The 2018 Kia Sportage LX’s UVO® infotainment system* placed moderate demand on drivers in the study. The simplicity of the center stack menus allowed drivers to interact with the infotainment system with overall moderate levels of demand.

### ABOUT THE STUDY

Researchers evaluated 40 new 2017/2018 vehicles’ infotainment systems* to measure overall demand** placed on a driver when using voice command, touch screen and other interactive technologies to make a call, send a text message, program audio entertainment or program navigation, all while driving down the road.

### STRENGTHS

- The audio entertainment system could be accessed quickly via voice commands or the center stack.
- The dial pad on the touch screen is inaccessible while the vehicle is in motion.

### WEAKNESSES

- Using voice commands, drivers experienced high cognitive (mental) demand, taking 30 seconds\(^1\) on average to place a call.

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* Infotainment System: Vehicle system that combines entertainment and information content.

** Overall demand measured: visual (eyes-off road), cognitive (mental) and time-on-task.

\(^1\) Compared to a recommended maximum of 24 seconds.
VEHICLE OVERVIEW: CONTROLS AND DISPLAYS

- VOICE COMMANDS
- STEERING WHEEL COMMANDS
- INSTRUMENT CLUSTER
- CENTER STACK
CALLING AND DIALING

Drivers can use the Kia Sportage’s UVO® system to place calls to contacts and dial phone numbers using voice commands or the center stack. Additionally, the color-coded steering wheel buttons allow drivers to load the phone menu, answer incoming calls and end phone calls. A phone can be paired via the center stack only while the vehicle is stationary. Should the driver attempt to access phone functions via voice without a phone paired, the system will automatically load the phone pairing menu on the center stack. The dial pad on the touch screen is locked out while the vehicle is in motion, though the contacts list remains available.

Placing phone calls posed an overall moderate level of demand on drivers. Researchers‡ noted that drivers were able to quickly use the center stack to search through the contacts list to place calls. Although the contacts list allowed users to jump to a desired section of the alphabet to reduce the amount of scrolling needed to find a contact, the process still required very high levels of visual (eyes-off-road) demand. Researchers‡ found the menu structure was easy to navigate due to the well-labeled buttons and icons. However, drivers were required to work through several submenus with small-sized font to place a call.

Using the voice command system to dial phone numbers and call contacts placed high demand on drivers. Although the system allowed simple commands, however, drivers still experienced high cognitive (mental) demand and took 30 seconds\(^\circ\) on average to place a call. Researchers‡ noted this was likely due to the two-step dialing process and frequent inaccuracies in command interpretation. However, the system does always ask for confirmation and offers the opportunity to make a correction before placing a call, helping to avoid errors.

AUDIO ENTERTAINMENT

The audio entertainment system provides access to AM, FM and XM radio; CD; and USB, auxiliary and Bluetooth audio connectivity. Drivers can access the audio system via the center stack and voice command system. Steering wheel buttons can be used to access a limited set of functions, such as presets.

The audio entertainment system displayed an overall moderate level of demand, taking drivers 15 seconds\(^\circ\) to make selections using the center stack and 12 seconds\(^\circ\) using the voice command system.

Researchers‡ found that the UVO system used large buttons on the center stack with standard labels that were easy to accurately select. The menu structure includes two layers, making it easy for a driver to remember their current place in relation to the main menu. Despite the minimal information contained in the audio submenus, drivers still experienced very high levels of visual demand and high levels of cognitive demand. This was most likely due to the system’s small and tightly spaced block font, which was difficult to read against the dark background. Moreover, unavailable sources are still listed on-screen, increasing the amount of visual clutter to sort through.

Similarly, using the voice command system imposed high levels of cognitive and visual demand. Researchers‡ noted that accepted commands are intuitive and short but must be given in a specific format. Command prompts pop up on the center stack display and are specific to whichever source is currently activated.

\(^*\) Infotainment System: Vehicle system that combines entertainment and information content.
\(^\circ\) Compared to a recommended maximum of 24 seconds.
\(^\dagger\) Researchers with expertise about how humans interact with technology evaluated the usability of the infotainment system in stationary vehicles.
## VEHICLE CONTROLS AND DISPLAYS

### VOICE COMMANDS

The 2018 Kia Sportage LX comes equipped with a voice command system that allows drivers to access phone and audio entertainment features. Drivers can activate the system by pressing the dedicated button on the steering wheel and interacting with the female robotic voice. The voice system provides command prompts on the center stack display relevant to the menu active at the time of operation.

### INSTRUMENT CLUSTER

The instrument cluster, located behind the steering wheel, features a black and white central display surrounded by standard speedometer, fuel, tachometer and engine temperature gauges. Drivers can access a range of infotainment and vehicle status information on the display by using buttons on the steering wheel.

### STEERING WHEEL CONTROLS

The steering wheel contains nine buttons and four toggles grouped by function. Buttons on the left side provide access to infotainment features, while buttons on the right side provide access to instrument cluster display content and cruise control.

### CENTER STACK

The center stack features a 5-inch, full-color touch screen surrounded by 14 additional buttons for system navigation. Due to the lack of a home menu, large and clearly labeled dedicated buttons on either side of the display are used to switch between the audio entertainment, phone and system settings menus.

The center stack includes an additional eight buttons and two dials that give access to the vehicle’s climate control.

### VEHICLE SALES SUMMARY

The 2018 Kia Sportage is the 71st bestselling vehicle in the United States, with 72,824 sold during 2017 YTD.¹

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¹Source: GoodCarBadCar at goodcarbadcar.net — data updated to Dec. 6, 2017.