Due to the increase in telecommunication services such as GSM and UMTS, an ever wider frequency spectrum has to be monitored. Compact, mobile and flexible solutions are therefore required that enable the monitoring authorities to perform their tasks fast, reliably and at reasonable cost.

The Active Receiving Antenna R&S HE500 has been developed to meet all these requirements. With a frequency range from 20 MHz to 3000 MHz, the R&S HE500 is extremely broadband. The compact R&S HE500 is designed to withstand high wind speeds and loads and is therefore ideal for use on vehicles.

The R&S HE500 consists of two active dipoles arranged one on top of the other, which are combined via a diplexer to form a common output. The antenna is powered from a bias unit via coaxial cable.
Specifications

- **Frequency range**: 20 MHz to 3000 MHz
- **Polarization**: vertical
- **Horizontal pattern**: omnidirectional
- **Field strength sensitivity**: see diagrams
- **Destructive field strength**:
  - up to 10 MHz: >50 V/m typ.
  - 10 MHz to 20 MHz: >20 V/m typ.
  - 20 MHz to 3000 MHz: >10 V/m typ.
- **Linearity of antenna circuitry**: IP2 ≥ 50 dBm, typ.
- **IP3**: ≥ 25 dBm, typ.
- **Power supply**: via RF cable
  - 18 V DC to 32 V DC,
  - 180 mA max.
- **Impedance**: 50 Ω
- **VSWR**: < 3.5 typ.
- **RF connector**: N female
- **Dimensions (L x W x H)**: 171 mm x 65 mm x 366 mm
- **Fastening points**: see figure
- **Weight**: approx. 1.2 kg
- **Max. wind speed**:
  - without ice deposit: narrow side: 600 km/h, broad side: 250 km/h
  - with 30 mm ice deposit: narrow side: 200 km/h, broad side: 200 km/h

Permissible temperature range: -40 °C to +65 °C
Storage temperature range: -40 °C to +65 °C
Humidity: 95% at +25 °C/55 °C
DIN EN 600 68-2-30
Vibration test: random
  - 10 Hz to 300 Hz: 0.01 g/Hz
  - 300 Hz to 500 Hz: 0.003 g/Hz
Shock test: max. 40 g, spectrum
  - 45 Hz to 2000 Hz
Waterproofness: IP55 to DIN 40050
MTBF: 50 000 hours
MIL: GROUND FIXED
+ 25 °C

Ordering information

- **Active Receiving Antenna R&S HE500**: 4059.2005.02
- **Bias Unit R&S IN500**: 4062.0880.02

Left: Field strength sensitivity (S/N=1) referred to limit field strength
(1 Hz bandwidth, frequency in MHz)

Below: Fastening points