



Australian Government

Australian Maritime Safety Authority



DISTRESS BEACONS

FREQUENTLY ASKED QUESTIONS

CONTENTS

An Introduction to Distress Beacons

What is a distress beacon?	1
Do I need a distress beacon?	1
What types of distress beacons are there?	1
How does a distress beacon work?	2
What is the Cospas-Sarsat System?	3
What is the HexID or UIN?	4

Usage

Why use a distress beacon?	5
When should a distress beacon be used?	5
Which model? GPS vs Non-GPS	6
Where should distress beacons be stowed?	9
What if 121.5 MHz distress beacons are used after 1 February 2009?	10
What about other tracking and distress devices?	11

Registration

Why register a distress beacon?	12
Checksum code	12
Online registration	12
Why does AMSA issue registration stickers for EPIRBs and PLBs?	13
What happens when a sticker expires?	13
What should be done if a distress beacon is sold, lost, stolen or destroyed?	14
Can distress beacons be registered for more than one use?	14
Can distress beacons be used overseas or can beacons registered in a foreign country be used in Australia?	15

Activation

How long before a distress signal is received?	15
What if a distress beacon is accidentally activated?	16

Batteries and Disposal

When should distress beacon batteries be replaced?	16
How should unwanted distress beacons be disposed of?	17

Contacts

What is a distress beacon?

A distress beacon is an electronic device that, when activated in a life-threatening situation, assists rescue authorities in their search to locate those in distress.

Do I need a distress beacon?

If you are working or travelling in remote or particularly hazardous areas, you should strongly consider purchasing a PLB. Carriage of a registered 406 MHz EPIRB in vessels sailing more than two nautical miles offshore is mandatory and many responsible mariners encourage the use of PLBs as well. Increasing numbers of aviators carry PLBs as well as have ELTs fitted to their aircraft.

What types of distress beacons are there?

There are three types:

- ▶ **Emergency Position Indicating Radio Beacons (EPIRB)** used in ships and boats;
- ▶ **Emergency Locator Transmitters (ELT)** used in aircraft; and
- ▶ **Personal Locator Beacons (PLB)** for personal use by bushwalkers, four-wheel drivers, other adventurers on land, employees working in remote areas, crew in boats and aircrew.

EPIRBs are designed to float in the water to optimise the signal to the satellite. An EPIRB has a lanyard that is used to secure it to something that is not going to sink so that it can float free. Once activated, an EPIRB is required to operate continuously for a minimum of 48 hours.



There have been a number of incidents where vessels have sunk quickly and crew have been unable to deploy an EPIRB. In such incidents, float-free EPIRBs may have reduced response times and saved lives. Float-free EPIRBs are held in a bracket and fitted with a hydrostatic release that is water activated deploying the beacon automatically if the vessel sinks. If the vessel continues to float then the EPIRB can be manually deployed where a distress situation exists.

NOTE: Although Yachting Australia requires all crew in Category 1 and 2 ocean yacht races to carry a PLB when on deck, an EPIRB must also be carried in the yacht. Likewise, PLBs are not considered a substitute for EPIRBs when adhering to State and Territory marine regulations on the carriage of EPIRBs.

ELTs are usually fixed in the aircraft and are designed to activate on impact. ELTs are required to operate continuously for 24 hours once activated. Civil Aviation Safety Authority (CASA) regulations require most aircraft to carry an ELT. CASA regulations allow for PLBs or EPIRBs to be carried in General Aviation aircraft as an alternative to an ELT.

PLBs are designed for personal use in the aviation, land and marine environments and are becoming increasingly popular in a number of fields, both in industry and recreationally. PLBs are required to operate for a minimum of 24 hours once activated.

406 MHz beacons come in two basic types: those that provide an encoded (GPS) location and those that do not. The satellite system can calculate a beacon's location, but locating a distress site is usually much faster if the beacon signal provides a GPS location.

How does a distress beacon work?

When a distress beacon is activated, it transmits a signal that is detectable by satellites. As the satellites orbit the Earth, they 'listen' for any active beacons and report their position to rescue authorities.

Beacons developed for the Cospas-Sarsat satellite system operate on 406 MHz and use digital technology that allows the beacon to transmit a unique code (HexID or UIN) to

identify the beacon. These beacons also transmit on the analogue 121.5 MHz frequency to allow final stage homing. Satellite processing of 121.5 MHz signals ceased on 1 February 2009 and any old 121.5 MHz beacons should be disposed of responsibly (see page 12).

What is the Cospas-Sarsat System?

The Cospas-Sarsat System is divided into:

- ▶ the space segment comprising distress beacon receivers on Polar-orbiting satellites and on satellites in geo-stationary orbit over the equator; and
- ▶ the ground segment is made up of a network of Local User Terminals (LUTs) that are the ground receiving stations for the satellite transmissions with Mission Control Centres (MCCs) that analyse and pass the distress alerts to responsible Rescue Coordination Centres (RCC).

In the Australian region there are three LUTs, located at Albany (WA), Bundaberg (QLD) and Wellington (NZ); controlled by the MCC located with RCC Australia in Canberra.

Alerts from 406 MHz distress beacons may be received and processed by geo-stationary satellites and passed to RCC Australia within minutes. If the beacon has GPS capability then a highly accurate position may be transmitted with the alert. Non-GPS beacons require detection by a Polar-orbiting satellite before a position can be obtained.



Cospas-Sarsat System Overview

What is the HexID or UIN?

The HexID or Unique Identity Number (UIN) is the unique code programmed into each 406 MHz distress beacon and transmitted when the beacon is activated. When registering a distress beacon, this code must be included in the registration as it is the only code that links the individual distress beacon to the registration database. Without the HexID the beacon cannot be registered.

The HexID is 15 characters long and is made up of hexadecimal numbers (0-9) and letters (A-F). The code can be found on the label of all 406 MHz distress beacons.



USAGE

Why use a distress beacon?

Distress beacons save lives - in some cases it's the law. All vessels travelling more than two nautical miles from land must carry a registered EPIRB. Aircraft are also required under CASA regulations to carry an ELT in flight. Check your Commonwealth, State or Territory authority for the specific regulations applicable to you.

When should a distress beacon be used?

Distress beacons should only be used when there is a threat of grave and imminent danger. In the event of an emergency, communication should first be attempted with others close by using radios, phones and other signalling devices. Mobile phones can be used but should not be relied upon as they can be out of range, batteries run low or become water-damaged.



Which model? GPS vs Non – GPS

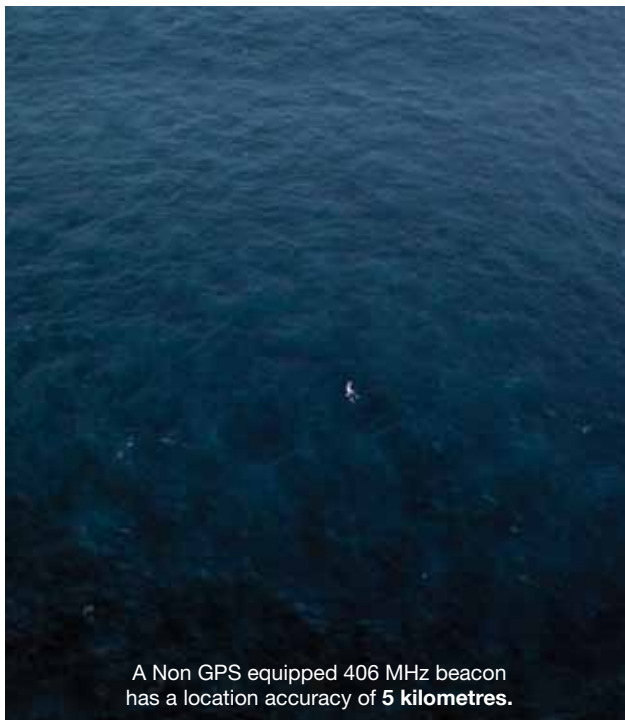
	406 MHz
	GPS Equipped
Signal type	Digital
Coverage	The entire globe
Identification	<p>406 beacons have a unique identification code which is part of its signal.</p> <p>When properly registered with the Rescue Coordination Centre, Australia, the unique code provides information about the boat or aircraft, or person carrying the beacon.</p> <p>This includes the owner's emergency contact and country of registration.</p> <p>Allows false alarms to be resolved with a radio phone call.</p>
Alert time	<p>The 406 signal may be received within seconds by Geostationary satellites. If detected by a polar orbit satellite, detection time will be longer.</p> <p>The extra information provided by a 406 will in many cases help authorities locate you faster.</p>
Location	<p>GPS - Has a location accuracy of 120 Metres.</p> <p>Location is provided by geostationary satellites within minutes.</p>
Rescue time	<p>If the 406 beacon is registered, it will enable rescuers to know more about who you are, where you are, and what your boat/plane looks like, and your emergency contact.</p> <p>This saves time, and therefore helps rescuers to respond more quickly.</p>
Signal Power	5 Watts

406 HZ DISTRESS BEACONS

	Non GPS
	Digital
	The entire globe
<p>Beacons which provide location information and the owner's details</p>	<p>406 beacons have a unique identification code which is part of its signal.</p> <p>When properly registered with the Rescue Coordination Centre, Australia, the unique code provides information about the boat or aircraft, or person carrying the beacon.</p> <p>This includes the owner's emergency contact and the country of registration</p> <p>Allows false alarms to be resolved with a radio or phone call.</p>
<p>Received by orbiting satellites</p>	<p>The 406 signal may be received within seconds by Geostationary satellites. If detected by a polar orbiting satellite, detection time will be longer.</p> <p>The extra information provided by a 406 will in most cases help authorities locate you faster.</p>
<p>Received within 5 minutes</p>	<p>Orbiting satellites will calculate the position if there is no GPS capability. These orbiting satellites take 90 minutes on average to receive the signal but it may take up to 5 hours depending on the conditions.</p> <p>More information is needed to determine the real location. This usually means at least two satellite passes &/or independent intelligence is required to determine a location and this takes more time. Non GPS has an location accuracy of 5km.</p>
<p>Rescuers must wait for confirmation of the beacon's position before sending a search & rescue team. This takes more time.</p> <p>If the 406 beacon is registered, it will enable rescuers to know more about who you are, where you are, what your boat/plane looks like, and your emergency contact. This saves time, and therefore helps rescuers to act more quickly.</p>	
	5 Watts



A GPS equipped 406 MHz beacon
has a location accuracy of **120 Metres.**



A Non GPS equipped 406 MHz beacon
has a location accuracy of **5 kilometres.**

Where should distress beacons be stowed?

Distress beacons are stowed depending on the type. Some have mounting brackets, some are installed permanently and some are carried in pockets or life vests. It is important to keep distress beacons away from:

- ▶ items that may accidentally knock the activation switch;
- ▶ magnetic sources, such as microphones and radio speakers;
- ▶ high pressure water sprays; and
- ▶ children who may play with the beacon.

In a boat, a distress beacon should be stowed in its mounting bracket where it is visible and easy to access in an emergency or in a grab bag along with flares, a torch or strobe and other safety equipment. If possible keep it out of the weather and locked away when the vessel is not in use. An additional beacon can be stowed in any inflatable life raft carried in the vessel. When storing an EPIRB, ensure it is correctly stowed in its bracket as a number of EPIRBs have water activated switches that are armed when the EPIRB is removed from its bracket or incorrectly replaced in its bracket. Also ensure that your passengers are aware of the location of the beacon and how to activate it in an emergency.

Note: If an EPIRB is to be stowed in a grab bag or out of its bracket you should choose a manually operated EPIRB. Water activated EPIRBs should always be stowed correctly in their brackets when not in use, to avoid inadvertent activation even if stowed below.

In an aircraft, ELTs are usually hard-wired into the aircraft and mounted in a rack. CASA regulations allow pilots flying General Aviation aircraft to carry a PLB as an alternative to an ELT. These should be carried on the pilot's person so that





if involved in a crash, the PLB is within easy reach even if they are thrown clear of the aircraft. Pilots should listen on 121.5 MHz before shutting down in case their ELT has been activated during the landing. If activated, the ELT should be switched off and the Rescue Coordination Centre (RCC Australia) immediately notified by calling 1800 815 257. There is no penalty for inadvertent activations.

On land, PLBs are to be physically carried on the body or within easy reach or, if in a vehicle, stowed in a glove box or other safe and accessible compartment.

What if 121.5 MHz distress beacons are used after 1 February 2009?

With the satellite system no longer receiving alerts from 121.5 MHz from 1 February 2009, over-flying aircraft are the only means of detecting activated analogue beacons. In some areas within the Australian search and rescue region, this could amount to days rather than hours before a 121.5 MHz beacon could be heard and in some circumstances, the 121.5 MHz beacon may not be detected at all.

Not all aircraft 'listen' to the 121.5 MHz frequency and those that do are generally very high flyers. As a consequence, the search area resulting from these detections could be very large and it would take rescue authorities considerable time and resources to localise the distress signal. This would also apply to distress beacons activated directly under a well used flight path.

From 1 February 2010, 121.5 MHz EPIRBs are no longer licensed for use. Any person found activating a 121.5 MHz EPIRB may find themselves liable for a fine. 121.5 MHz fixed ELTs continue to be licensed for homing purposes.

What about other tracking and distress devices?

There are an increasing number of devices advertised as tracking beacons with an auxilliary distress function and are marketed as being similar to a PLB. Care should be taken to ensure that any distress alerting device purchased is Cospas-Sarsat compatible as many of the tracking devices available operate on mobile or satellite phone networks and are subject to the same limitations. These devices are not manufactured to the same standards as a Cospas-Sarsat device and do not meet the requirements of a registered EPIRB or ELT. Going without a registered 406 MHz beacon can expose you to serious risk in a distress situation.

REGISTRATION

Why register a distress beacon?

Registration is free and can result in a more efficient search and rescue effort.

Digital 406 MHz distress beacons transmit a unique code to identify a particular beacon when it is activated. A registered 406 MHz beacon allows the Australian Maritime Safety Authority's (AMSA) Rescue Coordination Centre to access the registration database and find initial contact details; details of registered vessels, aircraft or vehicles; and up to three nominated emergency contacts who may be called if a beacon is activated and direct contact cannot be made. These emergency contacts may be able to provide valuable information to the RCC that can help with the rescue.

Note: from 1 July 2012 Australian coded 406 MHz EPIRBs and PLBs will reference a 5 character (alpha/numeric) Checksum code. The purpose of the checksum code is to validate the 15 character HEX ID/UID marked on the beacon. The checksum will be written either on the box, registration form or user manual supplied with the beacon.

Please ensure you provide the checksum code when registering a beacon purchased after 1 July 2012.

Online registration

All types of Australian coded 406 MHz distress beacons can be registered online via www.amsa.gov.au/beacons

Beacon owners have protected access to their accounts and are able to update details at any time including changes to:

- ▶ ownership and emergency contact details;
- ▶ boat, aircraft or vehicle details;
- ▶ registered addresses; or
- ▶ indicate the sale or disposal of a beacon.

There is also the facility for owners to note trip itineraries so when a beacon is activated, the RCC will have access to current movements and be better placed to organise the most suitable response. **This does not replace advising a responsible person of your trip details.**

In addition to online access, registration forms and changes to details can also be provided to AMSA by fax, phone, email or post. We prefer you register and update your information on-line to get maximum benefit from the system.

Why does AMSA issue registration stickers for EPIRBs and PLBs?

AMSA issues registration stickers to provide distress beacon owners and marine inspectors with proof of current registration. The sticker will note the HexID/UID of the beacon, its registration expiry date (two years from date of issue) and vessel name, registration number or owner's name depending on type of beacon and use. This registration sticker must be affixed to the beacon. If a current sticker is not found affixed to a beacon during a safety equipment inspection you may be liable to a fine.



What happens when a sticker expires?

Approximately 45 days prior to the sticker expiry date, AMSA will either email or post a Beacon Registration Renewal notice to the registered owner. Once this notice is received, the registered owner is to contact AMSA to validate/update the registration details. Validation can be completed by online at www.amsa.gov.au/beacons or by fax, phone, email or post.

Once the validation process has been completed, a new registration sticker will be posted (please allow up to two weeks for delivery).

Note: Beacon Registration Renewal notices are sent as per details on AMSA's distress beacon registration database. Please ensure your details are always up to date.

What should be done if a distress beacon is sold, lost, stolen or destroyed?

Owners are asked to notify AMSA if they sell their distress beacon or it is lost, stolen or destroyed. If AMSA is not notified and the new owner activates the beacon, any rescue will be delayed as the last known registered owner will be contacted. Notification of sold, lost, stolen or destroyed distress beacons can be made online at www.amsa.gov.au/beacons, or by fax, phone, post or email.

Can distress beacons be registered for more than one use?

EPIRBs and PLBs are increasingly being used across all environments. AMSA's registration database will accept details for the beacons' primary use as well as for other uses.

Care must be taken when using a distress beacon for a purpose other than the specific purpose for which they were designed. For example, EPIRBs are designed to float in water and use the water plane to reflect the signal upwards to the satellite. An EPIRB activated on land or in a boat must remain vertical to ensure the signal is not greatly degraded. Similarly, PLBs although waterproof and constructed to float, are not designed to float upright so if activating a PLB at sea it should be supported so that its antenna remains vertical and out of the water. Some life vests have pockets for PLBs sewn into the webbing up high near the shoulder allowing the PLB to be supported above the water, leaving your hands free.

Can distress beacons be used overseas or can beacons registered in a foreign country be used in Australia?

Cospas-Sarsat is a global system and distress beacon alerts are received by the satellites from anywhere on the Earth's surface. If an Australian-coded distress beacon is activated overseas, an alert will be sent to the Rescue Coordination Centre responsible for the region in which the distress incident is occurring. A second notification is then sent to RCC Australia as the registrar for the beacon.

Correspondingly, alerts from beacons registered in other countries, activated in the Australian region, will be received by RCC Australia. Australian residents who buy a distress beacon registered elsewhere must have the beacon recoded with the Australian country code by a local agent and have it registered with AMSA. Some PLBs manufactured in the USA and elsewhere are programmed to transmit a Morse Code "P" as part of their alerting signal. These beacons do not meet the Australian Standard and are unable to be registered in Australia.

ACTIVATION

How long before a distress signal is received?

A distress beacon alert is usually detected by the RCC within minutes. If your distress beacon has an encoded GPS location capability, this information will also be sent to the RCC and your position becomes known. If emergency contacts are aware of trip details or trip details have been submitted online, search operations can be commenced much sooner. If the RCC has to rely on polar-orbiting satellites to determine the location of a beacon, the time to gain an accurate position may be longer, potentially delaying search operations.

Note: Polar-orbiting satellites over-fly the Australian region on average every 90 minutes but passes may be anywhere from minutes to five hours apart. To improve response times, ensure distress beacons are registered and inform emergency contacts of trip details.

Even once a position is obtained, response times then depend on the time for a search and rescue (SAR) unit, such as a helicopter, aircraft or ground party to be readied and transit to the search area. The more remote the location of the distress incident, the longer the response time. In all instances, you must be prepared to survive.

What if a distress beacon is accidentally activated?

The most important thing to do is to switch off the beacon and notify RCC Australia as soon as possible by calling 1800 641 792 to ensure a search and rescue operation is not commenced. There is no penalty for inadvertent activations.

BATTERIES & DISPOSAL

When should distress beacon batteries be replaced?

Distress beacon batteries need to be replaced before the expiry date noted on the label of the beacon. This will ensure that the beacon will transmit for the minimum time required once activated.

Battery life varies depending on the model of the beacon. Batteries should only be replaced by the beacon manufacturer or their Australian agent. You could also consider upgrading to a GPS capable beacon (see pages 6 and 7) and dispose of your old beacon responsibly.

How should unwanted distress beacons be disposed of?

Distress beacons need to be disposed of responsibly in case they accidentally activate and trigger a false alarm. Individuals are able to dispose of their unwanted beacons through *Battery World*. For disposing of commercial quantities please contact your local



Battery World Store. Alternatively, the documentation that comes with distress beacons often contains information about how to disarm the beacon safely. If in doubt, check with the manufacturer or local agent or call the beacon advice line on 1800 406 406.

A list of most distress beacons sold in Australia, with simple instructions on disarming them, can be found at www.amsa.gov.au/beacons/disposal

Note: Do not dispose of your beacon in general waste as it will end up in landfill and could be activated inadvertently.

After 1 February 2010, activation of an old-style 121.5 MHz distress beacon may be illegal and may attract stiff penalties. 406 MHz beacons that transmit on 121.5 MHz for final stage homing are unaffected by this rule.

CONTACTS

Rescue Coordination Centre (RCC)-Australia

24 hour emergency contact telephone numbers:
1800 641 792 (Maritime)
1800 815 257 (Aviation)

406 MHz Beacon Registration

p 1800 406 406

f 1800 406 329

www.amsa.gov.au/beacons

CONTACTS

Rescue Coordination Centre (RCC)- Australia

24 hour emergency contact telephone number:
1800 641 792

General enquiries during business hours:
1800 406 406

www.amsa.gov.au/sar

What qualifications are needed to operate a VHF transceiver?

Marine VHF transceivers operate under a Class Licence, so there is no requirement for an official call sign and maritime ship station licence. However, the operator must have a minimum radio operator qualification of a Marine Radio Operator's VHF Certificate of Proficiency (MROVCP). This applies to marine VHF transceivers, with or without DSC capability, and also to AIS transceivers (but not AIS receive-only units).

What qualifications are needed to operate an MF/HF transceiver?

For MF/HF transceivers, a Marine Radio Operator's Certificate of Proficiency (MROCP) is the minimum qualification, as well as a ship station licence (including call sign) issued by the Australian Communications and Media Authority (ACMA).

Hand-held VHF transceivers with DSC

AMSA allocates separate MMSIs to individual hand-held VHF radio transceivers, rather than to a single, vessel-specific MMSI. In Australia, these transceivers' MMSIs have the format 5039xxxxx where x is any figure from 0 to 9. These transceivers can be moved between vessels, and the MMSI is registered to the owner. These 'portable' VHF DSC transceivers are only currently approved for DSC use on Australian vessels in Australian waters. When a hand-held VHF DSC transceiver changes ownership, AMSA is to be advised of the new owner's details. The requirement to present a copy of an appropriate radio operator's qualification when applying for an MMSI, also applies to MMSIs requested for the 'portable' VHF DSC transceivers described above.

How can an MMSI be applied for?

The Australian Maritime Safety Authority allocates MMSIs. To apply for an MMSI, complete the application form available for download via www.amsa.gov.au/mmsi. This page also contains further information about MMSIs.

When not to voice acknowledge

If the receiving party is not in a position to provide assistance, and other stations are heard providing assistance, then no voice acknowledgement should be sent. However, a written summary of the distress traffic should still be kept, as with all distress communications.

Let a shore station respond first

Where shore VHF DSC monitoring is known to exist, vessels receiving a VHF DSC distress alert should wait a short time before voice acknowledging, to allow a limited coast station, or limited coast marine rescue station to acknowledge by voice first.

Vessels then should be ready to provide assistance as required and continue to monitor the distress channel.

Acknowledging a MAYDAY RELAY

If you receive a MAYDAY RELAY from another vessel or coast station, first ensure that you do not interfere with any distress traffic in progress.

Format for acknowledging a MAYDAY RELAY

MAYDAY RELAY (*once*);

Name/call sign/MMSI of the relaying station (*3 times*);

THIS IS (*once*);

Name and call sign of the station acknowledging

receipt (*3 times*);

RECEIVED MAYDAY RELAY;

OVER.

Is a call sign or Maritime Mobile Service Identity (MMSI) needed?

An MMSI is a unique nine-digit code set into your DSC-capable radio transceiver and/or AIS (automatic identification system) transceiver to identify your vessel or coast station. You need only one of these if you have multiple fixed DSC radios and/or AIS transceivers. You use the same MMSI for all fixed DSC and AIS transceivers onboard the one vessel as it is a ship's identity. Australian vessels are issued MMSIs with the first three numbers being 503.

6. Advise a coast station

After contact is established, the vessel acknowledging by voice should advise an appropriate limited coast station, limited coast marine rescue station or maritime communications station, by any means available.

When to relay a distress message

- ▶ You may relay the distress message on behalf of a vessel in distress, if any of the following apply:
 - ▶ On receiving a distress DSC alert or voice distress call which is not acknowledged by a coast station or another vessel within five minutes;
 - ▶ On learning that the vessel in distress is unable or incapable of participation in distress communications; or
 - ▶ The master/skipper or other person responsible for the vessel not in distress considers that further help is necessary.

Format for a voice relay

Make the MAYDAY RELAY call, followed by the distress message from the vessel in distress as follows:

MAYDAY RELAY (3 times);
THIS IS (once);
ALL STATIONS (3 times);
or Coast Station name (as appropriate, 3 times);
THIS IS (once);

Name of the relaying station (3 times);
Call sign or other identification of relaying station (once);

MMSI (if initial alert has been sent by DSC) of the relaying station (once);

Then read the distress message immediately:
MAYDAY (once);

Name/callsign/MMSI of vessel in distress (once);
Position: (relative to a known geographic feature or lat./long.);

Nature of distress; (e.g. *sinking, on fire*);
The kind of assistance required;

Any other useful information (such as number of people on board);
OVER.

2. Repeat the distress call / message

If no voice distress acknowledgement follows, repeat the voice distress call and message as required. This is to ensure that non-DSC VHF coast stations, and non-DSC VHF vessels in VHF range, become aware of the distress.

3. Copy the distress message

If you receive a DSC distress alert, switch to Channel 16 (if the equipment has not already switched), and be ready to write down the contents of any voice distress message that may follow. The same applies to stations receiving only the voice MAYDAY distress call and message.

4. Advise the Master/Skipper

The master/skipper or person responsible for the vessel, shall be advised by the person receiving a distress call and message, of the reception of the distress call and message.
Listening time for a distress message following a DSC distress alert, or a voice distress signal/call/message should be at least five minutes.
If the vessel or coast station is monitoring via DSC, additional DSC alerts from the vessel in distress should be expected.

5. Make a voice acknowledgement

If the receiving party is able to assist, in the judgement of the Master, Skipper, or coast station, then the receiving party should send a voice acknowledgement to the party in distress, identifying their own station/vessel, and the words "RECEIVED MAYDAY" as follows:

Format for voice acknowledgement

MAYDAY (once);
Name/call sign/MMSI of the station in distress (3 times);
THIS IS (once);
Name and call sign of the station acknowledging receipt (3 times);
RECEIVED MAYDAY;
OVER.

The Australian Maritime Safety Authority is responsible for the maintenance of a high-frequency (HF) DSC capability in Australia for shipping, meeting the requirements for operating under the Global Maritime Distress and Safety System (GMDSS). Other vessels, with HF DSC equipment, may also use the service for distress alerting, urgency and safety-priority communications. Please note that AMSA does not monitor 2 MHz DSC channels.



HF DSC Radio

VHF DSC in a distress (MAYDAY) situation

1. Send the DSC distress alert and then use the voice procedure

First send the DSC distress alert (it will repeat automatically, at an interval between 3.5 and 4.5 minutes). Then, if the situation permits, the vessel in distress should transmit the voice distress call and message on Channel 16, as follows;

Format for a voice distress call and message

MAYDAY MAYDAY MAYDAY;

THIS IS (once);

Name/callsign/MMSI (3 times);

MAYDAY (once);

Name/callsign/MMSI (once);

Position: (relative to a known geographic feature or lat./long.);

Nature of distress; (e.g. sinking);

The kind of assistance required;

Any other useful information (such as number of people on board);

OVER.

Then monitor Channel 16.

What is Digital Selective Calling (DSC)?

DSC is a semi-automated means of establishing initial contact between stations. Once contact is made, communications on a nominated Very High Frequency (VHF) channel or High Frequency (HF) voice channel should be used to pass messages.

DSC transceivers have the capability to send distress alerts (see below) which have distress priority, contain a vessel's MMSI identification (see below) and the vessel's position in latitude and longitude, and the time the position was valid. The distress DSC alert can be initiated via a single button on the transceiver, and will repeat automatically.

What is the status of DSC coverage in Australia?

In Australian waters, VHF DSC is for ship-to-ship alerting, since there is no official shore-based infrastructure. However, a number of volunteer marine rescue stations have installed VHF DSC, and a check with your local marine rescue stations should be made. VHF DSC for small craft is primarily for distress, urgency and safety purposes.



VHF DSC Radio

CONTENTS

1	What is Digital Selective Calling (DSC)?
1	What is the status of DSC coverage in Australia?
2	VHF DSC in a distress (MAYDAY) situation
5	Is a call sign or Maritime Mobile Service Identity (MMSI) needed?
5	What qualifications are needed to operate a VHF transceiver?
6	What qualifications are needed to operate a MF/HF transceiver?
6	Hand-held VHF transceivers with DSC
6	How can an MMSI be applied for?

FREQUENTLY ASKED QUESTIONS

DIGITAL SELECTIVE CALLING

