

Intelligent High Beam Assistant

What is Intelligent High Beam Assistant

What:

A system that utilizes a camera and photovoltaic sensor to recognize day/night and the taillights and headlights of vehicles in front or oncoming, to allow the utilization of high-beam headlights as much as possible.

Why:

To improve passenger safety by providing increased lighting during night or low-light driving.

Benefits:

Decrease in accidents / injuries / deaths caused by tired or distracted drivers

How:

Utilization of cameras and sensor, electronically controlled systems can interpret and react to changing conditions faster than a human driver in many situations reacts. System is “Active” (Changes headlights) to prevent “dazzling” other drivers, yet provide maximum lighting when possible.

Intelligent High Beam Assistant Operation

Camera and photovoltaic sensor

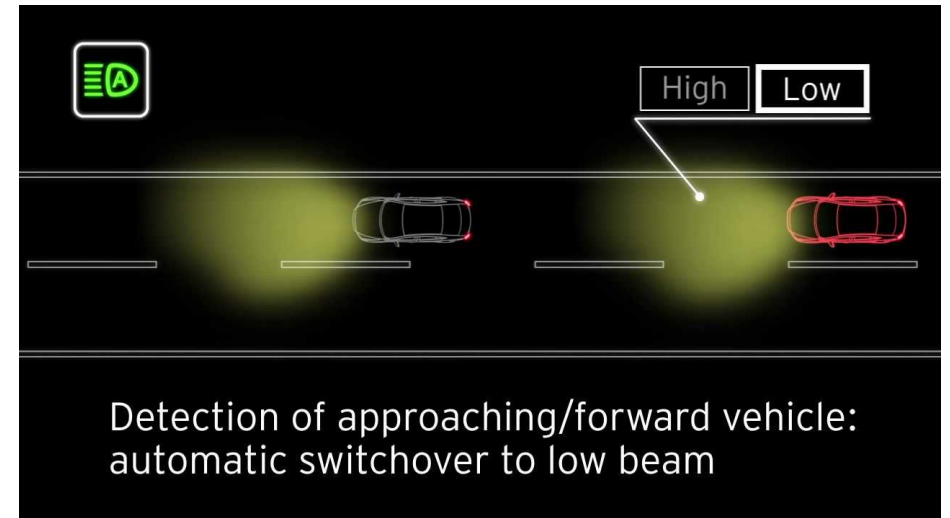
“Sees” oncoming headlight and taillights from vehicle in front

Recognizes ambient light conditions

Module receives input from camera and sensor

Controls Low-beam / High-beam operation

Works to provide maximum lighting whenever possible



Intelligent High Beam Assistant Components

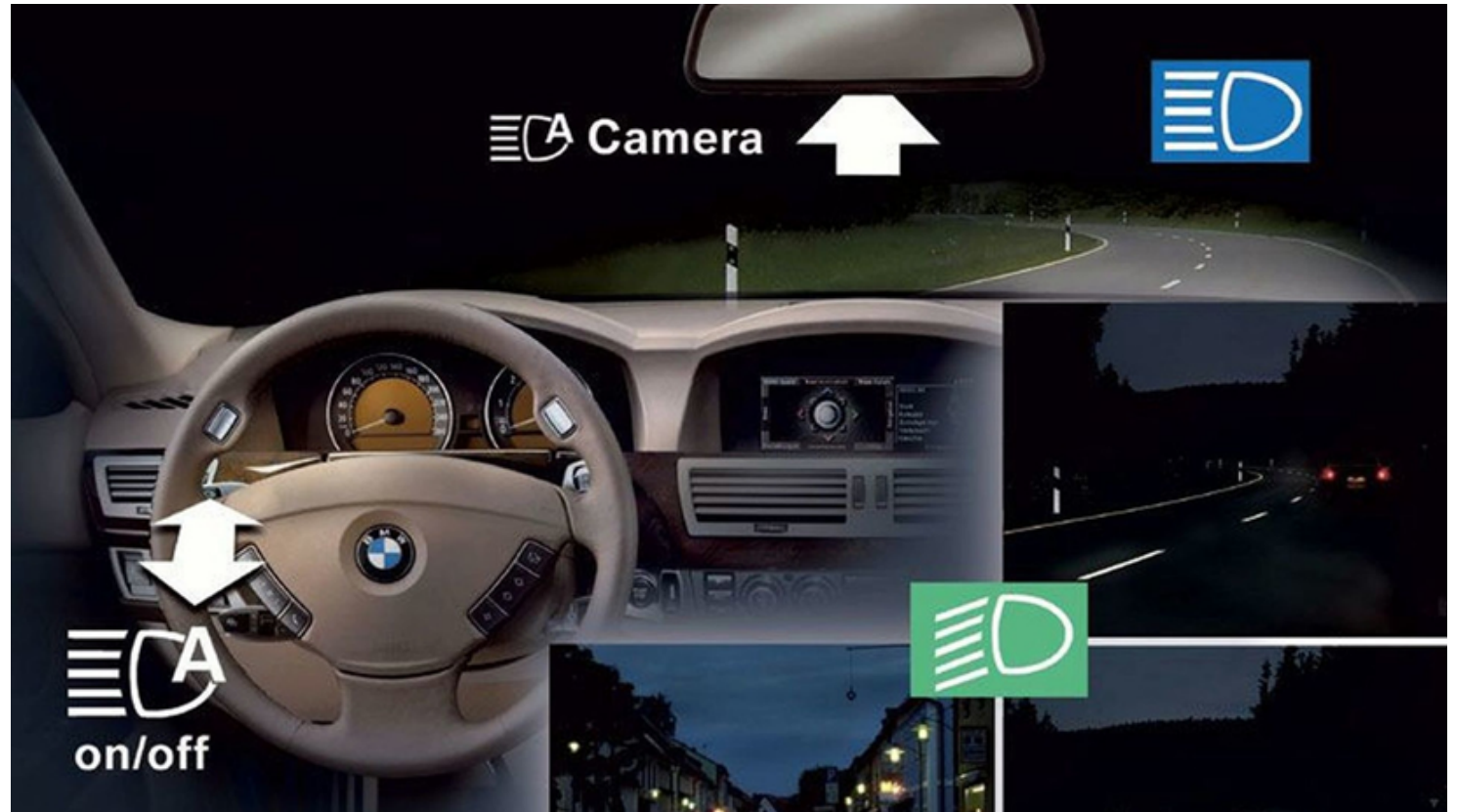
Camera(s)

Module(s)

Control Switch

Photovoltaic Sensors

Visual Indicators



Intelligent High Beam Assistant Diagnosis

Visual inspection

- Windshield
- Damage to camera

Fault codes

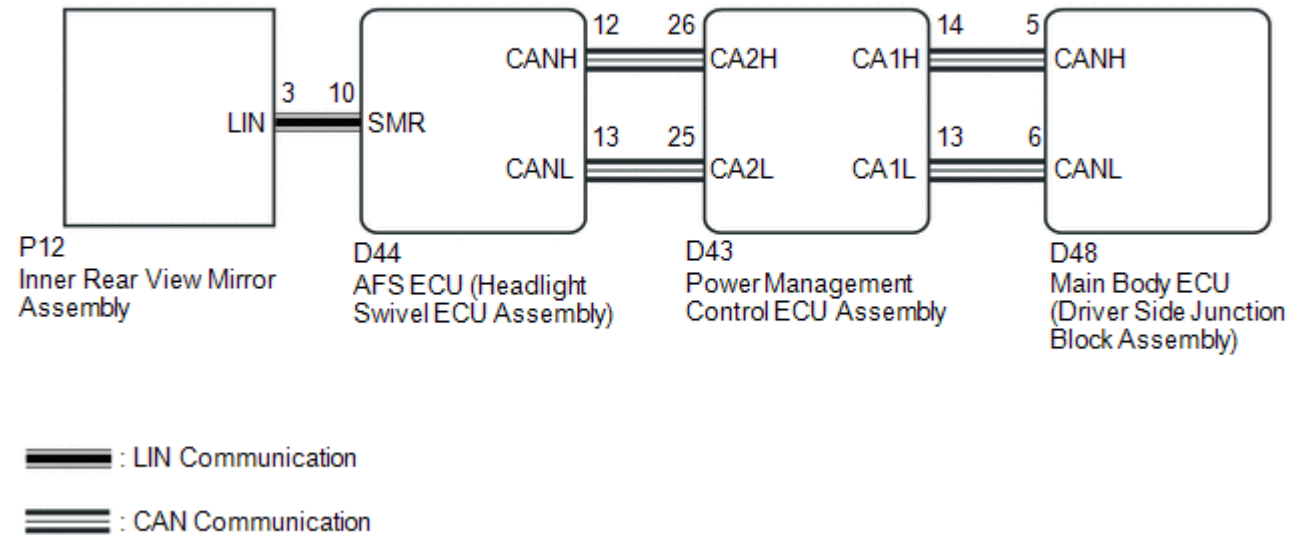
- OEM
- SAE

Electrical testing

- Power
- Ground
- Signals
- BUS Communications

External conditions

- Weather
 - Heavy rain
 - Snow / Sleet / Hail
 - Fog
 - Smoke / Dust
- Clarity of road signs
- Cleanliness of windshield



Intelligent High Beam Assistant Service / Calibration

Mechanical

Targets

Some sensors hard mounted, some may be adjustable

Non-related repairs and services can require calibration

Alignment

Collision

Lens Cleaning Systems

Self / Auto

Driving