

Mobile phone and VCS: Poor call quality and/ or voice control misunderstands commands

Topic number	LI82.70-P-064726
Version	5
Function group	82.70 Telephone, Voice-control-system(VCS)
Date	01-08-2020
Validity	Model series 213, 238, 177, 167, 118, 247 Model series 253 Facelift
Reason for change	Validity expanded, cause and remedy adapted

Complaint:

The following complaints may be noted by the customer:

- During a phone call, the called party may have difficulty understanding the driver/passenger, or interference/background noises are audible to the called party during a call
- Voice control does not understand or misunderstands spoken commands
- Voice control does not activate with the "Hey Mercedes" keyword (NTG6 equipped vehicles only)

Cause:

- Installation of microphones (B25/20 or B25/21) in the headliner.
- Wiring between microphone (B25/20 or B25/21) and head unit (A26/17) --> See PE82.85-P-2110-97DBA (213 model series) or PE82.85-P-2110-97IBA (177 model series) for reference
- Debris inside the microphone housing

Remedy:

Before proceeding process any relevant fault codes and perform the recommended guided tests per XENTRY diagnosis.

Identify which microphone is affected (if no DTCs are present):

- Perform a bluetooth call on a mobile device from both passenger and driver's seats and note any difference in call quality as noted by the external "called" party
- On NTG6 vehicles with E420.5 or newer MBUX multimedia system (A26/17) software activate the voice control system (VCS) using "Hey Mercedes" and change the climate control setting by stating "I'm hot" or "I'm cold". This will prompt the climate control temperature setting to go up or down on the side of the vehicle where you are seated. Also the ambient lighting will change color (red or blue dependings on temperature change) on that side of the vehicle and the head unit display will have a graphical indicator noting which side the function was activated from (see attached). The success of this test is a good indicator of microphone functionality.

- In some instances both microphones may be affected

XENTRY TIPS

Check installation of both microphones (B25/20 and B25/21):

- Check for and remove any foreign debris located between the microphone and the microphone cover
- Reinstall microphone into headliner ensuring that microphone cover is fully seated onto the microphone housing. You should feel it "click" once it is seated properly

Check the wiring between the microphones (B25/20 or B25/21), the intermediate microphone electrical connector in the headliner, and the head unit (A26/17)

- Check connectors to ensure they are fully seated and inspect connectors, wiring, and pins for damage
- Check continuity from the microphone to microphone electrical connector and from the electrical connector to the head unit
- Ensure that pins are wired correctly, i.e. ensure the signal and ground wires are not switched in the connector

If the complaint is still present after the test steps listed above have been performed, replace the affected microphone(s).

Attachments	
File	Description
MBUX VCS directionality cue.jpg	Screenshot of MBUX VCS directional graphic (yellow shading at the top left of display)

Control unit/fault code		
Control unit	Fault code	Fault text
A26/17 - Audio or COMAND (Head unit) (HU55) (GLC (253), E (213), E (238))	B143A11	Microphone 1 has a malfunction. There is a short circuit to ground.
A26/17 - MBUX multimedia system (Head unit) (HU6) (GLS (167), GLC (253), E (213), GLE (167), A (177), E (238), CLA (118), B (247))	B143D13	Microphone 2 has a malfunction. There is an open circuit.
A26/17 - MBUX multimedia system (Head unit) (HU6) (GLS (167), GLC (253), E (213), GLE (167), A (177), E (238), CLA (118), B (247))	B143A13	Microphone 1 has a malfunction. There is an open circuit.
A26/17 - MBUX multimedia system (Head unit) (HU6) (GLS (167), GLC (253), E (213), GLE (167), A (177), E (238), CLA (118), B (247))	B143A11	Microphone 1 has a malfunction. There is a short circuit to ground.
A26/17 - Audio or COMAND (Head unit) (HU55) (GLC (253), E (213), E (238))	B143A12	Microphone 1 has a malfunction. There is a short circuit to positive.
A26/17 - Audio or COMAND (Head unit) (HU55) (GLC (253), E (213), E (238))	B143A13	Microphone 1 has a malfunction. There is an open circuit.

XENTRY TIPS

A26/17 - Audio or COMAND (Head unit) (HU55) (GLC (253),E (213),E (238))	B143D11	Microphone 2 has a malfunction. There is a short circuit to ground.
A26/17 - Audio or COMAND (Head unit) (HU55) (GLC (253),E (213),E (238))	B143D12	Microphone 2 has a malfunction. There is a short circuit to positive.
A26/17 - Audio or COMAND (Head unit) (HU55) (GLC (253),E (213),E (238))	B143D13	Microphone 2 has a malfunction. There is an open circuit.
A26/17 - MBUX multimedia system (Head unit) (HU6) (GLS (167),GLC (253),E (213),GLE (167),A (177),E (238),CLA (118),B (247))	B143D11	Microphone 2 has a malfunction. There is a short circuit to ground.
A26/17 - MBUX multimedia system (Head unit) (HU6) (GLS (167),GLC (253),E (213),GLE (167),A (177),E (238),CLA (118),B (247))	B143A12	Microphone 1 has a malfunction. There is a short circuit to positive.
A26/17 - MBUX multimedia system (Head unit) (HU6) (GLS (167),GLC (253),E (213),GLE (167),A (177),E (238),CLA (118),B (247))	B143D12	Microphone 2 has a malfunction. There is a short circuit to positive.

Operation numbers/damage codes				
Op. no.	Operation text	Time	Damage code	Note
			8210R EM	Telephone function, poor communication quality/interference noise

WIS-References			
Document number	Title	Note	Allocation
PE82.85-P-2110-97DBA	Wiring diagram for head unit		Cause
PE82.85-P-2110-97IBA	Wiring diagram for head unit		Cause