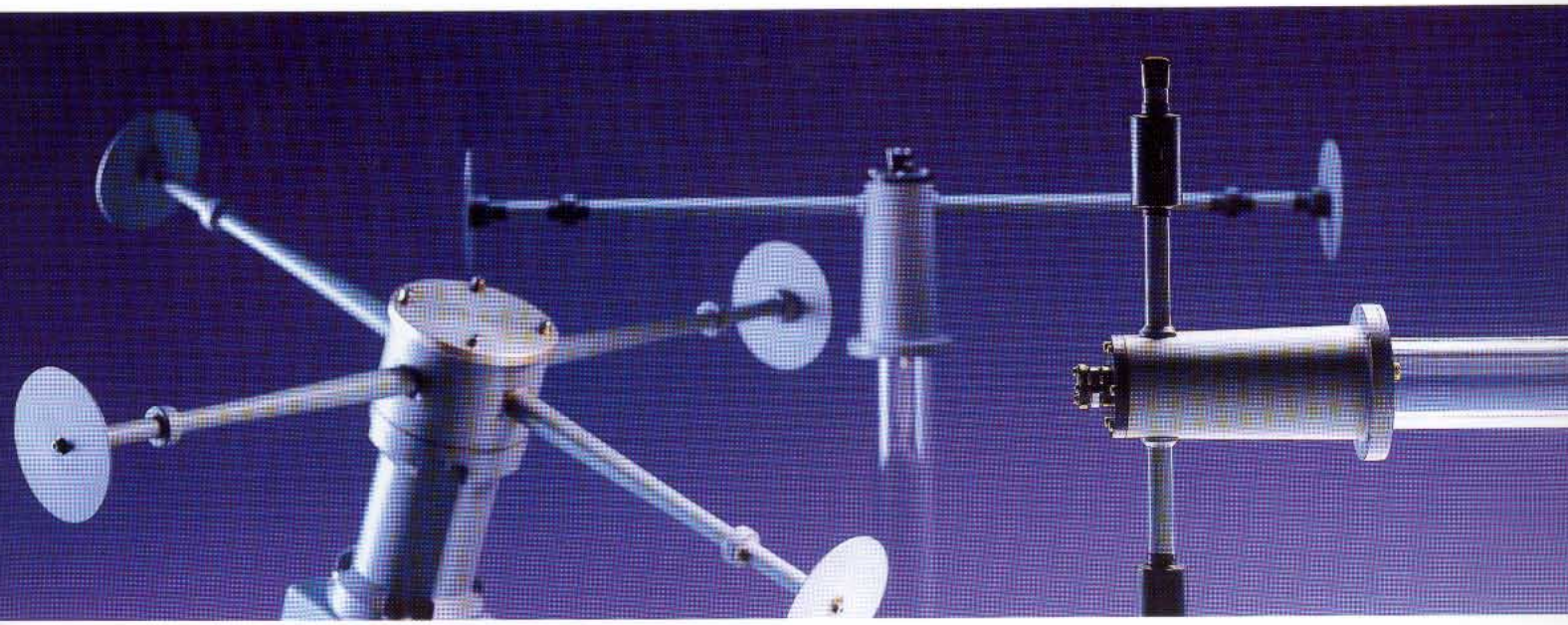


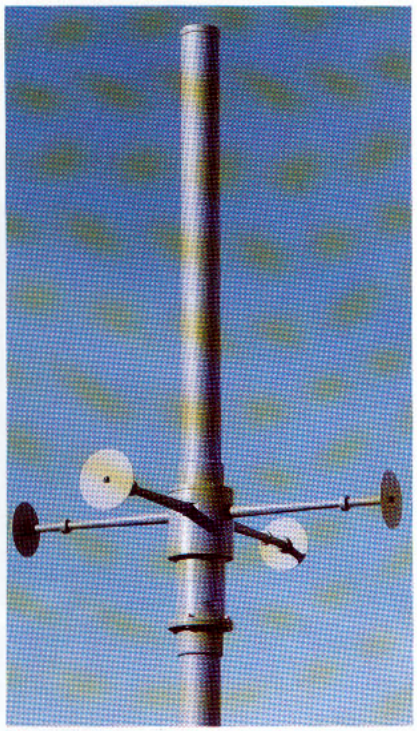
Active VHF/UHF Receiving Antennas HE202, HE302, HE309, HE314A1 and HE402

Economical solutions for the frequency range 20 to 1300 MHz

- Small size
- High sensitivity
- Wide frequency range, thus more economical than several passive antennas
- High immunity to nonlinear distortions
- High immunity to nearby lightning strikes
- Low weight
- Calibrated to ANSI-C63.5 and thus usable as test antennas

Active VHF/UHF receiving antennas from Rohde&Schwarz are equally suitable for radio detection and monitoring as well as for fieldstrength measurements.

ROHDE&SCHWARZ

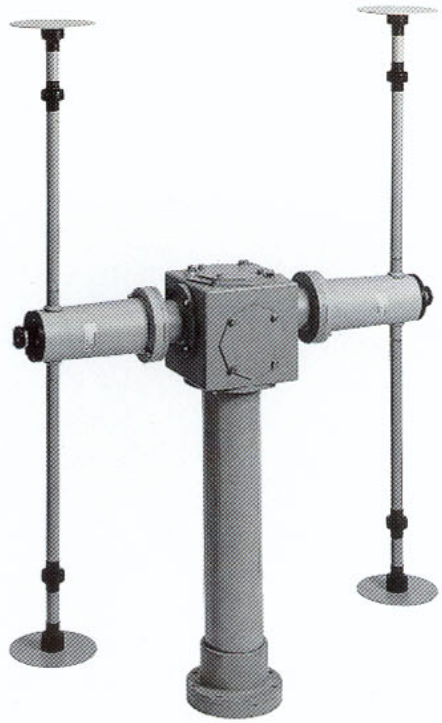


Combination of Vertical Dipole HE309 and Turnstile Antenna HE314A1

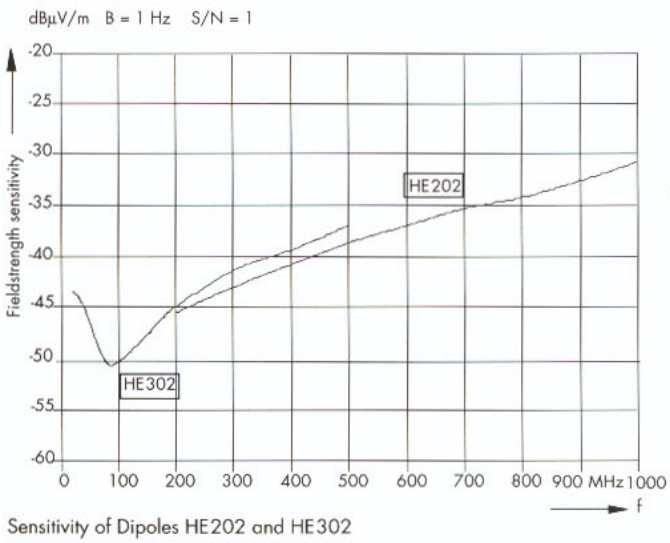
The excellent electrical characteristics of active antennas are obtained by carefully matching the passive antenna configuration to the active circuit integrated into the antenna. Their high immunity to interference is comparable to that of passive antennas with a high-grade preamplifier.

Active antennas are an economical alternative to passive antennas because of their broadband characteristics: the entire frequency range from 20 to 1000 MHz is covered by two antennas alone. The Active Vertical Dipole HE309 can even handle the complete range from 20 to 1300 MHz.

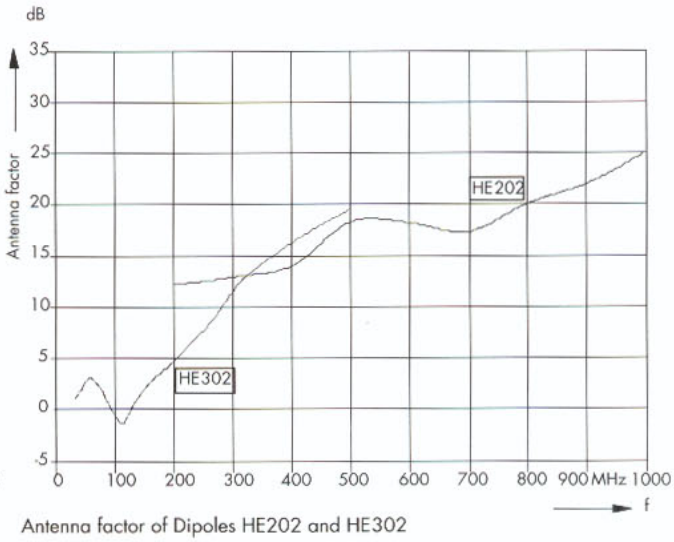
The combination shown in the photo on the left and comprising Vertical Dipole HE309 and Turnstile Antenna



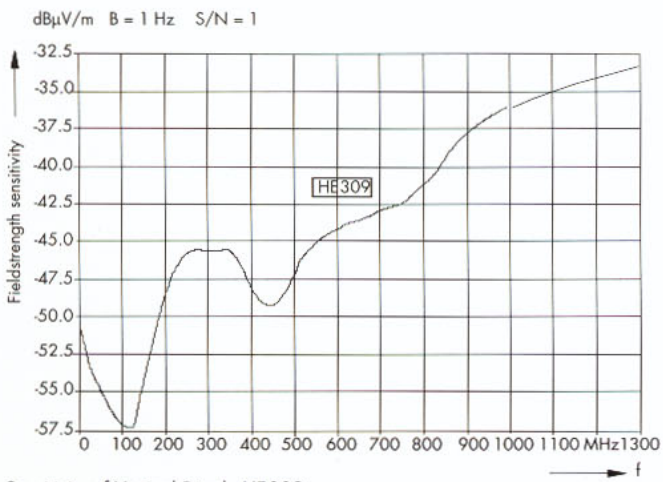
Active Directional Antenna HE402



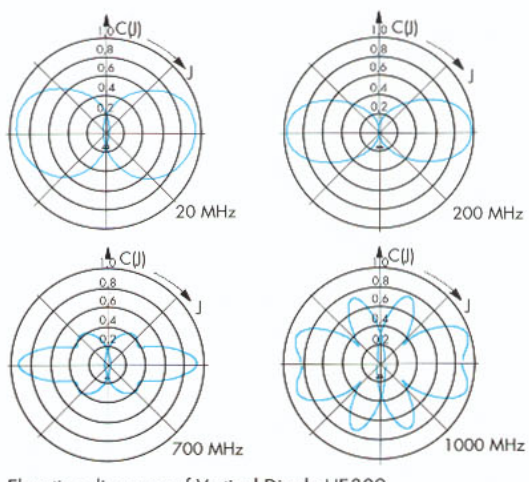
Sensitivity of Dipoles HE202 and HE302



Antenna factor of Dipoles HE202 and HE302



Sensitivity of Vertical Dipole HE309



Elevation diagrams of Vertical Dipole HE309

HE314A1 enables broadband reception of waves with vertical and horizontal polarization alike and at any angle of incidence.

Their large bandwidth and high dynamic range plus excellent sensitivity make active antennas ideally suitable for all tasks in communications, radio detection and monitoring where compact size and minimum use of splitters and switching circuits as well as high S/N ratio are a must.

The Active Directional Antenna HE402 allows interfering signals to be eliminated effectively. Moreover, its sensitivity above 40 MHz is even better than that of Dipole HE302 despite its small dimensions. So the HE402 is preferable to log-periodic antennas whenever space is at a premium.

The Active Dipoles HE202 and HE302 are especially useful for carrying out measurement tasks as their small size enables them to yield higher reproducibility of results than larger antennas.

Specifications

Type	HE202	HE302	HE309	HE314A1	HE402
Frequency range	200 to 1000 MHz	20 to 500 MHz	20 to 1300 MHz	20 to 500 MHz	20 to 87 MHz
Antenna type	dipole	dipole	vertical dipole	turnstile antenna	directional antenna
Polarization	linear	linear	linear	circular	linear
Especially suited for	measurement radio detection monitoring	measurement radio detection monitoring	monitoring radio detection	monitoring radio detection	monitoring radio detection
Antenna factor	+10 to +22 dB	0 to +14 dB	–7 to +38 dB	+3 to +17 dB	
Noise figure[1]	200 MHz: 6 dB 1000 MHz: 7 dB	20 MHz: 28 dB 500 MHz: 9 dB	20 MHz: 22 dB 1000 MHz: 5 dB	20 MHz: 28 dB 500 MHz: 9 dB	20 MHz: 34 dB 87 MHz: 11 dB
Electronic gain	+5 to +9 dB	–11 to +8 dB	–5 to +15 dB	–15 to +4 dB	–19 to +5 dB
Practical gain	+7 to +11 dB	–9 to +10 dB	–3 to +17 dB	–14 to +5 dB	–14 to +10 dB
Directivity	2 dB average	2 dB average	2 dB average	1 dB average	5 dB average
Intercept point 2nd order 3rd order	>55 dB >30 dB	>60 dB >30 dB	>55 dB >32 dB	>60 dB >30 dB	>60 dB >30 dB
Power supply	via RF cable 18 to 30 V (200 mA)	via RF cable 18 to 30 V (170 mA)	via RF cable 23 to 28 V (150 mA)	via RF cable 18 to 30 V (340 mA)	via RF cable 18 to 30 V (340 mA)
Connector	N female	N female	N female	N female	N female
Nominal impedance	50 Ω	50 Ω	50 Ω	50 Ω	50 Ω
Dimensions (in mm)	512 x 238	1000 x 240	1210 x Ø 100	1000 x 1000 x 370	990 x 170 x 1099
Weight	2.1 kg	2.5 kg	3 kg	8 kg	12 kg
Operating temp. range	–40 to +75 °C	–40 to +75 °C	–40 to +75 °C	–40 to +75 °C	–40 to +75 °C
Wind velocity	≤180 km/h	≤180 km/h	≤180 km/h	≤180 km/h	≤180 km/h
Wind load at 180 km/h	60 N	73 N	122.7 N	92.8 N	200 N
Order Number	0630.0310.02[2]	0644.1114.02[2]	4027.5009.02	0751.5006.02	0684.2011.02
Recommended power supply	IN115 4004.1707.02	IN115 4004.1707.02	IN115 4004.1707.02	IN115 4004.1707.02	IN115 4004.1707.02
Recommended extras	[3]	[3]			

[1] Noise figure referred to antenna input (reference noise temperature T_0 = 290 K)

[2] When configured as calibrated test antenna: model .03

[3] HE202-Z1 Mast Adapter 0649.7510.02
HE202-Z2 RF Cable 0649.7785.02
AM524-Z2 Antenna Adapter 4036.0658.02

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