

MODEL 164

with CODE (494) USA version
up to Model Year 8

A2/93 Roof antenna module

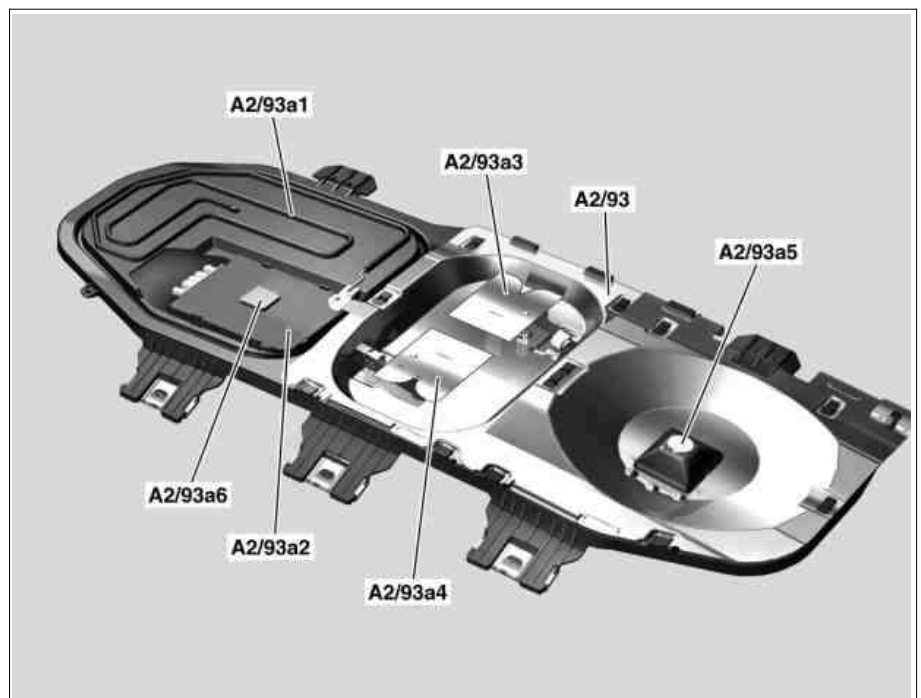


P82.62-2836-01

The roof antenna module is installed in the rear area under the headliner.

- i** There are two roof antenna module variants: one without the Keyless Go function and one with the Keyless Go function (Keyless Go (Code 889)).

A2/93 Roof antenna module
 A2/93a1 Antenna FM/AM/RRCL [FZV]
 A2/93a2 Antenna amplifier
 A2/93a3 Telephone antenna
 A2/93a4 TELE AID antenna
 A2/93a5 SDAR antenna
 A2/93a6 GPS antenna



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Antenna amplifier

The antenna amplifier (A2/93a2) in the roof antenna module is configured to comply with the country specification. It amplifies and filters the signals for:

- AM, FM
- Radio remote central locking (RRCL [FZV])
- Keyless Go (KG) (Keyless Go (code 889))
- Weather band

The antenna amplifier in the roof antenna module is augmented by the FM rear window antenna amplifier (A2/19), with one FM amplifier each for the FM2 antenna and the FM3 antenna. The amplified signals are required for the diversity function (FM).

Antenna FM/AM/RRCL [FZV]

The FM/AM/RRCL [FZV] antenna is designed as a wire antenna in the roof antenna module and is coupled directly to the antenna amplifier.

- **FM reception:**
Filters and amplifies FM frequencies for radio reception. This includes the Weather Band, a nationwide (USA) receivable, free of charge information station for regional supplemental information.
- **AM reception:**
Filters and amplifies AM frequencies for radio reception.
- **RRCL [FZV] reception:**
The RRCL [FZV] signals are demodulated and transmitted straight to the rear SAM control unit (N10/8).

- **KG reception:**

The KG signal (authorization signal) is sent straight to the Keyless Go control unit (N69/5).

Further details on roof antenna module

In addition to the antenna signals for the COMAND operating, display and control unit (A40/3), radio remote central locking and

Keyless Go (Code 889), the roof antenna module provides further antenna signals for communication and telematics.

These are:

- Telephone antenna signal for telephone calls,
- TELE AID antenna signal for emergency call, TELE AID emergency call system (code 359),
- GPS antenna signal for navigation, COMAND APS USA (with navigation system) (code 530) and for emergency call and
- SDAR antenna signals. These signals are the terrestrial signal, and the satellite signal for the SDAR control unit (N87/5) (SIRIUS satellite radio (code 536)).

Antenna diversity function (FM)

The diversity function serves to reduce reception interference. The task of the diversity function integrated in the roof antenna module is to perform reception-specific switchover between the FM antennas (FM1 up to FM3) to enable the best possible reception to be achieved.

Initially the COMAND operating, display and control unit receives the signal of the active antenna from the roof antenna module. The COMAND operating, display and control unit uses the incoming FM signal to generate the ZF reference signal. This reference signal is sent over a separate line to the roof antenna module.

The diversity function checks whether the ZF signal is free of interference after demodulation. If interference is present, the diversity function automatically switches over to the next of the three FM antennas.

Switchover speed is dependent on the frequency at which interference occurs. This serves to prevent constant switching between the antennas in the event of any poor FM reception, which in turn interferes with reception.

Demodulation (RRCL [FZV])

Demodulation of the radio remote central locking signal is performed in the antenna amplifier of the roof antenna module. During demodulation, the useful signal is generated from the received HF signal. The useful signal is sent over a separate line to the rear SAM control unit.