



Recommendation ITU-R M.585-9
(05/2022)

Assignment and use of identities in the maritime mobile service

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RECOMMENDATION ITU-R M.585-9*

Assignment and use of identities in the maritime mobile service

(1982-1986-1990-2003-2007-2009-2012-2015-2019-2022)

Scope

This Recommendation provides guidance to administrations for the assignment and conservation of identity resources for the maritime mobile service. The limitations which constrain assignments for ships which utilize the satellite services of the global maritime distress and safety system (GMDSS) are described in this Recommendation.

Annex 1 describes formats for maritime mobile service identities (MMSI) of ship stations, coast stations, aircraft participating in search and rescue operations and other safety-related communications, automatic identification system (AIS) aids to navigation, and craft associated with a parent ship.

Annex 2 describes formats for identification of other maritime devices, such as handheld VHF transceivers with digital selective calling (DSC) and integral global navigation satellite system (GNSS) receiver, AIS-search and rescue transmitter (AIS-SART), man overboard (MOB) and emergency position-indicating radio beacon (EPIRB)-AIS and autonomous maritime radio devices (AMRD).

Annex 3 provides specific guidance to administrations for the assignment, management and conservation of identity resources for the maritime mobile service. This guidance further instructs administrations on methods for the reuse of MMSI assignments, and devices using a freeform number identity.

Keywords

MMSI, identities, maritime mobile service

List of Abbreviations/Glossary

AIS:	Automatic identification system
AIS-SART	AIS search and rescue transmitter
AMRD	Autonomous maritime radio devices
AtoN	Aids to navigation
DSC	Digital selective calling
EPIRB	Emergency position-indicating radio beacon
GMDSS	Global maritime distress and safety system
GNSS	Global navigation satellite system
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
MARS	Maritime mobile Access and Retrieval System
MID	Maritime identification digit
MMS	Maritime mobile service
MMSI	Maritime mobile service identity

* This Recommendation should be brought to the attention of International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), International Civil Aviation Organization, International Hydrographic Organization, International Maritime Organization and Committee International Radio Maritime.

MOB	Man overboard
RCC	Rescue coordination centre
SAR	Search and rescue
VDL	VHF data link

Related ITU Resolutions, Recommendations and Reports

Resolutions

344 (Rev.WRC-19): Management of the maritime identity numbering resource

Recommendations

ITU-R M.493 – Digital selective-calling system for use in the maritime mobile service

ITU-R M.1080 – Digital selective calling system enhancement for multiple equipment installations

ITU-R M.1371 – Technical characteristics for an automatic identification system using time division multiple access in the VHF maritime mobile frequency band

ITU-R M.2135 – Technical characteristics of autonomous maritime radio devices operating in the frequency band 156-162.05 MHz

Report

ITU-R M.2285 – Maritime survivor locating systems and devices (man overboard systems) – An overview of systems and their mode of operation

ITU-T Recommendation

ITU-T E.217 (02/19): Maritime communications – Ship station identity

The ITU Radiocommunication Assembly,

considering

- a) the need for structured identities for safety and telecommunication purposes in the maritime mobile service (MMS);
- b) that the maritime identifier in the MMS is based on a 9-digit structure;
- c) that the maritime mobile service identity (MMSI) is one type of 9-digit identifier;
- d) that the identities designated for devices for special purposes consist of a second type of 9-digit identifier;
- e) that the unique identity assigned to stations indicated in Annex 1 to this Recommendation should be the MMSI;
- f) that the identities used for other maritime devices for special purposes indicated in Annex 2 to this Recommendation are not necessarily unique and are not MMSI assignments;
- g) the need for all maritime identities to be usable with automated radiocommunication systems;
- h) that the identities assigned to ship stations, coast stations, aircraft participating in search and rescue operations and other safety-related communications, aids to navigation, craft associated with a parent ship, and used for establishing group calls should be of a similar nature;
- i) that it is possible to use the MMSI to establish a telephone call to a ship after routing through the public switched networks to an appropriate coast station;

j) that mobile-satellite systems enable the maritime community to participate in or interwork with international public correspondence telecommunication systems on a fully automatic basis, utilizing the identities, naming and addressing scheme;

k) that the numbering scheme specified for existing generations of mobile-satellite systems participating in the global maritime distress and safety system (GMDSS) is compatible with the international public correspondence service,

recommends

1 that ships complying with the International Convention for the Safety of Life at Sea, 1974, as amended, and other ships equipped with automated radiocommunication systems, including automatic identification system (AIS), digital selective calling (DSC), and/or carrying alerting devices of the GMDSS should be assigned maritime mobile service identities in accordance with Annex 1 to this Recommendation;

2 that maritime identities used for other maritime devices for special purposes should be assigned as specified in Annex 2;

3 that ship stations, including handheld VHF transceivers with DSC and integral global navigation satellite system (GNSS) receiver, coast stations, and aircraft participating in search and rescue operations using digital selective calling equipment in accordance with Recommendation ITU-R M.493 should use their 9-digit numerical identities transmitted as a 10-digit address/self-identity, normally with a digit 0 added at the end of the identity (see also Recommendation ITU-R M.1080);

4 that ship stations, coast stations, and non-shipborne stations using AIS equipment should use their 9-digit numerical identities in accordance with Recommendation ITU-R M.1371;

5 for the purpose of ensuring compatibility with the GMDSS, the numbers, names and addresses of ship earth stations participating in international telecommunication services should be made readily available to all authorized entities by the telecommunication service providers concerned;

6 that the guidance given in Annex 3 to this Recommendation should be consulted for the assignment, management and conservation of identities in the maritime mobile service.

Annex 1

Maritime mobile service identities

Section 1

Assignment of identification to ship station

1 Ships participating in the maritime radio services mentioned in recommends 1 should be assigned a 9-digit unique ship station identity in the format M₁I₂D₃X₄X₅X₆X₇X₈X₉ where in the first three digits represent the maritime identification digits (MID) and X is any figure from 0 to 9. The MID denotes the administration having jurisdiction over the ship station so identified.

2 Restrictions may apply with respect to the maximum number of digits, which can be transmitted on some national telex and/or telephone networks for the purpose of ship station identification.

3 The maximum number of digits that could be transmitted over the national networks of many countries for the purpose of determining ship station identity was six. The digits carried on the network to represent the ship station identity are referred to as the «ship station number» in this text and in the relevant ITU-R Recommendations.

4 Group ship station call identities for calling simultaneously more than one ship are formed as follows:

$$0_1M_2I_3D_4X_5X_6X_7X_8X_9$$

where the first figure is zero and X is any figure from 0 to 9. The MID represents only the territory or geographical area of the administration assigning the group ship station call identity and does not therefore prevent group calls to fleets containing more than one ship nationality.

5 With the evolution of global mobile-satellite systems, ships' earth stations are able to participate in international public correspondence telecommunication services. Ship earth stations having this functionality may be assigned international telecommunication numbers that have no direct correspondence with the ship station MMSI. Those authorized to assign the numbers, names and addresses associated with such ship earth stations should maintain a record of the cross-reference relationships with the MMSI, for example in an appropriate database. For the purposes of GMDSS the details of these relationships should be made available to authorized entities such as but not limited to the rescue coordination centres (RCCs)¹. Such availability should be on an automatic basis, 24 hours per day 365 days per year.

¹ International Maritime Organisation Resolution A.1001(25) requires that distress priority communications in these systems should, as far as possible, be routed automatically to an RCC.

Section 2

Assignment of identification to coast station

1 Coast stations and other stations on land participating in the maritime radio services mentioned in *recommends* 3 should be assigned a 9-digit unique coast station identity in the format 0₁0₂M₃I₄D₅X₆X₇X₈X₉ where the digits 3, 4 and 5 represent the MID and X is any figure from 0 to 9. The MID reflects the administration having jurisdiction over the coast station or coast earth station.

2 As the number of coast stations decreases in many countries, an administration may wish to assign MMSI of the format above to 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 00MIDXXXX format.

3 The administration may use the sixth digit to further differentiate between certain specific uses of this class of MMSI, as shown in the example applications below:

- a) 00MID1XXX Coast stations
- b) 00MID2XXX Port stations (harbour radio stations)
- c) 00MID3XXX Pilot stations
- d) 00MID4XXX AIS repeater stations
- e) 00MID5XXX AIS base stations (VDL controlling stations)

4 This format scheme creates blocks of 999 numbers for each category of station, however the method is optional and should be used only as a guidance. Many other possibilities exist if the administration concerned wishes to augment the scheme.

5 Group coast station call identities for calling simultaneously more than one coast station are formed as a subset of coast station identities, as follows:

$$0_1 0_2 M_3 I_4 D_5 X_6 X_7 X_8 X_9$$

where the first two figures are zeroes and X is any figure from 0 to 9. The MID represents only the territory or geographical area of the administration assigning the group coast station call identity. The identity may be assigned to stations of one administration which are located in only one geographical region as indicated in the relevant ITU-T Recommendations.

6 The combination 0₁0₂M₃I₄D₅0₆0₇0₈0₉ should be reserved for a Group Coast Station Identity and should address all 00MIDXXXX stations within the administration. The administration may further augment this use with additional group call identities, i.e. 00MID1111, etc.

7 For the purpose of the GMDSS the details of these MMSI assignments should be made available to authorized entities such as, but not limited to, RCC. Such availability should be on an automatic basis, 24 hours per day 365 days per year.

8 The combination 0₁0₂9₃9₄9₅0₆0₇0₈0₉ is reserved for the all-coast stations identity and should address all VHF 00XXXXXXXX stations. It is not applicable to MF or HF coast stations.

Section 3

Assignment of identification to aircraft

1 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 responsible administration should assign a 9-digit unique aircraft identity, in the format 1₁1₂1₃M₄I₅D₆X₇X₈X₉ where the digits 4, 5 and 6 represent the MID and X is any figure from 0 to 9. The MID represents the administration having jurisdiction over the aircraft call identity.

2 The format shown above will accommodate 999 aircraft per MID. If the administration concerned has more search and rescue (SAR) aircraft than 999 they may use an additional country code (MID) if it is already assigned by the ITU.

3 The administration may use the seventh digit to differentiate between certain specific uses of this class of MMSI, as shown in the example applications below:

- a) 111MID1XX Fixed-wing aircraft
- b) 111MID5XX Helicopters

4 This format scheme creates blocks of 99 numbers for each of the category of stations, however, the method shown here is optional.

5 The combination 1₁1₂1₃M₄I₅D₆0₇0₈0₉ should be reserved for a Group Aircraft Identity and should address all 111MIDXXX stations within the administration. The administration may further augment this with additional Group Call identities, i.e. 111MID111, etc.

6 For the purpose of search and rescue the details of these MMSI assignments should be made available to authorized entities such as, but not limited to, RCC. Such availability should be on an automatic basis, 24 hours per day 365 days per year.

7 The MMSI assigned to aircraft should also be available from the ITU Maritime mobile Access and Retrieval System (MARS) database (see RR No. 20.16).

Section 4

Assignment of identification to automatic identification systems aids to navigation

1 When a means of automatic identification is required for a station aiding navigation at sea, the responsible administration should assign a 9-digit unique number in the format 9₁9₂M₃I₄D₅X₆X₇X₈X₉ where the digits 3, 4 and 5 represent the MID and X is any figure from 0 to 9. The MID represents the administration having jurisdiction over the call identity for the navigational aid.

2 The format shown above applies to all types of aid to navigation (AtoN) as listed in the most recent version of Recommendation ITU-R M.1371, see AIS Message 21 parameter "Type of aids to navigation" and the associated table for this parameter. This format is used for all AIS stations for the transmission of messages that relate to AtoN. In the case where an AIS base station is collocated with an AIS AtoN station the messages related to the base station operation should be assigned an identification number in the format given in Annex 2.

3 The format scheme shown above will accommodate 10 000 AtoN per MID. If the administration concerned has more than 10 000, they may use an additional country code (MID) if it is already assigned by the ITU giving a further 10 000 identities.

4 The administration may use the sixth digit to differentiate between certain specific uses of the MMSI, as shown in the example applications below:

- a) 99MID1XXX Physical AIS AtoN
- b) 99MID6XXX Virtual AIS AtoN
- c) 99MID8XXX Mobile AtoN

5 This format scheme creates blocks of 999 numbers for each category of station, however the method shown here is optional and should be used only as a guidance.

6 In addition to the use of the sixth digit to differentiate between specific navigational aids as explained above, the seventh digit may be used for national purposes, to define areas where the AIS AtoN are located or types of AIS AtoN to the discretion of the administration concerned.

7 The details of these MMSI assignments should be made available but not limited to the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) and appropriate national authorities.

8 The assigned MMSI to aids of navigation should also be available from the ITU MARS database (see RR No. **20.16**).

Section 5

Assignment of identification to craft associated with a parent ship

1 Craft associated with a parent ship, need unique identification. These craft which participate in the maritime mobile service should be assigned a 9-digit unique number in the format 9₁8₂M₃I₄D₅X₆X₇X₈X₉ where the digits 3, 4 and 5 represent the MID and X is any figure from 0 to 9. The MID represents the administration having jurisdiction over the identity for the craft associated with a parent ship.

2 This numbering format is only valid for devices on board craft associated with a parent ship. A craft may carry multiple devices which would be identified by the MMSI assigned to the craft. These devices may be located in lifeboats, life-rafts, rescue-boats or other craft belonging to a parent ship but separate from search and rescue transmitters (AIS-SART).

3 A unique MMSI should be assigned for each craft associated with a parent ship and will have to be separately registered and linked to the MMSI of the parent ship.

4 The format scheme shown above will accommodate 10 000 craft associated with parent ships per MID. If the administration concerned has more than 10 000, they may use an additional country code (MID) if it is already assigned by the ITU giving a further 10 000 identities.

5 The assigned MMSI to these craft associated with a parent ship should also be available from the ITU MARS database (see RR No. **20.16**).

Annex 2

Maritime identities used for other maritime devices for special purposes

These identities use MID numbering resources, but have special uses defined in each of the sections below.

Section 1

Assignment of identities for handheld VHF transceivers with digital selective calling and integral global navigation satellite system receiver

1 A handheld VHF transceiver with DSC and integral GNSS receiver may require a unique identification showing that this device has restricted battery capacity and restricted coverage area. This may give additional information in an emergency case.

2 The handheld VHF transceiver with DSC and integral GNSS receiver should be used exclusively in the maritime mobile service.

3 Handheld VHF transceiver with DSC and integral GNSS receiver participating in the maritime mobile service should be assigned a unique 9-digit number in the format $8_1M_2I_3D_4X_5X_6X_7X_8X_9$ where digits 2, 3 and 4 represents the MID and X is any figure from 0 to 9. The MID represents the administration assigning the identity to the handheld transceiver.

$$8_1M_2I_3D_4X_5X_6X_7X_8X_9$$

4 The procedure and criteria for assignment and registration of these identities should be left to the administration concerned.

5 Some minimum of procedures for registration of this identity should be observed:

- a) all identities in this category should be registered by the national authority concerned, and the local RCC or MRCC should be able to access the data on a 24 hour-per-day, 7 days-per-week basis. In systems that have automatic distress priority, this information should be automatically forwarded to an RCC;
- b) the reuse of this identity should follow the guidance of Annex 3 of this Recommendation.

6 The administration may use the 5th digit to differentiate between certain specific uses/users of the maritime identity. However, this method is optional and for national use only.

Section 2

Devices using a freeform number identity

These identities, which use the 3-digit prefix (allocated from the table of maritime identification digits), are used to identify maritime radio equipment like the AIS-SART, man overboard (MOB) and emergency position-indicating radio beacon (EPIRB)-AIS and similar equipment needing identification.

1 Automatic identification system-search and rescue transmitter²

The AIS-SART should use an identity:

$$9_1 7_2 0_3 X_4 X_5 Y_6 Y_7 Y_8 Y_9$$

(where $X_4 X_5$ = manufacturer ID 01 to 99; $Y_6 Y_7 Y_8 Y_9$ = the sequence number 0000 to 9999. When reaching 9999 the manufacturer should restart the sequence numbering at 0000. Manufacturer ID '00' is used for testing purposes.)

2 Man overboard

The MOB device which is classified as AMRD Group A according to the most recent version of Recommendation ITU-R M.2135 should use an identity:

$$9_1 7_2 2_3 X_4 X_5 Y_6 Y_7 Y_8 Y_9$$

(where $X_4 X_5$ = manufacturer ID 01 to 99; $Y_6 Y_7 Y_8 Y_9$ = the sequence number 0000 to 9999. When reaching 9999 the manufacturer should restart the sequence numbering at 0000. Manufacturer ID '00' is used for testing purposes.)

3 Emergency position-indicating radio beacon-automatic identification system

The emergency position-indicating radio beacon-automatic identification system (EPIRB-AIS) should use an identity:

$$9_1 7_2 4_3 X_4 X_5 Y_6 Y_7 Y_8 Y_9$$

(where $X_4 X_5$ = manufacturer ID 01 to 99; $Y_6 Y_7 Y_8 Y_9$ = the sequence number 0000 to 9999. When reaching 9999 the manufacturer should restart the sequence numbering at 0000. Manufacturer ID '00' is used for testing purposes.)

The user identity of the EPIRB-AIS indicates the identity of the homing device of the EPIRB-AIS, and not the MMSI of the ship.

4 Autonomous maritime radio devices³

4.1 Autonomous maritime radio devices Group A

AMRD Group A according to the most recent version of Recommendation ITU-R M.2135 which are identified as MOB (DSC Class M) should use the numbering scheme as described in Annex 2, § 2.

AMRD Group A, according to the most recent version of Recommendation ITU-R M.2135 which are identified as Mobile AtoN should use the numbering scheme as described in Annex 1, § 4.

² The numbering format of AIS-SART should be separate from other multiple devices carried on board and which would be identified by the MMSI assigned to the craft. These devices may be located in lifeboats, life-rafts, rescue-boats or other craft belonging to a parent ship.

³ AMRD Group A should operate on Channel 70 (DSC), AIS 1 and AIS 2.
AMRD Group B should operate on Channel 2006.

4.2 Autonomous maritime radio devices Group B

AMRD Group B devices based on AIS technology should use the identity according to the most recent version of Recommendation ITU-R M.2135:

$$917293Y_4Y_5Y_6Y_7Y_8Y_9$$

AMRD Group B identities should be limited to the MID 979. Further identification on an individual equipment level should be achieved by additional information transmitted, as defined by the most recent version of Recommendation ITU-R M.2135. Duplication of numbers for AMRD Group B devices is acceptable.

($Y_4Y_5Y_6Y_7Y_8Y_9$ = a pseudorandom number, to be determined by the manufacturer using a random permutation of the integers from 0-999999 without reuse of a number until all numbers have been used. Many numerical software packages have built-in methods for random permutations. Alternatively, a simple and suitable algorithm is known as Fisher-Yates-Shuffle. The algorithm should be seeded with a random number such as a timestamp, a sequence number, or some combination of these to reduce the possibility that two or more manufacturers generate the same number sequence.)

Annex 3

Assignment, management and conservation of maritime identities

Section 1

Maritime mobile service identities

Administrations should employ the following measures to manage the limited identity resource in order to avoid depletion of MID and the corresponding MMSI series:

- a) implement effective national procedures for identity assignment and registration;
- b) provide the Radiocommunication Bureau with regular updates of assigned MMSI numbers in conformity with RR No. **20.16**;
- c) ensure that when ships move from the flag of registration of one administration to that of another administration, all of the assigned means of ship station identification, including the MMSI, are reassigned as appropriate and that the changes are notified to the Radiocommunication Bureau as soon as possible (see RR No. **20.16**);
- d) an MMSI assignment could be considered for reuse after being absent from two successive editions of List V of the ITU service publications or after a period of two years, whichever is the greater.

Section 2

Maritime identities for handheld VHF transceiver with digital selective calling and integral global navigation satellite system receivers

Administrations, when assigning maritime identities to handheld VHF transceivers with DSC and integral GNSS receiver, should employ all available measures to effectively manage the limited identity resource.

- a) The format scheme in Annex 2 Section 1, used for assigning VHF transceiver identities, will accommodate 100 000 VHF transceivers per MID. When the administration concerned has assigned identities to 100 000 VHF transceivers with DSC and integral GNSS receiver, it may use an additional country code (MID), if it is already assigned by the ITU, giving a further 100 000 identities.
- b) When an administration determines it has a need for additional allocation of a MID, because it has exhausted more than 80% of its allocated MID resource, it should communicate a written formal application to the Director, Radiocommunication Bureau to request allocation of an additional MID.

Section 3

Devices using a freeform number identity

The entity responsible for assigning the two digit manufacturer IDs ($X_4X_5 = 01$ to 99), which are used to form the maritime freeform number identities for the devices listed in Section 2 of Annex 2, should employ the following measures to effectively manage this limited identity resource:

- a) not to assign more than one ID to a manufacturer;
 - b) to take all possible measures to ensure that unused manufacturer IDs are returned to the responsible entity and reassigned as appropriate;
 - c) to provide the relevant ITU-R Working Party with regular updates, on an annual basis, concerning the use of manufacturer IDs and the remaining numbers of unused manufacturer IDs;
 - d) to immediately notify the Radiocommunication Bureau of any change in the assignments of manufacturer IDs for publication at the ITU MARS web page.
-