



**HANDBOOK & GUIDE
TO THE COOK ISLANDS RADIO
TELEPHONE OPERATORS
CERTIFICATE**

**A Guide for users of marine radio
telephone apparatus in the Cook Islands**

**(Adapted from the New Zealand
Radiotelephone Operator's Handbook)**

Foreword:

All owners of a marine radio fixed to a vessel in the Cook Islands must register their radio with **Telecom Cook Islands**.

All users of a marine radio in the Cook Islands must possess or obtain a Radio Telephone Operator's Certificate.

The agency responsible for all aspects of marine radio use in the Cook Islands, and the issuing of all Radio Certificates and Licenses, is Telecom Cook Islands.

The purpose of this guide is to assist users of marine radios in the Cook Islands in gaining the knowledge required to pass the examination for a Restricted Radio Telephone Operator's Certificate and is relevant to Cook Islands conditions and practices.

Note: *Text in italics* is for information only and does not form part of the knowledge needed for examination purposes.

Section 1

DO'S AND DON'TS IN THE OPERATION OF YOUR MARITIME RADIO APPARATUS

- DO - listen before transmitting to avoid interference to others.**
- DO - use accepted operating procedures.**
- DO - be brief.**
- DO - speak clearly.**
- DO - be courteous.**
- DO - use your callsign.**
- DO - use designated frequencies/channels for distress, safety and calling.**
- DO - wait for reply to calls before transmitting again or changing frequency.**

- DON'T - make long transmissions.**
- DON'T - use or process unlicensed radio apparatus.**
- DON'T - impersonate or use the callsign of others.**
- DON'T - transmit a false or misleading message.**
- DON'T - operate maritime radio apparatus in a manner which endangers or interferes with other radio communications.**
- DON'T - use any maritime radio apparatus that does not comply with Telecom Cook Islands Ltd specifications.**
- DON'T - use maritime radio apparatus without being the holder of a RESTRICTED RADIO TELEPHONE OPERATOR'S CERTIFICATE or higher operator qualification (except in an emergency).**

Section 2

1. DEFINITIONS

The following terms used in this booklet mean:

COAST STATION

A land station in the maritime radio service.

DSB

Double sideband mode of operation, using A3E class of emission. Used only for emergency communication, and trip reports (TR) on 2182khz.

EPIRB

Emergency Position-Indicating Radio Beacon operating on 121.5 MHz, 243 MHz and/or 406 MHz used to facilitate search and rescue operations.

PORTS (HARBOUR) AUTHORITY

An organization which administers control over the harbours and waterways in its area.

M/HF

Medium and High Frequency. Used to describe frequencies or channels in the range 300 kHz – 30 MHZ.

MARINE NOTICE NUMBER 1A

A notice issued by the Maritime Safety Authority, setting out Distress and Urgency information (printed on a self adhesive card for affixing near the radio apparatus).

MARINE DIVISION

A Division of the Cook Islands Ministry of Transport with responsibilities to Government for administration of maritime safety matters

METEOROLOGICAL WARNINGS

Warning issued by the New Zealand Meteorological Service and broadcast by coast stations about weather conditions likely to affect the safe operation of ships at sea.

MINISTRY

Cook Islands Ministry of Transport

NAVIGATIONAL WARNINGS

Warnings issued by the Maritime Safety Authority and the New Zealand Hydrographic Office and broadcast by coast stations regarding hazards to safe navigation of ships.

RADIO OPERATIONS

The operations group of the Communications Division of the Ministry of Commerce. (Telecom Cook Islands Ltd)

SHIP STATION

Any mobile radio station in the maritime radio service located onboard a vessel which is not permanently moored. These vessels can range in size from runabouts to cargo and passenger ships.

SSB

Single Sideband model of transmission using the H3E, J3E and R3E class of emission on 2182khz, and the J3E class of emission on other M/HF maritime frequencies.

VHF

Very High Frequency. Used to describe frequencies or channels in the range 30-300 MHz.

Section 3

2. RADIO APPARATUS LICENCES AND OPERATOR'S CERTIFICATES

A radio apparatus licence issued by the Telecom Cook Islands Ltd must be obtained to establish and operate a ship radio station (unless a license has already been issued by another country).

Any person operating a radio telephone station must hold at least a Restricted Radio Telephone Operator's Certificate.

Note: Restricted Radio Telephone Operator's Certificate candidates will be examined on all information contained in this booklet. The following should be carried with the ship station at all times for inspection by an authorized officer of Telecom Cook Islands;

- the radio apparatus license
- the operator's certificate
- a Marine Notice number 1a
- a copy of this booklet.

3. APPROVED RADIO APPARATUS

SSB radio apparatus must be type-approved to the requirements of Telecom Cook Islands.

4. NOTIFICATION OF CHANGES

In cases where after the issue of radio licence:

- the apparatus is dismantled
- the ownership of the station is transferred
- the address of the licensee has changed
- changes are made affecting the technical characteristics of the apparatus

Telecom Cook Islands must be notified promptly in writing so that the license can be amended.

5. USE OF CALLSIGNS

All transmissions shall be identified by the name and callsign shown on the licence. As many ships have the same or similar name to other ships, radio operators should use their callsign to correctly identify themselves.

6. SILENCE PERIOD

All radiotelephone stations of the maritime mobile service licensed for operation in the frequency bands between 1605 kHz and 2850 kHz shall, during their hours of service, keep watch on 2182 kHz **for 3 minutes starting on the hour and half-hour.** During these periods all transmissions between the frequencies of 2173.5 and 2190.5 kHz, except for distress and urgency communications shall stop.

It is important that the clock used by the radio operator is checked regularly to ensure correct time-keeping especially during the silence periods.

(While there is no provision for silence periods in the VHF maritime mobile service, or on frequencies above 4000 kHz, it is good safety practice **to observe the silence periods on all distress frequencies**).

7. SECURITY OF CORRESPONDENCE

Except as may be authorized under a radio apparatus licence, no person who receives information intended for others shall make use of, reproduce, or disclose that information.

8. RADIO WATCH

Listening on the international distress frequency of 2182 kHz, 4125 kHz and/or Channel 16 by ship and coast stations is an essential part of maintaining safety of life at sea. Some larger ships must keep

this radio watch, and other ship stations should also keep this watch whenever possible.

Port Authority and private coast stations also keep a watch on 2182 KHz and Channel 16 during their hours of service.

9. TRANSMISSIONS IN HARBOUR

To avoid interference to any other radio service, MINIMUM transmitter power should be used by ships in harbour.

10. TESTING OF RADIO APPARATUS

When it is necessary for a ship station to transmit signals for testing, the transmissions must be brief and should include the call sign and the name of the ship.

A shielded dummy load may also be provided for testing purposes, particularly for testing DSB radio apparatus designed for operation on 2182 kHz only.

11. INTERFERENCE

It is important that stations should interfere as little as possible with the working of other stations of the maritime radio service. Operators should restrict the use of radio frequency/channel to an absolute minimum. (Unnecessary conversation not only interferes with the genuine needs of other users but may disrupt a distress call).

12. TABLE OF FREQUENCIES/CHANNELS

Medium and High Frequency (M/HF)

2182 kHz - An international distress, urgency, safety and calling frequency for radiotelephone.

All ships licensed to operate in the maritime frequency band between 1605 kHz and 2850 kHz must be able to transmit and receive on 2182 kHz.

Except for distress and urgency, all other communications should be carried out on a working or inter-ship frequency, leaving [2182 kHz](#) available.

Working frequency.

2162kHz-ship, 2207kHz-coast station (E5R Rarotongaradio)

**4125KHz – International distress, urgency, safety and calling frequency
Working frequency – 4146-ship, 4149-coast station (E5R
Rarotongaradio)**

VHF Channel 16- The international distress, safety and calling frequency for the maritime mobile VHF radiotelephone service (All ship stations licensed for operation in the authorized bands between 156 MHz and 174 MHz must be able to transmit and receive on this Channel).

Section 4

1. DISTRESS, URGENCY AND SAFETY CALLS

Special calls are used in case of distress, urgency safety and it is important that they are properly understood and correctly used.

DISTRESS - The radiotelephone distress signal **MAYDAY** is used to indicate that a ship is threatened by **grave and imminent danger and required IMMEDIATE assistance.**

URGENCY - The radiotelephone urgency signal **PAN PAN** is used to indicate that a ship has a **very urgent message to transmit concerning its safety.**

SAFETY - The radiotelephone safety signal **SECURITE** (pronounced SAY-CUR-E-TAY) is used to indicate that the calling station has an **important navigational or meteorological warning to transmit.**

2. DISTRESS

A station in distress may use any means at its disposal to attract attention, make known its position, and obtain help.

The radiotelephone distress signal **MAYDAY** and its use is absolutely forbidden except in the case of distress.

The signal indicates that a ship or aircraft or person is in grave and imminent danger and **IMMEDIATE** assistance is required.

The distress call has absolute priority over other transmissions. All ships and coast stations hearing it shall immediately cease any transmissions capable of interfering with the distress communications, and shall continue to listen on the frequency being used.

A radiotelephone alarm signal, the distress call, and the distress message may be sent only on the authority of the master or person

responsible for the station.

Stations involved in distress communications should exercise great care to not interfere with transmission of the station in distress or with other assisting stations.

When MAYDAY is not warranted, but assistance is required, for the Safety of the ship or person, the urgency signal PAN PAN should be used.

IMPORTANT – DISTRESS and URGENCY calls and messages must be cancelled if it is subsequently found that help is no longer required.

DISTRESS calls must NOT be made unless there is grave and imminent danger to a ship, aircraft, or person/s.

3. DISTRESS PROCEDURE

The distress procedure is:

- **the alarm signal (whenever possible), followed by**
- **the distress call**
- **the distress message**

4. ALARM SIGNAL

The radiotelephone alarm signal consists of two different audio frequency tones transmitted alternately, giving a distinctive warbling sound.

The alarm signal is only used on 2182 KHz, 4125 KHz or 6215 KHz

The purpose of this signal is to attract the attention of the person on watch or to activate an automatic receiver alarm (if fitted).

The alarm signal should be sent continuously for a period of at least 30 seconds, but not exceeding one minute.

It shall be used only:

- to announce that **a distress call or message** is about to follow.
- by an authorized coast station transmitting an urgent cyclone warning.
- to announce the loss of someone overboard when the assistance of other ships is required and cannot be obtained by using the urgency signal only. In this case the alarm signal shall not be repeated by other stations. The message shall be preceded by the urgency signal.

Any radiotelephone alarm signal transmitted by a coast station is followed by a single tone for 10 seconds.

5. DISTRESS CALL

The radiotelephone distress call is the distress signal MAYDAY (spoken three times), the words THIS IS and the name and callsign of the ship in distress (spoken three times).

Distress calls should be transmitted on a dedicated distress frequency/channel, but any other frequency/channel may be used where it is known that a coast station or ship is keeping watch.

6. DISTRESS MESSAGE

The distress call should be followed immediately by the distress message.

This message consist of:

- the distress signal MAYDAY
- the name and callsign of the ship in distress
- particulars of its position (either in latitude and longitude, or as a true bearing and distance of a known geographical point)
- the nature of the distress and the kind of assistance required
- the number of people on board
- any other information which may assist rescuers, such as weather conditions and description of ship.

- the word "OVER"

7. EXAMPLE OF DISTRESS PROCEDURE

Switch to 2182 kHz, 4125 kHz or Channel 16.

Send ALARM SIGNAL (whenever possible)

Say MAYDAY; MAYDAY; MAYDAY

- THIS IS
- ALBATROSS ZM1726; ALBATROSS ZM1726; ALBATROSS ZM1726
- MAYDAY ALBATROSS ZM1726 – five nautical miles west of Kapiti island – holed and listing heavily, engine room flooded – require immediate assistance – three people on board – sea rough – over.

IMPORTANT – listen on the same frequency for an acknowledgement.

If, after about two minutes, there has been no reply, send the distress call and message again.

8. ACKNOWLEDGEMENT OF A DISTRESS MESSAGE

Any station hearing a distress call and message from a ship not in its vicinity must allow a short period of time before acknowledgement so that stations that may be nearer to the ship in distress can answer without interference. If no response is heard, a ship should acknowledge the distress call and take all possible steps to attract the attention of other stations which may be able to help.

The acknowledgement of a distress message should take the following form:

- the distress signal MAYDAY
- the name and callsign of the ship sending the distress message (three times)

- the words **THIS IS**
- the name and callsign of the station acknowledging receipt (three times)
- the word **RECEIVED**
- the distress signal **MAYDAY**
- the word **OVER**

(Example)

- "MAYDAY
- **ALBATROSS ZM1726; ALBATROSS ZM1726; ALBATROSS ZM1726**
- **THIS IS**
- **BLUE DUCK ZM1983; BLUE DUCK ZM1983; BLUE DUCK ZM1983**
- **RECEIVED MAYDAY.**
- **OVER"**

9. RELAYING OF A DISTRESS MESSAGE

A ship or coast station may re-transmit a distress message to summon further assistance. This message consists of the alarm signal (whenever possible), the signal MAYDAY RELAY (spoken three times), the words THIS IS, the name and callsign of the relaying station (three times), followed by the distress message as broadcast by the ship in distress.

(example)

Alarm signal (whenever possible)

- **MAYDAY RELAY; MAYDAY RELAY; MAYDAY RELAY**
- **THIS IS**
- **BLUE DUCK ZM1983; BLUE DUCK ZM1983; BLUE DUCK ZM1983**
- **MAYDAY ALBATROSS ZM1726 – 5 nautical miles west of Kapiti Island – holed and listing heavily, engine room flooded – require immediate assistance – three people on board – sea rough – over.**

In cases where the distress message is repeated on a frequency other than that used by the ship in distress, an indication should be given of the frequency used and the time at which the message was received.

(example)

(Initial procedures as outlined above)

Following received on 2068 KHz at 0930 – MAYDAY ALBATROSS
ZM 1726 – 5 nautical miles west of Kapiti Island etc.

10. CONTROL OF DISTRESS TRAFFIC

The control of distress traffic is the responsibility of the ship in distress or the station relaying a distress message under the conditions outline in section 9. These stations may, however, delegate the control to another station and the nearest coast station should, where possible, take responsibility and inform Search and Rescue authorities.

If necessary, the station in distress or the station in control of the distress traffic **may impose silence** on all other stations in the area, or on any station **which interferes** with the distress communications, by calling ALL STATIONS or one station only, and using the signal **SEELONCE MAYDAY**, followed by its own name and callsign.

Any other station near the ship in distress may, if necessary, impose silence by using the signal SEELONCE MAYDAY, followed by its own name and callsign.

11. RESUMPTION OF RESTRICTED WORKING

When complete silence is no longer necessary on a frequency being used for distress traffic, the controlling station will transmit on that frequency a message addressed to ALL STATIONS indicating that restricted working may be resumed with caution.

(example)

- MAYDAY
- ALL STATIONS; ALL STATIONS; ALL STATIONS
- THIS IS
- RAROTONGA RADIO
- 0930 (the time of the message) ALBATROSS ZM1726 (the name and call sign of the ship in distress)
- PRUDONCE.

12. RESUMPTION OF NORMAL WORKING

When the distress communications have ceased, the controlling station will transmit a message addressed to ALL STATIONS, indicating that normal working may be resumed.

(example)

- MAYDAY
- ALL STATIONS; ALL STATIONS; ALL STATIONS
- THIS IS
- RAROTONGA RADIO
- 0930 (the time of the message) ALBATROSS ZM1726 (the name and call sign of the ship in distress)
- SEELONCE FEENEE.

IMPORTANT – The radio watch and contact with the ship in distress should continue until all distress activity had ended. A distress or urgency call can be cancelled by transmitting a message to all stations or to another station that may have responded and taken control of the incident, advising that help is no longer required.

13. URGENCY SIGNAL AND MESSAGE

The radiotelephone urgency signal in PAN PAN (spoken three times) and indicates that the calling station has a very urgent message to transmit concerning the safety of a ship or person.

The urgency signal has priority over all communications except distress. All stations hearing it must take care not to interfere with the transmission of the message which follows the urgency signal.

The urgency message may be addressed either to ALL STATIONS or to a particular station. As soon as the station responsible for the transmission of the urgency message knows that action is no longer necessary it shall cancel the message.

The urgency signal and message should be sent on any international distress frequency/channel for radio telephony. In the case of a long message or medical call, a change to a working frequency should be made.

(example)

Say:

- **PAN PAN; PAN PAN; PAN PAN;**
- **ALL STATIONS; ALL STATIONS; ALL STATIONS;**
- **THIS IS**
- **ALBATROSS ZM1726; ALBATROSS ZM1726; ALBATROSS ZM1726**
- **Five nautical miles west of Kapiti Island – holed and taking water – require tow – sea smooth – no immediate danger – OVER.**

IMPORTANT – listen on the same frequency for acknowledgement.

14. SAFETY SIGNAL AND MESSAGE

The radiotelephone safety signal is SECURITE (pronounced SAY-CUR-E-TAY) spoken three times and indicates that the coast or ship station is about to transmit a message containing an important navigational or meteorological warning.

Navigational and meteorological warning are broadcast by RAROTONGA RADIO as soon as possible after they have been received, repeated following the next silence period, and thereafter at schedule time, until they are cancelled or replaced.

The safety signal and call is normally sent on 2182 kHz, 4125 kHz or Ch1 16 and the safety message which follows is transmitted on a working frequency.

Safety messages are usually addressed to ALL STATIONS, but in some cases may be addressed to a particular station.

(example)

- **SECURITE; SECURITE; SECURITE;**
- **ALL STATIONS; ALL STATIONS; ALL STATIONS;**
- **THIS IS**
- **RAROTONGA RADIO E5R; RAROTONGA RADIO E5R; RAROTONGA RADIO E5R;**
- **LISTEN 2207 kHz (working frequency) for (type of warning message)**

The call is then repeated on the working frequency and followed by the safety message.

15. EMERGENCY POSITION-INDICATING RADIO BEACONS (EPIRB's)

Emergency Position-Indicating Radio Beacons (EPIRBs) are designed to alert authorities that someone is in distress and to give an approximate location of the ship. EPIRBs operate on 406 MHz and , in the Cook Islands region, are received by satellite and relayed to Wellington, New Zealand.

EPIRBs should not be regarded as a substitute for an approved marine radio.

All vessels making international or inter-island voyages should carry and EPIRB.

IMPORTANT: Care should be taken to avoid accidentally activating a beacon. They should be stowed correctly and not stored or disposed of without first ensuring that the batteries have been removed. Most cases of accidental transmissions are found to be from EPIRBs which have been thrown into a cupboard, or had gear stowed on top of them.

These transmissions are likely to interfere with genuine distress signals and the cost of locating them is very costly and time consuming.

If an EPIRB is accidentally activated the POLICE should be notified immediately. No costs of prosecution will result from reporting an accidental transmission.

16. PHONETIC ALPHABET

When it is necessary to spell out callsigns or words, the following spelling should be used:

Letter	Word	Spoken as	Letter	Word	Spoken as
A	Alpha	<u>AL</u> FAH	N	November	NO <u>VEM</u> BER
B	Bravo	<u>BRAH</u> VOH	O	Oscar	<u>OSS</u> CAH
C	Charlie	<u>CHAR</u> <u>LEE</u>	P	Papa	PAH <u>PAH</u>
D	Delta	<u>DELL</u> TAH	Q	Quebec	KEH <u>BECK</u>
E	Echo	<u>ECK</u> OH	R	Romeo	<u>ROW</u> ME OH
F	Foxtrot	<u>FOKS</u> TROT	S	Sierra	SEE <u>AIR</u> RAH
G	Golf	<u>GOLF</u>	T	Tango	<u>TANG</u> GO
H	Hotel	HOH <u>TELL</u>	U	Uniform	<u>YOU</u> NEE FORM
I	India	<u>IN</u> DEE AH	V	Victor	<u>VIK</u> TAH
J	Juliect	<u>JEW</u> LEE ETT W	Whiskey	<u>WISS</u> KEY	
K	Kilo	<u>KEY</u> LOH	X	Xray	<u>ECKS</u> RAY
L	Lima	<u>LEE</u> MAH	Y	Yankee	<u>YANG</u> KEY
M	Mike	<u>MIKE</u>	Z	Zulu	<u>ZOO</u> LOO

- *The syllables to be emphasized are underlined.*

17. VOYAGE OR TRIP REPORTS

Ships stations are encouraged to give coast stations details of their voyages in a Trip Report (TR), to facilitate in possible Search and Rescue operations.

The TR comprises –

ON DEPARTURE

- the abbreviation TR
- name and callsign of the ship
- port of departure
- port of destination and, if possible, estimated time of arrival (ETA).
- (example)
- TR Ocean Blue/ZM 1234 leaving Rarotonga – ETA Aitutaki 0600 tomorrow.

ON ARRIVAL

- the abbreviation TR
- name and callsign of the ship
- port of arrival and, if possible, estimated time of departure (ETD).

(example)

- TR Ocean Blue/ZM 1234 arrived Aitutaki – station closing – ETD 0900 Thursday.

FISHING BOATS SHOULD REPORT THEIR POSITIONS TO THE NEAREST COAST STATION:

- on leaving port for the fishing grounds
- on arrival at the fishing grounds
- when proceeding from one area to another on the same voyage, or on arrival in port

(example)

- TR Ocean Blue/ZM 1234 leaving Rarotonga for Manuae area.

It is important that once a ship has reached its destination a TR is sent to confirm the arrival. Failure to advise arrival may result in a search and rescue operation being unnecessarily undertaken.

SHIPS GOING OVERSEAS

Owners of ships going beyond New Zealand coastal waters should ensure that their ship radio station is fitted with the appropriate

frequencies for communicating with coast station of other countries. The local Radio Operations Field Office can provide details.

18. OPERATING PROCEDURE

Before transmitting on any frequency/channel radio stations (except those in distress) should first listen to ensure that other communications are not interrupted. This is particularly important on 2182kHz, 4125kHz, and VHF channel 16.

Calling frequencies should be used only for initial calls and replies (except in cases of distress or urgency). Once communications have been established, stations shall change to a working frequency before continuing.

The following example will illustrate the procedure to be used for contacting another ship station:

ON CALLING CHANNEL 16

* Kotare ZM1624 (3 times)
this is
Ocean Blue ZM1234 (3 times)
are you receiving me? – over

Ocean Blue ZM1234 (3 times)
This is
Kotare ZM1624 (3 times)
Receiving you loud and clear go ahead – over

Kotare ZM1624
This is
Ocean Blue ZM1234
Change to channel 6 please – over

Ocean Blue ZM 1234
this is

Kotare ZM1624
Roger going to channel 6 now - over

ON WORKING CHANNEL 6

Kotare (3 times)
this is
Ocean Blue – how are you receiving me? – over

Ocean Blue
this is
Kotare
receiving you loud and clear – go ahead – over

Kotare
this is
Ocean Blue
will be arriving Picton at about 6 pm. Can we meet you at the ferry terminal then? Over

Ocean Blue
this is
Kotare
we can make that meeting – see you then – over

Kotare
this is
Ocean Blue – out

The above example shows VHF operation and inter-ship communication. This procedure is also used for ship-shore and M/HF communications.

IMPORTANT: Both stations must change back to the calling channel when their communication has finished.

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