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LORADD Integrated eLoran & GNSS antennas Types LORADD-A-H1 and LORADD-A-E2

User Guide

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Integrated eLoran/GPS antennas

User Guide

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Mounting the antenna

To achieve the best possible performance of the antenna attention should be paid to the correct installation of the antenna.

Mounting the integrated eLoran H-field/GPS antenna

H-field antennas' effective length is not influenced by the height of the supporting mast. H-field antennas are the basic sensors for true-North compass indication. For best performance of the antenna on board of ships, the antenna should be installed not too far from its centerline. Do not install the antenna close to metal railings, masts, transmitting antennas or interference generating equipment.

Mounting the integrated eLoran E-field/GPS antenna

The E-field antenna is basically a mono-pole antenna which requires a solid ground connection to the ship's supporting mast structure. To prevent influences from the mast and guy wires of the ship, the antenna should preferably be mounted at a position where the antenna is higher than the nearby surrounding mast of guy wires.

The effective length of E-field antennas depends also on the length and the slenderness of the supporting mast structure. Longer masts increase the received signal strength but may introduce the risk of overloading the antenna resulting in poor performance. Do not install the antenna close to other transmitting antennas or interference generating equipment. The FFT plots which are available in the LerxAnalyser program are very useful to monitor the correct functioning of the antenna.

Interconnection of antenna, receiver and computer

The input connectors of a Loradd-SP or Loradd-UTC receivers are coupled to an integrated eLoran H-field/GPS or eLoran E-field/GPS antenna.

Four connecting schemes are given below to connect a Loradd-SP or a Loradd-UTC receiver to an integrated H-field eLoran/GPS or an integrated E-field eLoran/GPS antenna.

Integrated eLoran H-field/GPS antenna with Loradd-SP receiver

1. Connect the H-field antenna with the Loradd-SP via a Tasker C185 cable with ConXall and LEMO connectors
2. Connect the GPS antenna with the Loradd-SP through the RG58 cable with TNC and SMA connectors
3. Connect Loradd-SP to 9-36 VDC power supply
4. Connect COM1 or COM2 of Loradd-SP via the special RJ10-DB9 connector to a serial COM port of the computer. If the computer uses USB ports, then insert a USB-to-COM port converter and have the driver installed on the computer

Integrated eLoran H-field/GPS antenna with Loradd-UTC receiver

1. Connect E-field antenna with Loradd-UTC via a Tasker C185 cable with ConXall and LEMO connectors
2. Connect GPS antenna with Loradd-UTC through RG58 cable with TNC connectors on both ends
3. Connect receiver to AC line power
4. Connect COM1 or COM2 of Loradd-UTC via a DB-9 to DB-9 shield-interrupting connection cable to a serial port of the computer

Integrated Loran E-field/GPS antenna with Loradd-SP receiver

1. Connect E-field antenna with Loradd-SP via Tasker C184 cable with ConXall and LEMO connectors
2. Connect GPS antenna with Loradd-SP through RG58 cable with TNC and SMA connectors
3. Connect Loradd-SP to 9-36 VDC power supply
4. Connect minus side of Loradd-SP 9-36 VDC power supply to GND of AC line
5. Connect COM1 or COM2 of Loradd-SP to RJ10-DB9 connector.
6. If the computer is connected via a serial COM port then use a DB-9 to DB-9 shield-interrupting connection cable. In case the computer is connected via a USB port (strongly recommended), then a USB-COM-SI-M module should be inserted. Install the driver for this module on the computer. The driver is delivered with the USB-COM-SI-M module.

Integrated Loran E-field/GPS antenna with Loradd-UTC receiver

1. Connect E-field antenna with Loradd-UTC through Tasker C184 cable with ConXall and LEMO connectors
2. Connect GPS antenna with Loradd-UTC through RG58 cable with TNC connectors on both ends
3. Connect receiver to AC line power
4. Connect COM1 or COM2 of Loradd-UTC via a DB-9 to DB-9 shield-interrupting connection cable to computer

Remarks

1. To avoid disturbing influences from moisture on the electronic circuits in the antennas, please apply self-vulcanizing or self-fusing tape on the connectors of the antenna.
2. DB-9 to DB-9 shield-interrupting connection cables connect pins 2, 3 and 5 of both DB-9 connectors. Ground is not connected to avoid so-called ground loops
3. The USB-COM-SI-M module is an optical isolator between the COM port side and the USB side. As the ground on each side are connected a DB-9 to DB-9 shield-interrupting connection cable is required to avoid ground loops

Receiver commands to operate an integrated eLoran H-field/GPS antenna

The Loradd receiver must be instructed to operate with an eLoran H-field antenna by sending the following commands to the Loradd receiver. This can be done via the LerxAnalyser program. Send the following commands:

```
ECDCI FLAG 0  
SAVECONFIG  
RESET
```

The command ECDCI SHOW should now contain the line "ECDCI FLAG 0"

Receiver commands to operate an integrated eLoran E-field/GPS antenna

The Loradd receiver must be instructed to operate with an eLoran E-field antenna by sending the following commands to the Loradd receiver. This can be done via the LerxAnalyser program. Send the following commands:

```
ECDCI FLAG 1  
SAVECONFIG  
RESET
```

The command ECDCI SHOW should now contain the line "ECDCI FLAG 1"

Firmware

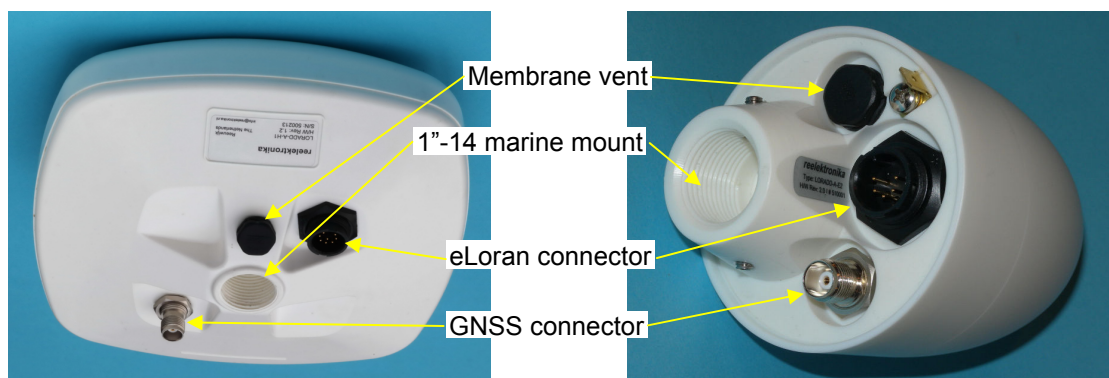
Using the integrated eLoran E-field/GPS antenna requires that the Loradd receivers run firmware versions 2.64 or higher, which can be downloaded from the ReeElektronika website www.reelektronika.nl. This new firmware version does not have any influence on the receiver when used with an integrated eLoran H-field/GPS antenna.

Downloads

Please download user manuals and new firmware version from our website www.reelektronika.nl

Pictures of antenna connectors

Below are shown some pictures of the bottom of the antennas with antenna connectors.



Bottom view of LORADD-A-H1

Bottom view of LORADD-A-E2