

In-Car Technology Ride & Drive Guide



IN-CAR TECHNOLOGY RIDE & DRIVE GUIDE

Welcome to the BMW and HARMAN Ride & Drive event in New York City. The following guide outlines the latest HARMAN and BMW in-car technology experiences available for you to enjoy during your drive in the BMW i3, X5 and 7 Series.

During today's Ride & Drive, you'll learn firsthand how HARMAN helps deliver a seamless and personalized, premium BMW experience. And don't forget—HARMAN and BMW executives and technology experts are available at the Classic Car Club of Manhattan after your drive to answer questions. Buckle up, and enjoy the drive!



ADVANCED
MOBILITY

SOUND
MANAGEMENT

CONNECTED
SAFETY

ADVANCED
DISPLAYS

REMOTE
SERVICES

GESTURE
CONTROLS



DRIVING CONNECTED CAR INNOVATION

HARMAN and BMW have collaborated for more than 20 years to develop premium in-car connected experiences that embody the unmatched BMW brand. HARMAN enables more than 40 consumer-facing features in the BMW NBTEvo connected car system, which is available today in virtually all BMW vehicles.

This guide highlights several of these feature areas for today's Ride & Drive, including advanced mobility, sound management, connected safety, advanced displays, remote services and gesture controls.



ADVANCED MOBILITY

HARMAN enables a seamless connected experience in BMW vehicles so drivers can enjoy real-time, personalized services thanks to reliable Wi-Fi via an **in-car hotspot**. Apps available that are connected by HARMAN include BMW Connected, BMW M Laptimer, Pandora and Spotify.

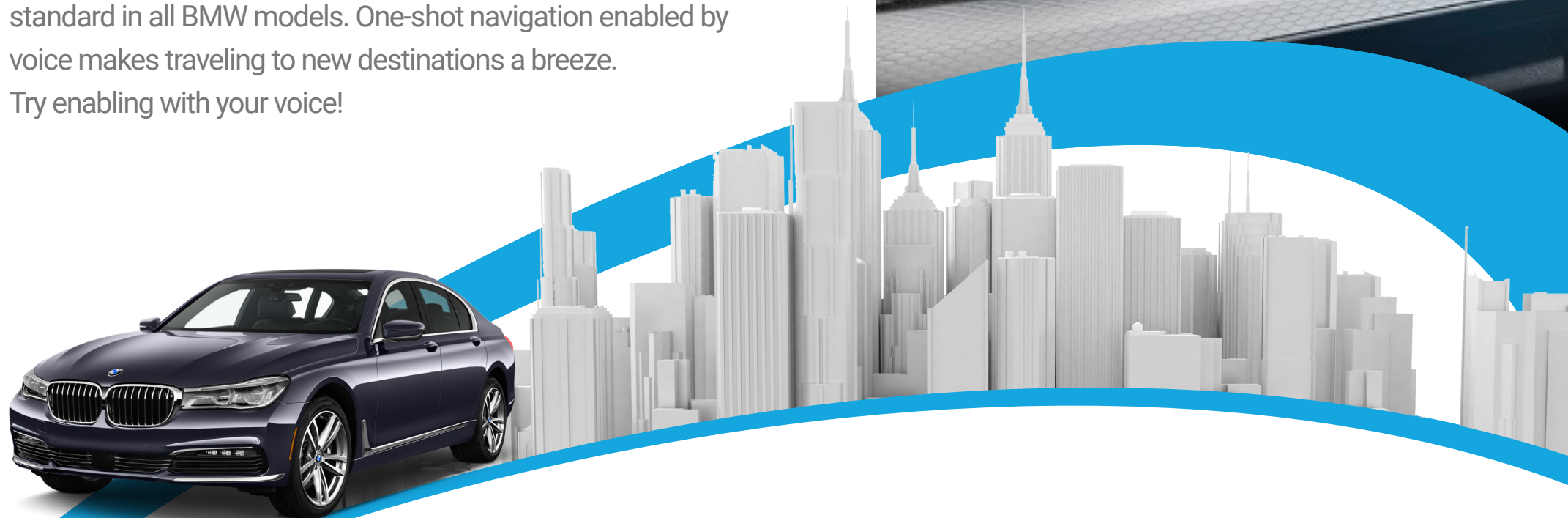
HARMAN and BMW are the **first in the industry to offer Apple CarPlay integration through a wireless connection** using HARMAN's end-to-end infotainment system. Simply connect an iPhone via the car's Bluetooth to view and control its functionality through the premium integrated display, including calls, music playback, mobile office and navigation. Additionally, the system allows the use of **voice-recognition** for a safer, hands-free experience. For Android users, the vehicles are equipped with Miracast, as well.



BMW and HARMAN

ADVANCED MOBILITY

Mobile phones are not a requirement to enjoy the in-car features. Industry-leading **HDD-based 3D map navigation** is standard; maps are stored via on-board memory and automatically updated “over the air” thanks to the reliable 4G connection. Depicting a 3D animated rendering of the city around you will help you gather your bearings before beginning your trip. Take a step back to experience the quality and responsiveness of the navigation, as you zoom in and out from city view to detailed street levels. With navigation embedded, drivers have the latest maps, as well as real-time traffic information—always. Check out the 3D renderings of New York City’s landmarks as you cruise through the streets. In addition, **Intelligent Voice Control** powered by HARMAN is standard in all BMW models. One-shot navigation enabled by voice makes traveling to new destinations a breeze. Try enabling with your voice!

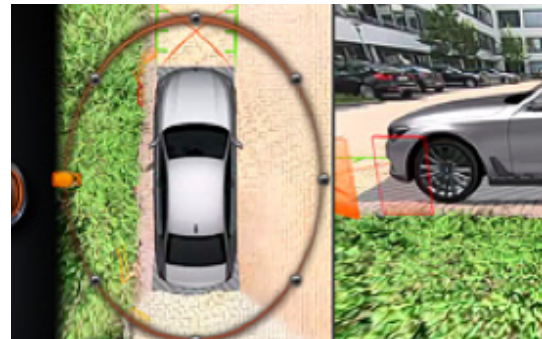


SOUND MANAGEMENT



The premium connected driving experience coupled with Harman Kardon audio will transport you physically and mentally. You'll experience up to 16 high-performance speakers and up to 600 watts of power from the sophisticated DSP multichannel amplifier in the BMW 7 Series and X5; up to 12 high-performance speakers and up to 360 watts of power in the BMW i3.

CONNECTED SAFETY



In partnership with industry suppliers, HARMAN works to seamlessly integrate features, including BMW's **360 Surround View** capabilities. This integration also supports the BMW **Active Cruise Control** system (Adaptive Cruise Control), designed to reduce fatigue and take the aggravation out of inconsistent car speeds around you. Standard in all BMW vehicles, Adaptive Cruise Control is an adjustable, dynamic addition to the typical cruise control. The integrated camera system technology is activated when the car is put into reverse or the Park Distance Control (PDC) or Side View buttons are pressed.

ADVANCED DISPLAYS



The **Head-Up Display** projects a multi-color image that seems to float beyond the windshield, just below your line of vision. The onscreen data is projected thanks to HARMAN technology rooted in the infotainment system. It allows you to monitor preferred travel information, such as current speed, BMW Navigation system directional arrows and posted speed limit, as well as check control data and more—without taking your eyes off the road.

REMOTE SERVICES



In addition to reliable telematics services including Ecall and E911, HARMAN-enabled BMW vehicles feature reliable **Remote Services** that let owners unlock car doors with a few taps of the BMW Connected app, as well as locate your vehicle, turn on the ventilation system and send destinations to the navigation system.

HARMAN's connected car platform also enables the **BMW TeleService**, a group of sensors that transmit your vehicle's maintenance directly to an owner's BMW center so any parts needed are obtained and waiting.



BMW and HARMAN

GESTURE CONTROL

In addition to operation using Intelligent Voice Control, the BMW 7 Series can also be operated with optional **Gesture Control**, which offers a particularly intuitive and easy way of managing the infotainment system and telephone functions. All that is needed are simple movements of the hand or fingers, which are detected by a 3D sensor in the vicinity of the center console and translated into commands:



Single Finger Point

Pointing at the screen with the index finger is all it takes to accept a phone call, for instance, while a swiping motion with the hand rejects it.



Swipe

The swiping action can also be used to open submenus.



Circle Trace

Tracing a circle with the index finger adjusts the audio system's volume, and the driver can pull their thumb and index finger away from the navigation map towards them to zoom in on that section of the map.



Two Finger Point

The two-finger point towards the iDrive screen can be used to carry out an individually selectable command, such as instructing the navigation system to start route guidance to the home address or skipping to the next track in a playlist.

As the automotive industry is propelled by the full-scale rollout of the connected car and megatrends such as electrification and autonomous driving, HARMAN and BMW continue to revolutionize the in-car experience to ensure it offers the latest safe, seamless and personalized driving features. We hope you enjoyed today's Ride & Drive experience and look forward to immersing you in the next generation of systems that are smart, adaptable and highly personalized to ensure vehicles aren't simply connected, but truly intelligent.

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