

## **LOWE AA - 150 Active antenna**

The Lowe AA - 150 active antenna is a high quality active antenna for long, medium and shortwave reception in the 30 kHz to 30 MHz frequency range. Although it was originally designed for Lowe, it can be used with any other receiver. The antenna is designed for stationary as well as mobile use, including the use on boats, ships, trucks and campers. The Lowe AA - 150 consists of a sturdy 3 mm stainless steel whip antenna, mounted on a stainless steel base with a diameter of 35 mm. The antenna is just 1.25 mtrs long and will fit directly onto all standard marine type mountings with 1 inch thread. The optional AK 2 mounting clamp makes it possible to mount the antenna nearly anywhere: on a balcony, wall or vertical and horizontal pipes up to 55 mm diameter. Due to its small dimensions the antenna is very unobtrusive. The antenna comes completely assembled with 14 metres of high quality RG 58 coaxial lead-in cable, and is built to withstand any climate, from polar to tropical seawater environment.

### **Power supply**

The AA - 150 antenna can be directly connected to the Lowe HF 150 Marine receiver or other receiver that has the facility to power the antenna via the antenna input connector (12 V DC, 150 mA). The Lowe AA - 150 can also be used with any other receiver. For this purpose an optional DC 30 adaptor for 12 Volts battery supply, the Mains/230 (or 110) mains adaptor for either 210 - 240 Volts ac or 100 - 130 Volts ac is required. Also available is the IDX indoor unit, a high quality indoor unit/power supply for 230 or 110 V ac, which offers also the possibility to adjust the level of the received signals.

### **New Standards in specifications**

In the past, active antennas were easily overloaded and had a bad name, especially in yachting circles. The Lowe AA - 150 sets new standards in specifications, as it is built with a class A wideband amplifier with a power dissipation of 1.8 Watts. This means that the amplifier can handle weak as well as very strong signals without generating spurious products. The input intercept points are + 55 dBm or better (2nd order) and + 30 dBm or better (3rd order). The Lowe AA - 150 antenna can deliver up to 1.5 Volts output level to the receiver. These specifications are much better than those from most amateur and commercial shortwave receivers. Therefore the Lowe AA - 150 can be used on low cost as well as high cost, high quality receivers. The antenna is very well protected against static discharges caused by lightning from thunderstorms in the vicinity as well as St. Elmo's fire on board of ships. This protection assures also that the antenna can be mounted in the direct vicinity of shortwave transmitting antennas and radars on board ships without becoming defective. The antenna is also protected against wrong polarity and high voltage spikes on the board net.

### **Atmospheric-noise compensated sensitivity**

It is well known that the atmospheric and man-made noise level is high on lower frequencies, reducing to lower values at higher frequencies. Only stations which are stronger than the noise can be heard. Most antennas on the market have equal gain for all frequencies. The noise and strong mediumwave stations are also amplified with these antennas, resulting in receiver overload and intermodulation. The Lowe AA - 150 however, has an atmospheric noise compensated sensitivity. In practice this means that the sensitivity of the antenna rises with the frequency. This assures that the extremely strong signals of long- and medium wave broadcasters do not overload the antenna and receiver. On higher frequencies the atmospheric noise is lower and the signals of long distance, weak stations on these frequencies are extra amplified. The advantage of this system is that the receiver is fed with signal levels which give optimum reception without generating overloading or unwanted spurious products.

### **Construction**

The Lowe AA - 150 can withstand extreme weather conditions. All parts of the antenna are made from stainless steel, sea water resistant aluminium alloy and UV resistant unbreakable high impact plastic. The Lowe AA - 150 is designed to operate within a temperature range of -30 to +70 degrees Celsius. Inside, the antenna is filled with CFC free polyurethane which assures the antenna is completely waterproof. It can be even held under water without damage. The antenna offers very little wind-resistance and can withstand hurricane force conditions with wind speeds over 200 km/hour.

### **Mounting**

The Lowe AA 150 will fit directly on 1 inch, 14 t.p.i. threads of all standard marine mountings for antennas as used for yachts. A very nice marine mounting, which offers the possibility to mount the antenna under an angle, is the optional available Marine mounting of RF Systems. For other application, such as the use at home, several other antenna clamps are available as option.

### **Optional available**

- \* DC 30 adaptor for 11 - 15 Volts DC (battery) supply
- \* Mains/230 adaptor for 230 Volts ac supply
- \* Mains/110 adaptor for 110 Volts ac supply
- \* AK - 2 universal antenna clamp,

\* Marimount yacht mounting.

### **Specifications**

**Frequency range** : 30 kHz - 30 MHz

**Sensitivity**: Atmospheric noise compensated, gain increasing with frequency to + 6 dB

**Reception pattern**: omni- directional

**Polarisation** : Vertical

**Input intercept points** : > + 55 dBm (2nd order), > + 30 dBm (3rd order)  
(measured with 2 x + 10 dBm input signals on 3.2 and 3.7 MHz)

**Maximum outputlevel** : 1.5 Volts into 50 Ohms

**Noise figure** : < 6 dB at 30 MHz

**Harmonic distortion** : < 0,3 % with an input signal of 0 dBm at 1.5 MHz

**Protection against static discharges**: leak path to ground + a 5000 Amp impulse (8/20 usec) gas arrestor  
+ a semiconductor protection with 1 nanosec reaction time

**Power supply**: 11 - 15 Volts DC (13.2 Volts nominal)

**Current consumption**: 150 mA typical

**Power supply protection**: against wrong polarity and voltage spikes up to 50 Volts

**Interference rejection**: RF Signals (> 30 kHz) are 30 dB or more suppressed by the DC 30 and mains adaptors.

**Receiver output**: 14 mtrs RG 58/u coaxial cable, PL 259 plug supplied (coaxial cable can be extended up to 100 mtrs)

**Dimensions**: 1.25 mtrs total length, base diameter 35 mm

**Mounting**: The base of the AA 150 fits directly on the 1 inch, 14 t.p.i thread of all standard marine antenna mountings as used for yachts. For other ways of mounting the optional universal antenna clamp AK 2 is available.

**Operating conditions**: temperature - 30 to + 70 C, completely weather and seawater resistant, wind speeds up to 200 km/h without serious damage.

**Certification** : CE certified

(photo's): Lowe AA 150, DC 30, Mains/230,Ak2, MARINE MOUNT

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