

# APPENDIX A

**Infringement of U.S. Patent No. 8,166,081****By the Volkswagen Group**

Volkswagen Group automobiles provide an infotainment console that infringes the '081 patent, for example claim 9. Many recent Volkswagen and Audi automobile models integrate Apple CarPlay™ and HD Radio™, FM radio with RBDS, SiriusXM®, or other platforms into the head unit with functionality claimed in the '081 patent, for example claim 9. These platforms are available in many Volkswagen models, (*e.g.*, the Spacefox (2016), CC (2016-18), Scirocco (2016-18), Amarok (2016-20), Beetle (2016-19), Beetle Cabriolet (2016-19), Golf R (2016-19), Caddy (2016-20), California (2016-20), Caravelle (2016-20), e-Golf (2016-20), Fox (2016-20), Golf (2016-20), Golf Cabriolet (2016-20), Golf SportsVan (2016-20), Golf Variant (2016-20), Golf SportWagen (2016-20), GTI (2016-20), Jetta (2016-20), Lamando (2016-20), Multivan (2016-20), Passat Variant (2016-20), Polo (2016-20), Sharan (2016-20), Tiguan (2016-20), Touran (2016-20), Transporter (2016-20), Passat (2016-20), Atlas (2017-20), Crafter (2017-20), CrossFox (2017-20), Gol (2017-20), Saveiro (2017-20), Voyage (2017-20), Arteon (2018-20), Bora (2018-20), Magotan (2018-20), Sagitar (2018-20) and T-Roc (2018-20)), as well as many Audi models (*e.g.*, the A3 (2017-20), A4 (2017-20), A5 (2017-20), A6 (2017-20), A7 (2017-20), Q2 (2017-20), Q7 (2017-20), R8 (2017-20), TT (2017-20), Q5 (2018-20), e-tron (2019-20), Q8 (2019-20), and Q3 (2020)), which may have HD Radio™ or SiriusXM®, and CarPlay™ integrated or retrofitted.<sup>1</sup> Many Volkswagen and Audi vehicles include HD Radio™, and may additionally include SiriusXM® or FM radio with RBDS, which enables receiving of radio broadcasts. Platforms like CarPlay™ enable a user to receive and process SMS messages (and other communications) while receiving music, navigation and Siri, via the infotainment console, thereby infringing the '081 patent, for example claim 9.

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<sup>1</sup> Data from Apple Carplay page, accessed on October 13, 2020 at <https://www.apple.com/ios/carplay/available-models/>

Claim		Volkswagen Audi A3 HD Radio and Apple Carplay
9.Pre	A system for combining multiple media comprising:	<p><i>The Volkswagen Head Unit Console has functionality to support Apple CarPlay, as well as HD Radio, SiriusXM and FM Radio features. The Volkswagen Head Unit is capable of displaying multiple items describing these functionalities and features at the same time on the console display. For example, the Volkswagen Head Unit is capable of presenting to the user an HD Radio screen including information about the currently broadcast song and station while also presenting to the user a banner notification including information about a received SMS message.</i></p> <p><i>See:</i></p> <ul style="list-style-type: none"> <li>- 2020 Audi A3 Sedan Owner's Manual, p. 228.<sup>2</sup></li> </ul>
9.a	a first receiver module configured to receive at least a first media content and data enabling the identification of a specific instance of the first media content from a first broadcast medium;	<p><i>The Volkswagen Head Unit Console includes a radio receiver for receiving HD Radio, FM Radio with RBDS, and/or Sirius XM broadcasts. The radio receiver is capable of receiving radio broadcasts including an audio stream of audio songs and other programming and a data stream including data related to a currently playing song or program, such as song title, artist, and unique identifiers associated with the broadcast station.</i></p> <p><i>See:</i></p> <ul style="list-style-type: none"> <li>- 2020 Audi A3 Sedan Owner's Manual, pp. 207, 228.</li> <li>- EddieX YouTube Video: "TOUCHSCREEN Audi MMI In-Depth Review and Tutorial!," posted October 16, 2019.<sup>3</sup></li> <li>- HD Radio Air Interface Design Description, p. 10.</li> </ul>
9.b	a second receiver module configured to receive at least a second media signal content and uniquely identifying data	<p><i>The Volkswagen Head Unit Console includes a receiver coupled to a USB input port for use with compatible devices such as cell phones. The USB-coupled receiver is capable of receiving information from a cell-phone and processing the received information to display to a user on a console display. For example, the USB-coupled receiver is capable of receiving information related to a text message, or SMS message, received at the coupled cell phone including information that identifies the sender of the message and the particular message. The information related to the SMS message is received at the USB-coupled</i></p>

<sup>2</sup> <https://bordbuch-online.audi.de/AudiBordbuch/docs/aed70582-05b7-4910-ae08-19cf1cc1d50a/206/>

<sup>3</sup> <https://www.youtube.com/watch?v=ptwrw1rfsp0>

	specific to at least the second media content, the second media content received discretely from the first media content;	<p><i>receiver altogether separately from a radio broadcast stream received at a radio receiver of the Volkswagen Head Unit.</i></p> <p><i>See:</i></p> <ul style="list-style-type: none"> <li>- 2020 Audi A3 Sedan Owner's Manual, pp. 175, 228.</li> </ul>
9.c	an output system configured to present concurrently the first media content and the second media content on an output of the first receiver module or the second receiver module;	<p><i>The Volkswagen Head Unit Console includes a console display to provide information to the user. The Volkswagen Head Unit is capable of displaying information to the user about a song currently playing on the HD Radio or SiriusXM Radio, and also at the same time the song information is displayed, presenting the user with a banner notification related to a received SMS.</i></p> <p><i>See:</i></p> <ul style="list-style-type: none"> <li>- Apple Support: iPhone User Guide, "Send and receive text messages with CarPlay."<sup>4</sup></li> <li>- Britta O'Boyle, Pocket-lint Reviews, July 7, 2020.<sup>5</sup></li> </ul>
9.d	an input module configured to receive at least a response input responsive to the second media content; and	<p><i>The Volkswagen Head Unit Console includes microphones and input buttons (for example on the steering wheel and/or console, or on a touch-screen display) to allow a user to make selections related to various features. The Volkswagen Head Unit Console is capable of receiving a response from a user to respond to the received SMS in a variety of ways. For example, the user can activate Siri (the Apple digital assistant) by speaking a particular phrase, and can then instruct Siri to read the received message or send a dictated message in a response. Although the cell phone microphone may be used, the instruction input by the user is received at an input module of the Head Unit Console to be displayed to the user.</i></p> <p><i>See:</i></p> <ul style="list-style-type: none"> <li>- Audi Atlanta YouTube Video: "Apple CarPlay Tutorial on 2019 Audi MMI Touch Response Systems," posted April 8, 2019.<sup>6</sup></li> </ul>

<sup>4</sup> <https://support.apple.com/guide/iphone/send-and-receive-text-messages-iphb5d45624c/ios>

<sup>5</sup> <https://www.pocket-lint.com/cars/news/apple/127690-apple-carplay-explored-taking-ios-on-the-road>

<sup>6</sup> <https://www.youtube.com/watch?v=yQRUiKQN0k>

9.e	a transmitting module configured to transmit a response message having at least the uniquely identifying data specific to the second media content to a computer server.	<p><i>The Volkswagen Head Unit Console includes a processor capable of accepting user inputs on the display and transmitting instructions to carry out the user input to the USB-connected cell phone. For example, a user dictates a message in response to the received text message and a graphic is displayed on the console display. The processor is then capable of transmitting the instructions to send the response to the coupled cell phone, including the information about the sender of the original SMS, so that the text message can be sent.</i></p> <p><i>See:</i></p> <ul style="list-style-type: none"><li>- Audi Atlanta YouTube Video: “Apple CarPlay Tutorial on 2019 Audi MMI Touch Response Systems,” posted April 8, 2019.</li><li>- Apple iPhone Specifications.<sup>7</sup></li></ul>
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<sup>7</sup> <https://www.apple.com/iphone-7/specs/>