# Sirius Control Box 6130 LRIT

## Long-Range Identification and Tracking

## Owner's & Installation Manual


Version 1.12

## Disclaimer

Sirius is a brand name owned by Polaris Electronics A/S, Denmark.

We reserve the right to change specifications and instructions given in this manual without notices.

No liability can be accepted for any inaccuracies or omissions in the manual, although every care has been taken to make it as complete and accurate as possible.

This manual applies to firmware release of September 2013.

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## Owner's Manual

Congratulations with your new Sirius Control Box 6130 LRIT.

### Safety Notices

Before installation please read the Installation Manual carefully.
The equipment must be 10-32 V DC powered only.

Do not attempt to modify the Sirius Control Box 6130 LRIT.
Doing so will invalidate the warranty.

The equipment is designed for operation with SAILOR 6130 LRIT in temperatures between -15° C and +55° C.
Do not use the Sirius Control Box 6130 LRIT in temperatures which exceed this range.

## LRIT (Long Range Identification & Tracking)

Ships subjected to LRIT regulation must report position to Flag Administration at least 4 times a day.

The SAILOR 6130 LRIT System complies with the LRIT regulation and automatically reports the position of the ship every 6$^{th}$ hour.

When used with a Sirius Control Box 6130 LRIT, you can read out the status of the system by six LEDs, reset (reboot) the system via the Reset switch and have a buzzer/relay alarm function.

Via the Sirius Control Box 6130 LRIT a service technician can be connected to the SAILOR 6130 LRIT using either the USB interface or the RS-232 interface.

## About the Sirius Control Box 6130 LRIT

There is no on/off switch, as the equipment must always be turned on due to the LRIT regulation.
If the equipment is installed with an external switch at the main electrical switchboard, please, be sure that the equipment is always turned on.

## Models

There are two different models of the cover:

- Wall mounted (standard)


- Flush mounted (option)

## Indicators & Buttons

## Operation

| Front buttons description | |
|---|---|
| **Button name** | **Function** |
| RESET | Removes power from antenna and the Sirius Control Box 6130 LRIT |
| MUTE / DIM | Mutes alarm / Dims LEDs by holding the button* |

* LED dimming functionality available from PCB version D.

| LED description | | | | | |
|---|---|---|---|---|---|
| **Name** | **Color** | **On** | **Flashing** | **Off** | **Dimmable** |
| PWR In | Red | Power OK | - | No Power | Yes |
| GPS | Green | GPS Signal OK | - | No GPS Signal | Yes |
| SAT Lock | Green | SAT Lock OK | - | No SAT Lock | Yes |
| Prg. Info | Yellow | LRIT prg. running | LRIT prg. stopped | No LRIT prg. | Yes |
| Ant Con. | Yellow | Ant. Connection OK | - | No Ant. conn. | Yes |
| Alarm | Red | Audible Alarm | Silent alarm | No Alarm | Yes |

| Alarm description | | | | |
|---|---|---|---|---|
| **Buzzer interval** | **Alarm LED** | **Program LED** | **Ant. Conn. LED** | **Error** |
| 0.25 sec on/0.25 sec off | On | Off | Off | No antenna connection at startup |
| 0.5 sec on/2 sec off | On | On | On | LRIT report not sent on time |
| 0.5 sec on/2 sec off | On | Off | On | No LRIT program in current ocean |
| On #1 | On | Flashing | On | LRIT prg. available, but not running |
| On #2 | On | Off | Off | Lost connection to antenna |
| On #3 | On | Off | On | No program |

## Installation Manual

The Sirius Control Box 6130 LRIT package includes:

- Sirius Control Box 6130 LRIT
- User & Installation Manual

The SAILOR 6130 LRIT package includes:

- SAILOR 3027LT Terminal (Antenna)
- Pole mount
- 30m NMEA2K Mini cable w/plug for mini-c
- 6m NMEA2K Power cable
- Mini/Micro NMEA2K Tee
- User & Installation Manual

Refer to the SAILOR 6120/30/40/50 Installation Manual for installation of the SAILOR 3027LT Terminal.

**Function of LRIT**

The position of the vessel is automatically reported to the Flag Administration via a DNID and controlled by a program in the terminal (antenna).

DNID (Data reporting Network IDentification) is the ID of the vessel in the LRIT system. Therefore it needs to be downloaded before the program (reporting) can be started.

The program is a configuration in the terminal (antenna) which can be setup to report on a DNID by a specific interval. In LRIT systems this interval is normally every 6$^{th}$ hour.

The LRIT control centre under the Flag Administration controls both the DNID and program. Therefore you will need to contact the Flag Administration if you have issues with the DNID or program of your LRIT system.

Please note that you can also have other tracking providers that use DNIDs and programs on your LRIT system.

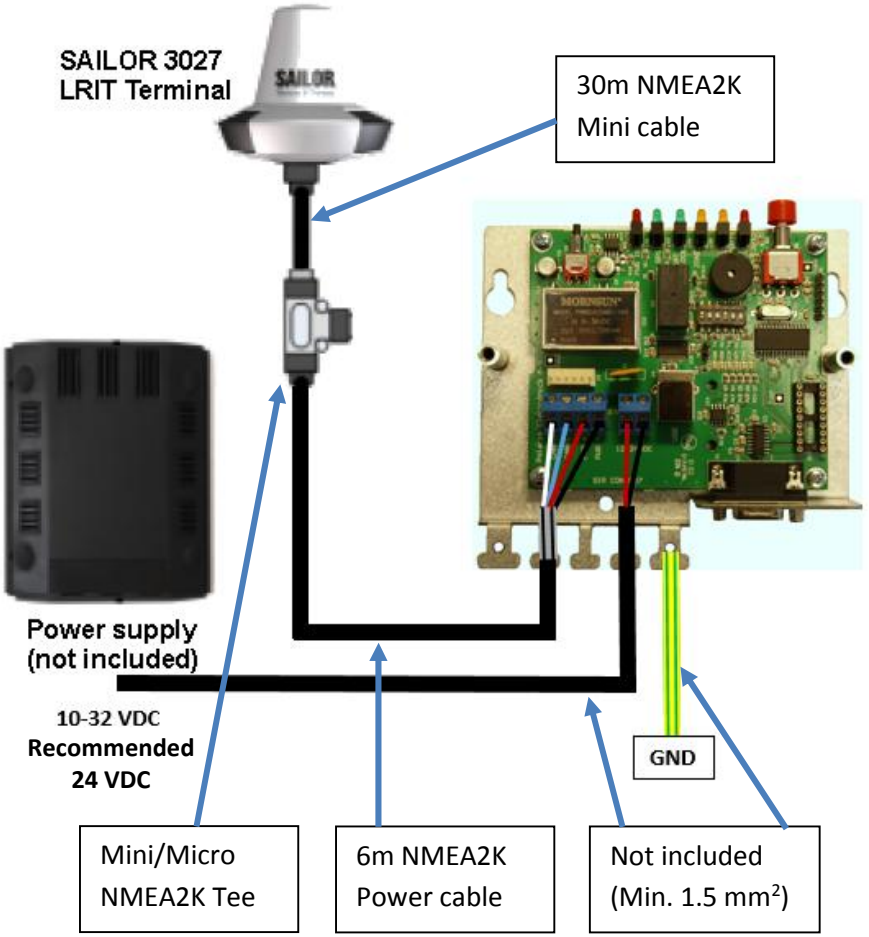
## LRIT Conformance Test

To test above, a new LRIT system needs to pass a LRIT conformance test. After the conformance test, flag state will download DNIDs.

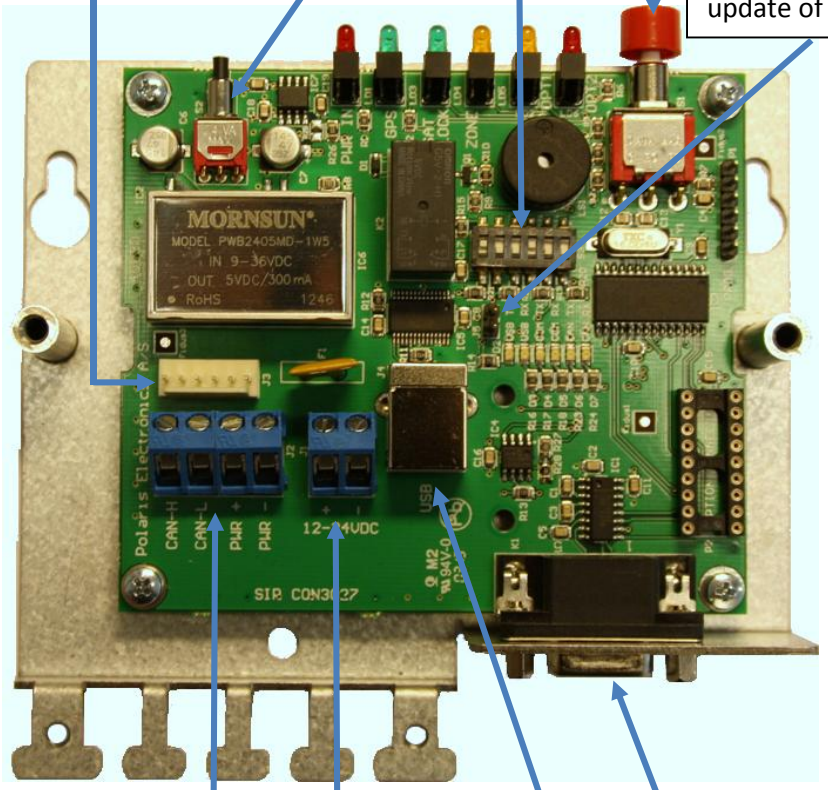
For LRIT Conformance Test please contact Polaris Electronics A/S.

A hard copy of the LRIT Conformance Test Report must be kept on board.

**Installation Overview**



**Connectors & Switches**



## Compass Safe Distance

Distance to compass must be at least 70 cm.
Do not install the Sirius Control Box 6130 LRIT closer to magnetic compasses.

## Power & Antenna Connection

Connect the Sirius Control Box 6130 LRIT to 12 or 24 V DC (10-32 V DC). Recommended is 24 V DC.
It is recommended to include a fuse in the power supply.

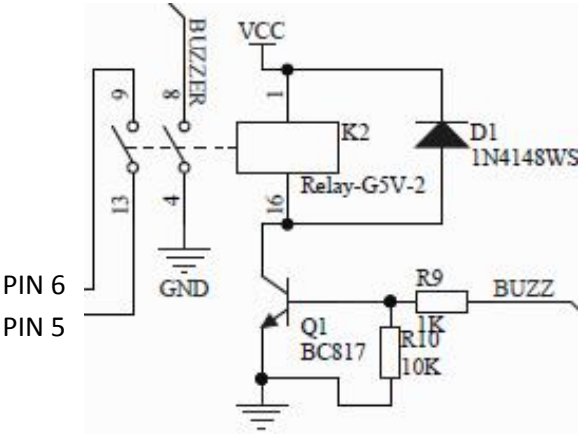
| Wiring of cable terminals | | | |
|---|---|---|---|
| **NMEA2K cable (J2)** | | **Power cable (J1)** | |
| CAN-H | White wire | 12-24VDC + | Positive wire |
| CAN-L | Blue wire | 12-24VDC - | Negative wire |
| PWR + | Red wire | | |
| PWR - | Black wire | | |

## Alarm Output

It is an option to have the Alarm output routed to ships alarm system through a build in relay.

The output is available on the CANBUS/Power/Alarm output.

| CANBUS/Power/Alarm output (J3) | |
|---|---|
| **PIN** | **Output** |
| 1 | CAN-H |
| 2 | CAN-L |
| 3 | PWR + |
| 4 | PWR - |
| 5 | Relay Output |
| 6 | Relay Output |



## Configuration

To be able to have the program read out on LEDs, you need to do below configuration on the SAILOR 6130 LRIT. Polaris Electronics A/S does this configuration on all SAILOR 6130 LRIT systems sold together with a Sirius Control Box 6130 LRIT.

If the SAILOR 6130 LRIT is not configured, you will need to do the configuration.

| HyperTerminal settings for UART RS-232 and USB port. | |
|---|---|
| **Setting** | **Value** |
| Bits per second | 115200 |
| Data bits | 8 |
| Parity | None |
| Stop bits | 1 |
| Flow control | None |

Make a HyperTerminal connection to the Sirius Connection Box 6130 LRIT.

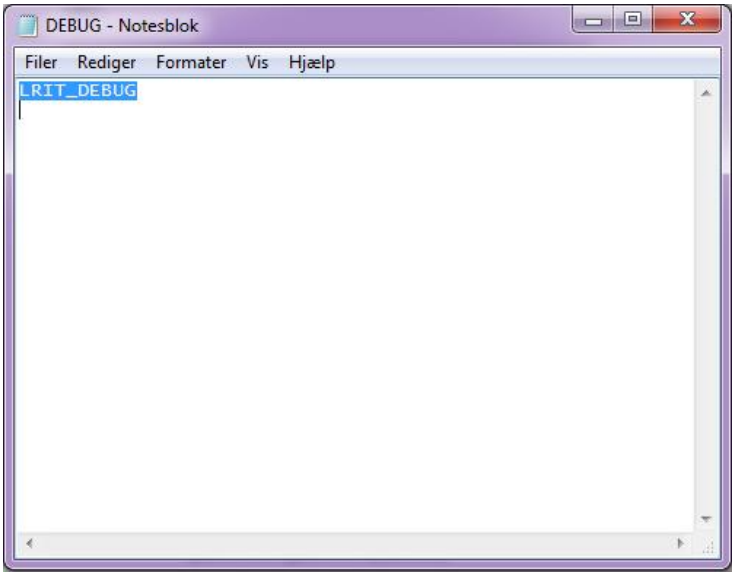
When connection is running, it will answer a [Enter] command with:

:

Write following in a Notepad:

LRIT_DEBUG [Enter]

Copy and paste the two lines (including “return” command) to the HyperTerminal with connection to the Sirius Connection Box 6130 LRIT:




Login as SYSADM:

su sysadm [Enter]
password: (password) [Enter]

If the password has not been set before, it is default “sysadm”.
If the password is unknown, please contact Polaris Electronics.

DNID configuration (does not apply changes for already downloaded DNIDs):

dn -f 0,1,0,0,0,0,0,0,0,3,0 [Enter]

Reset system after the configuration.

## Setup

From the DIP Switch you can do below setup.

If the SAILOR 6130 LRIT is running more tracking programs than LRIT, select the LRIT DNID program for monitoring (first DNID downloaded will always be program 0).

| DIP Switch (S3) settings | | | | |
|---|---|---|---|---|
| **Pin** | **Settings** | **Function** | **ON** | **OFF** |
| 1 | **ON** | 120 ohm termination CAN bus | Enabled | Disabled |
| 2 | **OFF** | Communication port selection | UART RS-232 | USB port |
| 3 | **OFF** | Alarm buzzer | Disabled | Enabled |
| 4-5 | **OFF/OFF** | Monitor DNID program 0 | - | - |
| 4-5 | ON/OFF | Monitor DNID program 1 | - | - |
| 4-5 | OFF/ON | Monitor DNID program 2 | - | - |
| 4-5 | ON/ON | Monitor DNID program 3 | - | - |
| 6 | **ON** | Operation selection | Normal operation | Debug/programming |

**Settings in bold are default values.**

**First time boot up**

When the system is booted up after installation, no DNID and program will be available, until the LRIT conformance test is started.

Because of above, the alarm will be activated every 3rd hour until a DNID is downloaded.

To prevent above, press the MUTE button for more than 10 seconds during start up until beep sounds. This will deactivate the alarm until the first DNID is downloaded and program is started.

After this, all will be running as normally.

Above might also be seen between end of LRIT conformance test and download of DNID by flag administration.

## Trouble Shooting Guide

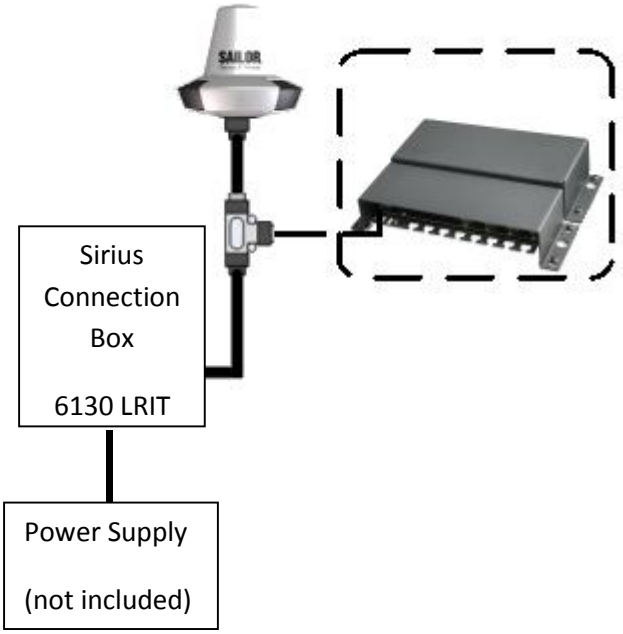
See below Errors in the alarm list

| Alarm | | |
|---|---|---|
| **Error** | **Posible Causes** | **Posible Solution** |
| No antenna connection at startup | Incorrectly installation | Check installation. Connections and cables. |
| | Cable defective | Replace cable |
| | 3027 defective | Replace 3027 antenna |
| LRIT report not sent on time | No SAT LOCK or GPS signal | Check SAT LOCK and GPS LED |
| No LRIT program in current ocean | No DNID or program in current ocean | Ask flag administration to download DNID/program in current ocean |
| LRIT prg. Available, but not running | LRIT program has not been started | Ask flag administration to start program |
| Lost connection to antenna | Loose connection in connectors | Check connections and plugs. |
| | Cable defective | Replace cable |
| | 3027 defective | Replace 3027 antenna |
| No program | No DNID or program | Ask flag administration to download and start DNID/program |
| No SAT LOCK | Signal blockage by obstruction | Relocate 3027 antenna |
| | Signal blockage by interference from other system | Relocate 3027 antenna or interfering system |
| | 3027 defective | Replace 3027 antenna |
| No GPS signal | Signal blockage by interference from other system | Relocate 3027 antenna or interfering system |
| | 3027 defective | Replace 3027 antenna |

## Firmware Update

The firmware of the Sirius Control Box 6130 LRIT can only be updated by Polaris Electronics A/S.

The firmware of the SAILOR 6130 LRIT can be updated by setting the jumper in the Sirius Connection Box 6130 and connecting a SAILOR 6194 Terminal Control Unit to the Mini/Micro NMEA2K Tee.




Please note that the Sirius Connection Box 6130 LRIT will activate the alarm when the jumper is set, ignore/disable these alarms.

Remove jumper again after firmware update.

## Warranty

The Sirius Control Box 6130 LRIT has a 24 months warranty from the date of purchase.

**Warranty Service** is available worldwide through authorized service dealers.

Products returned will, at the sole discretion of Polaris Electronics A/S, either be repaired or replaced free of charge within normal working hours. Freight charges, insurance, duties or any other costs are the responsibility of the customer.

Maximum liability shall not, in any case, exceed the contract price of the products claimed to be defective.

**On-Board Service** can be arranged by Polaris Electronics A/S or local service dealers upon request. Expenses associated with replacement of the defective modules/parts, on-board time, overtime, travel, lodging, per diem, insurance, duties or any other costs are the responsibility of the customer. Additional expenses associated with replacement of antenna cable, dry docking and precautionary measures are not covered by this warranty.

**Validity:** This warranty is effective only when proof of purchase and an equipment serial number are presented. Furthermore, the installation and operation have to be carried out in accordance with the product manual. Warranty liability does not apply to any equipment which has become inoperative due to misuse, accident, neglect, sea water damage or unauthorized repair.
Polaris Electronics will not be liable for any loss, incidental or consequential damages whether based upon warranty, contract or negligence, or arising in connection with the sale, installation, use or repair of the product. Consequential damages include, but are not limited to, any loss of profit, property damage or personal injury. The terms of warranty as described does not affect your statutory rights.

All enquiries relating to this warranty or approved service agents should be sent to:

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## End of Life Statement

The European Waste Electrical and Electronic Equipment Directive aims to minimize the environmental impact from electrical and electronic devises when they reach end of life.

We strongly urge you to treat the equipment in accordance with local legislation when it becomes waste after end of life.