

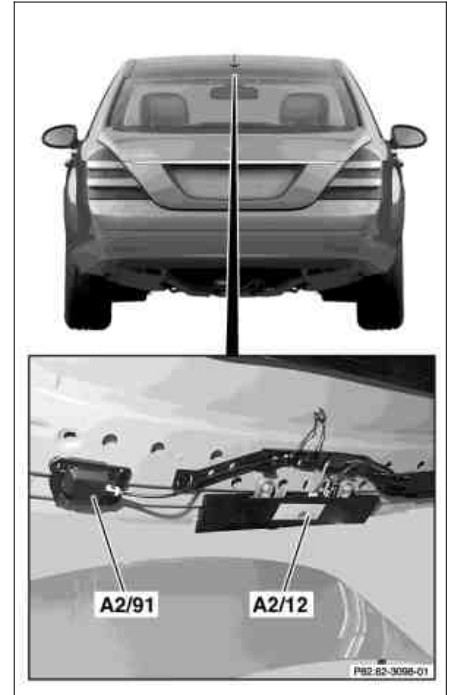
MODEL 216.3, 221.0 /1
with CODE (494) USA version
up to Model Year 8

Illustrated on model 221

A2/12 Rear window antenna amplifier module

Location

The rear window antenna amplifier module is attached to the rear roof frame.



P82.62-3099-03

Task

All antenna signals that are processed by the rear window antenna amplifier module are received via the antenna structures in the rear window.

- i** In order to decouple the rear window heater from the antenna function, the heating field is connected as follows:
- On the left, the heating field is connected to ground via a block circuit in the rear window heater connection line.
 - On the right, the heating field is connected to the voltage supply of the heater via a block circuit in the C-pillar.

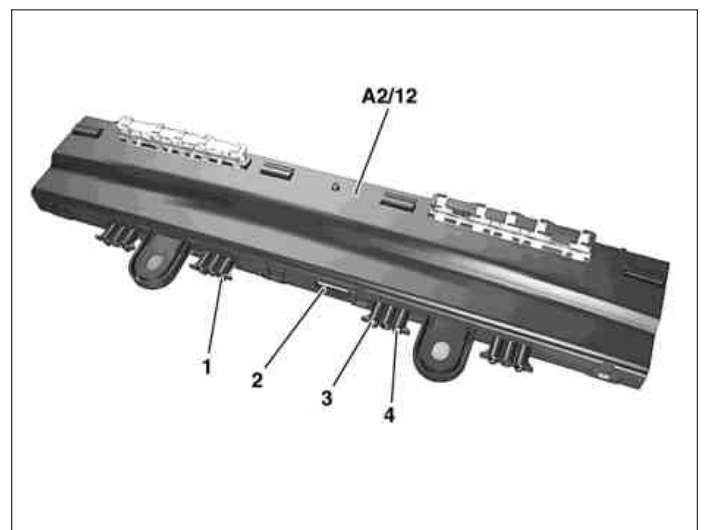
The tasks of the rear window antenna amplifier module are:

- Radio reception (AM and 4-way FM diversity)
- Weatherband reception (lies within FM frequency range)
- Radio remote control central locking (FZV)

Design

- 1 Keyless Go (KG) (signal output) and phantom voltage (input)
- 2 RRCL (signal output)
- 3 Input for intermediate frequency-IN and phantom voltage
- 4 Output for HF (AM/FM)

A2/12 Rear window antenna amplifier module



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Function

AM reception

The prerequisite for AM reception is that a phantom voltage of 0 volts (DC offset) is applied at the IF [ZF] input of the rear window antenna amplifier module. The FM diversity function is deactivated in AM mode.

The radio signals of the AM frequency band are picked up and amplified by the rear window antenna amplifier module and then transmitted to the audio tuner control unit (N93/1) at the HF-Out output via a coaxial cable.

FM reception (with 4-way FM diversity)

The prerequisite for FM reception is that a phantom voltage (DC offset) of 12 volts is applied at the IF [ZF] input of the rear window antenna amplifier module. AM mode is deactivated in intermediate frequency diversity mode. Radio reception in the FM frequency band is realized via an antenna diversity with 4 antennas.

Radio remote control central locking (FZV)

The signal from the RRCL [FZV] receiving antenna is picked up by the rear window antenna amplifier module. Processing of the signal depends on the vehicle equipment.

On vehicles except code (889) Keyless go

The RRCL [FZV] receiving antenna in the rear window is switched to the RRCL [FZV] receiver integrated in the rear window antenna amplifier module. The RRCL [FZV] receiver demodulates the RRCL [FZV] signal of the transmitter key (A8/1) and then transmits it directly to the rear SAM control unit with fuse and relay module (N10/2).

On vehicles with code (889) Keyless go

A distinction is made between the following 2 cases:

- Open/close via transmitter key, without Keyless Go function
- Open/close via Keyless Go function

The associated antenna signals are picked up at the rear window, amplified and transmitted to the audio tuner control unit at the HF-Out output via a coaxial cable.

The audio tuner control unit transmits an intermediate frequency signal to the rear window antenna amplifier module as a quality indicator (IF-IN input). On the basis of this evaluation, the module switches the FM antenna with the best reception quality through to the tuner.

In order to improve the effect on reception caused by transmitted wave reflection with multipath reception, 4 FM receiving antennas (FM1 to FM4) are installed in different locations. An FM diversity module that is integrated in the rear window antenna amplifier module performs a quality evaluation of the current reception characteristics of the 4 FM receiving antennas.

Open/close via transmitter key, without Keyless Go function Requirement

A phantom voltage of 0 volts is applied to the Keyless Go contact at the rear window antenna amplifier module.

The RRCL [FZV] receiving antenna of the rear window is then switched to the RRCL [FZV] receiver integrated in the rear window antenna amplifier module.

The RRCL [FZV] signal of the transmitter key is demodulated in the RRCL [FZV] receiver and then transmitted directly to the rear SAM control unit with fuse and relay module.

Open/close via Keyless Go function Requirement

A phantom voltage of 5 volts is applied to the Keyless Go contact at the rear window antenna amplifier module.

The RRCL [FZV] receiving antenna is switched directly to the Keyless Go output and forwarded to the Keyless Go control unit (N69/5). In this case, there is no evaluation of the RRCL [FZV] signal in the rear window antenna amplifier module. The evaluation takes place in the Keyless Go control unit.