Technical Service Bulletin

91 Microphone testing tips

91 14 35 2026895/4 April 8, 2014. Supersedes Technical Service Bulletin Group 91 number 14-19 dated January 3, 2014 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
All	2006 - 2013	All	Not Applicable
A4, A5, A6, A7, Q5, Q7, TT	2014	All	Not Applicable

Condition

REVISION HISTORY		
Revision	**Date**	**Purpose**
4	-	Revised header data (Added models) Revised *Service* (Revised entire section)
3	01/3/2014	Revised *Service* (Added diagnosis step for 2012+ C7/D4; updated formatting)
2	10/5/2011	Revised *Additional Information* (Updated TSB numbers)
1	7/15/2011	Original publication

- Customer complains that during Bluetooth calls, the person at the other end has trouble hearing the speaker in the vehicle.
- Voice recognition accuracy is poor.

Technical Background

This TSB provides guidelines for testing microphones in a vehicle.

Production Solution

Not applicable.

Service

Verify vehicle hardware and software

- Check software levels to ensure that the latest software is installed. Use GFF to determine if a fault for microphone operation is stored in one of the following address words (depending on vehicle and equipment levels): 56, 5F, 67, or 77.
  - If a fault is stored, proceed with the test plan outlined in the scan tool.
  - If no fault is stored, proceed with this bulletin.

Verify the customer complaint

- Pair a known good, compatible Bluetooth phone to the system. Use it to place a call to a landline phone. The test call must be placed with the windows, sunroof, and/or convertible top in closed position, the climate control off, and the vehicle stationary.
  - If the call quality sounds clear to the person on the landline, the microphones are okay and should not be replaced. Proceed to the *Background noises* section of this bulletin.
  - If the call quality does not sound clear to the person on the landline, proceed to the *Check the microphones for electrical defects* section of this bulletin.

Background noises

- A microphone that is in proper working order can pick up wind and road noises, if they are excessive. These noises can be picked up by the microphone and transmitted through the Bluetooth system, affecting call quality.
  - If the customer concern occurs only when a window is down or the sunroof or convertible top is open, there is nothing wrong with the system. No repairs should be made.
  - If the customer concern occurs at a specific speed while the windows are up and the sunroof or convertible top closed, perform a test call from a known good phone to a landline under the driving conditions the customer has described:
    - If the customer concern cannot be verified, no repairs should be made.
    - If call quality is poor during road test, check for background noises. Possible sources of background noise include: excessive road noise caused by uneven tire wear or unfavorable road surfaces, excessive wind noise from exterior accessories (roof bars, cargo carriers, etc.), and excessive wind noise from air entering the cabin (seals, door adjustment, etc.). Additionally, microphones can pick up noises from above overhead console. Remove the overhead console and check for noises that can be amplified in area above headliner.
- If the customer is only able to duplicate the concern with his or her phone, pair a known good phone to the vehicle and ask the customer to use it to place a test call to a landline. If the customer is unable to reproduce the concern on the known good phone:
  - Delete all Bluetooth profiles from the customer's phone and vehicle.
  - Perform a power cycle of the customer's phone and a three-finger reset on the radio
  - Pair the Bluetooth connection of the phone and hands-free system.
- If the customer still experiences the concern only with his or her phone, advise the customer to contact the cellular phone provider for replacement hardware.

Check the microphones for electrical defects

- Gain access to the microphone connection in the overhead console (Figure 1). Note that the number of microphones will vary depending on model.
  With a DVOM, perform the following voltage measurements:
  a. Microphones plugged in, voltage reading at 1.1,1.2,1.3 is 4VDC +/- 10%
  b. Microphones unplugged on the body side of harness, voltage readings at 2.1,2.2,2.3 is 8VDC +/- 10%
- If voltage is present in steps a and b:
  - Inspect the wiring and connectors for visible signs of damage.
- If voltage is not present in steps a and b, or if incorrect voltage is found:
  - Test for proper output voltage at the module. Test must be performed with all microphones unplugged from module.
  - If output voltage at module is ok, reinstall microphones and perform voltage drop test on all wiring from module to microphones.
- If all steps checks OK, contact TAC for further assistance. Do not replace microphone without TAC approval.

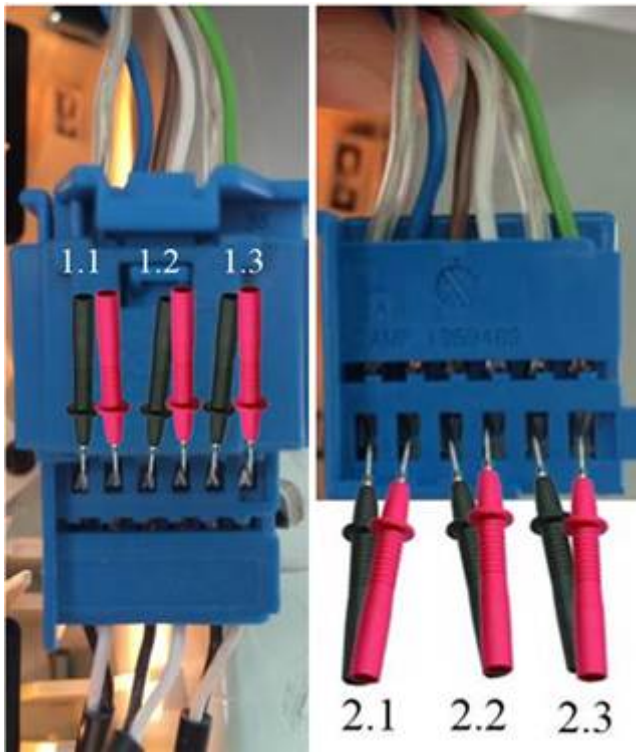

Figure 1. *Microphone connection. Protective covers have been removed to show pin locations.*

Warranty

This TSB is informational only and not applicable to any Audi warranty.

Additional Information

The following Technical Service Bulletin(s) will be necessary to complete this procedure:

- TSB 2026851, *91 Belt Microphone Overview*
- TSB 2026888, *91 Bluetooth Phone: poor call quality*
- TSB 2027718, *91 Bluetooth Phone: call quality poor at other end*

All parts and service references provided in this TSB (2026895) are subject to change and/or removal. Always check with your Parts Department and service manuals for the latest information.