



AAA CENTER FOR DRIVING SAFETY & TECHNOLOGY



2017 HONDA RIDGELINE RTL-E



Standard and Optional Features in the 2017 Honda Ridgeline

	RT	Sport	RTL	RTL-T	RTL-E
○ Optional					
● Standard					
Android Auto				●	●
Apple CarPlay				●	●
Mobile App Support				●	●
Text Messaging				●	●
Navigation				●	●
Touch Screen				●	●
Gesture Control					
Heads-Up Display					
Voice Commands	●	●	●	●	●
Console Control					

Additional trim levels available.

STRENGTHS

- While driving, the text message content is blocked from displaying on-screen. Instead, the voice system reads text messages aloud when drivers select a message while driving.
- Voice commands must be used to enter an address as this function is blocked on the touch screen while driving.

INFOTAINMENT SYSTEM* DEMAND RATING

Very High Demand



The Honda Ridgeline RTL-E's HondaLink® infotainment system (version 4.2.2) generated very high demand in the study, requiring an excessive amount of time to place calls, send text messages, program navigation and adjust audio. Most notably, the audio and turn-by-turn navigation system are very highly demanding and time-consuming.

ABOUT THE STUDY

Researchers evaluated 30 new 2017 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, tune the radio or program navigation, all while driving down the road.

WEAKNESSES

- Overall very high cognitive (mental) demand is required to access almost all functions (place calls, control navigation and adjust audio).
- Using the voice system to access all functions took more than the recommended maximum of 24 seconds♦ to complete.
- Using the touch screen to access all functions resulted in very high visual (eyes-off-road) demand.

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

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

♦Compared to a recommended maximum of 24 seconds according to the federal government

VEHICLE OVERVIEW: CONTROLS AND DISPLAYS



VOICE COMMANDS



STEERING WHEEL COMMANDS



INSTRUMENT CLUSTER



CENTER STACK

INFOTAINMENT SYSTEM

The HondaLink® Infotainment System offers the following features:

CALLING AND DIALING



The Ridgeline RTL-E HondaLink® infotainment system allows drivers to access calling and dialing via the voice system or touch screen when a phone is paired. Some limited functionality is also available using steering wheel buttons. To pair a new phone, drivers can follow simple instructions displayed automatically when accessing the phone menu. Drivers can call contacts stored on the connected phone or dial numbers using the voice command system. The touch screen restricts drivers from accessing the dial pad while the vehicle is in motion and only allows access to the vehicle's phonebook to call contacts.

The on-road study found using the voice system to place a call imposed a very high cognitive (mental) demand on drivers, and it took more than 30 seconds♦ to complete the interaction. The touch-screen display has multiple visual (eyes-off-road) usability issues related to calling and dialing. For example, when a call is placed via voice commands, the touch screen can display a list of seemingly unrelated contact names the driver must search through to complete the call. Additionally, when dialing a number, the touch screen displays not only the number being dialed, but also an example number such as "888-111-2222". This can distract the driver, thinking that the system is dialing the wrong number, especially since the example number is the more dominant text on the screen.

The on-road study found using the touch screen to call a contact created very high levels of visual (eyes-off-road) and cognitive (mental) demand on drivers. Researchers^ also found using the touch screen for this function to be slow and cumbersome.

Overall, the system placed very high demand on drivers.



TEXT MESSAGING

When an Android phone is paired, drivers can receive messages and send replies via the touch screen. The voice system does not support text messaging functions; however, its synthetic voice reads text messages aloud when drivers select a message while driving. While the Ridgeline is not in park, the touch screen restricts drivers from scrolling down past the first page of messages in the inbox and from viewing the contents of messages. Instead, the system reads them aloud.

The on-road study found the process of sending text messages to place very high demand on drivers, requiring excessive amounts of visual (eyes-off-road) demand and taking an average of 26 seconds♦ to complete a task.

To reply to a text message, drivers select a message in the inbox and choose from six predefined responses. Researchers^ found accessing the text messaging menu to be difficult and non-intuitive. To access text messaging, drivers must first open the phone menu and then touch the touch screen's Menu button off to the left side. The existence of any additional phone functions beyond the main page is not easily discoverable.

♦ Compared to a recommended maximum of 24 seconds

^ Researchers with expertise about how humans interact with technology evaluated the usability of the infotainment system in stationary vehicles

AUDIO ENTERTAINMENT



The Ridgeline's audio entertainment system includes: AM and FM radio; Bluetooth; auxiliary and USB audio. It also supports Android Auto and Apple CarPlay. Drivers can access audio entertainment via voice commands, the touch screen and some limited functions via steering wheel buttons.

The on-road assessment found that using the audio system placed overall very high demand on the driver. Although the touch screen audio menu has an uncluttered layout, the system is delayed in loading selections. This is exacerbated by excessive animations and the lack of any physical buttons or dials. Drivers took an average of 35 seconds[♦] to complete an interaction and were subjected to very high levels of both cognitive and visual demand.

The on-road study found using the voice system to control audio functions required a very high amount of cognitive (mental) demand for drivers, and interactions were prolonged up to 36 seconds[♦]. Researchers[^] found the voice system accepts only a rigid set of non-intuitive commands and often requires multiple steps for drivers to access and change media sources.

TURN-BY-TURN NAVIGATION SYSTEM



The Ridgeline includes a Garmin[®] turn-by-turn navigation system that provides directions to a set destination. Guidance is read aloud and displayed on the touch screen and cluster displays. To set a destination, drivers can use voice commands or the touch screen to select a point of interest from a range of categories. Voice commands must be used to enter an address, as this function is blocked on the touch screen while driving.

The navigation system placed very high demand on drivers regardless if voice commands or the touch screen were used. Not only did navigation via the touch screen require very high amounts of both visual (eyes-off-road) and cognitive (mental) demand, it required 45 seconds[♦] to complete on average. Additionally, experts found the menu complex. It contained many ambiguous categories, such as 'Everyday Life,' which includes places such as car washes and libraries. The navigation menu also contained multiple pathways to the same place and did not resemble any other menu structure in the system.

The on-road study found using the voice system for navigation resulted in very high cognitive (mental) demand on drivers and an excessive interaction time, 61 seconds[♦] on average. However, researchers[^] found using voice commands to access the navigation system provided a simple, more direct experience than the touch-screen menu.

The very high demand associated with voice commands could be due to the Ridgeline using the third-party Garmin application. The navigation system has many design inconsistencies with the other core infotainment system functions.

[♦] Compared to a recommended maximum of 24 seconds

[^] 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 Ridgeline RTL-E comes equipped with a voice command system that allows drivers to access phone, audio, turn-by-turn navigation and some climate control features using voice commands. The voice system is activated by pressing a button on the steering wheel. The system plays back two different female voices, a synthetic voice and a more natural sounding one. However, the voice included in the navigation system differs entirely from the voice used for the majority of other functions, resulting in a multitude of separate voices within the one vehicle.

INSTRUMENT CLUSTER



The instrument cluster located behind the steering wheel features a 4.2-inch digital display that drivers can control using buttons on the steering wheel. The cluster display contains a range of vehicle options and information, including the status of the infotainment system and advanced driver assistance systems. Above the display is a digital speedometer, and familiar analog gauges are found on either side.

STEERING WHEEL CONTROLS



The steering wheel contains 20 buttons that give access to the cluster display, voice commands, phone, audio entertainment, advanced driver assistance systems and the heated steering wheel settings.

CENTER STACK



The center stack comes equipped with an 8-inch full-color touch screen that houses the Ridgeline's core infotainment functions: phone, audio entertainment, turn-by-turn navigation, HondaLink®, applications and settings. The center stack also includes a column of touch-sensitive buttons along the left side of the touch screen.

Further down the center stack, 18 buttons and switches give access to the Ridgeline's climate settings. Climate settings display on a small digital screen.

VEHICLE SALES SUMMARY

The Honda Ridgeline is the 147th best-selling vehicle in the US market, with 23,667 vehicles sold in 2016¹.

¹Source: Automotive News at autonews.com; Wall Street Journal at wsj.com – data updated to 11/25/2016