Technical Service Bulletin

91 MMI3G+ Audi connect only reaches 2G service - Telephone module replacement instructions for A4,A5,A5 cab,Q5,Q7,A8

91 15 21 2039476/5 October 16, 2015. Supersedes Technical Service Bulletin Group 91 number 15-06 dated July 28, 2015 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
A4, A5, A5 Cabriolet, Q5	2013	All	Audi connect
A8	2010 - 2013	All	Audi connect
Q7	2012 - 2013	All	Audi connect

Condition

REVISION HISTORY		
Revision	**Date**	**Purpose**
5	-	Revised *Condition* (Updated affected areas)
		Revised *Service* (Added note about updated part number and moved driver script after ZUG update)
4	8/25/2015	Revised header data (Updated PR codes to exclude pull-ahead A8)
		Revised *Condition* (Updated affected areas; added Tip about A8)
		Revised *Warranty* (Added time for A8; added time for GFF for all vehicles)
3	6/30/2015	Revised *Condition* (Updated affected areas)

The customer complains that the Audi connect online service in their 2011-2013 A8, 2012-2013 Q7, or 2013 A4, A5, A5 cabriolet, or Q5 vehicle only reaches 2G service when in the following metropolitan areas:

State/Territory	Metropolitan Areas (including surrounding areas)	State/Territory	Metropolitan Areas (including surrounding areas)
Arizona	*Nogales*	Missouri	*St. Louis, Kansas City*
California	*Los Angeles, San Francisco, Madera, Sacramento*	Mississippi	*Biloxi*
Colorado	*Pueblo*	New Mexico	*Albuquerque*
Florida	*Miami*	New York	*Syracuse, Utica*
Georgia	*Columbus, Savannah, Griffin*	Oklahoma	*Oklahoma City*

Idaho	*Boise*	Puerto Rico	*Entire island*
Illinois	*Chicago*	South Carolina	*Charleston*
Indiana	*Indianapolis*	Texas	*San Antonio, Eagle Pass, Houston, El Paso, Laredo*
Kansas	*Kansas City*	Virginia	*Roanoke, Virginia Beach, Norfolk, Newport News, Martinsville, Richmond*
Kentucky	*Louisville*	Wisconsin	*Milwaukee*
Louisiana	*Baton Rouge, New Orleans*		

This bulletin applies only to model year 2011-2013 A8, 2012-2013 Q7, and 2013 A4, A5, A5 cabriolet, and 2013 Q5 vehicles. For 2012-2013 A6 and A7 vehicles see TSB 2039515. This bulletin does not apply to model year 2014 and newer. Starting with model year 2014, the new telephone module was installed in production.

The model year 2014 A8 is not included in this repair. Model year 2014 was the last year before the A8 product improvement and ElsaPro may classify these vehicles as model year 2013 because these vehicles are the same from a technical and design standpoint. But unlike the model year 2013 vehicles, the model year 14 vehicles already have the updated telephone module in the MMI.

Technical Background

Recently, T-Mobile (the service provider for Audi connect) has repurposed some of the GSM spectrum (3G on 2100Mhz band) to maximize 4G LTE coverage in certain metropolitan areas.

Devices that do not support 3G service on the 1900MHZ band (including MMI main units of the vehicles to which this bulletin applies) will only receive 2G service when the switch is completed.

The change currently only affects the markets listed above, but will affect other markets in coming years. This bulletin will be updated to include these markets as changes occur.

Production Solution

A telephone module that supports 3G service on the 1900MHZ band was installed beginning with model year 2014 vehicles. No repairs are necessary for model year 2014 vehicles and later.

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Service

The telephone module can be replaced with an upgraded module that supports the additional 3G GSM spectrum.

Tip: The upgraded telephone module will only allow 3G to be received again in markets where T-Mobile has repurposed the GSM spectrum for 4G LTE. It will not allow Audi connect to receive 4G LTE, which is not possible with the MMI3G+ hardware.

Before starting the repair:

- Check the part number label of the currently-installed MMI main unit. If the MMI main unit was replaced due to a GPS location issue, the updated part already contains the newer UMTS Telephone Module. The updated part numbers are:

    - 8R1035746D, 8R1035746E, 8R1035746F, or 8R1035746G

    - 4L2035746D, 4L2035746E, 4L2035746F, or 4L2035746G

    - 4H0035746F, 4H0035746G, 4H0035746H, or 4H0035746J

    If the part number suffix matches, the hardware repair is not required. If the customer is allowed to switch to AT&T and already has the updated part, an MMI software update may be required. If so, skip to the *Software updates* section below.

- Review the *Required Parts and Tools* section of this bulletin.

- Obtain the telephone module retrofit kit listed in the *Required Parts and Tools* section of this bulletin (if needed).

- Obtain the ZUG K0814 update on SD card listed in the *Required Parts and Tools* section of this bulletin.

- If the hardware module is being swapped:

    - Obtain the telephone driver script from ServiceNet (*ServiceNet>>AUDI>>Technician References>>Audi MMI Scripts*). The file name is **MMI3GP_UMTS_Driver_Script.zip**. Extract the three files to a separate SD card. Ensure that all three files are extracted to the root location on the SD card (do not store the files in a folder on the SD card and do not copy the zip to the SD card; files must be extracted).

    - Verify that the VAS6613 ESD work surface contains three grounding straps. The repair cannot be completed without all three grounding straps, including the ESD mat.

    - Watch the "91 MMI3G Telephone Module Replacement Instructions for A4, A5, A5 CAB, Q5, Q7, and A8" video at

    - https://audi-external.kzoplatform.com:443/swf/player/300 (Figure 1). (See TSB 2039206 for more information about viewing videos.)

Figure 1. *QR code for viewing the video with a QR code reader on phones and tablets. Alternatively, the video can be accessed through computer internet browsers at the link provided in this bulletin.*

Repair procedure if the updated hardware is required:

⚠️ **Note:**

This exchange of the telephone module should only be performed in a clean environment due to sensitive electronics. The repair should not be performed in a workshop environment.

1. Remove the MMI main unit from the vehicle according to the instructions in the Elsa Repair Manual.

   - **For Q7:** *Electrical System>>Communication>>MMI Infotainment (USA)>>Information Electronics Control Module 1 J794, Removing and Installing*

   - **For A4, A5, A5 cabriolet, Q5, and A8:** *Electrical System>>Communication>>91 Communication>>Infotainment System>>Information Electronics Control Module 1 J794, Removing and Installing*

2. Prepare for the ESD work surface by cleaning the work area of all loose debris and then drying the area with a towel. Doing so ensures that no debris will be rolled into the mat when it is rolled up after use, which could cause long-term damage to the ESD work surface.

3. Place the ESD anti-static mat onto the surface. Ensure that all three grounding straps are securely strapped to the ESD mat.

4. Ground the ESD mat by plugging the 110V grounding strap into a wall socket or power strip (Figure 2). If a power strip is used, it must be plugged into a grounded wall outlet. (See attached user instructions for VAS6613 titled "VAS6613 ESD Workspace Guide.pdf".)
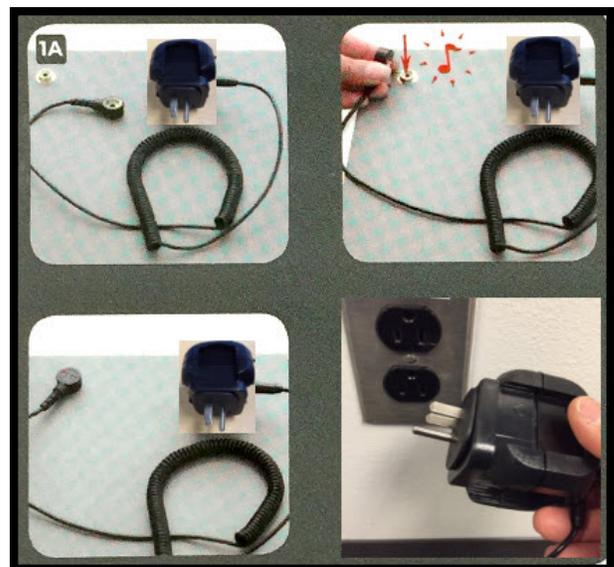

Figure 2. *VAS6613 ESD work surface grounding plug.*

5. Ground yourself by placing the elastic strap around your wrist. Make sure it is securely touching your skin. It cannot be loose-fitting or over your shirt cuff (Figure 3).

Figure 3. VAS6613 ESD work surface grounding wrist strap.

6. Ground the MMI main unit by placing an alligator clip on the back, ensuring that it makes contact with the metal housing of the main unit. The most secure location is at the MOST connector (Figure 4).

   A foam block can be used as a spacer under the main unit to keep the grounding strap connected.

Figure 4. VAS6613 ESD work surface grounding device clip.

⚠️**Warning:**

Your wrist, the ESD mat, and the main unit must remain grounded during the entire process.

7. Remove the seven screws that are holding the MMI top cover in place (Figure 5).

Figure 5. *MMI main unit with screw locations for top cover indicated by the red arrows.*

8. Break the white warranty seal on the back of the main unit (Figure 6).

Figure 6. *Break white warranty seal.*

9. Using a flat head screw driver, your fingers or a plastic wedge trim tool, remove the top cover by prying it from the back of the cover at the location seen in Figure 8. If a flat head screw driver is used then touch the tool to the ESD mat to discharge the tool prior to touching the main unit.

Note:

Removal of the top cover is only allowed once. This ensures that system components are not contaminated with metal screw filings or other debris that can occur after multiple attempts of opening the main unit.

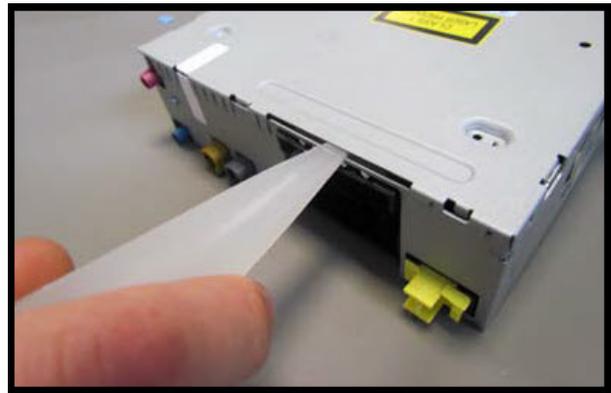*Figure 7. Pry top cover off with fingers.*

Figure 8. Pry top cover off using plastic trim wedge tool.

Note:

Do not flip the main unit over at this point. The CD drive, which was held in place by the top cover screws, is no longer secured. If it moves significantly, the ribbon cable can detach from the circuit board and disable the CD drive's functionality (Figure 9).

Figure 9. CD drive mounting points are free to move.

10. On the back of the main unit, remove the retaining screw that holds the telephone module in place (Figure 10).
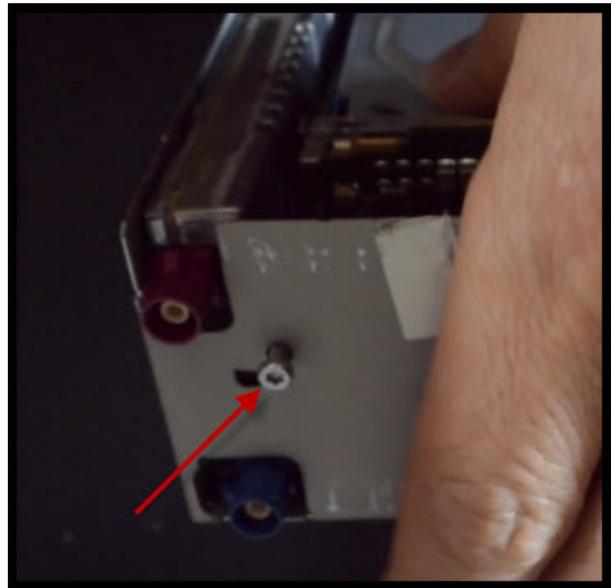

Figure 10. *Telephone module retaining screw indicated by the red arrow.*

11. Carefully lift up the telephone module, using both ends as points of contact when pulling up (Figure 11). The module is held in place with a computer socket-type attachment and will release when enough force is used.
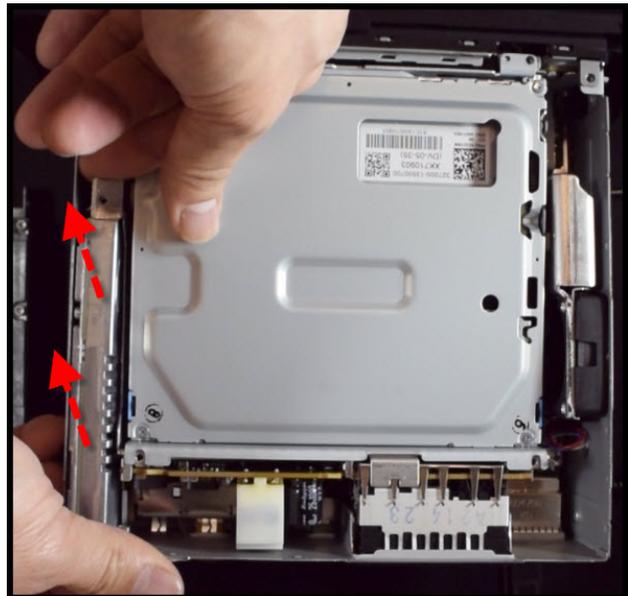

Figure 11. *Lift up on both ends of the telephone module as indicated by the red arrows.*

12. Before proceeding, write the serial number of the new replacement UMTS telephone module on the rework label (Figure 12).

Figure 12. *Serial number of the PPIS UMTS telephone module indicated by the red arrows and red box.*

13. Place the new UMTS telephone module into the socket, making sure it is level before snapping it into place. Use both ends of the telephone module when pressing it into place. Do not press down using the purple FAKRA connector (Figure 13).
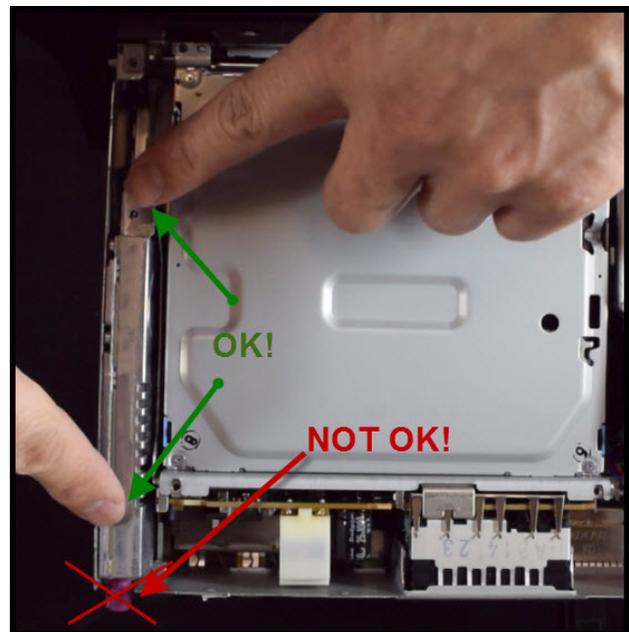

Figure 13. *Do not press down using the purple FAKRA connector.*

14. Re-secure the telephone module retaining screw into the back of the MMI main unit.

15. Place the main unit top cover back into the MMI main unit housing.

16. Re-secure all seven top cover screws.

⚠️ **Note:**

If the CD drive is not aligned properly it can cause difficulty when applying torque to the top cover screws.

17. Place the new warranty seal from the retrofit kit next to the original warranty seal (Figure 14).
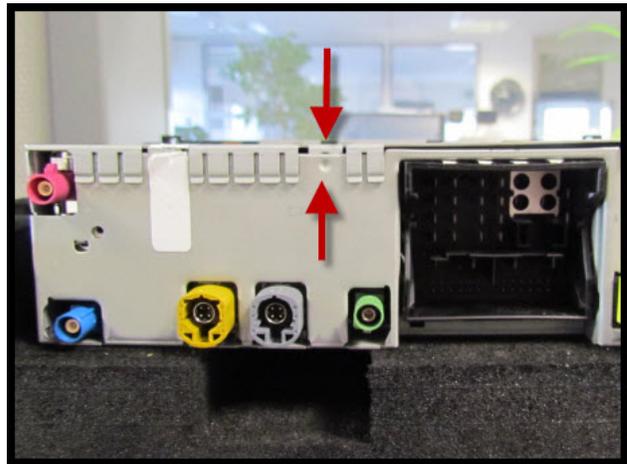

Figure 14. *Place the new warranty seal over the location indicated by the red arrows.*

18. Place the rework label on the top of the main unit cover. Do not cover any part number labels (Figure 15). Fill out all fields on the repair label.

   ⚠️ **Note:**

   Do not cover the yellow laser warning label. The repair label may need to be placed on sideways due to space limitations.
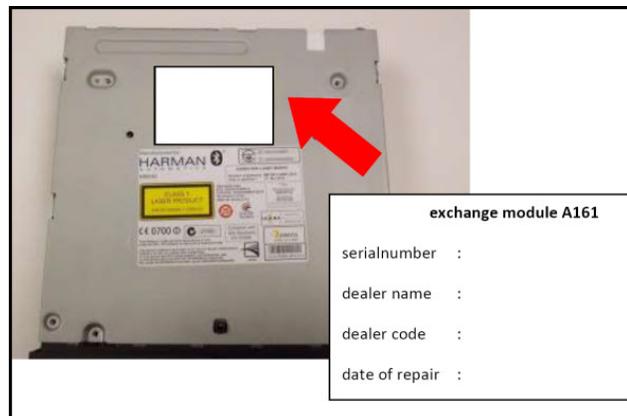

Figure 15. *The white area indicates the "suggested" location for the repair label on the top cover of the main unit. Do not cover any existing part number labels.*

19. Reinstall the MMI main unit in the vehicle and proceed to *Software updates*.

Software updates (required for all repairs):

1. Turn the vehicle ignition on. When the system is fully initialized, perform TSB 2028141 to update the ZUG software to K0814, using the required software update SD card listed in the *Required Parts and Tools* section of this bulletin.

   ℹ️ **Tip:** Ensure that the SVM portion of the update is completed successfully without errors. If any issues arise with SVM, contact TAC.

2. Obtain the telephone driver script from ServiceNet. The file name is **MMI3GP_UMTS_Driver_Script.zip**, and it is located at *ServiceNet>>AUDI>>Technician References>>Audi MMI Scripts*.

3. Copy the telephone driver script to a PC and extract the three files to the root of an SD card. (The three files are labeled "reboot", "graphics", and "copie_scr.sh").

4. Turn the vehicle ignition on and allow the MMI main unit to fully initialize. It may take up to three minutes for the main unit to fully initialize due to the hardware replacement. All options will be white in the Telephone menu of the MMI when the system has fully initialized.

5. Insert the SD card into the left SD card slot of the main unit. Once the card is inserted, the system will automatically start the update script. When the script completes, a prompt or message will show on the screen indicating that the driver update is complete.

   Tip: If the message does not show after one minute, eject and reinsert the SD card back into the main unit. If the driver script is not allowed to complete, the MMI main unit will not be able to recognize any SIM card. Contact TAC if there are any issues with this step.

6. Remove the SD card and perform a three-finger reset on the MMI main unit. (See attachment "MMI_SHORTCUT_KEYS.PDF", which explains which keys to push for the reset for each Audi model.)

7. Once the system is fully initialized, insert the customer's SIM card and verify that the system can receive a signal.

   Tip: If, after the ZUG software update the MMI main unit cannot recognize any SIM cards, repeat steps 4-7. Follow the attached *SIM Card Troubleshooting Guide* if the driver script has already been executed correctly. If the system still does not recognize any SIM cards, contact TAC.

8. Perform a quick verification test to ensure that all functions of the MMI are operating correctly:

   - Place the customer's SIM card into the SIM card slot. Ensure that 3G reception is obtained and test data downloads by connecting a device to the vehicle's Wi-Fi hotspot.

   - Place an audio CD into the CD drive and check for normal playback.

   - Check that Bluetooth pairing is working

   - Verify that the AMI system is working

   - Check AM/FM/SAT radio operation outside the shop

   - Check that Navigation is receiving more four or more satellites (*Navigation>>Route* then scroll up to top, then *Select* and scroll up to top again to obtain the number of satellites being received)

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Warranty

Claim Type:	1SP		
Service Number:	9170		
Damage Code:	0040		
Labor Operations:	**For vehicles needing software update only (all models):**		
	Update MMI software and perform SVM	9170 1999	120 TU
	For vehicles needing hardware replacement and software update:		
	UMTS telephone module retrofit (A4, A5, A5 cab, or Q5)	9170 1999	160 TU
	UMTS telephone module retrofit (Q7)	9170 1999	165 TU
	UMTS telephone module retrofit (A8)	9170 1999	200 TU
	GFF	0150 0000	Time stated on diagnostic protocol (Max 40 TU)
Diagnostic Time:	Road test prior to service procedure	No allowance	0 TU
	Road test after service procedure	No allowance	0 TU
	Technical diagnosis at dealer's discretion (Refer to Section 2.2.1.2 and Audi Warranty Online for DADP allowance details)		
Claim Comment:	As per TSB #2039476/5		

All warranty claims submitted for payment must be in accordance with the *Audi Warranty Policies and Procedures Manual*. Claims are subject to review or audit by Audi Warranty.

Required Parts and Tools

Part Number	Part Description	Quantity
8T0 051 431	PPIS UMTS telephone module for MMI3G+	1
VAS6613	ESD work surface	1
T10057	Radio removal tools	1
T40056A	Torx T8 screwdriver	1
3409	Trim removal wedge	1
	1-2GB Blank SD card for driver script (<32GB)	1
	Foam block, block of wood, or a large book	1
8R0 906 961 DN	A4/A5/A5 Cab/Q5/Q7 K0814 MMI UPDATE SD	1
8R0 906 961 DM	A8/A6/A7 K0814 MMI UPDATE SD	1

Additional Information

All parts and service references provided in this TSB (2039476) are subject to change and/or removal. Always check with your Parts Department and service manuals for the latest information.