Framework for the Authorisation of Maritime Mobile Radiocommunications Services

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Maintenance History		
Date	**Change Details**	**Version**
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10th September 2015	Revised consultative document based on comments and recommendations received in the first round of consultation (VOIDED)	0.2
5th December 2022	New consultative document for the first of two rounds of consultation	0.1
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Abbreviations

AIS	automatic identification system
AtoN	aid to navigation
DSC	digital selective calling
EPIRB	emergency position-indicating radio beacon
GMDSS	Global Maritime Distress and Safety System
HF	high frequency
IMO	International Maritime Organization
ITU	International Telecommunication Union
MARS	Maritime Mobile Access and Retrieval System
MID	maritime identification digits
MF	medium frequency
MOB	man-overboard device
MSD	Maritime Services Division
MMSI	maritime mobile service identity
NAVTEX	navigational telex
SAR	International Convention on Maritime Search and Rescue
SART	search and rescue transponder
SOLAS 1974	International Convention for the Safety of Life at Sea, 1974
TTCG	Trinidad and Tobago Coast Guard
VDSMS	VHF digital small message services
VHF	very high frequency
WTO	Wireless and Telegraphy Ordinance

1. Introduction

1.1 Background

The Telecommunications Authority of Trinidad and Tobago (the Authority) is mandated by the Telecommunications Act, Chap. 47:31 (the Act), in section 18(1)(i), to:

> plan, supervise, regulate and manage the use of the radio frequency spectrum, including—
>
> *(i)* the licensing and registration of radiofrequencies and call signs to be used by all stations operating in Trinidad and Tobago or on any ship, aircraft, or other vessel or satellite registered in Trinidad and Tobago.

The Authority executes this mandate through the development of authorisation frameworks and spectrum plans that prescribe rules and terms and conditions for the orderly utilisation of radio frequency spectrum. Since the proclamation of the Act, the Authority has authorised the use of radio frequency spectrum by stations in the maritime mobile service. The instrument of authorisation is a maritime station licence including call signs and maritime mobile service identity (MMSI) numbers.

The Authority also recognises the role of the Maritime Services Division (MSD), a division of the Ministry of Works and Transport, which is responsible for maritime administration in Trinidad and Tobago, ensuring the safety and security of shipping and the prevention of vessel source pollution. MSD facilitates the growth of the national maritime sector through the necessary regulatory, administrative, advisory and developmental frameworks. MSD plays a pivotal role in the development of the national maritime sector and represents the state's interest in shipping safety and security, and general maritime matters at International Maritime Organization (IMO) conferences and meetings, and acts as the authority for the implementation and monitoring of, and compliance with, most of the state's obligations in respect of the international maritime instruments ratified by Trinidad and Tobago (MSD 2020).

Through this *Framework for the Authorisation of Maritime Mobile Services* (the Framework), the Authority will facilitate the operations of all stations in the maritime mobile service, in an effective manner that meets the needs of the national maritime sector.

1.2 Purpose

The purpose of this Framework is to establish the rules that will govern the use of the maritime mobile services frequency bands in Trinidad and Tobago.

1.3 Objectives

The Framework seeks to:

1. provide an effective regulatory framework for the licensing of maritime radiocommunications services and stations in Trinidad and Tobago.

2. align the Authority's approach to maritime communications services with international regulations and recommendations.

3. ensure that the assignment of call signs and other unique identifiers to maritime radiocommunications services is done in an efficient, effective and transparent manner consistent with the ITU regulations.

1.4 Scope

This Framework addresses the authorisation approach by the Authority of various maritime mobile radiocommunications services, which are distinct from public mobile telecommunications services and identifies:

1. the appropriate policies, regulations and frequency plans pertinent to the deployment and licensing of maritime radicommuncations systems in Trinidad and Tobago.

2. the various types of stations to be licensed and the rules that govern the assignment of call signs and other unique identifiers.

This Framework does not:

1. focus on the procedures for the operation of maritime radiocommunications equipment and registration of vessels as these are defined in the user manuals and guidelines of MSD.

2. outline the detailed licensing procedures for the authorisation of maritime systems, such as new applications, amendments and renewals, as these are captured in the Authority's licensing procedures which can be found on the Authority's website.

3. relate to public cellular mobile telecommunications services.

1.5 Relevant Legislation

The sections of the Act that inform this Framework are:

Section 18 (1):

> Subject to the provisions of this Act, the Authority may exercise such functions and powers as are imposed on it by this Act and in particular –
>
> *(i)* plan, supervise, regulate and manage the use of the radio frequency spectrum, including –
>
> (i) the licensing and registration of radio frequencies and call signs to be used by all stations operating in Trinidad and Tobago or on any ship, aircraft, or other vessel or satellite registered in Trinidad and Tobago;
>
> (ii) the allocation, assignment and reallocation or reassignment of frequency bands where necessary

Section 36(1):

> Subject to subsection (2), no person shall –
>
> *(a)* establish, operate or use a radio-communication service;
>
> *(b)* install, operate or use any radio transmitting equipment; or
>
> *(c)* establish, operate or use any radio-communication service on board any ship, aircraft, or other vessel in the territorial waters or territorial airspace of Trinidad and Tobago, other than a ship of war or a military aircraft or satellite registered in Trinidad and Tobago without a licence granted by the Authority.

Section 38:

> Notwithstanding section 36(1), a ship or aircraft being a ship or aircraft not registered in Trinidad and Tobago while operating in the territorial waters or airspace of Trinidad and Tobago, is not required to have authorisation from the Authority for the establishment, operation or use of any telecommunications network or service or radio-communication equipment as long as the service or equipment is operated or used under a valid authority or licence issued elsewhere than in Trinidad and Tobago in accordance with international agreements relating to telecommunications or radio-communication in respect of ships or aircraft.

Section 41:

> (1) The Authority shall regulate the use of the spectrum in order to promote the economic and orderly utilisation of frequencies for the operation of all means of

telecommunications and to recover the cost incurred in the management of the spectrum

(2) The Authority shall develop a spectrum plan in order to regulate the use of the spectrum.

(3) The National Spectrum Plan shall be made available to the public in the manner prescribed by the Authority.

(4) The National Spectrum Plan shall state how the spectrum shall be used and the procedures for licensing frequency bands.

(5) The procedures referred to in subsection (4) may include, but are not limited to-

(a) procedures for licensing frequency bands by auction;

(b) procedures for licensing frequency bands by tender;

(c) procedures for licensing frequency bands at a fixed price; or

(d) procedures for licensing frequency bands based on stated criteria

Section 42:

(1) Subject to subsection (2), the Authority may, in accordance with the spectrum plan allocate and re-allocate frequency bands.

(2) In the allocation or assignment and re-allocation or reassignment of frequency bands by the Authority priority shall be given to the needs of the State in respect of matters of national security.

1.6 Other Relevant Documentation

Other relevant policies, plans and regulations, currently in effect, to be read along with this Framework include:

i. *The Trinidad and Tobago Frequency Allocation Table (8.3 kHz – 3000 GHz)* (November 2019*)*

ii. *Procedures for Consultation in the Telecommunications Sector of Trinidad and Tobago* (TATT 2021)

iii. *Spectrum Management Framework, (October 2022)*

These documents can be found on the Authority's website, www.tatt.org.tt

1.7 Review Cycle

This Framework will be reviewed at least once every four years, to adapt to the needs of the telecommunications or maritime industry and to meet changing circumstances but may be reviewed at any time at the discretion of the Authority based on proposals for modification submitted by stakeholders or members of the public or change in international regulations. The Authority will review the document and, if necessary, make modifications, in consultation with stakeholders, to ensure that the Framework remains guided by appropriate policy guidelines and objectives.

Questions or concerns regarding the maintenance of this Framework may be directed to the Authority via e-mail at consultation@tatt.org.tt.

1.8 The Consultation Process

In accordance with its *Procedures for Consultation in the Telecommunications and Broadcasting Sectors of Trinidad and Tobago* (TATT 2021), the Authority will seek the views of stakeholders and the public on the rules proposed in this Framework. The Framework will undergo two rounds of public consultation. Each round shall be at least four weeks in duration. Comments from each round will be reviewed and those determined to be relevant and useful to the development of the local telecommunications sector will be incorporated.

It should be noted that version 0.1 of this document was released for the first public consultation over the period of July to August 2009. The Authority received comments from the Game Fishing Association of Trinidad and Tobago, the Yacht Services Association of Trinidad and Tobago, Dockyard Electrics, and Power Boats Ltd. In September 2015, the Framework (version 0.2) was revised, based on comments received in the first round and published for the second round of consultation. . However, the Authority elected not to complete the 2015 consultation but to schedule a new consultation process.

In 2022, the Framework was reviewed based on changes in the industry to amend existing policies, introduce new maritime licences and policies, and commence a new consultation process. The revised consultative documents (versions 0.1 and 0.2) were made available for a period of six weeks for the first round of public consultation in December 2022 and four weeks for the second round of consultation in April 2023, respectively. Comments and recommendations from the two rounds of consultation were taken into consideration in finalising version 1.0 of the Framework.

1.9 Definitions

Agent: in relation to a ship, an agent of the owner, who is not a managing owner and is vested with a specific authority by the owner (MSD 1987)

Barge: a flat-bottomed boat, either motorised or towed, used to carry products in rivers or canals (Maritime Industry Foundation 2022)

Call sign: a unique alphanumeric identity assigned to a transmitting radio station. It may contain from 3 up to 7 characters (ITU 2019)

Cargo ship: a ship which is not a passenger ship, or a fishing vessel (MSD 1987)

Coast station: a land station in the maritime mobile service (ITU 2020)

Fishing vessel: a vessel used for catching fish, whales, seals, walrus or other living resources of the sea (IMO 1974)

Foreign ship: a ship which is not a Trinidad and Tobago ship (MSD 1987)

International voyage: a voyage from a port in one state to a port in another state (MSD 1987)

Land station: a station in the mobile service not intended to be used in motion (ITU 2020)

Limited coast station: a station whose major function does not include the handling of messages of a public correspondence nature. These stations do not provide GMDSS (Global Maritime Distress and Safety System) distress and safety services (GMDSStesters 2022)

Maritime mobile service identity (MMSI): consists of nine digits, $X_1X_2X_3X_4X_5X_6X_7X_8X_9$, and is used to assign unique identities to ship stations, coast stations and other non-shipborne stations operating in the maritime mobile service or the maritime mobile-satellite service (ITU 2020)

Maritime mobile-satellite service: a mobile-satellite service in which mobile earth stations are located on board ships. Survival craft stations and emergency position-indicating radio beacon stations may also participate in this service (ITU 2020).

Mobile service: a radiocommunications service between mobile and land stations, or between mobile stations (ITU 2020)

NAVTEX: the system for the broadcasting and automatic reception of maritime safety information by means of narrow-band, direct-printing telegraphy (O'Reilly 2022)

Ship station: a mobile station in the maritime mobile service, located on board a vessel which is not permanently moored, other than a survival craft station (ITU 2020)

Passenger: every person other than: (i) the master and the members of the crew or other persons employed or engaged in any capacity on board a ship, in the business of that ship; and (ii) a child under one year of age (IMO 1974)

Passenger ship: a ship which carries more than twelve passengers (IMO 1974)

Pilot: in relation to any ship, means any person not belonging to the ship who has the conduct thereof (MSD 1987)

Pleasure craft: a ship, however propelled, that is used exclusively for pleasure and does not carry passengers or cargo for hire or reward, but does not include a ship that is provided for the transport or entertainment of lodgers at any institution, hotel, boarding house, guest house or other establishment (MSD 1987)

Tanker: a cargo ship constructed or adapted for the carriage, in bulk, of liquid cargoes of an inflammable nature (IMO 1974)

Vessel: includes any ship or boat or any other description of a vessel used or designed to be used in navigation (MSD 1987)

Waters of Trinidad and Tobago: includes the internal waters and the territorial sea, as defined in the Territorial Sea Act, and the archipelagic waters, as defined in the Archipelagic Waters and Exclusive Economic Zone Act (MSD 1987)

2. Framework for Maritime Mobile Services in Trinidad and Tobago

2.1 Global Maritime Distress and Safety System (GMDSS)

The GMDSS consists of a set of technical, operational and administrative specifications for maritime distress and safety communications around the world. It clearly defines the radiocommunications equipment of all stations operating in the maritime mobile service and the maritime mobile-satellite service, including radiocommunications equipment on board vessels and safety crafts; the training and certification of all radio operators both on board vessels and at land stations; the rules and regulations for the operation of all stations; equipment maintenance procedures; and the regulations for radio inspection and survey.

The following are examples of key GMDSS equipment:

1. Emergency position-indicating radio beacon (EPIRB): a device containing radio transmitters operating at 406 MHz. The 5W radio transmitter is synchronised with the COSPAS[1]/SARSAT[2] satellite system and is capable of transmitting an encrypted identification number which holds information, including the ship's identification, the date of the event, the nature of the distress and the geographic location.

2. Search and rescue transponder (SART): an orange fibre-reinforced plastic device, capable of floating free of the survival craft, operating on the 9 GHz frequency band. A SART has to be activated manually in the event of distress and responds to radar interrogation.

3. Handheld VHF radios: VHF radios are used for two-way communication. digital selective calling (DSC) enabled handheld VHF radios allow for the transfer of information digitally, not just by voice, to instantly send a digital distress alert to the local maritime rescue coordination centre.

4. Navigational Telex (NAVTEX): a system for the broadcasting and automatic reception of maritime safety information by means of narrow-band, direct-printing telegraphy

The GMDSS defines four sea areas, shown in Table 1, based on the location and capability of these onshore communications facilities.

[1] COSPAS - is an acronym for the Russian words "Cosmicheskaya Sistyema Poiska Avariynich Sudov," which mean "Space System for the Search of Vessels in Distress.

[2] SARSAT - is an acronym for Search and Rescue Satellite-Aided Tracking

Table 1: Definitions of GMDSS sea areas (IMO 1995)

Sea Area	Area of Coverage
A1	An area within the radiotelephone coverage of at least one VHF coast station in which continuous DSC alerting is available. Such an area extends typically 20 – 30 nautical miles from the coast station.
A2	An area, excluding sea area A1, within the radiotelephone coverage of at least one MF coast station in which continuous DSC alerting is available. For planning purposes, this area typically extends up to 100 nautical miles offshore but would exclude any A1 designated areas. In practice, satisfactory coverage may often be achieved out to around 400 nautical miles offshore.
A3	An area, excluding sea areas A1 and A2, within the coverage of an Inmarsat geostationary satellite in which continuous alerting is available. This area lies approximately between, latitudes 76° north and south, but excludes A1 and A2 designated areas.
A4	An area outside sea areas A1, A2, and A3. This is essentially the polar regions, approximately north and south of 76° of latitude, but excludes any other areas.

2.2 United Nations International Maritime Organization (IMO) Conventions

Trinidad and Tobago (T&T) has been a member of the United Nations International Maritime Organization (IMO) since 1965. Among the IMO conventions to which Trinidad and Tobago is a signatory are the International Convention for the Safety of Life at Sea (SOLAS) (IMO 1974) and the International Convention on Maritime Search and Rescue (SAR) (IMO 1979). The dates of deposit and effect are shown in Table 2.

Table 2: Status of key IMO Conventions

UN IMO Convention[3]	Date of T&T Deposit[4]	Date of T&T Effect[5]
1. International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended in 1988	15th February 1979	25th May 1980
2. International Convention on Maritime Search and Rescue (SAR), 1979	4th May 1989	3rd June 1989

SAR specifies, inter alia, the obligations of parties to the convention with respect to the establishment of rescue coordination centres and rescue sub-centres; and the provision and co-

[3] UN IMO Convention: IMO convention to which Trinidad and Tobago is a signatory.

[4] Date of T&T deposit: After a treaty has been concluded, the written instruments, which provide formal evidence of consent to be bound, and also reservations and declarations, are placed in the custody of a depositary.

[5] Date of T&T effect: The date on which the treaty enters into force (United Nations Treaty Collection 2022).

ordination of search and rescue services. SOLAS specifies, among other things, the obligations of contracting governments with respect to the provision of shore-based facilities for maritime mobile services.

The SOLAS requirements, based on sea area, for SOLAS compliant vessels, i.e., all passenger ships and all cargo ships of 300 gross tonnage and upwards engaged on international voyages, are specified in Appendix II (IMO 1974).

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1. *Trinidad and Tobago is party to the SOLAS and SAR conventions and, therefore, the Authority shall abide by these conventions and associated protocols when authorising radiocommunications stations in the maritime mobile service.*

2.3 Maritime Mobile Access and Retrieval System (MARS)

The Maritime Mobile Access and Retrieval System (MARS) is an online access and retrieval website containing information, such as ship or vessel name, call sign and MMSI, currently registered in ITU's maritime database system (ITU 2022). The retrievable data is based on information provided by the administrations of ITU member states. Using specific search criteria, users can access operational information that has been submitted to the ITU Radiocommunication Bureau, which can prove useful for search and rescue activities.

The Authority issues licences for ships or other vessels operating in the territorial waters of Trinidad and Tobago. The information in these licences and the information collected in licence applications will be used to generate the notifications required by the ITU MARS for maritime stations in Trinidad and Tobago at least annually. The notification could add new licensees, modify existing licensees or remove ships that are no longer licensed. The requisite fields include ship or vessel name, call sign, MMSI, owner name and phone contact.

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2. *The notifications containing the information required by ITU for maritime stations in Trinidad and Tobago will be prepared by the Authority and submitted to MARS at least annually.*

2.4 Spectrum Allocations

All spectrum allocated to maritime mobile services and maritime mobile-satellite services shall be identified in the *Trinidad and Tobago Frequency Allocation Table* (TTFAT), in accordance with Article V of the ITU-R Radio Regulations.

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3. *Spectrum allocated to maritime mobile services is identified in the* Trinidad and Tobago Frequency Allocation Table *(TTFAT) and in accordance with Article V of the ITU-R Radio Regulations.*

2.5 VHF Channel Plan

Maritime mobile allocations span the VHF, MF and HF bands. ITU-R [6]defines channel numbering for maritime VHF communications based on 25 kHz channel spacing (ITU 2020). This channel plan is specified in Appendix I. It is recommended that operations in the VHF maritime mobile band be guided by this channel plan.

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4. The channel plan listed in Appendix I will be adopted for operations in the VHF maritime mobile band in Trinidad and Tobago.

2.6 Types of Maritime Stations Licensed by the Authority

Maritime radiocommunications stations are intended for use on board vessels or at authorised land stations, primarily for the purpose of navigation or distress urgency and safety communications including search and rescue, in accordance with the relevant ITU-R Radio Regulations. Radiocommunications equipment authorised for use on board vessels may not be removed and used at unauthorised land stations.

The following types of stations are licensed under the maritime station licence in Trinidad and Tobago:

[6] Appendix 18 (REV.WRC-19) Table of transmitting frequencies in the VHF maritime mobile band

2.6.1 Coast Stations

A coast station is a land station in the maritime mobile service. Coast stations monitor radio distress frequencies, coordinate radio traffic, and relay ship-to-ship and ship-to-land communications (eGMDSS 2021). Coast stations are not limited to a specific closed user group as limited coast stations are. Coast stations coordinate search and rescue operations. Port stations are a type of coast station operating in the port operations service. Coast stations and port stations may be assigned both an MMSI and a call sign.

2.6.2 Limited Coast Stations

A limited coast station is a land station in the maritime mobile service with closed user group communication between ship stations and the limited coast station, for safety of life, port movement and port operations only. Shipping agents and port operators typically apply for a licence for a limited coast station. Limited coast stations may be assigned both an MMSI and a call sign.

2.6.3 Ship Stations

A ship station is a mobile station in the maritime mobile service located on board a vessel that is not permanently moored. Ship stations may comprise multiple pieces of equipment, including VHF radios, EPIRBs, SARTs and Inmarsat earth stations. Ship stations may be assigned both an MMSI and a call sign.

2.6.4 Aids to Navigation (AtoNs)

Aids to navigation are man-made objects used by mariners to help determine their position or mark a safe course, apprising mariners of dangers and enabling pilots to follow channels. AtoNs include buoys, day beacons, lights, lightships, radio beacons, fog signals, marks and other devices. Aids to navigation may be assigned only an MMSI.

2.6.5 Standalone DSC-Enabled VHF Handheld Radios

These are handheld VHF transceivers with DSC not associated with a specific vessel. These may only be assigned an MMSI.

2.6.6 Personal Safety Equipment

Personal safety equipment includes man-overboard devices (MOBs) and diver-locating devices and can be used to send a distress signal to nearby boats for rescue. These may only be assigned an MMSI.

2.6.7 Decks and Barges

Decks and barges are cargo vessels used both for transportation and construction support. Offshore platforms fall under this category. These may be assigned a call sign and MMSI.

2.6.8 Pleasure Craft

Pleasure craft means a ship, however propelled, that is used exclusively for pleasure and does not carry passengers or cargo for hire or reward, but does not include a ship that is provided for the transportation or entertainment of lodgers at any institution, hotel, boarding house, guest house or other establishment (MSD 1987). These may be assigned a call sign and an MMSI.

2.6.9 Search and Rescue Aircraft

Aeronautical search and rescue aircraft means aircraft provided with specialised equipment suitable for the efficient conduct of aeronautical search and rescue missions.

2.6.10 Craft Associated with a Parent Ship

This refers to lifeboats, life rafts and rescue boats.

2.6.11 Maritime Repeaters

Repeaters also operate in the maritime service bands. The Authority will license maritime repeaters as coast or limited coast stations.

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5. The following types of stations are licensed under the maritime station licence in Trinidad and Tobago:

a) Coast station
b) Limited coast station
c) Ship station
d) Aids to navigation
e) Standalone DSC-enabled VHF handheld radios
f) Personal safety equipment
g) Decks and barges
h) Pleasure craft
i) Search and rescue aircraft
j) Craft associated with a parent ship
k) Maritime Repeaters

As it pertains to land stations, only licences for ship stations, limited coast stations and coast stations have been issued to date by the Authority.

2.7 Classes of Maritime Station Licences

Two categories of licences – restricted class or general class – are issued for maritime services, depending on the sea area of operation. Restricted class is intended for applicants limited to sea area A1 only, while general class is for applicants qualified to operate in all sea areas (i.e., all maritime frequency bands). These classes apply to ship stations, pleasure craft, and decks and barges. Foreign-registered ships with a valid maritime radiocommunications licence do not require a licence from the Authority for the operation of maritime equipment, in keeping with section 38 of the Act.

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6. The following categories of licences are issued for ship stations, pleasure craft, and decks and barges in Trinidad and Tobago:

a) Restricted class
b) General class

2.8 Licence Terms and Renewals

Maritime station licences will be granted to successful applicants for a term of five years. The Authority may consider a shorter period at the request of the applicant; however, such licences will not be renewable. Maritime station licences granted by the Authority will be renewed for a period of five years.

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7. *Successful applicants will be granted Maritime station licences for a term of five years.*

8. *The Authority may consider a shorter period at the request of the applicant; however, such licences will not be renewable.*

9. *Maritime station licences granted by the Authority will be renewed for a period of five years.*

2.9 GMDSS Radio Operators

A GMDSS radio operator's certificate qualifies holders to operate and make basic equipment adjustments to GMDSS radio installations. For licence applications for all passenger ships and cargo ships above 300 gross tonnes, a GMDSS radio operator's certificate must be provided for one of the crew on board the vessel.

MSD has the responsibility to ensure that all seamen are adequately certified, in accordance with the IMO conventions, prior to operating any commercial or passenger vessel in Trinidad and Tobago. Consequently, the MSD is responsible for ensuring that institutions which conduct maritime training in Trinidad and Tobago, including maritime radio operator training, do so in compliance with IMO recommendations and the SOLAS Convention. Maritime mobile services radio operators of stations with GMDSS equipment are required to be licensed in accordance with Article 25 of the ITU-R Radio Regulations and the SOLAS Convention. Operator training and certification are conducted in compliance with the IMO recommendations and the SOLAS Convention and its Protocols of 1978.

MSD is also responsible for certifying organisations to conduct maritime radio operator training in Trinidad and Tobago.

Maritime station licences shall only be issued to nationals and residents of Trinidad and Tobago with operator certificates issued by any institution duly certified by MSD, as well as certificates from foreign institutions, provided they are certified by their local administration and conform

to IMO recommendations and SOLAS. These certificates must be valid at the time of a licence application to be considered by the Authority.

> ***Framework for the Authorisation of Maritime Mobile Services Rule***
>
> *10. For the operation of all passenger and cargo ships above 300 gross tonnes, a valid GMDSS radio operator's certificate must be provided for at least one of the crew on board the vessel.*

2.10 Formation of Call Signs

Call signs and MMSIs are unique identifiers based on the issuing administration or geographical area of coverage. The call sign series and maritime identification digits (MIDs) allocated to all administrations globally are recorded in ITU-R Radio Regulations Appendix 42 and also stored in the Global Administration Data System (GLAD). GLAD is an online data retrieval system and a central repository of ITU-R common information concerning administrations and geographical areas, as well as a means of identification, such as call signs, MIDs and other identifications allocated to administrations (ITU 2022).

ITU-R has allocated to Trinidad and Tobago the exclusive use of the call sign series with prefixes 9Y–9Z and 9YA–9ZZ and MID 362. Table 3 shows the call sign formation rules currently used by the Authority for maritime stations. The ITU call sign formation rules for all types of radio-transmitting stations, including those listed in Table 3, are given in Appendix III (ITU 2022). AtoNs are not assigned call signs.

Table 3: Formation of call signs

Class of Station	Permitted Formations	Remarks
Coast stations	9YA, 9YK – 9YQ	Coast stations have three-character call sign formations. This range is used for assignments.
Port stations	9YB–9YJ 9YR–9YZ	Port stations have three-character call sign formations. These are the ranges for new assignments.
Limited coast stations	9YR20–9YR99	This is the range for new assignments.
Ship stations – Trinidad and Tobago Coast Guard (TTCG)	9YAA–9YAZ	This is the range for existing assignments.

Class of Station	Permitted Formations	Remarks
Ship stations – commercial	9YBA–9YBZ 9YEA–9YHZ 9YJA–9YPZ 9YRA–9YUZ 9YWA–9YZZ	These ranges are used for existing assignments. Note the omission of the following ranges: 9YCA–9YCZ 9YDA–9YDZ 9YIA–9YIZ 9YQA–9YQZ
Ship stations – commercial	9YBA2–9YZZ9	This is the range for new assignments.
Decks and barges – not self-propelled	9YFAA–9YFAZ	This range is used for existing assignments.
Decks and barges – not self-propelled	9ZFA2–9ZFZ9	This is the range for new assignments.
Pleasure craft	9YCAA–9YCDA, 9YCABA– 9YCABN	Expired stations call signs shall be reclaimed.
Pleasure craft	9ZCA22–9ZCZ999	This is the range for new assignments.
Maritime personal safety equipment	9ZAA–9ZDZ	This is the range for new assignments.

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11. All maritime stations will be assigned a call sign to be used in identification signals, in accordance with ITU-R Radio Regulations Article 19 (ITU 2020).

2.11 Maritime Mobile Service Identities (MMSIs)

MMSIs consist of nine digits, $X_1X_2X_3X_4X_5X_6X_7X_8X_9$, which are used to assign unique identities to ship stations, coast stations and other non-shipborne stations operating in the maritime mobile service or the maritime mobile-satellite service. The MMSI format and use are documented in Article 19 of the ITU-R Radio Regulations (ITU 2020). The MIDs are an integral part of the MMSIs and denote the administration responsible for the station identified. The ITU-R has allocated to Trinidad and Tobago the exclusive use of MID 362. The MMSI numbers issued to all maritime stations will be included in notifications to MARS. Maritime identifiers which are not included in MARS notifications are assigned to standalone DSC radios and MOB devices and will be submitted to the Trinidad and Tobago Coast Guard (TTCG).

2.11.1 Standalone DSC-Enabled Handheld Radios

A DSC-enabled handheld radio is very similar to a standard VHF handheld, with an emergency button that allows the user to send an emergency distress signal to the TTCG and other vessels in the area equipped with DSC radios. When sending a distress signal, the DSC device must, at a minimum, include the maritime identifier. The following rules are prescribed for the use of handheld VHF transceivers with DSC not associated with a vessel (ITU 2022):

1. The handheld VHF transceiver with DSC shall be used exclusively in the maritime mobile service.

2. The handheld VHF transceiver with DSC will be assigned a maritime identifier, which shall consist of a unique 9-digit number in the format $8_1 3_2 6_3 2_4 X_5 X_6 X_7 X_8 X_9$, where the digits 2, 3 and 4 represent the MID, and X is any figure from 0 to 9.

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12. The handheld VHF transceiver with DSC shall be used exclusively in the maritime mobile service.

13. The handheld VHF transceiver shall be assigned a unique 9-digit number in the format $8_1 3_2 6_3 2_4 X_5 X_6 X_7 X_8 X_9$ where the digits 2, 3 and 4 represent the MID, and X is any figure from 0 to 9.

2.11.2 Personal Safety-Equipment

Man-overboard devices (MOBs) are examples of personal safety equipment. They shall use a maritime identifier: $9_1 7_2 2_3 X_4 X_5 Y_6 Y_7 Y_8 Y_9$ (where $X_4 X_5$ = manufacturer ID 01 to 99; $Y_6 Y_7 Y_8 Y_9$ = the sequence number 0000 to 9999.

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14. MOBs shall use a maritime identifier: $9_1 7_2 2_3 X_4 X_5 Y_6 Y_7 Y_8 Y_9$ (where $X_4 X_5$ = manufacturer ID 01 to 99; $Y_6 Y_7 Y_8 Y_9$ = the sequence number 0000 to 9999.

2.11.3 Aids to Navigation (AtoNs)

Aids to navigation (AtoNs) are man-made objects used by mariners to help determine their position or mark a safe course, apprising mariners of dangers and enabling pilots to follow channels. AtoNs include buoys, day beacons, lights, lightships, radio beacons, fog signals, marks and other devices.

AtoNs shall be assigned a nine-digit unique number in the format $9_1 9_2 3_3 6_4 2_5 X_6 X_7 X_8 X_9$ where the digits 3, 4 and 5 represent the MID, the sixth digit is used to differentiate the type of AtoN, and X is any figure from 0 to 9.

The MMSI format for use by AtoNs shall be as follows:

1. Physical AIS AtoN in the format $9_1 9_2 3_3 6_4 2_5 1_6 X_7 X_8 X_9$
2. Virtual AIS AtoN in the format $9_1 9_2 3_3 6_4 2_5 6_6 X_7 X_8 X_9$
3. Mobile AtoN in the format $9_1 9_2 3_3 6_4 2_5 8_6 X_7 X_8 X_9$

A non-objection letter must be obtained from MSD, who oversees the placement and notification to mariners for AtoNs.

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15. The MMSI format for use of AtoNs shall be as follows:

a) Physical AIS AtoN in the format $9_1 9_2 3_3 6_4 2_5 1_6 X_7 X_8 X_9$

b) Virtual AIS AtoN in the format $9_1 9_2 3_3 6_4 2_5 6_6 X_7 X_8 X_9$

c) Mobile AtoN in the format $9_1 9_2 3_3 6_4 2_5 8_6 X_7 X_8 X_9$

2.11.4 Search and Rescue Aircraft

When an aircraft is required to use maritime mobile service identities for the purposes of search and rescue operations and other safety-related communications with stations in the maritime mobile service, the aircraft shall be assigned a unique nine-digit aircraft identity, in the format $1_1 1_2 1_3 3_4 6_5 2_6 X_7 X_8 X_9$ where the digits 4, 5 and 6 represent the MID, and X is any figure from 0 to 9.

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16. The MMSI format for search and rescue aircraft shall be as follows, where X is any figure from 0 to 9: $1_1 1_2 1_3 3_4 6_5 2_6 X_7 X_8 X_9$.

2.11.5 Craft Associated with a Parent Ship

Craft associated with a parent ship, such as lifeboats, life rafts and rescue boats, shall be assigned a unique nine-digit number in the format $9_1 8_2 3_3 6_4 2_5 X_6 X_7 X_8 X_9$ where the digits 3, 4 and 5 represent the MID, and X is any figure from 0 to 9.

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17. Craft associated with a parent ship, such as lifeboats, life rafts and rescue boats, shall be assigned a unique nine-digit number in the format $9_1 8_2 3_3 6_4 2_5 X_6 X_7 X_8 X_9$ where the digits 3, 4 and 5 represent the MID, and X is any figure from 0 to 9.

2.11.6 Land Stations

Coast stations and other stations on land, including maritime repeaters, participating in the maritime mobile service shall be assigned a unique nine-digit coast station identity in the format $0_1 0_2 3_3 6_4 2_5 X_6 X_7 X_8 X_9$ where the first and second digits are 0; the digits 3, 4 and 5 represent the MID; and X is any figure from 0 to 9. This format will also be used for group coast station call identities, for calling more than one coast station simultaneously.

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18. Coast stations and other stations on land, including maritime repeaters, participating in the maritime mobile service shall be assigned a unique nine-digit coast station identity in the format $0_1 0_2 3_3 6_4 2_5 X_6 X_7 X_8 X_9$ where the first and second digits are 0; the digits 3, 4 and 5 represent the MID; and X is any figure from 0 to 9. This format will also be used for group coast station call identities, for calling more than one coast station simultaneously.

2.11.7 Ship Stations, Pleasure Craft, Decks and Barges

Ships complying with SOLAS, and other ships equipped with automated radiocommunications systems (including AIS and DSC) and/or carrying alerting devices of the GMDSS, shall be assigned an MMSI during the licensing process. The format shall be as follows:

1. A unique nine-digit ship station identity in the format $3_1 6_2 2_3 X_4 X_5 X_6 0_7 0_8 0_9$, where X is any figure from 0 to 9; the MID is 362; and digits 7, 8 and 9 shall be zeros.

2. Group ship station call identities for calling more than one ship simultaneously are formed as $0_1 3_2 6_3 2_4 X_5 X_6 X_7 X_8 X_9$ where the first figure is 0, and X is any figure from 0 to 9.

Pleasure craft, decks and barges that are not self-propelled shall also be assigned MMSI numbers from this category of MMSIs.

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19. Ships shall be assigned a nine-digit unique ship station identity in the format $3_1 6_2 2_3 X_4 X_5 X_6 0_7 0_8 0_9$ where X is any figure from 0 to 9; the MID is 362; and digits 7, 8 and 9 shall be zeros.

20. Group ship station call identities for calling more than one ship simultaneously are formed as $0_1 3_2 6_3 2_4 X_5 X_6 X_7 X_8 X_9$ where the first figure is 0 and X is any figure from 0 to 9.

21. Pleasure craft, decks and barges that are not self-propelled shall be assigned MMSI numbers with the format identified in rule 17.

3. Maritime Distress Signals

The Authority recognises the established international maritime distress frequencies, which include channel 16 (156.8 MHz) as the designated VHF channel for maritime distress and hailing. The Authority further notes the provisions of the SOLAS Convention, which prohibit the use of international distress signals unless indicating that a person or persons are in distress. In this regard, the Authority will support the continued use of these frequencies for their primary purpose of distress by collaborating with MSD and other stakeholders on educating maritime users on the appropriate use of maritime distress frequencies, and detecting and prosecuting entities that engage in persistent misuse.

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22. The Authority will collaborate with MSD and other stakeholders on educating users on the appropriate use of international maritime distress frequencies, and detecting and prosecuting entities that engage in persistent misuse.

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Appendix I. Table of Transmitting Frequencies in the VHF Maritime Mobile Band

Channel designator	Notes	Transmitting frequencies (MHz)		Inter-ship	Port operations and ship movement		Public corres-pondence
		From ship stations	From coast stations		Single frequency	Two frequency	
60	*m)*	156.025	160.625		x	x	x
01	*m)*	156.050	160.650		x	x	x
61	*m)*	156.075	160.675		x	x	x
02	*m)*	156.100	160.700		x	x	x
62	*m)*	156.125	160.725		x	x	x
03	*m)*	156.150	160.750		x	x	x
63	*m)*	156.175	160.775		x	x	x
04	*m)*	156.200	160.800		x	x	x
64	*m)*	156.225	160.825		x	x	x
05	*m)*	156.250	160.850		x	x	x
65	*m)*	156.275	160.875		x	x	x
06	*f)*	156.300		x			
2006	*r)*	160.900	160.900				
66	*m)*	156.325	160.925		x	x	x
07	*m)*	156.350	160.950		x	x	x
67	*h)*	156.375	156.375	x	x		
08		156.400		x			
68		156.425	156.425		x		
09	*i)*	156.450	156.450	x	x		
69		156.475	156.475	x	x		
10	*h), q)*	156.500	156.500	x	x		
70	*f), j)*	156.525	156.525	Digital selective calling for distress, safety and calling			
11	*q)*	156.550	156.550		x		
71		156.575	156.575		x		
12		156.600	156.600		x		
72	*i)*	156.625		x			
13	*k)*	156.650	156.650	x	x		
73	*h), i)*	156.675	156.675	x	x		
14		156.700	156.700		x		
74		156.725	156.725		x		

Channel designator	Notes	Transmitting frequencies (MHz)		Inter-ship	Port operations and ship movement		Public corres-pondence
		From ship stations	From coast stations		Single frequency	Two frequency	
15	*g)*	156.750	156.750	x	x		
75	*n), s)*	156.775	156.775		x		
16	*f)*	156.800	156.800	DISTRESS, SAFETY AND CALLING			
76	*n), s)*	156.825	156.825		x		
17	*g)*	156.850	156.850	x	x		
77		156.875		x			
18	*m)*	156.900	161.500		x	x	x
78	*m)*	156.925	161.525		x	x	x
1078		156.925	156.925		x		
2078	*mm)*		161.525		x		
19	*m)*	156.950	161.550		x	x	x
1019		156.950	156.950		x		
2019	*mm)*		161.550		x		
79	*m)*	156.975	161.575		x	x	x
1079		156.975	156.975		x		
2079	*mm)*		161.575		x		
20	*m)*	157.000	161.600		x	x	x
1020		157.000	157.000		x		
2020	*mm)*		161.600		x		
80	*y), wa)*	157.025	161.625		x	x	x
21	*y), wa)*	157.050	161.650		x	x	x
81	*y), wa)*	157.075	161.675		x	x	x
22	*y), wa)*	157.100	161.700		x	x	x
82	*x), y), wa)*	157.125	161.725		x	x	x
23	*x), y), wa)*	157.150	161.750		x	x	x
83	*x), y), wa)*	157.175	161.775		x	x	x
24	*w), x)*	157.200	161.800		x	x	x
1024	*w)*	157.200	157.200	x (digital only)	x (digital only)		
2024	*w)*	161.800	161.800	x (digital only)	x (digital only)		
84	*w), x)*	157.225	161.825		x	x	x
1084	*w)*	157.225	157.225	x (digital only)	x (digital only)		
2084	*w)*	161.825	161.825	x (digital only)	x (digital only)		
25	*w), x)*	157.250	161.850		x	x	x
1025	*w)*	157.250	157.250	x (digital only)	x (digital only)		
2025	*w)*	161.850	161.850	x (digital only)	x (digital only)		
85	*w), x)*	157.275	161.875		x	x	x

Channel designator	Notes	Transmitting frequencies (MHz)		Inter-ship	Port operations and ship movement		Public correspondence
		From ship stations	From coast stations		Single frequency	Two frequency	
1085	*w)*	157.275	157.275	x (digital only)	x (digital only)		
2085	*w)*	161.875	161.875	x (digital only)	x (digital only)		
26	*w), x)*	157.300	161.900		x	x	x
1026	*w)*	157.300					
2026	*w)*		161.900				
86	*w), x)*	157.325	161.925		x	x	x
1086	*w)*	157.325					
2086	*w)*		161.925				
1027	*zz)*	157.350	157.350		x		
ASM 1	*z)*	161.950	161.950				
87	*zz)*	157.375	157.375		x		
1028	*zz)*	157.400	157.400		x		
ASM 2	*z)*	162.000	162.000				
88	*zz)*	157.425	157.425		x		
AIS 1	*f), l), p)*	161.975	161.975				
AIS 2	*f), l), p)*	162.025	162.025				

Notes on the Table:

Channel designator: Channel number

Inter-ship: Communications between ships

Port operations: A maritime mobile service in or near a port, between coast stations and ship stations, or between ship stations, in which messages are restricted to those relating to the operational handling, the movement and the safety of ships and, in emergency, to the safety of persons. Messages which are of a public correspondence nature shall be excluded from this service (ITU 2020)

Ship movement: A safety service in the maritime mobile service other than a port operations service, between coast stations and ship stations, or between ship stations, in which messages are restricted to those relating to the movement of ships. Messages which are of a public correspondence nature shall be excluded from this service (ITU 2020).

Public correspondence: Any telecommunication which the offices and stations must, by reason of their being at the disposal of the public, accept for transmission (ITU 2020).

Notes referring to the Table

General notes

a) Administrations may designate frequencies in the inter-ship, port operations and ship movement services for use by light aircraft and helicopters to communicate with ships or participating coast stations in predominantly maritime support operations under the conditions specified in Nos. **51.69**, **51.73**, **51.74**, **51.75**, **51.76**, **51.77** and **51.78**. However, the use of the channels which are shared with public correspondence shall be subject to prior agreement between interested and affected administrations.

b) The channels of the present Appendix, with the exception of channels 06, 13, 15, 16, 17, 70, 75 and 76, may also be used for high-speed data and facsimile transmissions, subject to special arrangement between interested and affected administrations.

c) The channels of the present Appendix, with the exception of channels 06, 13, 15, 16, 17, 70, 75 and 76, may be used for direct-printing telegraphy and data transmission, subject to special arrangement between interested and affected administrations. (WRC-12)

d) The frequencies in this table may also be used for radiocommunications on inland waterways in accordance with the conditions specified in No. **5.226**.

e) Administrations may apply 12.5 kHz channel interleaving on a non-interference basis to 25 kHz channels, in accordance with the most recent version of Recommendation ITU-R M.1084, provided:

– it shall not affect the 25 kHz channels of the present Appendix maritime mobile distress and safety, automatic identification system (AIS), and data exchange frequencies, especially the channels 06, 13, 15, 16, 17, 70, AIS 1 and AIS 2, nor the technical characteristics set forth in Recommendation ITU-R M.489-2 for those channels;

– implementation of 12.5 kHz channel interleaving and consequential national requirements shall be subject to coordination with affected administrations. (WRC-12)

Specific notes

f) The frequencies 156.300 MHz (channel 06), 156.525 MHz (channel 70), 156.800 MHz (channel 16), 161.975 MHz (AIS 1) and 162.025 MHz (AIS 2) may also be used by aircraft stations for the purpose of search and rescue operations and other safety-related communication. The frequencies 156.525 MHz (channel 70), 161.975 MHz (AIS 1) and 162.025 MHz (AIS 2) may also be used by autonomous maritime radio devices Group A that enhance the safety of navigation, using digital selective calling and/or AIS technology. Such use should be in accordance with the most recent version of Recommendation ITU-R M.2135. (WRC-19)

g) Channels 15 and 17 may also be used for on-board communications provided the effective radiated power does not exceed 1 W, and subject to the national regulations of the administration concerned when these channels are used in its territorial waters.

h) Within the European Maritime Area and in Canada, these frequencies (channels 10, 67, 73) may also be used, if so required, by the individual administrations concerned, for communication between ship stations, aircraft stations and participating land stations engaged in coordinated search and rescue and anti-pollution operations in local areas, under the conditions specified in Nos. **51.69**, **51.73**, **51.74**, **51.75**, **51.76**, **51.77** and **51.78**.

i) The preferred first three frequencies for the purpose indicated in Note *a)* are 156.450 MHz (channel 09), 156.625 MHz (channel 72) and 156.675 MHz (channel 73).

j) Channel 70 is to be used exclusively for digital selective calling for distress, safety and calling.

k) Channel 13 is designated for use on a worldwide basis as a navigation safety communication channel, primarily for intership navigation safety communications. It may also be used for the ship movement and port operations service subject to the national regulations of the administrations concerned.

l) These channels (AIS 1 and AIS 2) are used for an automatic identification system (AIS) capable of providing worldwide operation, unless other frequencies are designated on a regional basis for this purpose. Such use should be in accordance with the most recent version of Recommendation ITU-R M.1371. (WRC-07)

m) These channels may be operated as single frequency channels, subject to coordination with affected administrations. The following conditions apply for single frequency usage:

– The lower frequency portion of these channels may be operated as single frequency channels by ship and coast stations.

– Transmission using the upper frequency portion of these channels is limited to coast stations.

– If permitted by administrations and specified by national regulations, the upper frequency portion of these channels may be used by ship stations for transmission. All precautions should be taken to avoid harmful interference to channels AIS 1, AIS 2, ASM 1 and ASM 2. (WRC-19)

mm) Transmission on these channels is limited to coast stations. If permitted by administrations and specified by national regulations, these channels may be used by ship stations for transmission. All precautions should be taken to avoid harmful interference to channels AIS 1, AIS 2, ASM 1 and ASM 2. (WRC-19)

n) With the exception of AIS, the use of these channels (75 and 76) should be restricted to navigation-related communications only and all precautions should be taken to avoid harmful interference to channel 16, by limiting the output power to 1 W. (WRC-12)

o) (SUP - WRC-12)

p) Additionally, AIS 1 and AIS 2 may be used by the mobile-satellite service (Earth-to-space) for the reception of AIS transmissions from ships. (WRC-07)

q) When using these channels (10 and 11), all precautions should be taken to avoid harmful interference to channel 70. (WRC-07)

r) In the maritime mobile service, the frequency 160.9 MHz (channel 2006) is designated for autonomous maritime radio devices Group B that do not enhance the safety of navigation, using AIS technology, in accordance with the most recent version of Recommendation ITU-R M.2135. Autonomous maritime radio devices Group B are limited to a transmitter e.i.r.p. of 100 mW and an antenna height not exceeding 1 m above the surface of the sea.

In the maritime mobile service, this frequency may also be used for experimental use for future applications or systems (e.g. new AIS applications, man over board systems, etc.). If authorized by administrations for experimental use, the operation shall not cause harmful interference to, or claim protection from, stations operating in the fixed and mobile services, including the use of autonomous maritime radio devices Group B. (WRC-19)

s) Channels 75 and 76 are also allocated to the mobile-satellite service (Earth-to-space) for the reception of long-range AIS broadcast messages from ships (Message 27; see the most recent version of Recommendation ITU-R M.1371). (WRC-12)

t) (SUP - WRC-15)

u) (SUP - WRC-15)

v) (SUP - WRC-15)

w) The frequency bands 157.1875-157.3375 MHz and 161.7875-161.9375 MHz (corresponding to channels: 24, 84, 25, 85, 26, 86, 1024, 1084, 1025, 1085, 1026, 1086, 2024, 2084, 2025, 2085, 2026 and 2086) are identified for the utilization of the VHF Data Exchange System (VDES). The VDES terrestrial and satellite components are described in the most recent version of Recommendation ITU-R M.2092. These channels shall not be used for feeder links. The channels may be merged using multiple 25 kHz contiguous channels to form channel bandwidths of 50, 100 or 150 kHz. The channel usage is shown below:

– The channels 1024, 1084, 1025 and 1085 are identified for ship-to-shore, shore-to-ship and ship-to-ship communications, but ship-to-satellite and satellite-to-ship communications may be possible without imposing constraints on ship-to-shore, shore-to-ship and ship-to-ship communications.

– The channels 2024, 2084, 2025 and 2085 are identified for shore-to-ship and ship-to-ship communications, but ship-to-satellite and satellite-to-ship communications may be possible without imposing constraints on shore-to-ship and ship-to-ship communications.

– The channels 1026, 1086, 2026 and 2086 are identified for ship-to-satellite and satellite-to-ship communications and are not used by the terrestrial component of VDES.

– The channels 24, 84, 25 and 85 are identified for ship-to-shore and shore-to-ship communications.

The Earth-to-space component of the VDES shall not cause harmful interference to, nor claim protection from, nor restrict future development of, terrestrial systems operating in the same frequency bands.

Until 1 January 2030, the channels 24, 84, 25, 85, 26 and 86 may also be used for analogue modulation described in the most recent version of Recommendation ITU-R M.1084 by an administration that wishes to do so, subject to not causing harmful interference to, or claiming protection from other stations in the maritime mobile service using digitally modulated emissions and subject to coordination with affected administrations. (WRC-19)

wa) In Regions 1 and 3:

The frequency bands 157.0125-157.1125 MHz and 161.6125-161.7125 MHz (corresponding to channels: 80, 21, 81 and 22) are identified for utilization of the digital systems described in the most recent version of Recommendation ITU-R M.1842 using multiple 25 kHz contiguous channels.

The frequency bands 157.1375-157.1875 MHz and 161. 7375-161.7875 MHz (corresponding to channels: 23 and 83) are identified for utilization of the digital systems described in the most recent version of Recommendation ITU-R M.1842 using two 25 kHz contiguous channels. The frequencies 157.125 MHz and 161.725 MHz (corresponding to channel: 82) are identified for the utilization of the digital systems described in the most recent version of Recommendation ITU-R M.1842.

The frequency bands 157.0125-157.1875 MHz and 161.6125-161.7875 MHz (corresponding to channels: 80, 21, 81, 22, 82, 23 and 83) can also be used for analogue modulation described in the most recent version of Recommendation ITU-R M.1084 by an administration that wishes to do so, subject to not claiming protection from other stations in the maritime mobile service using digitally modulated emissions and subject to coordination with affected administrations. (WRC-19)

x) In Angola, Botswana, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Democratic Republic of the Congo, Seychelles, South Africa, Tanzania, Zambia and Zimbabwe, the frequency bands 157.1125-157.3375 and 161.7125-161.9375 MHz (corresponding to channels: 82, 23, 83, 24, 84, 25, 85, 26 and 86) are designated for digitally modulated emissions.

In China, the frequency bands 157.1375-157.3375 and 161.7375-161.9375 MHz (corresponding to channels: 23, 83, 24, 84, 25, 85, 26 and 86) are designated for digitally modulated emissions. (WRC-19)

y) These channels may be operated as single or duplex frequency channels, subject to coordination with affected administrations. (WRC-12)

z) Channels ASM 1 and ASM 2 are used for application specific messages (ASM) as described in the most recent version of Recommendation ITU-R M.2092. (WRC-19)

zz) Channels 1027, 1028, 87 and 88 are used as single-frequency analogue channels for port operation and ship movement. (WRC-19)

Appendix II. SOLAS Radiocommunications Requirements Based on Sea Area (IMO 1974)

Regulation 7

Radio equipment:

1. Every ship shall be provided with:

1 a VHF radio installation capable of transmitting and receiving:

1.1 DSC on the frequency 156.525 MHz (channel 70). lt shall be possible to initiate the transmission of distress alerts on channel 70 from the position from which the ship is normally navigated;" and
1.2 radiotelephony on the frequencies 156.300 MHz (channel 6), 156.650 MHz (channel 13) and 156.800 MHz (channel 16);

2. a radio installation capable of maintaining a continuous DSC watch on VHF channel 70 which may be separate from, or combined with, that required by subparagraph 1.1;

3. a search and rescue locating device capable of operating either in the 9 GHz band or on frequencies dedicated for AIS, which:

3.1 shall be so stowed that it can be easily utilized; and
3.2 may be one of those required by regulation 6.2.2 for a survival craft;

4. a receiver capable of receiving international NAVTEX service broadcasts if the ship is engaged on voyages in any area in which an international NAVTEX service is provided;

5. a radio facility for reception of maritime safety information by the Inmarsat enhanced group calling system if the ship is engaged on voyages in any area of Inmarsat coverage but in which an international NAVTEX service is not provided.

However, ships engaged exclusively on voyages in areas where an HF direct-printing telegraphy maritime safety information service is provided and fitted with equipment capable of receiving such service, may be exempt from this requirement.

6. subject to the provisions of regulation 8.3, a satellite emergency position-indicating radio beacon (satellite EPIRB) which shall be:

6.1 capable of transmitting a distress alert through the polar orbiting satellite service operating in the 406 MHz band;

6.2 installed in an easily accessible position;

6.3 ready to be manually released and capable of being carried by one person into a survival craft
6.4 capable of floating free if the ship sinks and of being automatically activated when afloat; and
6.5 capable of being activated manually.

Regulation 8

Radio Equipment: sea area A1

1. In addition to meeting the requirements of regulation 7, every ship engaged on voyages exclusively in sea area A1 shall be provided with a radio installation capable of initiating the transmission of ship-to-shore distress alerts from the position from which the ship is normally navigated, operating either:

    1. on VHF using DSC; this requirement may be fulfilled by the EPIRB prescribed by paragraph 3, either by installing the EPIRB close to, or by remote activation from, the position from which the ship is normally navigated; or

    2. through the polar orbiting satellite service on 406 MHz; this requirement may be fulfilled by the satellite EPIRB, required by regulation 7.1.6, either by installing the satellite EPIRB close to, or by remote activation from, the position from which the ship is normally navigated; or

    3. if the ship is engaged on voyages within coverage of MF coast stations equipped with DSC, on MF using DSC; or

    4. on HF using DSC; or

    5. through the Inmarsat geostationary satellite service, this requirement may be fulfilled by:

        5.1 an Inmarsat ship earth station; or

        5.2 the satellite EPIRB, required by regulation 7.1.6, either by installing the satellite EPIRB close to, or by remote activation from, the position from which the ship is normally navigated.

2 The VHF radio installation, required by regulation 7.1.1, shall also be capable of transmitting and receiving general radiocommunications using radiotelephony.

3 Ships engaged on voyages exclusively in sea area A1 may carry, in lieu of the satellite EPIRB required by regulation 7.1.6, an EPIRB which shall be:

1. capable of transmitting a distress alert using DSC on VHF channel 70 and providing for locating by means of a radar transponder operating in the 9 GHz band;

2. installed in an easily accessible position;

3. ready to be manually released and capable of being carried by one person into a survival craft;

4. capable of floating free if the ship sinks and being automatically activated when afloat; and

5. capable of being activated manually.

Regulation 9

Radio equipment: sea areas A1 and A2 –

1. In addition to meeting the requirements of regulation 7, every ship engaged on voyages beyond sea area A1, but remaining within sea area 42, shall be provided with:

   1. an MF radio installation capable of transmitting and receiving, for distress and safety purposes, on the frequencies:
      1.1 2,187.5 kHz using DSC; and
      1.2 2,182 kHz using radiotelephony;

   2. a radio installation capable of maintaining a continuous DSC watch on the frequency 2187.5 kHz- which may be separate from, or combined with, that required by subparagraph .1.1; and

   3. means of initiating the transmission of ship-to-shore distress alerts by a radio service other than MF operating either:

      3.1 through the polar orbiting satellite service on 406 MHz; this requirement may be fulfilled by the satellite EPIRB, required by regulation 7.1.6, either by installing the satellite EPIRB close to, or by remote activation from, the position from which the ship is normally navigated; or
      3.2 on HF using DSC; or
      3.3 through the Inmarsat geostationary satellite service by a ship earth station.

2. lt shall be possible to initiate transmission of distress alerts by the radio installations specified in paragraphs 1.1 and 1.3 from the position from which the ship is normally navigated.

3 The ship shall, in addition, be capable of transmitting and receiving general radiocommunications using radiotelephony or direct-printing telegraphy by either:

3.1 a radio installation operating on working frequencies in bands between 1,605 kHz and 4,000 kHz or between 4,000 kHz and 27,500 kHz. This requirement may be fulfilled by the addition of this capability in the equipment required by paragraph 1.1; or

3.2 an Inmarsat ship earth station.

4 The Administration may exempt ships constructed before 1 February 1997, which are engaged exclusively on voyages within sea area A2, from the requirements of regulations 7.1.1.1 and 7.1.2 provided such ships maintain, when practicable, a continuous listening watch on VHF 16. This watch shall be kept at the position from which the ship is normally navigated.

Regulation 10

Radio equipment: sea areas A1, A2 and A3

1. ln addition to meeting the requirements of regulation 7, every ship engaged on voyages beyond sea areas: A1 and A2, but remaining within sea area A3, shall, if it does not comply with the requirements of paragraph 2, be provided with:

1. an Inmarsat ship earth station capable of:

1.1 transmitting and receiving distress and safety communications using direct-printing telegraphy

1.2 initiating and receiving distress priority calls;

1.3 maintaining watch for shore-to-ship distress alerts, including those directed to specifically defined geographical areas;

1.4 transmitting and receiving general radiocommunications, using either radiotelephony or direct-printing telegraphy; and

2. an MF radio installation capable of transmitting and receiving, for distress and safety purposes, on the frequencies:

2.1 2,187.5 kHz using DSC; and

2.2 2,182 kHz using radiotelephony; and

3. a radio installation capable of maintaining a continuous DSC watch on the frequency 2,187.5 kHz which may be separate from or combined with that required by subparagraph 2.l; and

4. means of initiating the transmission of ship-to-shore distress alerts by a radio service operating either:

4.1 through the polar orbiting satellite service on 406 MHz; this requirement may be fulfilled by the satellite EPIRB, required by regulation 7.1.6, either by

installing the satellite EPIRB close to, or by remote activation from, the position from which the ship is normally navigated; or

4.2 on HF using DSC; or

4.3 through the Inmarsat geostationary satellite service by an additional ship earth station.

2. ln addition to meeting the requirements of regulation 7, every ship engaged on voyages beyond sea areas A1 and 42, but remaining within sea area A3, shall, if it does not comply with the requirements of paragraph 1, be provided with:

1. an MF/HF radio installation capable of transmitting and receiving, for distress and safety purposes, on all distress and safety frequencies in the bands between 1,605 kHz and 4,000 kHz and between 4,000 kHz and 27,500 kHz:

1.1 using DSC;

1.2 using radiotelephony; and

1.3 using direct-printing telegraphy; and

2. equipment capable of maintaining DSC watch on 2,187.5 kHz, 8,414.5 kHz and on at least one of the distress and safety DSC frequencies 4,207.5 kHz, 6,312 kHz, 12,577 kHz or 16,804.5 kHz; at any time, it shall be possible to select any of these DSC distress and safety frequencies. This equipment may be separate from, or combined with, the equipment required by subparagraph .1; and
3. means of initiating the transmission of ship-to-shore distress alerts by a radiocommunication service other than HF operating either:

3.1 through the polar orbiting satellite service on 406 MHz; this requirement may be fulfilled by the satellite EPIRB, required by regulation 7.1.6, either by installing the satellite EPIRB close to, or by remote activation from, the position from which the ship is normally navigated; or
3.2 through the Inmarsat geostationary satellite service by a ship earth station; and

4. in addition, ships shall be capable of transmitting and receiving general radiocommunications using radiotelephony or direct-printing telegraphy by an MF/HF radio installation operating on working frequencies in the bands between 1,605kHz and 4,000 kHz and between 4,000kHzand 27,500 kHz. This requirement may be fulfilled by the addition of this capability in the equipment required by subparagraph .1.

3. It shall be possible to initiate transmission of distress alerts by the radio installations specified in paragraphs 1.1,1.2,1.4,2.1 and 2.3 from the position from which the ship is normally navigated.

4. The Administration may exempt ships constructed before l February 1997, and engaged exclusively on voyages within sea areas A2 and A3, from the requirements of regulations 7.1.1.1 and 7.1.2 provided such ships maintain, when practicable, a continuous listening watch on VHF channel 16. This watch shall be kept at the position from which the ship is normally navigated.

Regulation 11

Radio equipment: sea areas Al, A2, A3 and A4

1. ln addition to meeting the requirements of regulation 7, ships engaged on voyages in all sea areas shall be provided with the radio installations and equipment required by regulation 10.2, except that the equipment required by regulation 10.2.3.2 shall not be accepted as an alternative to that required by regulation 10.2.3.1, which shall always be provided. ln addition, ships engaged on voyages in all sea areas shall comply with the requirements of regulation 10.3.
2. The Administration may exempt ships constructed before 1 February 1997, and engaged exclusively on voyages within sea areas A2, A3 and A4, from the requirements of regulations 7.l.1.1 and 7.1.2 provided such ships maintain, when practicable, a continuous listening watch on VHF channel 16. This watch shall be kept at the position from which the ship is normally navigated.

Appendix III. Call Sign Formation Possibilities

CALL SIGN FORMATION POSSIBILITIES
(see Section III of Article **19**)

Type of station	RR number	Permitted formations	Number* of combinations	Observations
Fixed stations	**19.52**	XXA-XXZ XXA2-XXZ9 XXA20-XXZ99 [1] XXA200-XXZ999	26 208 2 080 20 800	[1] Recommenced, as far as possible (see RR **19.53**)
Land stations	**19.52**	XXA-XXZ XXA2-XXZ9 XXA20-XXZ99 [1] XXA200-XXZ999	26 208 2 080 20 800	
Ship stations	**19.55**	XXAA-XXZZ XXAA2-XXZZ9 XL2000-XL9999 XXA2000-XXZ9999	676 5 408 8 000 208 000	**L** = Second character is a letter
Ship's survival craft stations	**19.60**	P00-P99 **	100 per ship	**P** = Call sign of the parent ship (see RR **19.55 - 19.56**)
		P20-P99 ***	80 per ship	
EPIRB stations	**19.62**	**B** **P** **BP**	no limit	**B** = Morse letter B **P** = Call sign of the parent ship (see RR **19.55 - 19.56**)
Aircraft stations	**19.58**	XXAAA-XXZZZ	17 576	
Aircraft survival craft stations	**19.64**	P2-P9	8 per aircraft	**P** = The complete call sign of the parent aircraft (see RR **19.58**)
Land mobile stations	**19.66**	XL2000-XL9999 XXA2000-XXZ9999 XXAA2000-XXZZ9999	8 000 208 000 5 408 000	**L** = Second character, provided it is a letter
Amateur stations	**19.68** **19.68A** **19.69**	Y0A-Y9Z Y0XA-Y9XZ Y0XXA-Y9XXZ Y0XXXA-Y9XXXZ	260 6 760 175 760 4569 760	**Y** = First character, provided that it is the letter B, F, G, I, K, M, N, R or W (see RR 19.68)
		XX0A-XX9Z XX0XA-XX9XZ XX0XXA-XX9XXZ XX0XXXA-XX9XXXZ	260 6 760 175 760 4569 760	
	19.68.1	XXX0A-XXX9Z XXX0XA-XXX9XZ XXX0XXA-XXX9XXZ	6 760 175 760 4569 760	These formation possibilities are valid only in case of half series (when the first two characters are allocated to more than one Member State)
Experimental stations	**19.68** **19.68A**	Y2A-Y9Z Y2XA-Y9XZ Y2XXA-Y9XXZ Y2XXXA-Y9XXXZ	208 5 408 140 608 3655 808	**Y** = First character, provided that it is the letter B, F, G, I, K, M, N, R or W (see RR 19.68)
		XX2A-XX9Z XX2XA-XX9XZ XX2XXA-XX9XXZ XX2XXXA-XX9XXXZ	208 5 408 140 608 3655 808	
Stations in the space service	**19.71**	XX00-XX99 XX000-XX999	100 1 000	If second character is a digit
		XX20-XX99 XX200-XX999	80 800	If second character is a letter

XX = First two characters of allocated call sign series.
* = The actual number may be less, in order to comply with RR **19.46 - 19.48.**
** = If last character of **P** is a digit.
*** = If last character of **P** is a letter.