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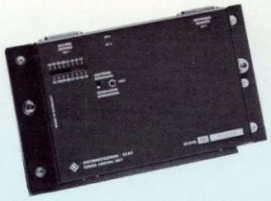

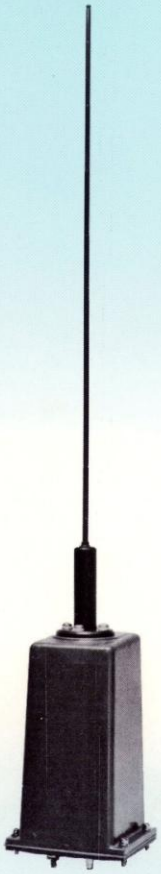

HF Antenna System AK 001

Brief description

The HF Antenna System AK 001 consists of the Active HF Receiving Antenna HE 020, which can be tuned through the range from 1.5 to 30 MHz, and the Tuning-control Unit GS 017. It is designed for use where space is at a premium, where strong interference is likely to occur (e.g. in the vicinity of transmitting antennas), and under the severest environmental conditions (e.g. in mobile and shipborne applications).

Special features

- Extremely high linearity – interfering fieldstrength up to 200 V/m does not disturb reception (frequency spacing ≧10 %)
- Bandpass characteristic – protects receiver input against overloading
- Small dimensions – height of rod only 1 m
- High sensitivity – same sensitivity as passive antenna 5 m long
- Fully automatic operation

Specifications

Frequency range	10 kHz to 30 MHz
Impedance	50 Ω
VSWR	≦2
2nd-order intermodulation products	down ≧120 dB ($E_1 = E_2$ = 100 mV/m)
3rd-order intermodulation products	down ≧125 dB $E_1 = E_2$ = 100 mV/m, frequency spacing ≧10 %)
Operating temperature range	–25 to +55 °C
Storage temperature range	–40 to +75 °C
Supply voltage	24 V to 30 V*
Weight	4.2 kg max.
Tuning time	5 ms max.

from Power Supply IN 034

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Active Rod Antenna HE 010

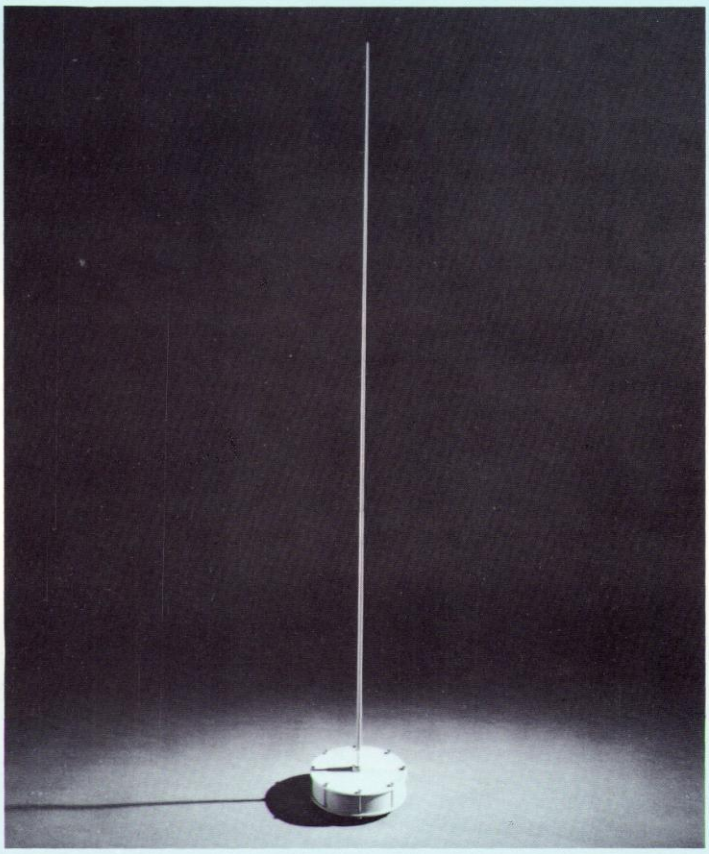
Brief description

The excellent characteristics of active receiving antennas are a result of carefully matching the passive antenna structure to the active circuitry.

- Wide frequency range 10 kHz to 80 MHz
- Optimized for maximum dynamic range (high sensitivity, excellent large-signal characteristics)
- Two isolated outputs (e.g. for connection of two multicouplers or receivers)
- Only one metre high
- High immunity to nearby lightning strikes

Specifications

Frequency range	10 kHz to 80 MHz
Impedance	50 Ω
VSWR	≤2
Antenna factor V_{out}/E	approx. 0.1 m (corr. to k ≈ 20 dB)
2nd-order intercept point	≧55 dBm
3rd-order intercept point	≧32 dBm
Cross modulation Interfering field strength (for cross-modulation products 20 dB down; interfering transmitter modulated with 1 kHz and m = 30 %)	20 V/m up to 30 MHz, 10 V/m from 30 to 80 MHz
Operating temperature range	−40 to +70 °C
Storage temperature range	−55 to +85 °C
Connectors (two outputs)	N female
Supply voltage	18 V to 35 V (Power Supply IN 033 is recommended)
Current drain	max. 500 mA



Active HF Rod Antenna HE 001

Brief description

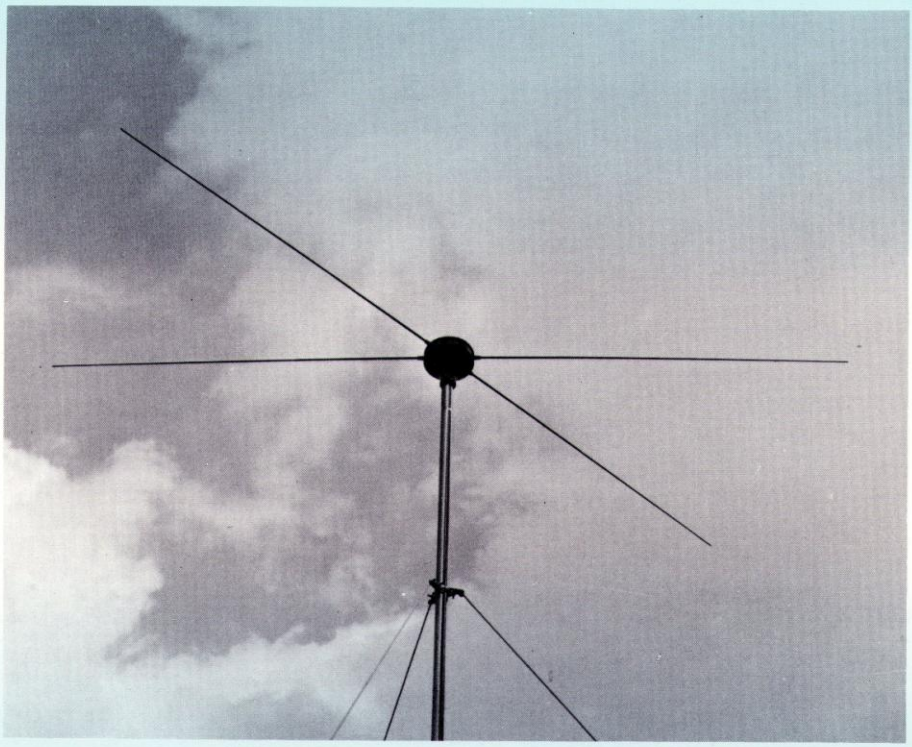
The excellent characteristics of active receiving antennas are a result of carefully matching the passive antenna structure to the active circuitry.

- Extremely small size – length of rod only 1.5 m
- High sensitivity – same system sensitivity as comparable passive antenna more than three times the size
- High linearity – comparable with systems made up of passive antennas with preamplifiers or multi-couplers
- High immunity to nearby lightning strikes
- Omnidirectional reception of low-angle sky waves
- Omnidirectional reception of ground waves
- Frequency-independent vertical pattern

Specifications

Frequency range	1.5 to 30 MHz
Impedance	50 Ω
VSWR	≦ 1.5
2nd-order intercept point	≧ 60 dBm
3rd-order intercept point	≧ 38 dBm
Crossmodulation Interfering fieldstrength (for crossmodulation products 20 dB down; interfering transmitter operating 1 MHz above wanted frequency with modulating frequency of 1 kHz and 30 % modulation depth)	≧ 3.5 V/m
Operating temperature range	–40 to +80 °C
Storage temperature range	–55 to +125 °C
Supply voltage	18 V ± 10 % *
Current drain	100 mA
Weight	1.6 kg

* from Power Supply IN 014



Active HF Dipole Antenna HE 002

Brief description

The excellent characteristics of active receiving antennas are a result of carefully matching the passive antenna structure to the active circuitry.

- Extremely small dimensions – dipole length only 3 m
- High sensitivity – same system sensitivity as comparable passive antenna more than three times the size
- High linearity – comparable with systems made up of passive antennas with preamplifiers or multicouplers
- High immunity to nearby lightning strikes
- Omnidirectional reception of high-angle sky waves
- Frequency-independent horizontal pattern

Specifications

Frequency range	1.5 to 30 MHz
Input impedance	50 Ω
VSWR	≦ 1.5
2nd-order intercept point	≧ 60 dBm
3rd-order intercept point	≧ 38 dBm
Crossmodulation Interfering fieldstrength (for crossmodulation products 20 dB down; interfering transmitter operating 1 MHz above wanted frequency with modulating frequency of 1 kHz and 30 % modulation depth)	≧ 3.5 V/m
Operating temperature range	–40 to +80 °C
Storage temperature range	–55 to +125 °C
Supply voltage	18 V ± 10 % *
Current drain	100 mA
Weight	2 kg

* from Power Supply IN 014

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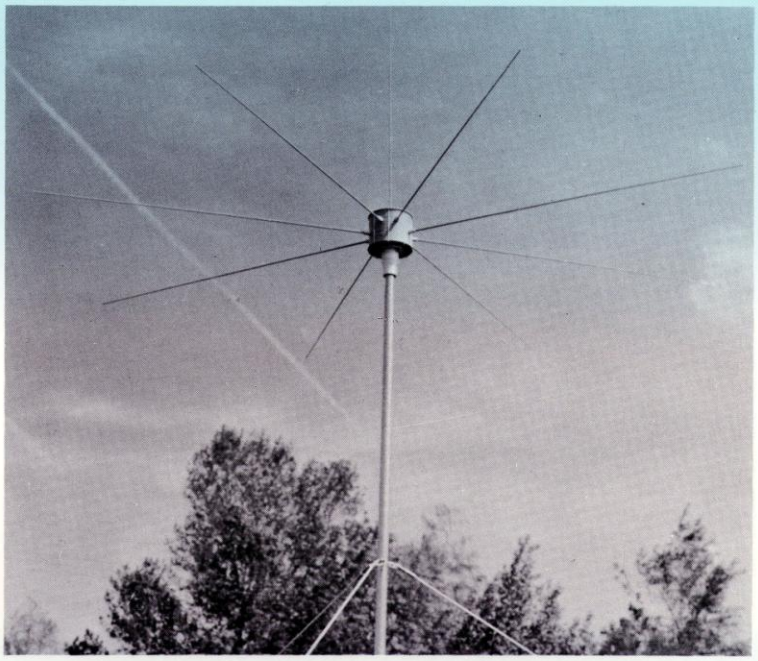

Active HF Antenna Systems
HE 003, HE 004, HE 005, HE 006

Brief description

These antenna systems are combinations of the following modules: Active HF Rod Antenna HE 001 and one or two horizontal Active HF Dipole Antennas HE 002 crossed at an angle of 90° (see separate specification sheets). Two dipole antennas can be interconnected via a 90° coupler to produce an omnidirectional antenna pattern for the reception of horizontally polarized signals.

- Extremely small dimensions
- High sensitivity – same system sensitivity as comparable passive antennas more than three times the size
- High linearity
- High immunity to nearby lightning strikes
- Optimum results under any receiving condition with minimum space requirement
- Omnidirectional reception of horizontally and vertically polarized signals (HE 005)

Specifications

Frequency range	1.5 to 30 MHz
Input impedance	50 Ω
VSWR	≦ 1.5
2nd-order intercept point	≧ 60 dBm
3rd-order intercept point	≧ 38 dBm
Crossmodulation	
Interfering fieldstrength (for crossmodulation products 20 dB down; interfering transmitter operating 1 MHz above wanted frequency with modulating frequency of 1 kHz and 30 % modulation depth)	≧ 3.5 V/m
Operating temperature range	−40 to +80 °C
Storage temperature range	−55 to +125 °C
Supply voltage	18 V ± 10 % *
Weight	
HE 003	5.5 kg
HE 004	4.5 kg
HE 005	6 kg
HE 006	3.5 kg
Components of antenna systems	
HE 003	1 × HE 001 2 × HE 002
HE 004	2 × HE 002 90° coupler
HE 005	1 × HE 001 2 × HE 002 90° coupler
HE 006	1 × HE 001 1 × HE 002

* from Power Supply IN 014