



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**

# Memorandum

Subject: Ex Parte Communication with Audi relating to Pending  
Temporary Exemption Petition

Date: October 15, 2019

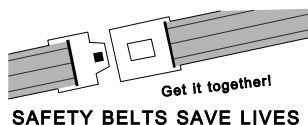
From: Daniel Koblenz  
Attorney Advisor  
Vehicle Standards and Harmonization  
Office of Chief Counsel

To: Docket No. NHTSA-2019-0103

On June 27, 2019, Audi representatives visited DOT headquarters to provide NHTSA staff with a demonstration of a prototype Audi e-tron equipped with a Camera Monitor System (CMS) for rear visibility, and a “Matrix Beam Headlights” adaptive drive beam system. The Audi representatives running the demonstration were Alison Pascale, John Lobsiger, Thomas Zorn, and Brad Stertz. At 9:40 AM and 4:40 PM, I, along with other NHTSA staff, accompanied Mr. Lobsiger on a short drive through the neighborhood streets surrounding the DOT headquarters building, during which Mr. Lobsiger answered our questions about the CMS installed in the vehicle. The NHTSA staff that accompanied me during the 9:40 AM drive were Joe Kolley, Gun Lee, and Matthew Craig. The NHTSA staff that accompanied me during the 5:40 PM drive were Cem Hatipoglu and Steve Wood.

During both drives, I asked Mr. Lobsiger a number of technical questions about the CMS in the vehicle, including the ways in which the CMS in the demonstration vehicle would differ from the CMS that would be installed on an exempted vehicle should NHTSA grant Audi’s petition. In addition, following the 5:40 PM drive, Steve Wood and I had a brief conversation with Mr. Stertz in which I asked a few additional technical questions about the CMS that would be installed on an exempted vehicle. After the demonstration, I sent a follow-up email with additional questions to Mr. Lobsiger. My email and Mr. Lobsiger’s response are attached to this memo.

Attachment.



## Koblenz, Daniel (NHTSA)

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**From:** Lobsiger, John <john.lobsiger@vw.com>  
**Sent:** Thursday, August 01, 2019 9:30 AM  
**To:** Koblenz, Daniel (NHTSA)  
**Cc:** Morrison, Jonathan (NHTSA); Zorn, Thomas  
**Subject:** RE: Follow-up CMS questions

Hi Daniel,

Apologies for the delay – our expert was on German summer holiday so it took some time to get a response.

The answers to your questions are provided below:

- Please describe how Parkview, Turnview, and Motorway view differ from the default view. Please describe how the CMS switches to Parkview, Turnview, and Motorway view. In particular, is user input required or does the CMS automatically switch views? If it automatically switches views, what circumstances trigger the change to each of those views and how does the CMS detect when those circumstances exist?

The Views by default are deactivated. The driver has to activate them using the setup menu in the touchscreen head-unit (MMI). Once activated, the views are triggered automatically:

  - Turnview is triggered by activating the turn indicator. After deactivating the indicator, Turnview is deactivated and the system returns to the default view.
  - Parkview is triggered by switching to reverse gear with vehicle speed less than 10 km/h. Parkview will deactivate if vehicle speed exceeds 10km/h.
  - Highwayview is triggered by the navigation system information indicating that the vehicle is on a highway and vehicle speed is greater than 80km/h. Highwayview deactivates when vehicle speed dips below 70 km/h or when the vehicle leaves the highway.

View Descriptions:

  - Turnview is shows an aspherical zone on the outer side with an enlarged field of view and to have a smaller blind spot.
  - Parkview shows an aspherical zone on the lower side to enlarge the field of view and to have a smaller blind spot for parking maneuvering.
  - Highwayview shows a smaller field of view to have objects appear larger and to focus more in the far field for increased detection on fast approaching vehicles (helpful on German autobahn).
- Is it possible to adjust manually the magnification of the image? If so, can the driver's side image be magnified independently of the passenger side image?

No it is not possible to manually adjust the magnification. It is changed by 2% for the Highwayview but still in the range of the allowed European Values.
- Is the image displayed on the CMS monitor one of unit magnification (as would be achieved through a planar mirror), or is it magnified or otherwise distorted in some way?

In the standard view (without Turnview or Parkview) we show a unitary magnification (about 0.32) without a distortion. The values of magnification are aligned to ECE R46.
- What types of obstruction can the CMS's self-diagnostics detect and what method of detection is used for each of those types? How frequently does the CMS run self-diagnostics? What sort of alert is given to the driver if an obstruction is detected?

The System has a dirt detection based on videoanalytics which is active continuously. The first stage activates the heater the second gives the driver a message on the information screen in the instrument cluster that they should clean the cameras.

Feel free to let me know if you have any additional questions.

Best regards,  
John

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**From:** Koblenz, Daniel (NHTSA) [mailto:daniel.koblenz@dot.gov]  
**Sent:** Tuesday, July 30, 2019 5:07 PM  
**To:** Lobsiger, John <john.lobsigier@vw.com>  
**Cc:** Morrison, Jonathan (NHTSA) <Jonathan.Morrison@dot.gov>  
**Subject:** RE: Follow-up CMS questions

Mr. Lobsiger:

This is just to check in on the status of our request for additional information about Audi's CMS. Do you have an estimated time for when you think you'll be able to provide answers to our questions?

Sincerely,



**Daniel Koblenz**  
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**From:** Lobsiger, John [mailto:john.lobsigier@vw.com]  
**Sent:** Tuesday, July 09, 2019 2:37 PM  
**To:** Koblenz, Daniel (NHTSA) <daniel.koblenz@dot.gov>  
**Subject:** RE: Follow-up CMS questions

Hi Daniel,

Thanks again for your time. It was my pleasure to help you and your colleagues experience the CMS. I will get more information from technical development and see if we can answer those questions for you.

Best regards,  
John

**John Lobsiger**  
Manager, Regulatory Policy  
Safety Affairs & Advanced Research

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**From:** Koblenz, Daniel (NHTSA) [<mailto:daniel.koblenz@dot.gov>]  
**Sent:** Monday, July 01, 2019 2:12 PM  
**To:** Lobsiger, John <[john.lobsigier@vw.com](mailto:john.lobsigier@vw.com)>  
**Subject:** Follow-up CMS questions

Mr. Lobsiger:

Thank you for coming in last week to demonstrate the Audi e-tron's CMS and nighttime matrix beam systems. We understand that you couldn't answer all of our questions about the CMS in part because the CMS we saw last week differs in some ways from the CMS that is the subject of Audi's pending temporary exemption petition. Accordingly, we hope you can provide us with some additional information about the CMS that is the subject of the petition:

1. Please describe how Parkview, Turnview, and Motorway view differ from the default view. Please describe how the CMS switches to Parkview, Turnview, and Motorway view. In particular, is user input required or does the CMS automatically switch views? If it automatically switches views, what circumstances trigger the change to each of those views and how does the CMS detect when those circumstances exist?
2. Is it possible to adjust manually the magnification of the image? If so, can the driver's side image be magnified independently of the passenger side image?
3. Is the image displayed on the CMS monitor one of unit magnification (as would be achieved through a planar mirror), or is it magnified or otherwise distorted in some way?
4. What types of obstruction can the CMS's self-diagnostics detect and what method of detection is used for each of those types? How frequently does the CMS run self-diagnostics? What sort of alert is given to the driver if an obstruction is detected?

Please be aware that, unless you request confidential treatment under 49 CFR part 512, we will likely upload your response(s) to this email to the public docket for the petition.

Sincerely,



**Daniel Koblenz**  
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**U.S. Department of Transportation**  
**National Highway Traffic Safety Administration**  
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