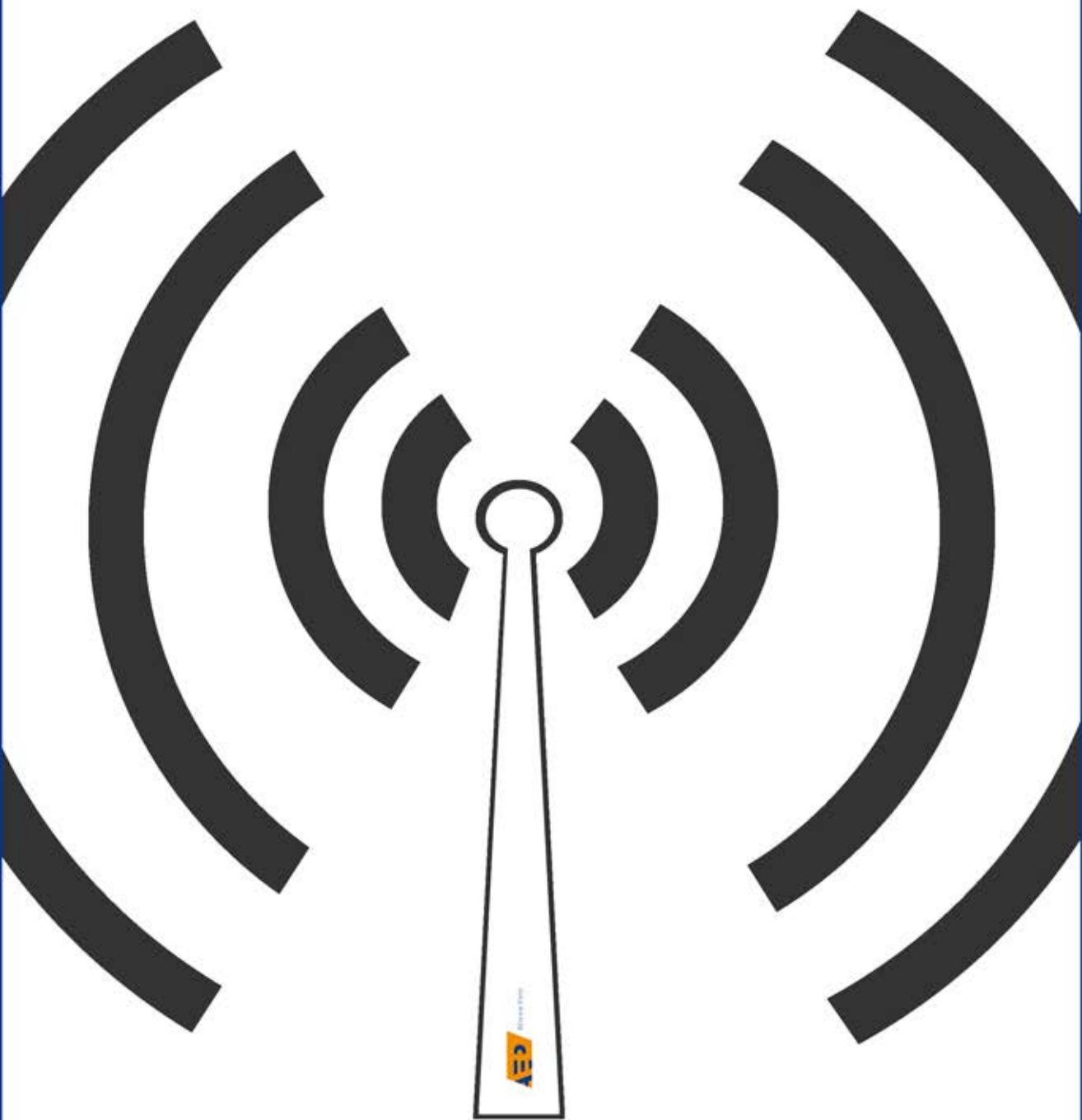


Whitepaper

# MF/HF antennas (SSB) How to mount them?



# MF/HF antennas (SSB) How to mount them?

## Which antennas?

Obviously this whitepaper discusses the marine antennas, antennas used on deep sea and inland vessels, as well as leisure ships.

→  
Also very useful antennas, but not for our communication.



More precisely, this whitepaper talks about the MF/HF antennas, also called SSB antennas.

## Why?

Although it is not difficult to mount AEP antennas, there is an additional safety device (for antennas consisting of several sections) which certainly deserves special attention.

## MF/HF (SSB) antennas

The MF/HF antennas are used for the medium and high wave frequency bands.

### Medium Frequency (MF) band

This band is from 300 kHz to 3 MHz and is used for medium wave broadcasting (526.5 to 1606.5 kHz). In this frequency range the waves go over short distances along the earth.

### High Frequency (HF) band

This band is the frequency range from 3 to 30 MHz. The shortwave is a transitional area. The communication via the groundwave is still possible in the bandwidth 3 - 6 MHz, however above the 6 MHz, the groundwave is hardly present anymore. Communication from 6 MHz to 30 MHz is notably through reflection on the ionosphere plane.

## Length

The antennas for the MF/HF frequency band need a certain length, considering the height of the radio waves in these frequency range.

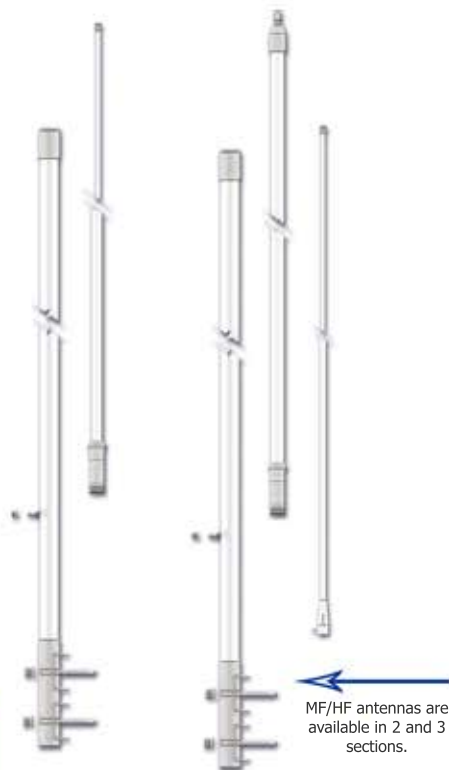
These MF/HF antennas are produced in several sections, for the purpose of saving transport costs.

A simple formula to calculate the wavelength is to divide 300,000 {is the speed of a radio wave and light in Km / second} by the frequency.

For example  $300,000 / 30,000 \text{ KHz} = 10 \text{ meter}$ .

## An · ten · na

1. a conductor by which electromagnetic waves are sent out or received, consisting commonly of a wire or set of wires; aerial.
2. Zoology . one of the jointed, movable, sensory appendages occurring in pairs on the heads of insects and most other arthropods.



MF/HF antennas are available in 2 and 3 sections.

# MF/HF antennas (SSB) How to mount them?

## How do you connect the sections?

Every MF/HF (AEP) antenna consists of two or more sections, as shown on the previous page. In addition to the mounting on your ship, the antenna should also be put together.

### Convenience factor

The antennas are developed with a rotary system with screw. One part can be easily tightened to the other part.

### Safety factor

An extra protection is added in addition to the convenience factor: the security pin. This pin is an extra screw to assure a proper and secure connection between the diverse sections.



## What should you consider?

The security pin is unfortunately not always used, resulting in an antenna with greater sensitivity to vibrations. Please see the schematic representation of the mounting of the various antenna sections to have a solid and secure antenna.



← One section has a bolt, the other section has matching screw thread.



← Remove the security pin and then tighten the sections completely together, so the holes are one above the other.



← If the sections are tightened, screw the security pin with an allen key through both holes.



A solid and secure antenna