Sirius-3

GMDSS Tri-Channel Navtex Receiver

Owner's & Installation Manual

Version 2.92

Sirius-3 Navtex 3-Frequency

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 Sirius firmware 3383 (1.1.2694), Distribution revision: 6078

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Owner's Manual

Congratulations with your new Sirius-3 GMDSS Navtex receiver with touch screen operations.

Safety Notices

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

Do not open the Sirius-3 or the active antenna.
Unauthorized opening will invalidate the warranty.

The equipment is designed for operation in temperatures between -15º C and +55º C. Do not use the Navtex receiver in temperatures which exceed this range.

The Sirius-3 is waterproof from the front only.

A Navtex receiver is an aid to safe navigation and should not lead to a reduction in the level of good navigation practice.

The propagation of radio signals may vary over time. No liability can be accepted for the non reception of Navtex messages.

Connection to a source of UTC data to NMEA 0183 is recommended for the best operation and automatic date-time information.

About the Sirius-3 Navtex receiver

Your Sirius-3 has been designed to meet all requirements for use on board a SOLAS convention vessel.

The Navtex receiver has three separate receiver channels, 490 kHz, 518 kHz and 4,209.5 kHz, for simultaneous reception of Navtex messages.
It can be set up to filter stations and/or message types that are not required by the user, however, some message categories at 518 kHz are mandatory and can therefore not be switched off.

There is no on/off switch, as the equipment must always be turned on, so that Navtex messages are received even in port.
If the equipment is installed with an external switch at the main electrical switchboard, please, be sure that the equipment is turned on at least one hour before departure.

The touch screen is the only Man-Machine-Interface.
It is designed for fingertip operation only.
Please, do not use sharp instruments when keying the buttons or texts.

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🏠 Home Screen
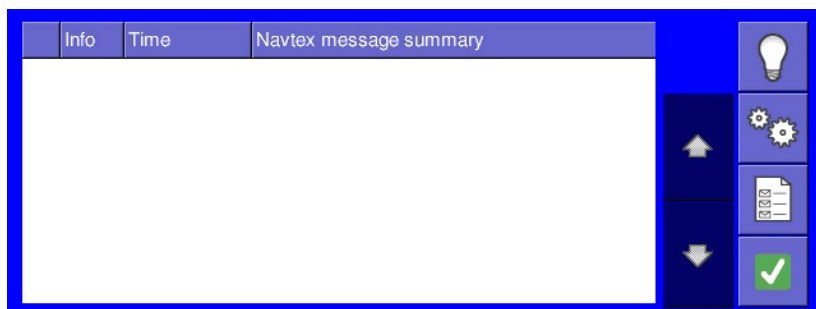
Buttons function description:

Press to switch between daylight and night colour theme. It will take the Navtex receiver a few seconds to change theme.

Press to enter "**Setup menu**". The menu will be described in details on page 8.

Press to view a listing of all received messages. It is possible to view a single message from the list by touching it. Furthermore, you can select or deselect 490 and/or 4,209.5 kHz messages in the right side. You cannot deselect 518 kHz, as the monitoring of this frequency is mandatory.

Press to view a selected message.

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When the Sirius-3 is at the home screen, a summary of the latest Navtex messages is shown.

	Info	Time	Navtex message summary	RX 518
⚠	TD60	2010-04-29 16:23:29	301700 UTC OCT = OOSTENDERADIO - WX 60/08 = OVER THAMES: GENTLE TO FRESH BREEZE 3-5 FROM E TO ENE. DOVER AND THE BEL	
⚠	GA76	2010-04-29 16:23:14	EA46 OA66 NAVAREA ONE 336 NAVAREA ONE MESSAGES IN FORCE AT 241000 UTC OCT 08: 2007 SERIES: 019 035 050 247 279 29	
⚠	GB70	2010-04-29 16:22:18	CULLERCOATSRADIO GALE WARNING THURSDAY 30 OCTOBER 1548 UTC FORTIES CROMARTY F* RTH FAIR ISLE NORTHERLY GALE FORCE 8	

This icon indicates that the Sirius-3 is receiving a Navtex message at 518 kHz.

If an emergency message is received, a sound warning will be triggered (if "**Alarm sound**" is enabled) and a red dot will appear in this area. Press it to acknowledge.

To enter the message view menu you can either select a message by touching the text and then press ✅.

From this menu you can choose to print the message 🖨,
lock the message ✉🔒, delete the message ✉✗ or return back to the home screen 🏠.

If a message consists of more than 10 lines, you can toggle up and down with the arrows in the right side.

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⚙ Setup Menu

 Filter coast station(s) by designator and/or frequencies. Select the Coast Stations you want to use for each of the three frequency bands 490 kHz, 518 kHz and 4,209.5 kHz.
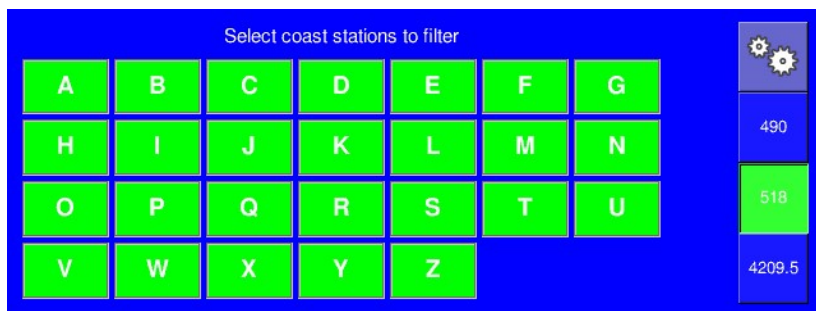
All coast stations are enabled by default as shown in the figure above. Should you, however, want to disable all coast stations, the mandatory services A, B, D and L are still received on 518 kHz.

Sirius-3 Navtex 3-Frequency

Filter messages by designators.
Please note A, B, D and L for 518 kHz are mandatory and will always be displayed.

Locked messages
If messages are locked, they can be deleted in this menu only and not by the "Delete all messages" button.

Visible messages
A maximum of 1,000 messages are selectable, however, we recommend no more than 400.

System Settings
The menu will be described in details on page 10.

About
Contains information about firmware version, etc.

Home
Press this button to go back to the home screen.

⚒ System Settings

☀ Screen setup	◀)) Sound	∿ Diagnostics	⚙
🕐 Time	🛰 GPS		
▦ ECDIS	🖨 Printer	Antenna power	
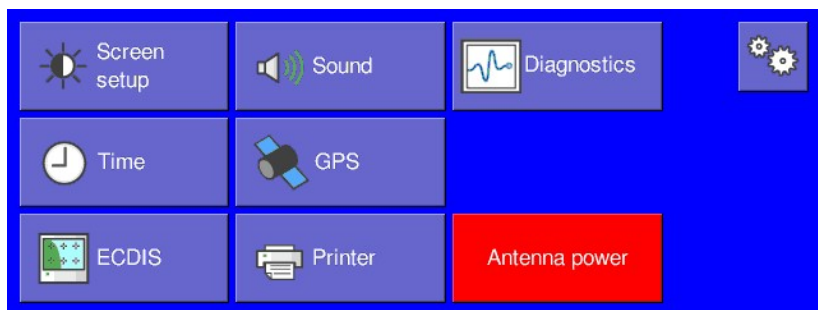
Screen Setup

Adjust brightness and contrast levels.

For safety reasons the display settings will be reset at every power cycle.

Time

Adjust date and time if not connected to GPS or other UTC source.

Sound

Choose if sound should be on/off when messages/alarms are received or when using touch screen. Furthermore, you can see the status of Central Muting, if connected.

Printer

Press this button to enter the printer menu.

Enable "**Print messages**" to print all received messages.

If "**Print messages**" is not enabled, a single message can be printed,
by pressing 🖶 in the message view menu.

Use the "**Cut paper**" button to switch ON/OFF the internal knife in
the printer.

ECDIS

From this menu a connection to an ECDIS system can be
enabled or disabled.
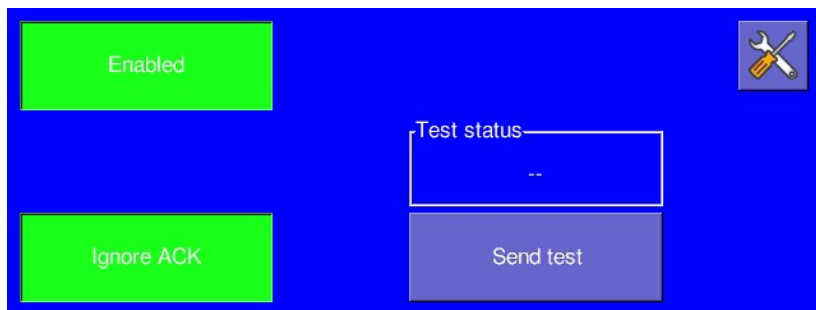
Press the "**Send test**" button to test the connection to the ECDIS
system. If the ECDIS system doesn't send acknowledgements press
the "**Ignore ACK**" button.

GPS

From this menu the status of an external GPS unit can be viewed.

External GPS unit	
Enabled	LAT 56 52,000 N LON 9 50,000 E
	Status Searching for satellites ...
	UTC Time: 11:12:50 UTC Date: 18-02-2010

If a printer is connected you can press to print a position label with UTC Time and Date. These labels are useful when you write positions in the logbook or in case of an emergency.

Antenna power

Turn antenna power on or off.
Red light indicates that antenna power is turned off and green light that it is turned on.

Diagnostics
This menu contains a self-test of the Sirius-3 Navtex
receiver.

Radio Receiver: If OK, displays the average signal strength in dBm.

Random Access Memory, RAM: Displays the amount of free
memory.

Flash Storage: Confirms OK.

Database Integrity: Verifies the database integrity.

Declaration of Conformity

EC DECLARATION OF CONFORMITY

We declare that the following products comply with the essential requirements of Council Directive 96/98/EC on the approximation of the laws of the member States relating to Marine Equipment as amended by Commission Directives 98/85/EC, 2001/53/EC, 2002/75/EC, 2002/84/EC and 2009/26/EC (5th amendment, as evidenced by a EC Type Examination Certificate as detailed overleaf.), RED 2014/53/EU

Products covered by this Declaration

Product Type: **GMDSS NAVTEX Receiver**
                       (Commision Directive 2002/75/EC, Item A.1/5.3)

Models: **Sirius-3**

Intended usage of products
All vessels which must comply with IMO SOLAS regulations in coastal or International waters.

Surveillance conformity assessment is undertaken in accordance with Production Quality

Assurance Module D By: **DNV**

The product will carry this
Conformity Marking: 0575
                                               XX

Issued of behalf of Polaris Electronics A/S.

Signed:
Name: **Tomas Poulsen**
Title: *Technical Manager*
Date: **11. July 2017**

Regulations and Standards complied with:
      IEC 61097-6:1995
      BS EN 60945: 2002

Additionally, the equipment is certified as complying with IEC61097-6: 2005, and is recognised as complying with IMO Resolutions A.525(13), as amended by MSC. 148(77), and with A.694(17).

Technical Construction File held by:

            Polaris Electronics A/S
            Kaerholt 1
            DK-9210 Aalborg SO

ATTENTION

The attention of the specifier, purchaser, installer, or user is drawn to special measures and limitations to use which must be observed when the product is taken into service to maintain compliance with the above directive. Details of these special methods and limitations to use are available on request, and are also contained in the product owner manuals.

This Declaration complies with EN ISO/IEC 17050-1:2004

A Declaration of Conformity is downloadable from our web site:

http://www.polaris-as.dk

Green Passport

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**Green Passport
Contents Declaration
for Sirius-3**

With this statement Polaris Electronics A/S confirms that Sirius-3 contains materials in qualities as below declared:

POTENTIALLY HAZARDOUS MATERIALS IN THE SHIP'S STRUCTURE AND EQUIPMENT

No.	Items	Components	Qty	Note
1A	Asbestos		0	
1B	Paint (on vessel's structure) Additives		0	
1C	Plastic Materials	Electronic Components	0.1 kg	
1D	Materials Containing PCBs, PCTs and PBBs at levels of 50 mg/kg or more	Electronic Components and Electrical Cable	Negligibly small	PBBs
1E	Gasses Sealed in ship's equipment or machinery		0	
1F	Chemicals in ship's equipment or machinery		0	
1G	Other Substances inherent in ship's machinery, equipment or fittings	Electronic Components	Negligibly small	Epoxy Ressins Mercury

Manufacturer: Polaris Electronics A/S

Name: Tomas Poulsen   Position: Service Manager

Signature: Date: 27 April 2010

Doc: 02/2010

E-mail: info@polaris-as.dk - Web: www.polaris-as.dk
MARITIME AND PORTABLE MOBILE COMMUNICATION AND NAVIGATION SYSTEMS

A Green Passport is downloadable from our web site:

http://www.polaris-as.dk

Standard Format of Navtex Messages

Start of message	Header code	Time of Origin	Main message	End of message
Always ZCZC (Not shown)	B1 B2 B3 B4	(Not all stations use ToO)	Message content	Always NNNN (Not shown)

Consecutive number
"00": Emergency message
"01" - "99": Normal message

Subject Indicator
"A" - "Z"
(See list below.)

Transmitter Station Identity
"A" - "Z"
(See ALRS or other publication for station identity in your current NavArea.)

TD60
2010-04-29 16:23:29

Error: 0.0 %
Signal: 0.00 dBm

301700 UTC OCT =
OOSTENDERADIO - WX 60/08 =
OVER THAMES: GENTLE TO FRESH BREEZE
3-5 FROM E TO ENE.
DOVER AND THE BELGIAN COAST : MODERATE
TO FRESH BREEZE 4-5 AND IN THE WEST
LOCALLY RISK OF STRONG BREEZE 6 FROM
E TO ENE.
MODERATE TO GOOD VISIBILITY.
LOCAL BREAKS BUT OFTEN VERY CLOUDY.

Subject Indicators

A	Navigational Warnings*
B	Meteorological Warnings*
C	Ice Reports
D	Search and Rescue Information*
E	Meteorological Forecasts
F	Pilot Service Messages
G	Available
H	LORAN Messages
I	Available
J	SATNAV Messages
K	Other Electronic Navaid Messages
L	Navigation Warnings (other than A)*
V	Special Services
W	Special Services
X	Special Services
Y	Special Services
Z	No Message on hand

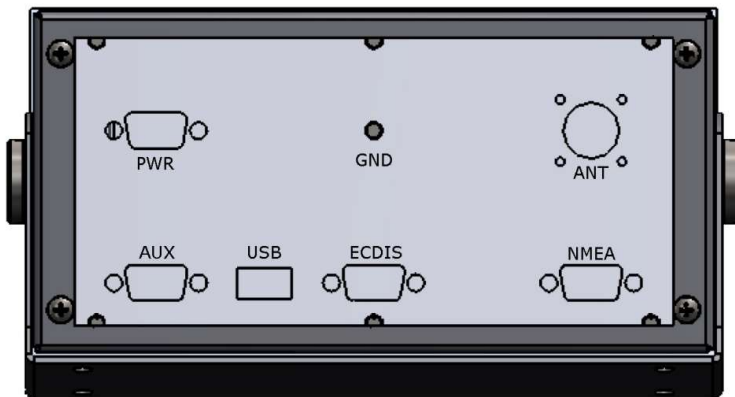(*) Services A, B, D and L for 518 KHz cannot be rejected by the receiver.
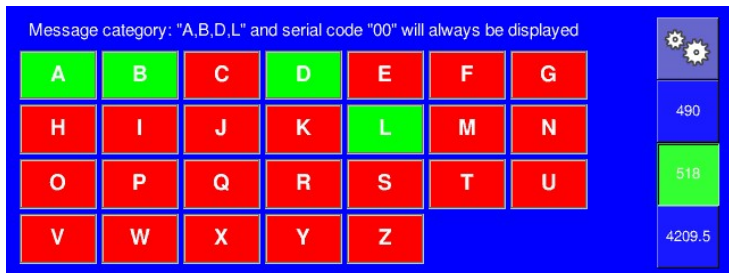
Installation Manual

The Sirius-3 Navtex receiver package includes:

- Sirius-3 Navtex receiver

- 1.5 m Power Cable

- User & Installation Manual

- Test Sheet

Sirius-3 Connectors

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Compass Safe Distance

Distance to compass must be at least 70 cm.
Do not install the Navtex receiver closer to magnetic compasses.

Power Connection

Please use the included 1.5 m power cable with plug. Connect the Sirius-3 to 12 or 24 V DC (10-32 V DC). Brown wire to + and blue to -. It is recommended to include a fuse in the power supply.

The male power plug can be mounted in the right female connector only.

PWR Connector pin-out		
Pin Number	Connection	Notes
1	V+	Ship's Supply 12/24 V DC
2	V+	Ship's Supply 12/24 V DC
3	NC	No Connection
4	V-	Ship's Supply - V
5	V-	Ship's Supply - V
6	V+	Ship's Supply 12/24 V DC
7	NC	No Connection
8	NC	No Connection
9	V-	Ship's Supply - V

Ground Connection

Connect ground plane to the Sirius-3 Navtex receiver and the antenna for optimum receiving conditions.

Antenna Connection

Standard cable for Navtex installation is RG58 which can be used up to 25 meters. However we strongly recommend using a double shielded cable such as RG214.

Mount a male PL259 plug on the antenna cable. Sirius-3 is designed for A159 or NA-3S Active Antenna, but you can use a passive whip antenna as well.

If you connect an active antenna, remember to enable antenna power. When the indicator turns green, the Sirius-3 supplies voltage through the coax cable. If you connect a passive antenna, make sure that antenna power is turned off!

Ground the antenna for optimum receiving conditions.

Printer Connection

A USB printer (P/N SIR PRN) can be connected to the Sirius-3.

If you connect a Printer to the USB port remember to configure it in the Printer menu.

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GPS Connection (NMEA 0183)

Use the NMEA port to connect a GPS. The sub-D pins are to be connected as described below.

When a GPS is connected UTC is automatically updated.

Sirius-3 will receive the information from these NMEA sentences:

- RMC (Time and Date)
- GGA (Position)

NMEA 0183 port pin-out		
Pin Number	Connection	Notes
1	GND	Ground
2	NC	No Connection
3	NC	No Connection
4	TX+	Option
5	TX-	Option
6	NC	No Connection
7	NC	No Connection
8	RX-	NMEA 0183 Input-
9	RX+	NMEA 0183 Input+

ECDIS Connection

The Sirius-3 can be connected to an ECDIS system by the ECDIS port. Please contact your ECDIS dealer for information on the connections.

The NMEA0183 format transmitted to the ECDIS is CRNRX and CRALR.

Send test transmitted string:

```
$CRNRX,003,001,01,TD02,0,044113,24,12,2011,097,0,A,=========================*13

$CRNRX,003,002,01,,,,,,,,,,=======^0D^0AISSUED ON SATURDAY 12 DECEMBER 2011.*6D

$CRNRX,003,003,01,,,,,,,,,, ^0D^0ASIRIUS3 TEST MESSAGE^0D^0A*31

$CRALR,044113,051,A,V,NAVTEX: Test button pressed*0E
```

Example of Navtex message string:

```
$CRNRX,002,001,02,RD15,3,044329,24,12,2011,062,0,A,^0A1 2 3 4 5 6 7 8 9 0 A B*1E

$CRNRX,002,002,02,,,,,,,,,, C D E F G H I J K L M N O P Q R S T U*19

$CRALR,044330,003,A,V,NAVTEX: Search and rescue information*52

$CRALR,044411,003,A,V,NAVTEX: Search and rescue information*56
```

Central Mute Connection

A Central Mute switch can be connected to pin 2 and 6.
It will be enabled by a connection between the two pins.

Alarm Relay Connection

When an alarm is received an internal relay is pulled and a connection between pin 3 and 7 is made.

| ECDIS port, Alarm Relay and Mute pin-out		
Pin Number	Connection	Notes
1	GND	Ground
2	Mute A	Mute Input +
3	Alarm com	Alarm relay
4	TX+	IBS port Output +
5	TX-	IBS port Output -
6	Mute B	Mute Input -
7	Alarm No	Alarm relay
8	RX-	IBS port Input -
9	RX+	IBS port Input +

AUX Connection

This port is used for special applications only.

System configuration - example

The Sirius-3 Navtex receiver can be customized to suit your installation. The following illustration is an example of a system.
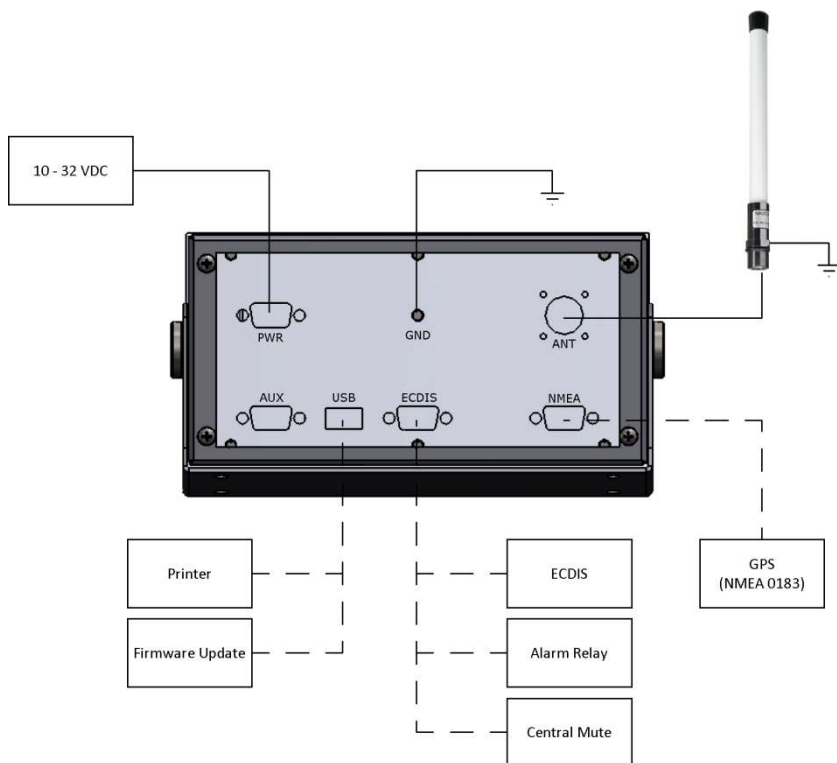
Firmware Update

If a firmware update is required, please download the firmware image to the root of a FAT32 formatted USB memory stick.
Mount the USB memory stick in the USB port, power cycle the unit and follow the instructions on the screen.
Do not interrupt firmware update during the process.

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Warranty

The Sirius-3 Navtex 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.

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Validity: This warranty is effective only when proof of purchase and 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:

Polaris Electronics A/S	Telephone: +45 9631 7900
Kaerholt 1	Fax: +45 9631 7901
DK-9210 Aalborg SO	E-mail: info@polaris-as.dk
Denmark	Web: www.polaris-as.dk

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.