



DSAS Mk2 SHIP SECURITY ALERT SYSTEM

Installation Guide

Version 1.0

Issue March 2012



Pole Star Space Applications

DSAS Mk2 Ship Security Alert System

DSAS Mk2 Ship Security Alert Installation Guide

Configuration Page

DSAS Mk2 Ship Security Alert Installation Guide

Document No: PS-TN-DSAS-MK2-SIG_V1.0.doc
Issue No: 1.0
Date: March 2012
Summary: DSAS Mk2 Ship Security Alert System installation guide
Distribution: Unrestricted
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Author:	Steve Bradbury	15th February 2012
Technical Review:	John Duckworth / Philip Lane	22nd February 2012
Quality Review:	Sarah Gough	23rd February 2012

Amendment Record

ISSUE	DATE	UPDATES	AUTHOR
1.00	March 2012	Initial release	Steve Bradbury

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DSAS Mk2 Ship Security Alert System Installation Guide (V1.0)

Installation of this unit should be undertaken in conjunction with the Company Security Officer.

1. Safety Notice

The procedures in this guide must be observed during installation, operation, service and repair of this equipment. Failure to comply with these procedures violates safety standards of design, manufacture and intended use of this equipment. Pole Star Space Applications Ltd assumes no liability for the customer's failure to comply with these procedures.

2. Equipment List

- 1 x Inmarsat IsatData Pro satellite transceiver (SkyWave IDP-690)
- 1 x DSAS Mk2 power pack with multistage charger
- 1 x Stainless steel casing bracket
- 2 x Normally closed (N/C) alert activation points
- 4 x 4A fuses including 2 spares for FUSE1 & FUSE2
- 2 x 4A fuses including 1 spare for external 24V ship supply
- 1 x External fuse holder for external 24V ship supply
- 1 x Spare 2A 20mm quick blow fuse for FUSE3
- Bolt kit

In addition to the above list, a marine standard 2-core cable (8-11.9mm diameter) will also be required for the installation (not supplied). If a backed-up 24V DC supply is not available on the vessel, then a Regulated DC Output Power Supply, 24V at 2 Amps will also be required.

3. Unit Description

The DSAS ship security alert system is self-contained requiring only mounting, connection to power, and wiring of two alert activation points. The unit consists of a satellite transceiver, 18Ah VRSLA power pack, and a multistage charger unit. The unit requires an external DC supply to maintain the power pack charge. On disconnection of external power, the unit will operate for approximately 5-7 days. Operation of the unit is completely automatic, and the only user intervention that should be required after installation is to restore the external power supply in the event of disconnection. Figure 1 below shows a schematic diagram of the unit.

Note: the unit must NOT be painted as this may inhibit transmission / reception of satellite signals.

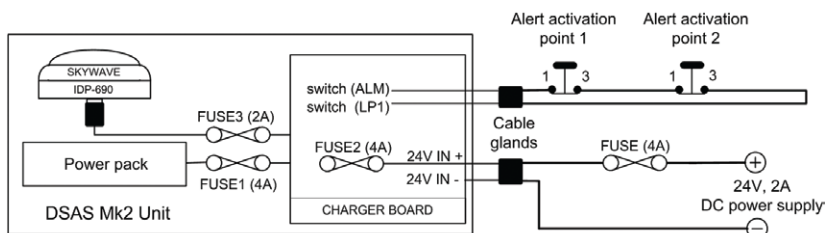


Figure 1 - DSAS Mk2 schematic

4. Preparation

The DSAS unit is shipped in a powered down state. To prepare the unit for operation, undertake the following (this can be done during installation if required):

1. Remove the metal casing and plastic lid of the DSAS unit.
2. Locate the internal 4A input fuses FUSE1 and FUSE2 (next to power pack input block J1, refer to Figure 11), and ensure the fuse holders are empty.
3. Replace plastic lid and metal top plate, ensuring the cut-out in the metal top plate is located above the satellite transceiver (the transceiver is at opposite end to the external power input plug).
4. The unit must be connected to a 24V DC power supply (ideally this should be a backed-up supply such as the GMDSS power source) and requires a cable loop for the alert activation points. Both external DC power and alert cabling require two core cable with circular cross section of between 8 & 11.9mm outside diameter (OD) (figure of 8 cable is NOT suitable). A suitable cable would be a soft tin annealed copper (ASTM B-33) flexible stranded cable, OD 10mm, in a heavy duty flame proof arctic grade neoprene. If a 24V DC is not easily available then a Regulated DC Output Power Supply, 24V at 2 Amps will be required.
5. Before feeding the power supply and alert button cables through the cable glands, it is advisable to prepare the cable by stripping at least 140mm of the outer sheath from the cable as shown below. This will make it easier to manipulate the cable inside the box. The outer sheath must be pushed all the way through the gland in order to ensure a waterproof seal.

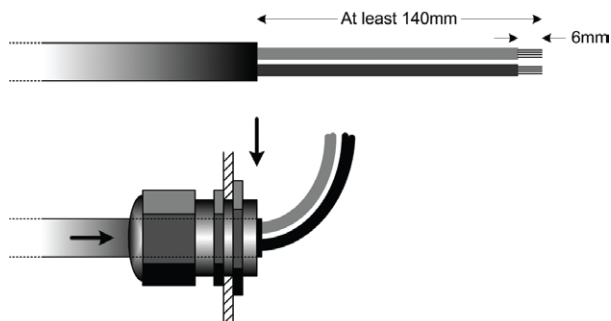


Figure 2: DSAS Mk2 external cable preparation

5. Installation

The unit is supplied with an Installation checklist, which should be followed during installation. To initiate formal warranty, each step of the installation should be checked off on the checklist on completion.

For reference the unit footprint dimensions including Base metal casing are shown in Figure 9. In the event of this unit replacing a DSAS Mk1 unit in existing position ALL METALWORK including BASE, MUST be changed. The FIXING FOOTPRINT however remains the SAME.

To install the unit:

1. Select a suitable unit installation location, taking into consideration the following:
 - a. The transceiver requires a clear and unobstructed view of the sky in order to communicate with the Inmarsat and GPS satellite constellations.
 - b. Obstructions within the look angle range (see Figure 3) are unavoidable in most marine installations, but the important thing is to minimise them. As a rule of thumb, it is useful to apply the rule: Safe distance = $29 \times$ diameter of obstruction. e.g. for a pole of 0.1 metres diameter, the safe distance is $29 \times 0.1 = 2.9$ metres. This rule ensures that the obstruction covers no greater than 2 degrees arc.
 - c. The unit must be a minimum of 2 metres from any other communication system and further if possible.
 - d. The unit should NOT be in the line of sight of any high-powered transmission equipment such as radar.
 - e. The system should not be installed in any areas that are designated as 'hazardous zones'.

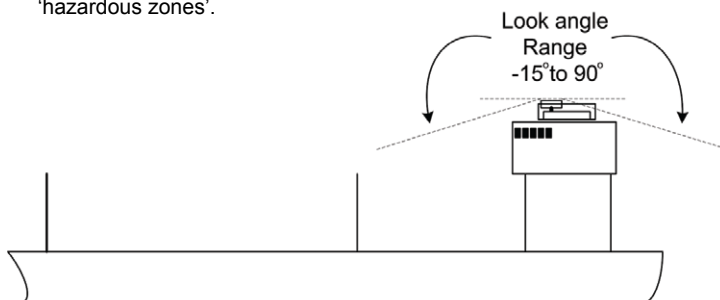


Figure 3 - DSAS Mk2 communicator mounting and look angles

2. Securely fasten the bottom part of the metal casing to the vessel superstructure (the casing is designed to be bolted down at the base with M8 bolts).
3. Connect the unit to the vessel power supply as per Figure 1. The internal connections to the unit are given in Figure 5.

Note: the unit must be powered from a stable DC power supply - the input voltage for the unit is 24V DC.

The power supply cable must be fed through the first cable gland and attached to the charger board as per Figure 5.

Note: The cable diameter must be in the range 8 – 11.9mm to ensure the IP68 environmental rating is not compromised.

4. Assemble and install the alert activation points as shown in Figure 10. Cabling must be fed through the second cable gland and attached to the charger board as shown in Figure 5.

Note: The alert activation points should be wired in series using normally closed momentary action switches (terminals 1 & 3 in the supplied alert activation points) – refer to Figure 1.

5. Connect fuse FUSE1, as shown in Figure 11. The charger board LED1 (status) should follow a start up sequence as per section 10 (Charger Board LED Diagnostics). The transceiver LED will flash 5 times and then turn off.
6. Connect fuse FUSE2 as shown in Figure 11.

Note: The unit may be damaged if the fuses are connected in the wrong order.

7. Replace the plastic lid of the unit and screw it down well to ensure a watertight seal, being careful not to over tighten. Then bolt on the top of the metal casing, ensuring that the cut-out portion is above the satellite transceiver as shown in Figure 4.

Note: The unit will not function if the cut-out portion of the metal casing is not over the satellite transceiver.

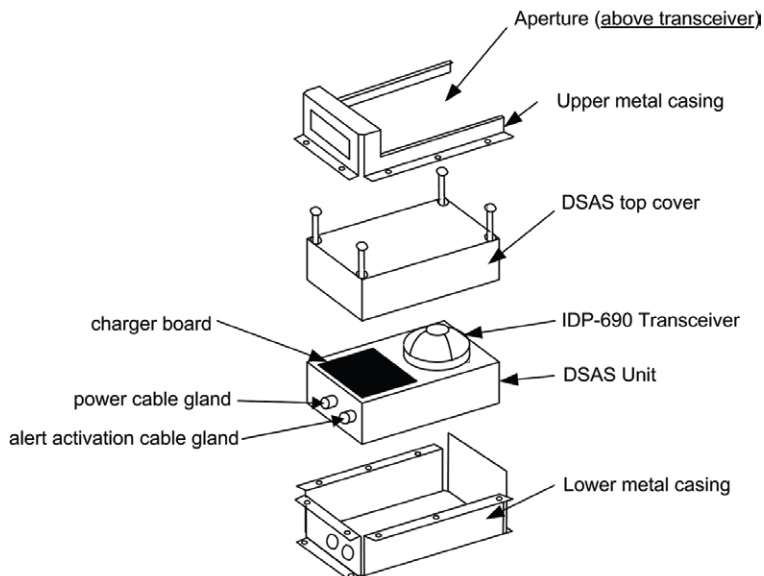


Figure 4 - DSAS Mk2 exploded view

9. When installation is complete, BOTH alert buttons should be tested individually. These tests should be done in conjunction with the Company Security Officer or Pole Star distributor, as they will need to check and reset the alerts.

Note: A correctly installed transceiver will work reliably at sea but it is important to be aware that when the vessel is alongside in port there is an increased probability of communication problems. In a port there is likely to be a high concentration of interference sources from both land and vessel-based communications equipment. High power VHF, UHF and microwave equipment can all cause interference problems. Buildings, gantries and other large structures can also cause problems in port by blocking the line of sight to the satellite.

6. System Operation

The DSAS unit operates automatically and requires no user intervention. When the satellite transceiver unit is powered up, the transceiver LED will flash 5 times, then switch off. In normal operation the transceiver LED will not flash unless it has been power cycled. The charger board LED1(status) will cycle through the diagnostic sequence (refer to Section - 10. Charger Board LED Diagnostics).

The unit will automatically switch over to its internal power supply in the event of input power failure. The unit should operate independently for approximately 5-7 days. Once the external supply is reconnected the power pack will recharge.

When pressed, each alert activation point triggers the unit to switch to alert reporting mode at a rate of 1 x alert position report every 30 minutes.

7. Maintenance

The internal power pack has an expected life of 2 years but this may vary considerably depending upon operating conditions. It is tested automatically every 30 days and the results are sent to Pole Star by the unit. Information on the current state of the power pack will be made available to the registered owner of the unit to allow appropriate scheduling of replacements. Full instructions for replacement of the power pack are included with the replacement unit.

If spare or replacement power packs or any other parts are required, or if you have any problems with this unit, please contact your Company Security Officer or Pole Star distributor giving details of the vessel name, customer name, Mobile ID (see Figure 8) and the nature of the problem / enquiry.

8. Internal Connections

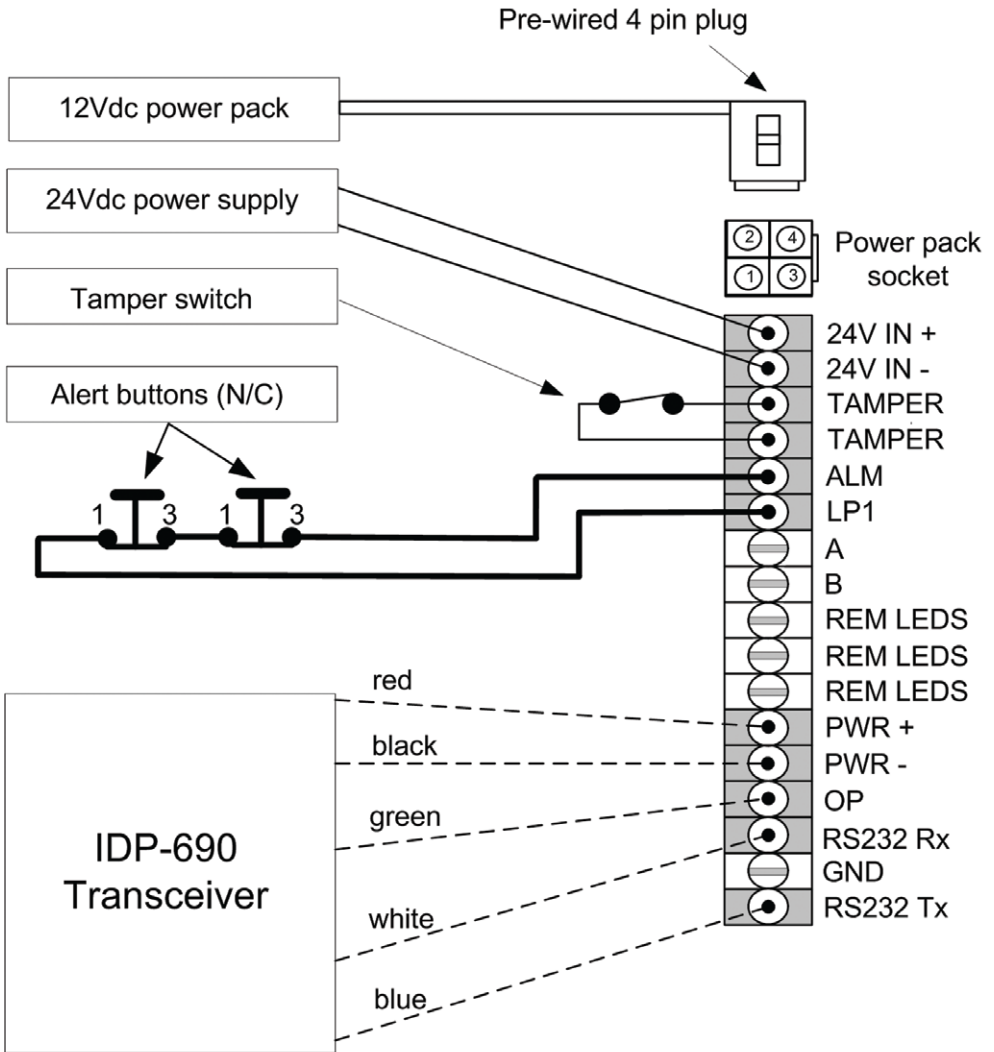


Figure 5 - DSAS Mk2 connections to terminal block

9. Specifications

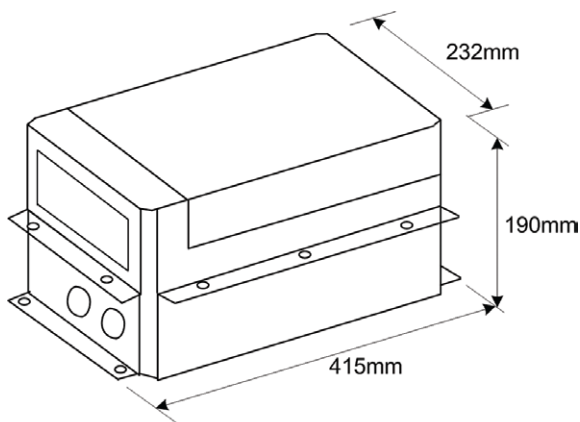


Figure 6 - DSAS Mk2 dimensions

Physical	
Transceiver Dimensions	Length: 125.8mm x Width: 125.8mm x Height: 100.8mm
Transceiver Weight	460g

Environmental	
Operating Temperature Range	-40°C to +85°C
Storage Temperature Range	-40°C to +85°C
Vibration	SAE J1455 (Sec 4.9, 4.2) MIL-STD-810G (Sec 514.6)
Shock (survival)	MIL-STD-810G (Sec 516.6)
Transceiver Environmental Rating	IP67

Electrical	
Input Voltage	24V DC
Power Consumption (Typical. @ 12V DC)	Receive with GPS: 60 mA Transmit: 0.75A
Mating Connector	SA901020-001

Satellite	
Coverage	Global
Frequency Range	Rx: 1525.0 to 1559.0 MHz Tx: 1626.5 to 1660.5 MHz
Sensitivity	Aquisition: -136 dBm Tracking: -146 dBm
EIRP	5.0 dBw
Elevation Angle Range	-15 to +90 degrees

GPS	
Frequency	1575.42 MHz
Channels	16 parallel

Certifications	
Inmarsat, FCC, CE Mark, RoHS	

10. Charger Board LED Diagnostics

There are 3 LED's situated on the charger board.

LED1 – Provides the user with installation and fault finding diagnostic information.

LED2 – Indicates the power pack protection module has been activated.

LED3 – Used for factory testing – can be ignored.

Please refer to **Figure 11** for LED locations.

LED	Colour	Flashing / Constant	Description
LED 1 (STATUS)	Red	Flashing	Checking 24V DC charge power available
LED 1 (STATUS)	Red	Constant	24V DC charge power OK, now checking power pack connected
LED 1 (STATUS)	Amber	Flashing	Power pack connected OK, now checking alert circuit connected
LED 1 (STATUS)	Amber	Constant	Alert circuit connected OK, now checking IDP-690 to DSAS comms
LED 1 (STATUS)	Green	Flashing	IDP-690 to DSAS comms OK, now checking for valid GPS position
LED 1 (STATUS)	Green	Constant	GPS position valid, DIAGNOSTIC TEST COMPLETED / PASSED
LED 2 (ERR)	Red	Flashes once on power up	Indicates power pack protection module start-up
LED 2 (ERR)	Red	Flashes continuously	Indicates power pack protection module has activated
LED 3 (TEST)	Yellow	Flashes once	Alert loop is opened
LED 3 (TEST)	Yellow	Flashes twice	Tamper switch is opened
LED 3 (TEST)	Yellow	Flashes three times	24V DC is disconnected
LED 3 (TEST)	Yellow	Flashes four times	24V DC is reconnected
LED 3 (TEST)	Yellow	Three fast flashes on power up	Power pack communication
LED 3 (TEST)	Yellow	One fast flash (every minute)	Power pack communication

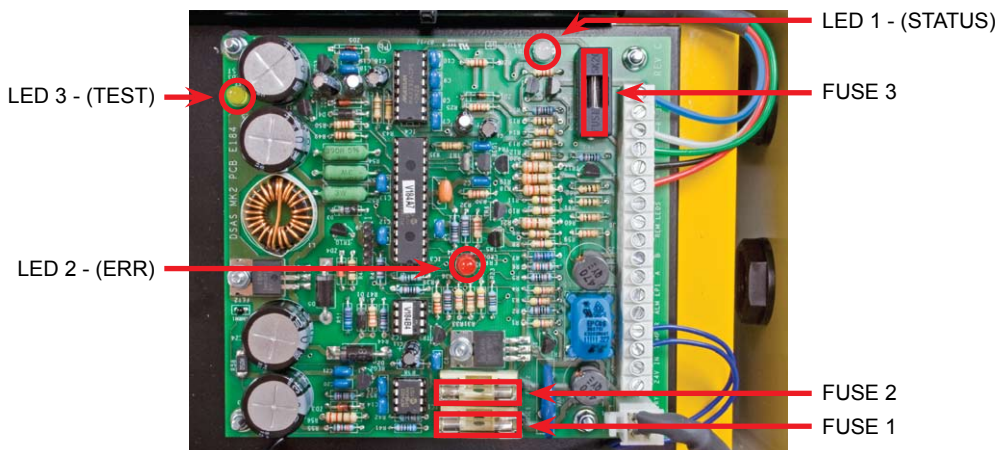


Figure 7 - DSAS Mk2 Circuit Board

11. Satellite Transceiver LED Diagnostics

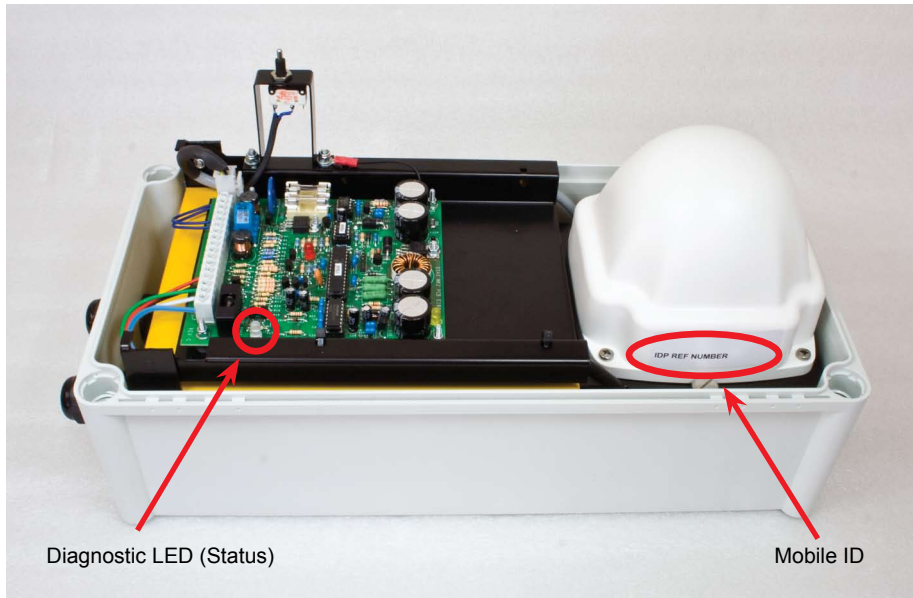


Figure 8 - DSAS Mk2 IDP690 diagnostic LED and mobile ID

TRANSCIVER LED

When the satellite transceiver unit is powered up, the transceiver LED will flash 5 times, then switch off. In normal operation the transceiver LED will not flash unless it has been power cycled.

12. Line Drawings

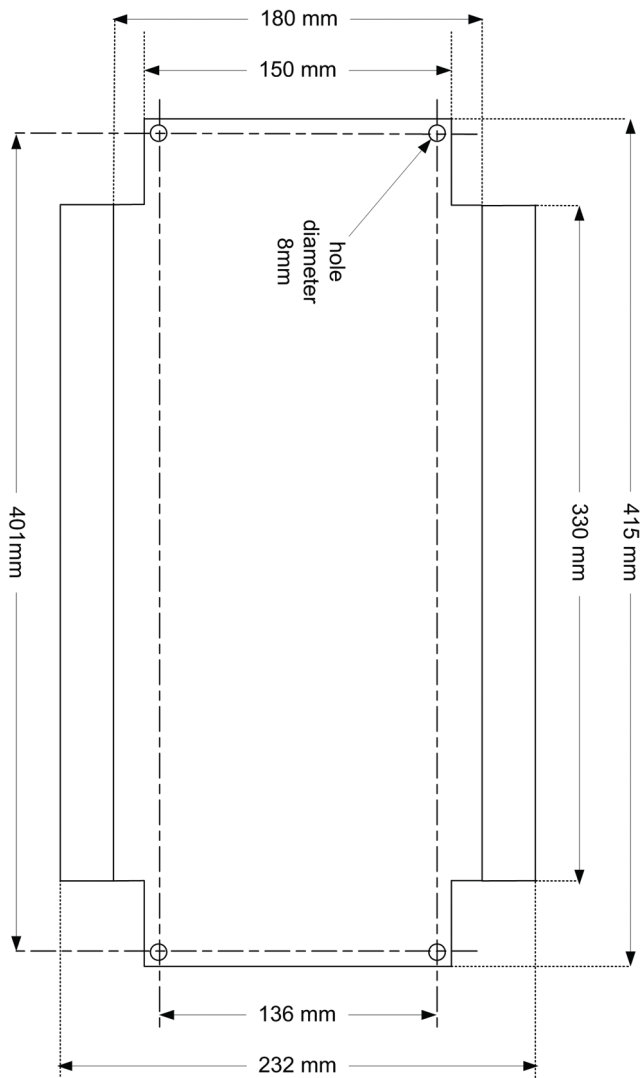


Figure 9 - DSAS Mk2 base plate dimensions

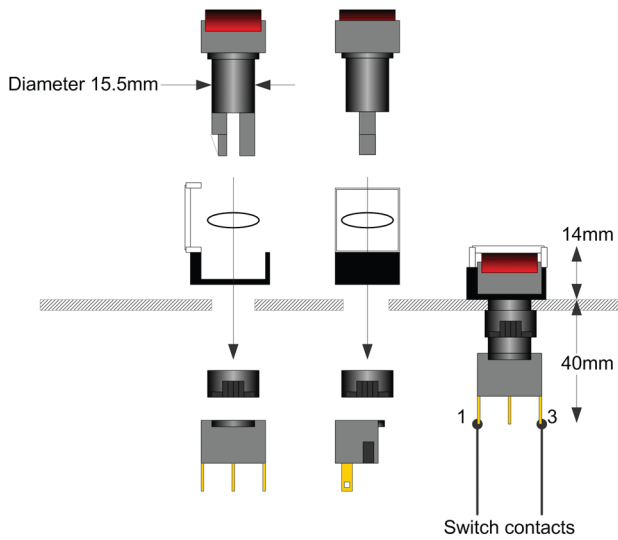


Figure 10 - DSAS Mk2 alert activation points assembly

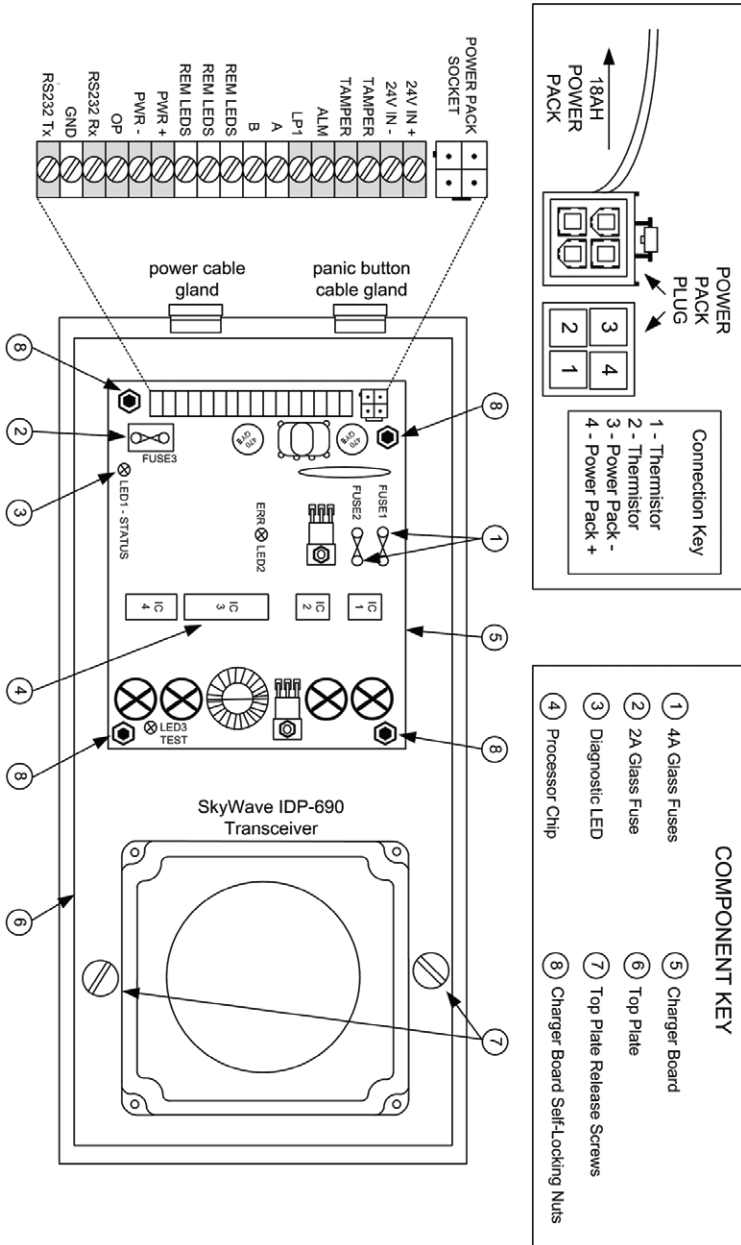


Figure 11 - DSAS Mk2 plan view

DSAS Unit with IDP Communicator

Power Pack Removal and Replacement Instructions

WARRANTY FORM

Installation Checklist

This form and Installation Checklist will activate the guarantee and serve as a means of quality control.

Return the form to:

**Pole Star Space Applications Ltd
4th Floor
Compass House
22 Redan Place
London
W2 4SA**

Or email to: dsas@polestarglobal.com

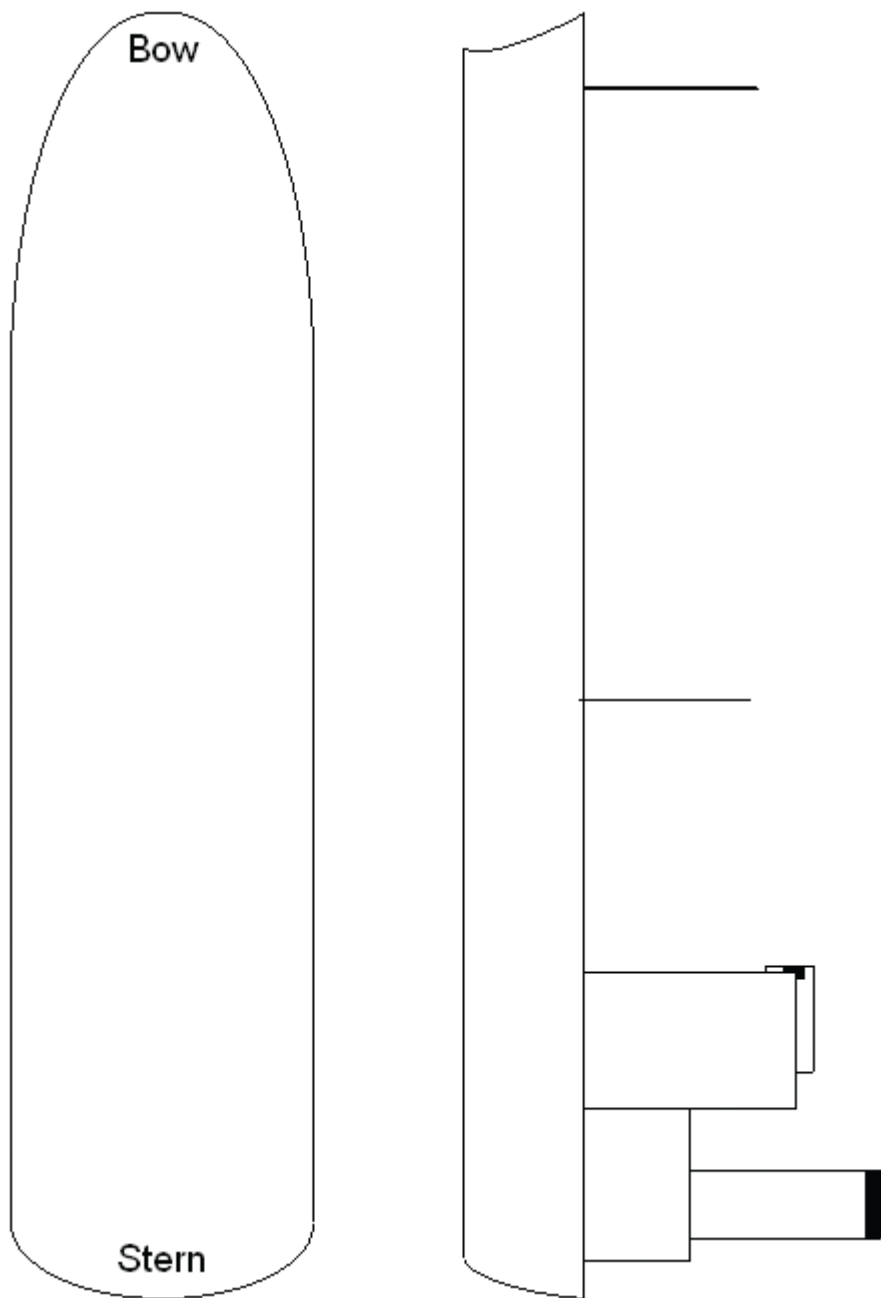
DSAS Serial number (on lid of unit):

Date:

Installer name:

DSAS Mk2 UNIT - INSTALLATION CHECKLIST	DONE
Unpack unit – check serial number (on the lid of the DSAS unit) and write it on the warranty form.	
Visual check for completeness and good order – refer to equipment list on page 1 of Installation Guide.	
Open unit and ensure that all fuses are disconnected before proceeding.	
Check the power pack – a voltage above 11V shows that the power pack is still holding a charge. Below 11V the power pack should be put on charge before installing – ideally power packs should be fully charged before installation. <i>It may be worth putting the power packs on charge while the rest of the installation is taking place.</i>	
Select a suitable installation position, with regard to the considerations listed in the Installation Guide (page 3).	
Prepare external cable assembly using two core cable of at least 8mm diameter (OD) (see cable schematic on page 2 of the Installation Guide). Install the alert button in a suitable position, and feed the power cable out to installation position. All loose cables should be secured with cable ties or straps at approximately 30cm (1ft) distance.	
Drill locating holes for DSAS assembly using the base of the metal casing as a template. The unit must be mounted on a horizontal surface.	
Attach the metal base plate to the installation position. M8 bolts are recommended for this. Do not over tighten the bolts as they could shear. A torque of 21Nm is recommended.	
Place the DSAS unit on the metal base plate, and open the plastic lid of the box.	
Ensure that the power packs are reconnected.	
Feed the power supply and alert button cables through the unit cable glands and attach as indicated in figure 5 of the installation guide. Tighten the glands using a 24mm spanner.	
Insert FUSE1, THEN insert FUSE2 (see plan diagram in the installation guide, Figure 11). PLEASE NOTE: The unit may be damaged if these fuses are not connected in the correct order.	
Ensure that the DSAS Mk2 unit is powered up. LED1(STATUS) should begin its diagnostic sequence to indicate this.	
Test the power input connections by applying power through the DC supply cable. When the unit detects external power, LED3(TEST) will flash four times. When power is disconnected, LED3 should flash three times.	
Test both of the alert buttons. When pressed, LED3(TEST) should flash once. Check that the first alert message has been received by the office staff on shore, and reset before testing the second button. Check that this alert message has also been received and reset.	
Replace the plastic lid and assemble the rest of the casing around the unit using the bolts supplied.	
Ensure that the cut-out in the metal top plate is above the transceiver unit (the OPPOSITE END to the cable glands).	
Ensure that: <ul style="list-style-type: none"> • The DSAS is securely attached to the vessel superstructure • The venting plugs are not obstructed 	
Apply external power to the unit.	
Indicate the position of the installation relative to the vessel hull and superstructure on the diagram opposite.	
The DSAS unit is now ready for use.	

On the diagram below, please indicate the position of the DSAS unit installation relative to the vessel, and also indicate any other superstructure and other potential obstacles to communication.



Address:

Telephone number:

Vessel name:

Customer / Company:

Customer / Company address:

Customer / Company contact name & position:

Customer / Company telephone number:

Customer / Company fax number:

Customer / Company email address:

Steel Power Pack - Removal and Refit

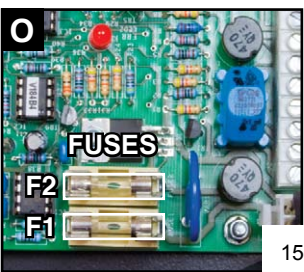
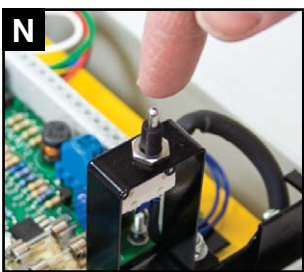
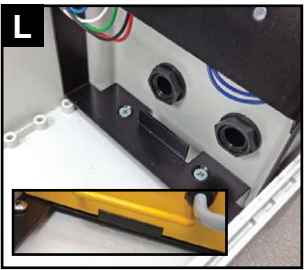
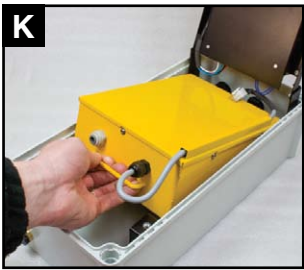
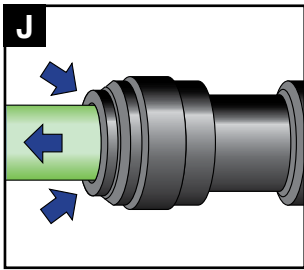
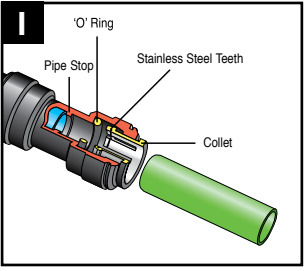
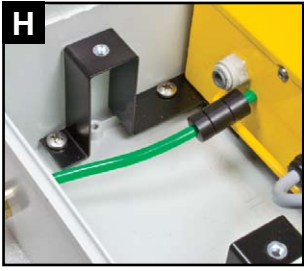
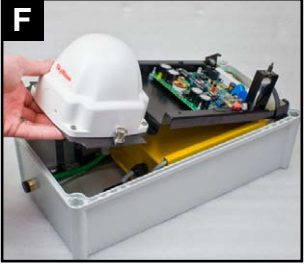
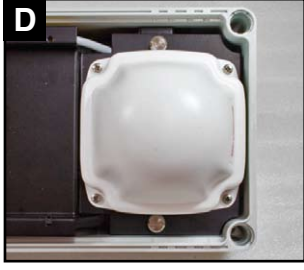
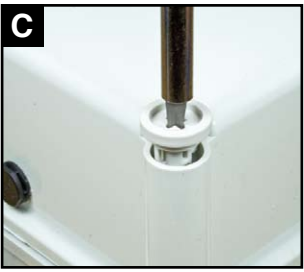
This describes power pack replacement for serial numbers 50001 upwards ONLY.

**DO NOT TAMPER WITH THE POWER PACK.
THERE ARE NO USER SERVICEABLE PARTS INSIDE.
DO NOT OPEN UNIT OR DAMAGE SEALING IN ANY WAY.**

Tools required:

- Phillips No 2 Screwdriver
- Phillips No 4 Screwdriver
- Spanner or Socket 10mm
- Scalpel or cutting knife

1. Undo 8 x outer stainless steel case bolts with 10mm spanner (A).
2. Remove metal casing. Make a note of the orientation of cut out in lid section (B).
3. Undo 4 inner case bolts (with large Phillips screwdriver) and carefully remove plastic lid (C).
4. When removing lid take care not to move or damage micro-switch (N).
5. Remove FUSE1 to isolate from power pack (O).
6. Remove FUSE2 to isolate from ship supply.
7. Do not proceed until this has been done.
8. Undo 2 flat head screws either side of Skywave transmitter with large flat head screwdriver (D).
9. Remove plug connector from socket in corner of circuit board (E).
10. Hinge / Lift PCB panel to upright position (F). Do not over hinge the lid.
11. Remove green solid vent pipe from connector on end of old power pack (G, H, I and J). Hold black collar (G) and push this towards the battery to release the grey locking collet. Using the other hand pull gently on the solid green pipe to allow simple removal of solid green pipe.
12. Carefully slide out power pack case by handle (K) and remove.
13. Fit new case ensuring the pack is seated correctly into the base and up against the stop (L). Lower the end with the handle and ensure it sits flush behind the lip (Inset L).
14. Replace vent tube onto the power pack by pushing the green vent tube firmly into the connector (G). Gently pull back on green pipe to ensure seal secured.
15. Hinge down the PCB panel ensuring that the power lead does not get trapped between the PCB panel (M) and power pack, replace flat head screws (D).
16. Connect new plug to socket on corner of circuit board (E) – ensure that the plug and socket orientation is correct.
17. Replace FUSE1 to reconnect power pack (O).
18. Note the LED1(status) on the circuit board will now each come on to indicate that the supply is re-connected correctly.
19. Replace FUSE2 to reconnect to the ships supply. LED3 (TEST) will flash four times to indicate 24V DC power is restored.
20. Functionality test. Wait two minutes. Operate micro switch (N) press and hold gently for 5 seconds and release. Ensure that LED3 (TEST) flashes twice.
21. Carefully replace the lid (C) ensuring that the seal is seated correctly between the inner case halves. Take care to not damage or move the micro switch (N) when replacing the lid (C).
22. Re-tighten the screws in the corners of the lid (C).
23. Replace outer steel case lid remembering to maintain the correct orientation to the inner satellite transmitter (B).
24. Replace and tighten the outer case bolts (A).
25. Confirm with the company security officer or Pole Star distributor that the message sent as a result of step 21 was received.





**FLAG APPROVAL DOCUMENT
SHIP SECURITY ALERT SYSTEM
UK Flag Approval Letter**



**FLAG APPROVAL DOCUMENT
SHIP SECURITY ALERT SYSTEM
USCG Flag Approval Letter**



FLAG APPROVAL DOCUMENT SHIP SECURITY ALERT SYSTEM MSC.147(77) Acceptance Matrix

RESOLUTION MSC.147(77) (adopted on 29 May 2003)

ADOPTION OF THE REVISED PERFORMANCE STANDARDS FOR A SHIP SECURITY ALERT SYSTEM

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING ALSO resolution A.886(21), by which the Assembly resolved that the functions of adopting performance standards for radio and navigational equipment, as well as amendments thereto, shall be performed by the Maritime Safety Committee on behalf of the Organization,

RECALLING FURTHER the provisions of the new chapter XI-2 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, and the requirements of regulation XI-2/5, that all ships shall be provided with a ship security alert system,

RECOGNIZING that, for security reasons, a ship security alert system is necessary on board for initiating and transmitting a ship-to-shore security alert to a competent authority designated by the Administration,

HAVING CONSIDERED the recommendation on revision of resolution MSC.136(76) made by the Sub-Committee on Radiocommunications and Search and Rescue at its seventh session,

1. ADOPTS the Revised Recommendation on Performance Standards for a Ship Security Alert System, set out in the Annex to the present resolution;
2. RECOMMENDS Governments to ensure that a ship security alert system;
 - a. if installed on after 1 July 2004 conforms to performance standards not inferior to those specified in the Annex to the present resolution;
 - b. if installed before 1 July 2004 conforms to performance standards not inferior to those specified in the Annex to the resolution MSC.136(76).



FLAG APPROVAL DOCUMENT SHIP SECURITY ALERT SYSTEM MSC.147(77) Acceptance Matrix

RECOMMENDATION ON PERFORMANCE STANDARDS FOR A SHIP SECURITY ALERT SYSTEM

1 Introduction

<p>1.1 The ship security alert system is provided to a ship for the purpose of transmitting a security alert to the shore to indicate to a competent authority that the security of the ship is under threat or has been compromised. It comprises a minimum of two activation points, one of which is on the navigation bridge. These initiate the transmission of a ship security alert. The system is intended to allow a covert activation to be made which alerts the competent authority ashore and does not raise an alarm on board ship nor alert other ships.</p>	<p>COMPLIANT – the system transmits a security alert to the shore indicating to a competent authority that the security of the ship is under threat. It comprises two activation points that initiate the transmission of the alert, one of which is on the navigation bridge. Activation is covert, so alerting the competent authority ashore without raising an alarm on board ship or alerting other ships.</p>
<p>1.2 As required by its Administration, the competent authority receiving the alert notifies the authority responsible for maritime security within its Administration, the coastal State(s) in whose vicinity the ship is presently operating, or other Contracting Governments.</p>	<p>COMPLIANT – note: the Vessel name, date / time, lat / lon, plus other relevant parameters are transmitted in the Exception Position Report to the PurpleFinder server (the shore station) and immediately routed via email to the nominated competent authority and flagstate recipients. Refer to Section 2.1.3 of the DSAS Ship Security Alert System User Guide and Ship Security Plan Interface document, ref: PS-BD-DSAS-UGSSPI_2.0.</p>
<p>1.3 The procedures for the use of the ship security alert system and the location of the activation points are given in the ship security plan agreed by the Administration.</p>	<p>COMPLIANT – the document PS-BD-DSAS-UGSSPI_2.0 allows for the definition of these procedures.</p>
<p>1.4 The ship security alert system may utilise the radio installation provided for compliance with chapter IV of the SOLAS Convention, other radio systems provided for general communications or dedicated radio systems.</p>	<p>COMPLIANT – note: the system utilises a dedicated Inmarsat IDP service (non-GMDSS).</p>



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2. General

2.1 In addition to complying with the general requirements set out in resolution A.694(17) ¹ , the ship security alert system should comply with the following performance standards.	COMPLIANT - Mariner Systems (UK) Ltd Type Approval Laboratory Test Report TL1587 state that all tests meet or exceed the requirements of the guidelines laid out in IACS Unified Requirement E10 and the relevant sections of IEC945.
2.2 The radio system used for the ship security alert systems should comply with relevant international standards.	COMPLIANT – the system utilises the CE certified and Inmarsat-approved Skywave DMR200 Inmarsat D+ satellite transceiver.

3. Power supply

3.1 Where the ship security alert system is powered from the ship's main source of electrical power, it should, in addition, be possible to operate the system from an alternative source of power.	COMPLIANT – the system has an internal 18 Ah power source (lasting 5-6 days in full operating mode). Refer to Section 2.1.2.
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4. Activation points

4.1 Activation points should be capable of being used on the navigation bridge and in other locations. They should be protected against inadvertent operation. It should not be necessary for the user to remove seals or to break any lid or cover in order to operate any control.	COMPLIANT – the alert activation point(s) are press-type switches of a dimension easily installed on the navigation bridge and in other locations. They are protected against inadvertent use by a flip-up lid.
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5. Operation

5.1 The activation points should operate a radio system such that transmission of the security alert does not require any adjustment of the radio system, i.e. tuning of channels, setting of modes or menu options. Operation of the activation point should not cause any alarm or indication to be raised on the ship.	COMPLIANT – the alert activation point(s) are press-type switches causing the immediate transmission of an Exception Position Report to the PurpleFinder server. No system adjustment is required, nor is any alarm or indication raised on the ship.
5.2 The operation of the ship security alert system should not impair the functionality of the GMDSS installation.	COMPLIANT – note: the system utilises a dedicated Inmarsat IDP service (non-GMDSS).



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6. Transmission of security alerts

<p>6.1 In all cases, transmission initiated by security alert system activation points should include a unique code/identifier indicating that the alert has not been generated in accordance with GMDSS distress procedures. The transmission should include the ship identity and current position associated with a date and time. The transmission should be addressed to a shore station and should not be addressed to ship stations.</p>	<p>COMPLIANT – note: the system utilises a dedicated Inmarsat IDP service (non-GMDSS). Vessel name, date / time, lat / lon, plus other relevant parameters are transmitted in the Exception Position Report to the PurpleFinder server (the shore station) and immediately routed via email to the nominated competent authority and flag-state recipients. Refer to Section 2.1.3.</p>
<p>6.2 The ship security alert system, when activated, should continue the ship security alert until deactivated and/or reset.</p>	<p>COMPLIANT – The system automatically alerts each 30 minutes until deactivated and/or reset.</p>

7. Testing

<p>7.1 The ship security alert system should be capable of being tested.</p>	<p>COMPLIANT – The system is tested through a controlled hybrid Sat-C messaging / DSAS alerting mechanism, a full audit trail is reported.</p>
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