
Regulations

Maritime Radio Systems

Version 3.0

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TRA Regulations for Maritime Radio Systems, Version 3.0

Article (1)

Scope of Document

- 1.1 These regulations are issued in accordance with the provisions of the UAE Federal Law by Decree No 3 of 2003 (Telecom Law) as amended and its Executive Order.
- 1.2 These regulations comprises technical conditions for the authorization and operation of Maritime Radio Systems. These regulations shall be read in conjunction with the following regulatory instruments issued by the TRA and available on TRA's website at www.tra.gov.ae:
 - 1.2.1 Spectrum Allocation and Assignment Regulations
 - 1.2.2 Spectrum Fees Regulations
 - 1.2.3 Interference Management Regulations
 - 1.2.4 National Frequency Plan including National Table of Frequency Allocation
 - 1.2.5 TRA Regulations for Earth Stations
 - 1.2.6 TRA Regulations for Mobile Communications On-Board Vessels
 - 1.2.7 TRA Regulations for Ultra-Wide Band and Short Range Devices

Article (2)

Definitions

- 2.1 The terms, words and phrases used in these Regulations shall have the same meaning as is ascribed to them in the UAE Federal Law by Decree No 3 of 2003 (Telecom Law) as amended and its Executive Order; unless these Regulations expressly provide otherwise for, or the context in which those terms, words and phrases are used in these Regulations indicates otherwise. The following terms and words shall be interpreted, as follows:
 - 2.1.1 **“Applicant”** means any Person who has applied for a License or an Authorization in accordance with the Telecom Law or other Regulatory Instruments issued by the Authority.
 - 2.1.2 **“Application”** means the request for issuance of a License or an Authorization, received at the Authority on prescribed forms as per the procedure in vogue.
 - 2.1.3 **“ASM”** means Application Specific Message as described in Recommendation ITU-R M.2092.
 - 2.1.4 **“Authorization”** or **“Frequency Spectrum Authorization”** means a valid frequency spectrum authorization issued by the TRA and permits

TRA Regulations for Maritime Radio Systems, Version 3.0

the use of radio frequency subject to terms and conditions as stipulated by the TRA.

- 2.1.5 “**Authority**” or “**TRA**” means the General Authority for Regulating the Telecommunication Sector of the UAE known as Telecommunications Regulatory Authority (TRA) established pursuant to the provisions of Article 6 of Federal Law by Decree No. 3 of 2003 (as amended).
- 2.1.6 “**Authorized User**” means a Person that has been granted an Authorization by the Authority.
- 2.1.7 “**AIS**” means Automatic Identification System which is the automatic tracking system based on recommendation ITU-R M.1371 used on ships and by vessel traffic services (VTS) for identifying and locating vessels by electronically exchanging data with other nearby ships, AIS base stations, and satellites.
- 2.1.8 “**Base Station**” means a land mobile radio which is fixed.
- 2.1.9 “**Baseline**” means “normal baseline”, as defined in the United Nations (UN) Convention on the Law of the Sea (UNCLOS, 1982), including fringe islands.
- 2.1.10 “**Coast Station**” A land station in the maritime mobile service.
- 2.1.11 “**DSC**” means Digital Selective Call which is primarily intended to identify ship-to-ship, ship-to-shore and shore-to-ship radiotelephone and radio telex calls. DSC calls can also be made to individual stations, groups of stations, or “all stations” in ones reach. Each DSC-equipped ship, shore station and group is assigned a unique 9- digits Maritime Mobile Service Identity.
- 2.1.12 “**Earth Station**” means a station located either on the Earth's surface or within the major portion of the Earth's atmosphere and is intended for communication with one or more space stations, or with one or more stations of the same kind by means of one or more reflecting satellites or other objects in space.
- 2.1.13 “**EPIRB**” means Emergency Position- Indicating Radio Beacon which is the Station in the maritime mobile service, the emission of which is intended to facilitate search and rescue operations.
- 2.1.14 “**e-Navigation**” is the harmonized collection, integration, exchange, presentation and analysis of marine information on board and ashore by electronic means to enhance berth to berth navigation and related services for safety and security at sea and protection of the marine environment.
- 2.1.15 “**Earth Station On-Board Vessels (ESV)**” means Earth Station operated on-board ships in accordance with ITU-R Resolution 902.
- 2.1.16 “**Earth Station in Motion (ESIM)**” means Earth Station that is operated in accordance with ITU-R Resolution 156 (WRC-15).

TRA Regulations for Maritime Radio Systems, Version 3.0

- 2.1.17 **“Frequency Spectrum Fees”** means the fees to be paid to the Authority. It has two components: Application Fees and Frequency Fees.
- 2.1.18 **“Application Fees”** means the fees paid for the request for processing a new, renew or modification of a License or an Authorization, received at the TRA as per the procedure.
- 2.1.19 **“Frequency Fees”** means the fees to be paid to the Authority, on the issue, modify or renewal of an Authorization.
- 2.1.20 **“GMDSS”** means the Global Maritime Distress and Safety System.
- 2.1.21 **“ITU”** means the International Telecommunication Union, a leading United Nations agency for information and communication technologies.
- 2.1.22 **“LRIT”** means Long Range Identification and Tracking which is a system in accordance with regulation V/19-1 of the 1974 SOLAS Convention.
- 2.1.23 **“Maritime Mobile Service”** A mobile Radiocommunication Service between coast stations and ship stations, or between ship stations, or between associated on-board communication stations: survival craft stations and emergency position-indicating radio beacon stations may also participating in this service.
- 2.1.24 **“MARS Database”** means the database of the Maritime mobile Access and Retrieval System operated by the ITU.
- 2.1.25 **“MMSI”** means Maritime Mobile Service Identity is a series of nine digits which are transmitted over the radio path in order to uniquely identified ship.
- 2.1.26 **“Mobile/Maritime Identification Digits” or “MID”** is used by radio communication facilities to identify their home country or base area in Digital Selective Calling (DSC), Automatic Transmitter Identification System (ATIS), and VDES including Automatic Identification System (AIS) messages as part of their Maritime Mobile Service Identities.
- 2.1.27 **“NBDP”** means Narrow Band Direct Printing which is a maritime teletype service as defined in Recommendation ITU-R M.688.
- 2.1.28 **“NAVTEX”** means Navigational Telex which is an international automated medium frequency direct-printing service for delivery of navigational and meteorological warnings and forecasts, as well as urgent maritime safety information to ship.
- 2.1.29 **“Person”** will include ‘juridical entities’ as well as ‘natural persons’.
- 2.1.30 **“Personal Locator Beacons (PLBs)” and “Search and Rescue Transponders (SART)”** are distress radio beacons, which are tracking transmitters to aid in the detection and location of boats, aircraft, and people in distress.

TRA Regulations for Maritime Radio Systems, Version 3.0

- 2.1.31 **“Port Operation Service”** A maritime mobile service in or near a port, between coast station and ship station, or between ship stations, in which messages are restricted to those relating to the operational handling the movement and safety of ships and, in emergency, to the safety of persons.
- 2.1.32 **“Radar”** means Radio Detection and Ranging.
- 2.1.33 **“Radar Beacon (RACON)”** means a transmitter-receiver associated with a fixed navigational mark which, when triggered by a radar, automatically returns a distinctive signal which can appear on the display of the triggering radar, providing range, bearing and identification information.
- 2.1.34 **“Radio Regulations”** or **“RR”** means the Radio Regulations, which is a publication, issued by the ITU, adopted by the World Radiocommunication Conference and ratified by the UAE.
- 2.1.35 **“Radiocommunication Service”** means the transmitting or receiving of Radio Frequencies which may be used for the conveyance of e-navigation or other data, or correspondence using messages or voice or visual images, or for the operation or control of machinery or apparatus.
- 2.1.36 **“Search and Rescue”** or **“SAR”** means the activities of the search for and provision of aid to people who are in distress or imminent danger.
- 2.1.37 **“Trunking systems”** means land mobile radio systems with one or more radio base station(s)/cells where each cell offers one or several transmission channels which will be dynamically assigned to users as soon as a connection is required.
- 2.1.38 **“Ship Movement Service (including vessel traffic services)”** A safety service in the maritime mobile service other than a port operating service, between coast stations and ship stations, or between ship stations in which messages are restricted to those relating to the movement of ships.
- 2.1.39 **“Ship Station”** A mobile Station in the Maritime Mobile Service located on board a vessel which is not permanently moored, other than a survival station.
- 2.1.40 **“Ship Station License”** means an Authorization issued by the TRA.
- 2.1.41 **“SOLAS”** means the International Convention for the Safety of Life at Sea, 1974 as amended.
- 2.1.42 **“Station”** means an installation operated by an Authorized User, for carrying on a Radiocommunication Service.
- 2.1.43 **“UAE”** or **“State”** means the United Arab Emirates including its territorial waters and the airspace above.

TRA Regulations for Maritime Radio Systems, Version 3.0

- 2.1.44 “**VDES**” means VHF Data Exchange System according to ITU-R M.2092.
- 2.1.45 “**Wireless Equipment**” means a category of Telecommunication Apparatus used for Radiocommunication Service.
- 2.1.46 “**WRC**” means World Radiocommunication Conference of the ITU.

Article (3)

Uses related to Maritime Radio Systems

- 3.1 Usage of Maritime Radio Systems is allowed but not limited to the following:
 - 3.1.1 Shore-to-ship / Ship-to-Shore (port operations, coast station public correspondence, private agencies)
 - 3.1.2 Inter ship communications / On board communications
 - 3.1.3 Distress, safety and calling channels
 - 3.1.4 Search and rescue
 - 3.1.5 VDES including Automatic Identification System (AIS)
 - 3.1.6 e-Navigation
 - 3.1.7 Buoys
 - 3.1.8 Maritime Radar including Radar Beacons (RACON) and Search And Rescue Transponders (SART)
 - 3.1.9 Oceanographic Radars
- 3.2 Vessels covered by this regulation have been divided into the three following categories:
 - 3.2.1 Fishing boats: These are vessels having a fishing boat navigation license by the Ministry of Climate Change and Environment. They do not travel outside UAE territorial waters and carry VHF marine radio. Appendix 18 channels shall apply.
 - 3.2.2 Pleasure boats: These are vessels that do not travel outside UAE territorial waters and carry VHF marine radio. Appendix 18 channels shall apply.
 - 3.2.3 Ships: These are vessels that do not fall in the categories above, and operating within territorial or international waters and include platforms such as rigs, barges, etc.
- 3.3 In case a satellite Earth Station On-Board Vessels (ESV) and/or an Earth Station in Motion (ESIM) is installed, the TRA Regulations for Earth Stations shall apply.
- 3.4 In case base station(s) for cellular service is installed, the TRA Regulations for Mobile Communications On-Board Vessels shall apply.

TRA Regulations for Maritime Radio Systems, Version 3.0

- 3.5 In case short-range devices (such as WiFi) are installed, the TRA Regulations for Ultra-Wide Band and Short Range Devices shall apply.
- 3.6 Applicant shall apply for PMR Authorization, TRA regulations for Private Mobile Radio shall apply for the following:
- 3.6.1 Land Mobile (Ground-to-Ground) systems at ports;
- 3.6.2 For Maritime Mobile (Shore-to-Ship) stations;
- 3.6.3 For Maritime Mobile on-board communication as per RR 5.287, using radiated power of more than 1 Watt.
- 3.7 The “aids to navigation authorization” is issued for buoys or AIS stations.
- 3.8 No broadcasting station shall be allowed on board vessels (RR 51.5 A).

Article (4)

Technical Conditions

- 4.1 The following table gives guidance on authorized frequency ranges for vessels, their uses and applicable usage conditions:

Frequency Range	Use	Usage Conditions
415-526.5 kHz	MF telegraphy (main use), Narrow Band Direct Printing (NDPD), Maritime Safety Information, and NAVTEX	Use shall be in accordance with the ITU Geneva-85 Plan GE85-MM-R1, of the year 1985
1606.5 – 27500 kHz	MF/HF telephony Narrow Band Direct Printing (NDPD) Maritime Safety Information NAVTEX Digital Selective Calling (DSC)	Channel plan based on RR Appendix 15, Appendix 17 and Appendix 25.
42-44 MHz	Oceanographic Radar	720 kHz BW ITU-R M.1874
121.5/123.1 MHz	Aeronautical Search and Rescue equipment	
121.5 MHz	Emergency Position Indicating Radio Beacons (EPIRBs) and Personal Locator Beacons (PLBs),	Max Power: 200 mW
156.000 - 162.50 MHz	VHF Radio	TRA Regulations for Private Mobile Radio (PMR) Systems shall apply
406-406.1 MHz	Emergency Position-Indicating Radio Beacons	Max Power: 5 Watt

TRA Regulations for Maritime Radio Systems, Version 3.0

Frequency Range	Use	Usage Conditions
	(EPIRBs) and Personal Locator Beacon (PLB)	
457.5125-457.5875 MHz 467.5125-467.5875 MHz	UHF Radio for on-board communications	Limited to vessels within 3 nautical miles of the UAE Baseline RR 5.287 / ITU-R M1174 Max Power: 2 Watt
1530 – 1545 MHz 1626.5 – 1646.5 MHz	GMDSS (Satellite)	ITU Radio Regulations Appendix 15
2900-3100 MHz	Radar Radar Beacon (RACON)	ITU-R M.1313 Max. Power: 75 kW
5470-5650 MHz	Radar	ITU-R M.1313 Max. Power: 70 kW
9200-9500 MHz	Radar Radar Beacon (RACON)	ITU-R M.1313 Max. Power 50 kW
	Search and Rescue Transponder (SART)	ITU-R M.628
13.4-14 GHz	Radar	Only on a case by case evaluation

TRA Regulations for Maritime Radio Systems, Version 3.0

4.2 The following VHF channel plan based on RR Appendix 18 shall be used for making Assignments:

Application	Channels
Automatic Ship Identification and Surveillance & AIS SART	AIS-1, AIS-2
Coastal Stations (Public correspondence)	1 - 5, 07, 20, 60 – 66 28 (Data and direct telegraphy)
Distress Safety and calling	16 (Emergency and distress calling only) 70 (Digital Selective Calling (DSC) only)
Inter-ship	6, 8 – 10, 13, 67, 69, 72-73
Satellite AIS	75, 76
Port Operations	11 – 14 (simplex operation) 5, 18-21 (duplex operation) 87-88 ,1027,1028 (simplex operation)
Safety of Navigation (Inter ship)	13
Reserved for Special events and testing	27,28, 2027,2028
Search and Rescue (Air-ship)	6 ,70,16, AIS 1, AIS 2
Ship (on-board)	15, 17 (Transmit power limited to 1 Watt)
Ship Movement	11 - 13, 68, 69, 71 (simplex operation) 61, 62, 64, 65, 79 (duplex operation)
Shore –to-ship (shipping agencies)	22, 1027, 1028
Exchange of Data and electronic mail (ITU-R. M.1842)	21-23, 80-83
VHF Data Exchange (VDES / ITU-R M.2092)	24,25,26, 84,85, 86 ASM-1, ASM-2

4.3 The channel numbering for maritime VHF communications is based on 25 kHz channel spacing and use of several duplex channels. Channel of 12.5 kHz bandwidth interleaving on a non-interference basis to 25 kHz channels will be allowed in accordance with Recommendation ITU-R M.1084.

4.4 Frequencies for distress and safety communications

4.4.1 The frequencies to be used for the Global Maritime Distress and Safety System (GMDSS) shall be in accordance with RR Appendix 15.

4.4.2 The frequencies to be used for non-GMDSS distress and safety communications are 4125 kHz and 6215 kHz. Details of their use are specified in RR Appendix 17.

TRA Regulations for Maritime Radio Systems, Version 3.0

- 4.5 All Ship Stations are encouraged to install GMDSS. It shall be mandatory for Ship Stations with a gross tonnage of 300 GT or more to carry operational GMDSS equipment as set forth in the International Convention for the Safety of Life at Sea (SOLAS) 1974 as amended. The carriage requirements include LRIT and EPIRB.
- 4.6 The usage of any maritime radio system in the UAE shall require a valid Authorization. The Frequency Spectrum Fees shall apply.

Article (5)

Call Sign and MMSI

- 5.1 The Call Sign for Ship Stations shall be assigned by the TRA. All transmissions from the Ship Stations shall be identified by the Call Sign. The call sign series for UAE start with A6 (assigned by ITU) and Mobile Identification Digits (MID) for UAE is 470.
- 5.2 The Call Sign for ship shall be A6E followed by four digits for Ship Stations having telephony service.
- 5.3 The Call Sign for ship shall be A6 followed by two alphabets for Ship Stations having only telegraphy service.
- 5.4 The Call Sign for ship's survival craft shall be the Call Sign of the parent Ship Station followed by two digits (other than 0 or 1 immediately after letter).
- 5.5 The Call Sign for EPIRB shall be the Morse letter B and /or the Call Sign of the parent Ship Station.
- 5.6 The Maritime Mobile Service Identity (MMSI) for Ship Station in the UAE shall be 470 and/or 471 followed by 6 digits. Ship Station equipped with mobile-satellite systems participating in the global maritime distress and safety system (GMDSS) shall be assigned MMSI ending with three zeroes. Some of the mobile-satellite systems e.g. Inmarsat standard C does not require trailing zeroes as these are only data terminals and not dialable terminals from the public switched telephone network.
- 5.7 The Maritime Mobile Service Identity (MMSI) for Coast stations and other stations on land participating in the maritime search and rescue and using DSC shall be 00 470 followed by 4 digits. The same format can also be used for harbour radio stations, pilot stations, system identities and other stations participating in the maritime radio services. The stations concerned should be located on land or on an island in order to use the 00470XXXX format. The sixth digit should further differentiate between certain specific uses of this class of MMSI, as shown in the example applications below:
- | | |
|--------------|------------------------|
| a) 004701XXX | Coast radio stations |
| b) 004702XXX | Harbour radio stations |
| c) 004703XXX | Pilot stations, etc. |
| d) 004704XXX | AIS repeater stations |

TRA Regulations for Maritime Radio Systems, Version 3.0

- e) 004700000, 004701111 are reserved for group of Coast Station identities
- 5.8 The Maritime Mobile Service Identity (MMSI) for aircraft participating in the maritime search and rescue and using DSC shall be 1114701XXX (for fixed wing) and 1114705XXX (for helicopters).
- 5.9 The Maritime Mobile Service Identity (MMSI) for Aids to Navigation (A to N) shall be 99470XXXX. The difference between MMSI for physical and virtual AIS is
- a) 994701XXX Physical AIS AtoN
- b) 994706XXX Virtual AIS AtoN
- 5.10 Craft associated with a parent ship, need unique identification. These crafts which participate in the maritime mobile service should be assigned a nine-digit unique number in the format 98470XXXX.
- 5.11 Handheld VHF transceiver with DSC and GNSS participating in the maritime mobile service should be assigned a unique 9-digit number in the format 8470XXXXX.
- 5.12 Devices using a free form number identity can be assigned MMSI as follows
- a) 970ABXXX Automatic identification system-search and rescue transmitter (AIS-SART) where AB = manufacturer identity from 01 to 99
- b) 972ABXXX Man over board device that transmits DSC and/or AIS where AB = manufacturer identity from 01 to 99
- c) 974ABXXX Emergency position indicating radio beacon-automatic identification system (EPIRB-AIS) where AB = manufacturer identity from 01 to 99
- 5.13 The Maritime Mobile Service Identity (MMSI) will be assigned and managed in accordance with Recommendation ITU-R M 585.
- 5.14 For the purposes of GMDSS, the details of records should be made available to authorized entities such as but not limited to the Rescue Coordination Centers (RCC), International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) and ITU maritime mobile access and retrieval system (MARS) in conformity with RR No. 20.16.

Article (6)

Documents to be carried

- 6.1 All authorized vessels shall carry the TRA Authorization.
- 6.2 All Ship Stations shall carry the certificates of the equipment operators; log with summary of safety and distress communications; the List of Ship Stations and Maritime Mobile Service Identity Assignments (printed or electronic format); the List of Coast Stations and Special Service Stations (printed or electronic format) and the Manual for Use by the Maritime Mobile and Maritime Mobile-Satellite Services (printed or electronic format).

Article (7)

List of Ship and Coastal Stations

- 7.1 The ITU maritime database currently contains information concerning:
- Ship stations (including those that participate in the Global Maritime Distress and Safety System (GMDSS));
 - Coast stations
 - Addresses of Accounting Authorities;
 - Addresses of Administrations which notify information;
 - MMSI assigned to Search and Rescue (SAR) aircraft; and
 - MMSI assigned to AIS Aids to Navigation (A to N).
- 7.2 The TRA shall provide ITU with the electronic notification for all ship station and coastal station data to keep the MARS database and the List of Coast station (List IV) and the List of Ship station (List V) updated.
- 7.3 The TRA shall provide ITU with the electronic notification for all MMSI assigned to Search and Rescue (SAR) aircraft and AIS Aids to Navigation data.

Article (8)

Spectrum Coordination and Notification

- 8.1 Coordination of radio frequencies for the radio stations at the national, regional and international levels shall be made through the TRA, as it is the sole body responsible for radio frequency coordination.
- 8.2 The TRA may delegate the responsibility of coordination among operators, subject to ratification by the TRA.
- 8.3 The TRA shall register and notify Call Sign, MMSI, radio frequencies and associated ship data to ITU as required.
- 8.4 The TRA may coordinate through multilateral forums (e.g. GCC Telecommunications Bureau) or directly with the Administrations.
- 8.5 The applicant shall support the coordination procedures.