

Safety Instructions

Thunderstorms and overloads

For coarse protection, the input of the Paloran 200 has a fast 60V gas arrester (max 1kA/20 μ s) and is protected against overloads (max. 1.2Vs) by protection diodes. For the output, a ESD-protector according to IEC 6100-4-2 Level 2 with 8kV/max. 30ns is used.

Disclaimer - please note

The integrated overvoltage protection is not a fully-fledged lightning protection in the event of a direct hit to the house or the neighborhood. With large diameter loops, very high voltages can be induced, which can destroy the electronics of the antenna and/or connected devices. For this reason, liability for these devices is excluded. Other types of damages caused by overloads or high exposure to HF-radiation are excluded from the warranty as well.

In case of absence from home, the potential danger of transmitting (ham radio stations), and thunderstorms etc., can be avoided by disconnecting the antenna cable to avoid any damage.

In the vicinity of strong radio transmitters, please note the following

Although the PALORAN200 is a passive antenna without additional amplification, in rare cases overloads can occur caused by near-by transmitters (distance a couple of hundred meters away) which can damage the antenna electronics and/or connected devices.

TECHNICAL DATA

Frequency range: 9kHz - 200MHz (-3dB)
BNC connectors and 50 ohms impedance
Loop connectors: M5-screws (stainless steel)
Output is DC-blocked (max 50V)

Working temperature: -25 - 45°C
Size / weight: 98 x 90 x 38mm / 0.12kg

For reception only, do not use as a transmitting antenna!

Scope of delivery:

- PALORAN 200
- 15m loop made from (V4A) PVC-coated stainless steel rope
- 2 insulators (weather-proof plastic) with 4.5mm fixing holes

Optionally available:

20m or 25m loop made of (V4A) PVC-coated stainless steel rope

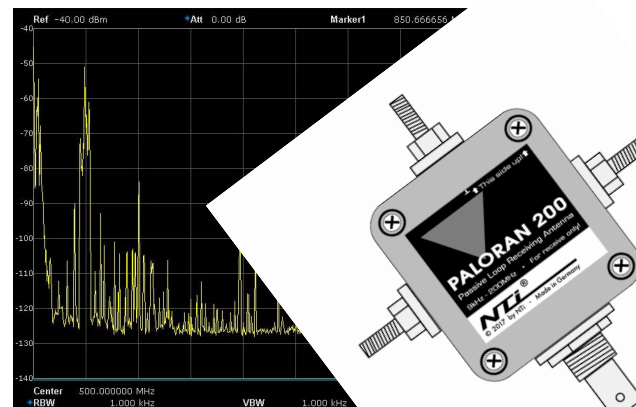
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Issue 06/2018

PALORAN 200

Passive Loop Receiving Antenna
9kHz - 200MHz

Operating Manual
Version V1.3



NTi®

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How does it work?

The PALORAN 200 is a high-quality broadband passive loop antenna.

In the near field area (i.e. less than approx. three wavelengths), loop antennas mainly react to the magnetic (H-field) component of the electromagnetic field. Therefore, the reception of mainly electric (E-field) disturbances is effectively suppressed, which is especially noticeable in the lower frequency range (VFL/longwave/medium wave and lower shortwave bands because of less radio interference).

Due its merely passive operating principle, the Paloran 200 needs more space than other active loop antennas. The PALORAN's loop has a circumference of about 15m. The advantage is that the antenna produces no intermodulation or other internally generated disturbing components. It does not need a power supply, either.

All in all, the antenna is a good alternative when you have sufficient room to install it and if you want trouble-free reception at the same time.

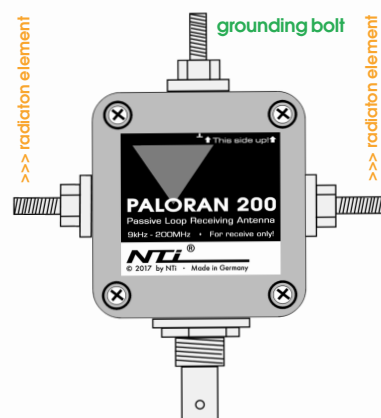
Radiation Elements

Because the enclosure and the radiating element are separate, the PALORAN 200 offers a flexible solution for various types of radiating elements.

The standard version is a loop made of (V4A) PVC-coated stainless and salt water-resistant steel rope. As an option, loops of 20m or 25 m are available in the same quality. You can also attach your own loops, of course. The strength of the received signals depend proportionally on the enclosed area of the loop.

The loop is attached to the enclosure by two wing nuts on the side using two tooth lock washers. It is important that the enclosure is installed with the BNC-jack pointing downward because there are two small vent holes to avoid condensation.

Optional: You may also attach a grounding wire at the upper connector. The ground is connected internally to the coax outer conductor (ground BNC-jack). You can also ground a loop in the middle.



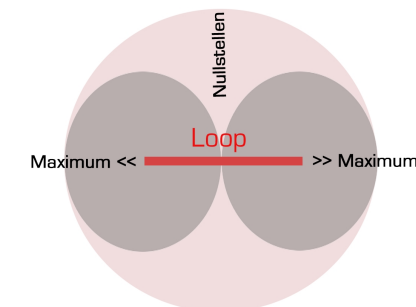
Antenna Radiation Pattern

Besides relatively wide reception maxima, the loop antenna has two minima which are perpendicular to the antenna surface. With increasing frequency, however, these minima become less and less noticeable.

Hint No. 1: When positioning the antenna in an East-West direction, the minima will point to the Poles and signals from the other continents can be received relatively undisturbed.

Hint No. 2: Disturbances from a particular direction can be blocked out by having the antenna pointed to the minima.

Typical radiation pattern (H-plane):



Installation

Basically, a loop antenna does not have to be installed as high as possible in order to work best. Outdoors, it is sufficient to install the antenna near the ground where it is not exposed to the risk of lightning strikes.

When installed indoors, the antenna will suffer from increased attenuation caused by the type of building (reinforced concrete, electrical wiring etc.).

The antenna should be installed in a place that is permeable to electromagnetic waves, such as windows, lightweight construction walls, attics or on the balcony.

The simplest installation is to suspend the loop as an inverted delta loop (v-shape).

Outdoor installation example:

