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SELECTION PROCEDURES FOR VHF/UHF MARITIME MOBILE SERVICES

ITU-T Recommendation E.211

(Extract from the *Blue Book*)

NOTES

1 ITU-T Recommendation E.211 was published in Fascicle II.2 of the *Blue Book*. This file is an extract from the *Blue Book*. While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).

2 In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Recommendation E.211

SELECTION PROCEDURES FOR VHF/UHF MARITIME MOBILE SERVICES

1 General

The purpose of this Recommendation is to define selection procedures for VHF/UHF maritime mobile services. The number plan used in these selection procedures is not based upon the use of a T digit as defined in Recommendation E.215. The use of a T digit in VHF/UHF maritime mobile services is for further study.

VHF/UHF maritime mobile services are more localized than maritime mobile-satellite services. National procedures will be adopted to provide access to the VHF/UHF maritime mobile services.

2 Procedures for shore-to-ship calls

Individual Administrations will wish to automate their maritime services in their own timescales and to suit their own service requirements and network limitations. However, any scheme adopted by an Administration should be compatible with other schemes and should not inhibit progression towards a worldwide maritime service. In view of the restrictions imposed by national networks on shore originated calls, three levels of operation have been identified to ensure that future evolution of the service can take place.

2.1 *Level 1: Manual or single-operator service operation*

2.1.1 Some Administrations will operate the VHF/UHF service on a manual or single-operator basis (a single-operator service is one in which the coast station operator in one country corresponds with subscribers of another country or vice versa).

2.1.2 It will be necessary to ensure that the facilities are compatible with essential functions, e.g., distress, in any automatic scheme. Additional equipment could be required to cater for new ship calling arrangements and use of a worldwide numbering scheme.

2.2 *Level 2: Minimum automation*

2.2.1 The caller controls access to the relevant coast station and forwards the number of the required ship, i.e. there is no intelligent system in the network able to indicate the location of the ship. Hence, the customer is required to identify the location of the ship.

2.2.2 The level of automation requires a minimum of equipment, the required functions mainly consisting of interfacing with the network, call control, signalling over the radio channels and operational control of the radio channels. There would be a requirement to permit coexistence of the manual service and the automatic service.

2.2.3 An example of such a numbering sequence is given below. Access to coast stations is provided by dedicated number combinations taken from the national numbering plan.

Pi	International prefix
$I_1\ I_2$	1 or 2 digit country code
$N_1\ N_2$	Code to identify VHF/UHF service
$S_1\ S_2$	Code to identify coast station
MIDXXX	Ship station number.

The number of digits in the code $N_I\ N_2\ S_1\ S_2$ will vary from one country to another, but the maximum international significant number length of 12 digits must be taken into account. In the example given, a subscriber in one country is calling a ship off the coast of another country. If the ship was off the coast of the subscriber's own country, the national prefix would be dialled instead of the international prefix and country code.

2.3 *Level 3: Automatic national ship location*

2.3.1 The caller controls the access to a particular country (or part of a country or a group of countries) and dials the number of the required ship i.e. an intelligent system is contained in the network so that it can indicate the location of the ship. The network is then responsible for routing the call on the basis of a known ship's location. All ships participating within the relevant area must report their location to a coast station, preferably on an automatic basis.

2.3.2 Equipment additional to level 2 of operation would be necessary, particularly in relation to the network's responsibility for locating the ship.

2.3.3 A numbering sequence suitable for this level of operation is:

Pi	International prefix
$I_1\ I_2\ I_3$	1, 2 or 3 digit country code
$N_1\ N_2\ N_3$	Code(s) to identify VHF/UHF service
MIDXXX	Ship station number.

The code(s) $N_1\ N_2\ N_3$ will vary in length from one country to another. The example given concerns a subscriber in one country calling a ship off the coast of another country. If the ship was off the coast of the subscriber's own country, the national prefix would be dialled instead of the international prefix and country code.

3 Implementation of automatic schemes in national networks – Shore-originated calls

There are variations of the numbering schemes given in §§ 2.2 and 2.3. Some examples of these variations are given below.

3.1 *Two-stage selection*

3.1.1 Some countries may find it necessary to use a two-stage selection technique. A subscriber would dial a coast station or maritime centre and would be offered a second stage of dialling to facilitate the insertion of the ship station number. Numbering sequences for provision of access to the coast station or maritime centre would be the same as for an ordinary telephone call in that country. The second stage of dialling could be associated with multi-frequency push button equipment already available or specifically provided for subscribers requiring maritime service calls.

3.1.2 If the first stage of dialling is used to provide access to a particular coast station, the scheme would be associated with level 2 of operation. If the first stage of dialling is used to provide access to a maritime centre that is able to locate the ship, then levels 2 or 3 of operation would be appropriate.

3.2 *Digit insertion [(1 + 6) arrangement]*

3.2.1 When ship station numbers become seven digits in length (stage 2 of the numbering plan), some countries will be unable to transmit the full seven digits through their national networks. As the first digit of an MID (Maritime Identification Digits) indicates the zone (continent) in which a country is located, a technique may be adopted on a zonal (continental) basis in which the first digit of the MID is not dialled by the subscriber. The digit would then be inserted at the coast station (and/or maritime centre), on the assumption that the MID is allocated to a country in the same zone as the coast station (and/or maritime centre).

3.2.2 Access to ships registered in countries outside the zone in which the coast station is located would be given on a manual basis by countries operating the 1+ 6 system.

3.2.3 The digit insertion technique can be associated with levels 2 and 3 of operation.

3.3 *National numbering and conversion arrangement*

3.3.1 Some countries may find it necessary temporarily to allocate ship's numbers compatible with their national numbering plans. An example of such a technique is given below.

3.3.2 When a ship enters the service area of a VHF/UHF coast station, the ship station's identity would be forwarded by the coast station to its parent Maritime Centre. The Maritime Centre would then assign, temporarily, a national telephone number which would correspond to the ship station identity of the ship. This pair of numbers would be stored at the Maritime Centre and the coast station.

3.3.3 A shore-based subscriber calling this ship would access the Maritime Centre and use the ship station number to obtain the corresponding temporary national telephone number. Once this is available, the call could be completed automatically from the Maritime Centre. Alternatively, the call could be completed by the caller either on a manual, semiautomatic or automatic basis as appropriate.

3.3.4 The temporary national telephone number would be used for routing the call to the serving VHF/ UHF coast station. At that point the corresponding ship station identity, which would be stored at the coast station, would be sent over the radio path to extend the connection to the ship.

3.4 *VHF/UHF system using 87S*

This scheme can be used in national networks where the subscriber does not need to know the location of the ship. The national subscriber would dial the international prefix of the country, the maritime international code (87), a digit to identify the VHF/UHF service and the ship station number (which in this case is the same as the ship station identity). This method can be used by the subscribers belonging to a national network to reach ships which are in the coverage area of the coast stations of that national network. As long as no internationally coordinated location registration of ships is implemented, a subscriber in another country would follow the procedure described in § 2.3.

4 Procedures for ship-to-shore calls

Ship-originated calls are less restricted than shore-originated call by national network limitations and no levels of operation are required. The prefixes defined in Annex A to Recommendation E.216 will be used. Table A-1/E.216 is applicable to both the Maritime Mobile-Satellite Service and Maritime Mobile VHF/ UHF Service. Application of the prefix scheme will be similar to the satellite service as shown in Recommendation E.216.

To standardize dialling procedures for VHF/UHF ship-originated calls, international dialling procedures will be adopted and automatic coast stations throughout the world will act upon such numbering sequences. To allow for ships that rarely leave the coast of a particular country, another technique has been identified whereby national dialling procedures can also be used. Whether or not to adopt this technique would be decided by each Administration.

4.1 *Calling a terrestrial subscriber*

4.1.1 A shipboard subscriber will dial the prefix 00 followed by the required international number, whether or not the coast station is located in the required subscriber's country. Hence, the numbering sequence will be of the form:

00	Prefix for automatic call
$I_1\ I_2\ I_3$	1, 2 or 3 digit country code
N_1 - N_n	National (significant) number.

4.1.2 Where national procedures are used, a shipboard subscriber will dial the prefix 0 followed by the required number belonging to the country of the coast station through which the call is being connected. Hence, the numbering sequence would be of the form:

0	Prefix for automatic call of the coast station country
N_1–N_n	National (significant) number.

4.2 *Calling an operator*

4.2.1 A shipboard subscriber will dial an operator prefix, the second digit identifying the type of operator required.

4.2.2 The table below illustrates the principle involved:

Prefix			
Digit 1	*Digit* 2	Optional Digits	Type of operator
1	1	$I_1\ I_2\ I_3$	International outgoing operator
1	2	$I_1\ I_2\ I_3$	International information service
1	3		National operator
1	4		National information service

The use of the optional digits is the same as described in Recommendation E.216.

4.2.3 Each Administration may decide which operators to provide, where they are to be located and how the callwould be routed. If a request is received from a ship for a type of operator that the Administration does not provide, then the call will be routed to another operator convenient for that Administration.

5 Procedures for ship-to-ship calls (via coast station)

5.1 If the two ships are not off the coast of the same country, the shipboard subscriber will dial the prefix 00 and the appropriate procedure outlined in §§ 2.2 and 3.3 will be followed.

5.2 If the ships are off the coast of the same country, then the coast station would act upon the above procedure, but the national procedure of dialling the prefix 0 followed by the national number of the ship could be adopted.

6 Future evolution

The development of these selection procedures, in order to accommodate the ability of the ISDN/PSTN to support 15 digits (Recommendations E.164 and E.165), and the possible use of a T digit as defined in Recommendation E.215, is for further study.