

## LRX-30 Active Magnetic Loop Antenna

## <u>General</u>

The LRX-30 is a High-End active magnetic loop antenna for receiving frequencies in the long, medium and shortwave bands from 150kHz to 30MHz. There are also special versions – for receiving the lower frequencies from 10kHz to 150kHz - available on request: LRX-30LW.

## <u>Usage</u>

The LRX-30 is the perfect antenna for everyone with almost no space for an antenna and living in an area with lots of man made noises. Each radio signal consists of two components. The electrical part and the magnetic part. The electrical part is easy to capture with an antenna and also stronger than the magnetic part. That is why most antennas are electrical antennas. The down side of the electrical part is that it absorbs man made noises, like electrical appliances etc, quite easily. It will interfere with your radio signal. The magnetic component is hardly affected by it! The LRX-30 is specially designed for receiving the magnetic part only. The way it is designed the LRX-30 is also directional sensitive. The main advantage is you will get the best signal by turning the loop towards the station. You can also turn it away from the interference source for optimum radio signals. The electronics inside the base of the loop-antenna ensures the best receiving results without manually tuning the loop every time you change frequency!

The LRX-30 is made of high grade, weatherproof materials and intended to be used outdoors. You will get the best receiving results by mounting the antenna as high and far away from man made noises as possible.

### Static discharges

During adverse weather conditions such as dry weather, strong winds, rain, snow fall, lightning etc, static can develop. Static can be heard as loud cracking noises from the speaker of your shortwave radio. During close by thunder storms, lightning can damage the internal electronics of any active antenna. For that reason it is important to discharge the static to earth. This can be done by an metal pole driven into the ground, preferably to the ground water level, and connected to the base of the LRX-30 by an thick copper wire. **Never** use your main socket as grounding. It can be dangerous and is filled with all kinds of data-pulses which will disturb your reception heavily.

### **Specifications**

Frequency: $150kHz \sim 30MHz$  ( $10kHz \sim 150kHz$  for the LRX-30LW)Dimensions:Height 110cmAC voltage: $60V \sim 240V$ 50Hz / 60Hz







# **ARX-30 Active Shortwave Antenna**

#### <u>General</u>

The ARX-30 is an active antenna for the long, medium and shortwave bands. The frequency range is between 100kHz and 30MHz. The antenna is made of high grade materials and intended to be used outdoors. It can of course be used indoors.

#### <u>Use</u>

Due to the small measurements the ARX-30 is perfect for use during vacations, on your boat, mobile home or balcony. The antenna is approximately 1meter high and 32mm width. The weight including the galvanized mast bracket is approximately 1 kilogram.

Despite its dimensions, the ARA-30 is a high end active antenna for the professional and home user. The frequency range is specified between 100kHz and 30MHz but will operate as low as 50kHz with ease! The ARX-30 is an omni directional vertical polarized antenna. For best results the antenna must be mounted as high and as far away from manmade noise as possible.

### Mains or battery

The ARX-30 is supplied with the DCI-30/230. This DC-injector makes it possible to feed the active antenna with the correct DC-voltage through the coax cable. The DC-voltage and the radio signals will be separated by the DCI-30. No DC-voltage will reach your radio. The DCI-30/230 is suitable for the mains socket at home. Optional is a 12V battery operated DCI-30/12 available. Also a more advanced unit, the IDU-30 is available. It has better filters and a low noise AC-supply. This is important for receiving weak stations. It also has a built-in amplifier to compensate coax cable losses. The IDU-30 runs on any voltage between 60V and 240V 50/60Hz.

### Static discharges

During adverse weather conditions such as dry weather / strong winds / rain, snow fall / lightning etc, static can develop. Static can be heard as loud cracking noises from the speaker of your shortwave radio. During close by thunder storms, lightning can damage the internal electronics of any active antenna. For that reason it is important to discharge the static to earth. This can be done by an



metal pole driven into the ground, preferably to the ground water level, and connected to the base of the ARX-30 by an thick copper wire. **Never** use your main socket as grounding. It can be dangerous and is filled with all kinds of data-pulses which will disturb your reception heavily.



## PRX-30 Passive Broadband HF-Antenna

## <u>General</u>

The PRX-30 is a passive broadband antenna for receiving signals between 100kHz and 30MHz.

## <u>Use</u>

In certain situations an active antenna cannot be used due to strong electrical pulses or electromagnetic fields. The PRX-30 is a passive receiving antenna which is not sensitive to overloading and intermodulation. Therefore the PRX-30 is ideal for placing nearby transmitting antennas. The antenna itself is a helical-element. The main characteristic of such an antenna is the omni-directional pattern. 80% horizontal and 20% vertical. It is called an elliptical pattern. This kind of pattern reduces fading due to **polarisation** rotation and incoming signals under various angles.

The PRX-30 is fully protected against high static discharges. However this is only true if the base of the antenna is connected to a proper grounding so build up static can discharges to earth. It also reduces electrical noises and signals will become much more readable! The PRX-30 is made of durable weather restistant materials and can be used under the most extreme weather conditions. Perfect on board of sea-going vessels. For the GMDSS-network we have a special versions of the PRX-30: PRX-30GMDSS.

The PRX-30 will come without a mast bracket. It can be ordered separately. It is also advisable to tape the coax connector with Rafansys VT-10

## **Specificaties**

Frequency:	$100 \text{kHz} \sim 30 \text{MHz}$
Impedance:	50 Ohm
Polarisation:	Elliptical 80% H – 20% V
Dimensions:	Length 2 meter, diameter 32mm
Material:	Stainless steel and impact proof PVC



## **BRX-30 Longwire Matching Transformator**

### <u>General</u>

The BRX-30 makes it possible to use 500hms coaxial cable to all forms of wire antennas. The matching unit will adapt any piece of wire between 6 and 25 meters long.

## <u>Use</u>

The BRX-30 is made of UV resistance, durable and weatherproof PVC. Any type of wire antenna, longwire, T-antenna-L-antenna etc. can be used in combination with the BRX-30. Due to the Auto-Transformation-Principle, the high impedance of a wire antenna will be adapted to 500hm suitable for coaxial cable and antenna input of your radio. This way all energy received by the antenna will be transported the best way to the receiver.

The frequency range of the BRX-30 ie between 100kHz and 30MHz. Try to connect as much wire as you can. For receiving low frequencies you need a longer antenne as for higher frequencies! For best results the antenna must be mounted as high and far away from manmade noise as possible.

### Static discharges

During adverse weather conditions such as dry weather, strong winds, rain, snow fall, lightning etc, static can develop. Static can be heard as loud cracking noises from the speaker of your shortwave radio. During close by thunder storms, lightning can damage your receiver. For that reason it is important disconnect the antenna from your radio. To improve reception you can try grounding your equipment. This can be done by a metal pole driven into the ground, preferably to the ground water level. **Never** use your main socket as grounding. It can be dangerous and is filled with all kinds of data-pulses which will disturb your reception heavily.









## SC-50 Antenna splitter / combiner

## <u>General</u>

De SC-50 antenna splitter / combiner is meant to be used for connecting 2 antennas to 1 receiver.

## <u>Use</u>

Most modern broadband receivers have a large frequency span from 30kHz to 2GHz or even higher. To cover this wide spectrum you need at least two good antennas. One for the lower part up to 50MHz and another for the VHF / UHF / SHF frequencies. The first antenna could be a wire antenna, an active antenna or a loop antenna. The most common antenna used for the higher frequencies is a discone antenna. A big problem is that almost every modern receiver has only 1 antenna input. The SC-50 will solve this issue! The internal filter combines the two signals from each antenna to one output. You don't have to switch manually between two antennas. The two antenna inputs will not interference with each other due to the high isolation of >50dB.

There are broadband antennas for the shortwave and part of the higher frequencies. They are by far, not as good as two separate antennas. In case of 1 broadband antenna and two receivers, lets assume a shortwave receiver and a VHF / UHF scanner, you can use the SC-50 also. Just reverse the connections of the SC-50!



!!: Never use any tools to tieden the coaxial connectors to the SC-50. It can damage the internal matching unit!!