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SERIES E: OVERALL NETWORK OPERATION,
TELEPHONE SERVICE, SERVICE OPERATION AND
HUMAN FACTORS

International operation – Maritime mobile service and
public land mobile service

Maritime communications – Ship station identity

ITU-T Recommendation E.217

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Maritime communications – Ship station identity

Summary

For the purposes of International Public Correspondence Telecommunication, the ship station identity is now only relevant for those existing systems that have the ship station identity embedded in the numbering scheme as illustrated in Annexes A and B. For future systems that will not embed the ship station identity in their numbering scheme the ship station identity ceases to have any relevance for public correspondence telecommunication purposes.

Source

ITU-T Recommendation E.217 was prepared by ITU-T Study Group 2 (2001-2004) and approved under the WTSA Resolution 1 procedure on 16 May 2002.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

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

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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Introduction

The advent a mobile satellite communication system designed to serve the maritime community, made it possible for ships to participate in the automatic international telex service and the automatic international telephone service. This gave rise the need for a unique international identity for ship stations.

In anticipation of other communications methods becoming available to connect the maritime community with public telecommunication networks worldwide, it was decided to standardise a form identification for ships for telecommunications purposes usable over both terrestrial radio and satellite systems. It was also recognised that unique station identities would be an integral component of the automated distress and safety communication functions underpinning the development of the Global Maritime Distress and Safety System (GMDSS). The Ship Station Identity was therefore established as part of the maritime mobile service identity concept, which includes other elements of maritime communications (see the relevant Radio Regulations and ITU-R Recommendations). The intention was that there would always be a direct and obvious link between ship station identities and international telecommunications numbers in order to facilitate the control of distress communications.

It is only the satellite systems that have been able to resolve the various billing, routing, charging and signalling aspects in a manner compatible with the networks serving the rest of the communications environment. It has not proved feasible to establish single-stage connection procedures to ships over terrestrial radio paths that can satisfy all these aspects. Moreover, mobile satellite systems are now designed to offer service to a number of different sectors, not just the maritime sector, and as such can not support embedding the ship station identity in the international telecommunications number of the ship. Embedding the ship station identity in the international telecommunication number is considered unreasonable and contrary to the principles of ITU-T Rec. E.190 with regard to the efficient and effective use of numbering resources

For the purposes of International Public Correspondence Telecommunication, the ship station identity is now only relevant for those existing systems that have the ship station identity embedded in the numbering scheme. For future systems that will not embed the ship station identity in their numbering scheme the ship station identity ceases to have any relevance for public correspondence telecommunication purposes. For illustrative purposes the use of the ship station identity in the numbering scheme associated with the International Telephone Service and the International Telex Service provided by means of the Inmarsat maritime mobile satellite system is shown in Annexes A and B

For ships participating in the GMDSS (Global Maritime Distress and Safety System), it remains essential to be able to establish a link between the ships station identity and any telecommunications number associated with that ship. If the link cannot be readily ascertained by visual inspection of the number it must be available through reference to a suitable database.

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Maritime communications – Ship station identity

1 Scope

This Recommendation describes methods for the use of ship station identities in maritime telecommunications and the relationship with international public correspondence telecommunications.

2 References

2.1 The Manual for the Maritime Mobile and Maritime Mobile-Satellite Services, published by the Radiocommunication Bureau, makes reference to the Recommendations of the ITU-T and ITU-R concerned with the creation and use of maritime mobile service identities and international telecommunication numbers for ships. Attention is also drawn to relevant extracts from the ITU Constitution and Convention and to the Radio Regulations. (see for example, ITU-R Rec. M.585 and Article 19 of the Radio Regulations).

3 Ship station identity

3.1 The ship station identity is established as nine digits $M_1I_2D_3X_4X_5X_6X_7X_8X_9$

3.2 The initial three digits denote the administration responsible for the ship and are known as the Maritime Identification Digits (MID). The value of the first digit has the range 2 to 7. Of the remaining values 0 has been reserved, 1 is reserved for expansion of the MID range, 8 and 9 are used for other purposes but with a view to them becoming available for future expansion.

4 Assignment of Maritime Identification Digits (MID)

4.1 Each MID represents a discrete assignable capacity of ship station identities. MID(s) were originally assigned to individual countries according to a plan that related assignable capacity of ship station identities to ship population. The Radio Regulations make provision for the allocation of an additional MID for a specific Administration when necessary.

5 The use of the ship station identity

5.1 The 12-digit E.164 number format for the international telephone service has to accommodate various system identification and operational functions. When used in conjunction with existing GMDSS systems only 6 of the 12 digits are available for identifying particular ships. If there is a requirement for a ship station identity of nine digits to be represented in the E.164 number then this must be accomplished within 6 digits. This was achieved by using the first 6 digits of the ship station identity and giving digits seven, eight and nine the value of zero. This combination is known as ship station identity with three trailing zeros and was applied to both terrestrial and satellite systems.

5.2 Annex A illustrates the way a ship station identity is used in an international telephone number for the maritime mobile satellite service.

6 The Global Maritime Distress and Safety System (GMDSS)

6.1 The ship station identity is used as the unique reference for ships that participate in GMDSS. A Rescue Coordination Centre (RCC) is able to use the ship station identity to ascertain information such as the ship's name, call sign, flag state (nationality) and emergency contact details. This is needed both for ships in distress and those that may be able to assist. If the ship's telecommunications number does not have the ship station identity embedded in it, then the system operator should provide this information to the RCC by means of access to a database. Such access should be available on a 24 hour-per-day, 7 days-per-week basis. In systems that have distress priority, this information should be automatically forwarded to an RCC.

6.2 The initial query would be based on the E.164 telecommunication number and this should give access to information such as but not limited to, the ship station identity, the ship's name, the ship's call sign, flag state, and emergency contact details. In the maritime environment, an E.164 telecommunication number is specific to one maritime mobile-satellite system. The individual system can be identified from one of its E.164 telecommunication numbers and the appropriate database can be interrogated.

Annex A¹

Telephone/ISDN numbering plan for the mobile-satellite services of Inmarsat

A.1 Introduction

A.1.1 Purpose

The purpose of this annex is to specify a telephone/ISDN numbering plan for mobile earth stations in systems operated by Inmarsat. Such systems may include maritime, land-based and aeronautical satellite systems. In the future, the range of mobile satellite systems may also include satellite systems for other applications.

A.1.2 Terminology

The telex numbering plan for Inmarsat is contained in ITU-T Rec. F.125. This Recommendation and ITU-T Rec. F.125 are designed to be as similar as possible.

This Recommendation defines the following terms.

A.1.2.1 ship station identity: As defined in the Radio Regulations, Appendix 43. See also ITU-T Rec. E.210.

A.1.2.2 Inmarsat mobile international number: The number following the international prefix which identifies terminal equipment connected to an Inmarsat mobile earth station for access from a public network.

A.1.2.3 Inmarsat mobile number: The part of the Inmarsat mobile international number which follows E.164 codes allocated to Inmarsat.

A.1.2.4 other definitions: For definition of terms such as maritime mobile-satellite service, aeronautical mobile-satellite service, ship earth station, etc., see the Radio Regulations.

¹ This annex reproduces the content of former ITU-T Rec. E.215 (1997).

A.1.2.5 on-board identification digits: These digits are the part of the mobile earth station number used for identifying:

- a specific terminal equipment on board;
- a specific mobile earth station.

A.1.3 Basic considerations

The considerations which form the basis of the numbering plan are:

A.1.3.1 that it shall be possible to identify an Inmarsat mobile earth station uniquely from the Inmarsat mobile number;

A.1.3.2 that the Inmarsat mobile number should have a format where the same number could be used for access from all types of public networks;

A.1.3.3 that the number of three-digit E.164 codes required for supporting future Inmarsat requirements should be as few as possible;

A.1.3.4 that different routings could be used for calls to mobile earth stations designed for different Inmarsat systems;

A.1.3.5 that Administrations and Inmarsat could apply different charging and accounting rates to different Inmarsat systems;

A.1.3.6 that the numbering plan should provide capacity for on-board identification or direct access to a specific terminal equipment connected to a mobile earth station, e.g. on board a ship;

A.1.3.7 that the numbering plan should support access to multichannel mobile earth stations;

A.1.3.8 that the new mobile earth station numbering plan should incorporate numbering plan(s) already in use for the Inmarsat-A system;

A.1.3.9 that the length of the Inmarsat mobile international number should comply with ITU-T Rec. E.164 and will be limited to 12 digits until 1st January 1997 (see also ITU-T Rec. E.165 and associated ITU-T Rec. E.162);

A.1.3.10 that, for maritime satellite applications, the ship earth station numbering plan should support access to several ship earth stations on the same ship within one ship station identity;

A.1.3.11 that the radio regulations make provision for the allocation of additional MIDs for a specific country when necessary;

A.1.3.12 that Inmarsat will assign and administer the Land Identification Digits (L₂I₃D₄) which are used to identify the country of registry of land-based mobile earth stations.

A.2 Format of Inmarsat mobile international number

The general format of the Inmarsat mobile international number is:

$$\text{CCC } T_1 (T_2) X_1 X_2 \dots X_k$$

where CCC is a three-digit E.164 code allocated to Inmarsat as shown in Table A.1, and T₁(T₂) X₁ ... X_k is the Inmarsat mobile number. The number of T digits will vary between one or two, according to the particular Inmarsat system involved as shown in Table A.2. The format of the mobile number is given in clause A.4.