowable time for maximum torque application has not been exceeded. (90 seconds)
- Reverse or EPS city mode is not engaged.
- No fault is present in the system.

Activation conditions for HBA are as follows:

- HBA is activated when the light switch is at "AUTO" and the high beam switch is ON (push).
- HBA is activated when the function is enabled and the vehicle speed is 45 km/h or higher, and automatically deactivated when the vehicle speed is 35 km/h or less.
- HBA is not activated in daytime even if the activation conditions are satisfied.
- In nighttime, HBA detects the preceding vehicle's lamp light and automatically turns the high beam on or off.

Activation conditions for DAA are as follows:

- The function should be enabled on the User Setting Menu (USM) of the cluster.
- The function should be enabled and the vehicle speed should be 60 km/h - 175 km/h.