

R&S®AC090 SHF Directional Antenna System

1 GHz to 18 GHz/0.85 GHz to 26.5 GHz

Extremely broadband directional antenna for
radiomonitoring; adjustable in azimuth and elevation



The R&S®AC090 is a stationary directional antenna that can be adjusted in azimuth and elevation.

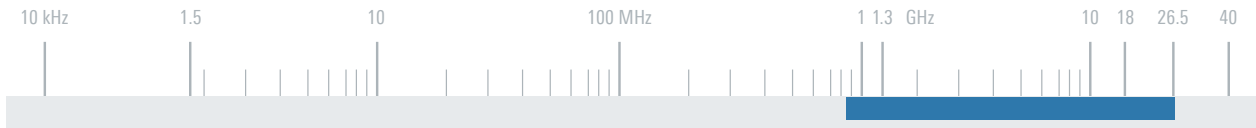
The reflector has a diameter of 0.9 m and – depending on the feed used – receives signals in the range from 1 GHz to 18 GHz or from 0.85 GHz to 26.5 GHz. The frequency range can be extended to up to 40 GHz by using flange-connected options.

The R&S®AC090 is used e.g. for radiomonitoring tasks.

Key facts

- Extremely broadband without change of feed
- 0.9 m reflector diameter
- Adjustable in azimuth and elevation
- System control via PC user interface
- Use of R&S®HL050S7 allows preamplifier to be bypassed at high field strengths (also applies to R&S®HL024S7/S8)





Specifications

Frequency range (depends on feed)	1 GHz to 18 GHz, 0.85 GHz to 26.5 GHz
Gain	15 dBi to 40 dBi (1 GHz to 18 GHz)
Half-power beamwidth	19° to 1.1° (1 GHz to 18 GHz)
Min. field strength	see diagram
Range of rotation	
Azimuth	±180°
Elevation	–5° to +95°

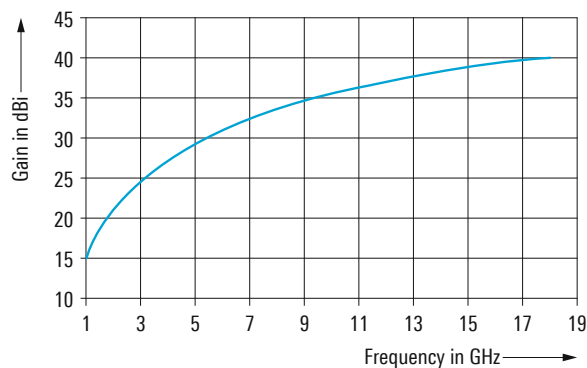
Speed of rotation	
Azimuth	≥ 5°/s
Elevation	> 1.5°/s; 2°/s (typ.)
Connector	RPC3.5 female
MTBF	> 8000 h
Operating temperature range	–30°C to +50°C
Max. wind speed	180 km/h (without ice deposit)
Reflector diameter	approx. 0.9 m (35.4 in)
Weight	approx. 165 kg (363.8 lb)

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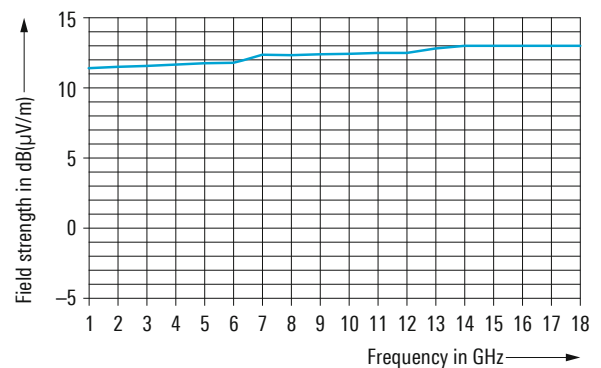
Ordering information

Ordering information	Type	Order No.
SHF Directional Antenna System	R&S®AC090	4051.4509.00
Feed options (see also pages 130 to 142)		
Crossed Log-Periodic Antenna, 1 GHz to 18 GHz		
Basic model	R&S®HL024S1	4055.1256.02
With passive polarization network	R&S®HL024S2	4052.1003.02
With preamplifier, 1 RF output	R&S®HL024S7	4042.8505.02
With preamplifier, 2 RF outputs	R&S®HL024S8	4042.7509.02
With active polarization network	R&S®HL024S9	4047.6252.02
Log-Periodic Antenna, 0.85 GHz to 26.5 GHz		
Basic model	R&S®HL050S1	4065.0100.02
With preamplifier	R&S®HL050S7	4064.6040.02
Recommended extras		
Reflector Antenna, 18 GHz to 26.5 GHz, 29 dBi to 33 dBi	R&S®AC308R2	4051.6001.02
Reflector Antenna, 26.5 GHz to 40 GHz, 33 dBi to 36 dBi	R&S®AC308R3	4051.6253.02

Typical gain



Typical minimum receive field strength



With R&S®HL024S9 (for a receiver with $F = 15$ dB, $\Delta f = 1$ MHz).