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Recommendation F.125

TELEX NUMBERING PLAN FOR THE MOBILE-SATELLITE SERVICES |
OF INMARSAT

1 Introduction

1.1 *Purpose*

The purpose of this Recommendation is to specify a telex numbering plan for mobile earth stations in systems operated by the International Maritime Satellite Organization (INMARSAT). Such systems may include maritime and aeronautical satellite systems. In the future the range of mobile satellite systems may also include satellite systems for other applications.

1.2 *Terminology*

The TELEPHONE/ISDN numbering plan for INMARSAT is contained in Recommendation E.215. Recommendations E.215 and F.125 are designed to be as similar as possible.

The following terms are used in this Recommendation:

1.2.1 **ship station identity**

As defined in the Radio Regulations, Appendix 43. See also Recommendation F.120.

1.2.2 **INMARSAT mobile international number**

The international number which identifies a terminal equipment connected to an INMARSAT mobile earth station for access from a public network.

1.2.3 **INMARSAT mobile number**

The part of the INMARSAT mobile international number which follows a F.69 telex destination code allocated to the INMARSAT system.

1.2.4 **INMARSAT mobile terminal number**

That part of the INMARSAT mobile number which identifies a specific terminal equipment connected to the mobile earth station.

1.2.5 *Other definitions*

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

1.3 *Basic considerations*

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

1.3.1 that it shall be possible to identify a mobile earth station uniquely from the INMARSAT mobile number;

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 network;

1.3.3 that the number of three-digit F.69 telex destination codes required for supporting future INMARSAT requirements should be as few as possible;

1.3.4 that different routings could be used for calls to mobile earth stations designed to different INMARSAT system standards;

1.3.5 that Administrations and INMARSAT could apply different charging and accounting rates to different INMARSAT system standards;

1.3.6 that the numbering plan should provide capacity for the identification of terminal equipment connected to a mobile earth station;

1.3.7 that the numbering plan should support access to multi-channel mobile earth stations.

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

1.3.9 that the length of the INMARSAT mobile international number will be limited to 12 digits to comply with Recommendations U.11 and U.12.

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

1.3.11 that the Radio Regulations make provision for the allocation of additional MIDs (maritime identification digits) for a specific country when necessary.

2 Format of INMARSAT mobile international number

The format of the INMARSAT mobile international number is:

$$\mathit{CCC}\ \mathrm{T}\ \mathrm{X}_1 \,.\,|\,|\ \mathrm{X}_k$$

where *CCC* | is a three-digit F.69 telex destination code allocated to INMARSAT and T X_1 . | | X_k | is the INMARSAT mobile number. The format of the mobile INMARSAT number is given in § 4.

3 Telex destination codes for INMARSAT applications

Telex destination codes for INMARSAT applications are given in Recommendation F.69 and shown in Table 1/F.125.

H.T. [T1.125]

TABLE 1/F.125

Telex destination codes for INMARSAT applications

Telex destination code	Application
581 Atlantic ocean region, INMARSAT }	{
582 Pacific ocean region, INMARSAT }	{
583	Indian ocean region, INMARSAT

Table 1/F.125 [T1.125], p.

4 Format of INMARSAT mobile earth station number

4.1 *General format*

The general format of the INMARSAT *mobile number* | is

$$T\, X_1 X_2 \ldots X_k$$

where the digit T is used for discrimination between different INMARSAT systems.

The formats used for the various INMARSAT systems are defined below. The values of the T digits are summarized in Table 2/F.125.

The T digits represent a limited resource and a new T digit should therefore only be allocated when necessary for technical or operational reasons.

The CCITT Secretariat would be responsible for co-ordinating the allocation of new T [or U] (see § 4.6) digits with the competent Study Groups.

H.T. [T2.125]
TABLE 2/F.125
Value of T digit for various applications

T digit	Applications
0	{ Group call in INMARSAT Standard-A, see § 4.2.2 }
1	{ Ordinary call in INMARSAT Standard-A, see § 4.2.1 }
2	Reserved for future use
3	{ Ordinary call in INMARSAT Standard-B, see § 4.3 }
4	{ Ordinary call in INMARSAT Standard-C, see § 4.4 }
5	{ Ordinary call in INMARSAT aeronautical system, see § 4.5 }
6	Reserved for future use
7	Reserved for future use
8	{ Expedient access to special service terminations in INMARSAT Standard-A, see Recommendation E.215 }
9	{ Reserved for future expansion, see § 4.6 }

Table 2/F.125 [T2.125], p.

4.2 *Formats for INMARSAT Standard-A system*

4.2.1 *Ordinary calls*

The number format used for ordinary calls to ship earth stations in INMARSAT Standard-A system is as follows:

$$1\ X_1X_2X_3X_4X_5X_6 \text{(7 digits)}$$

where 1 corresponds to the T digit and the digits $X_1X_2X_3X_4X_5X_6$ are allocated to ships by INMARSAT.

The length of the INMARSAT mobile number will be 7 digits, making the length of the INMARSAT mobile international number equal to 10 digits.

4.2.2 *Group calls*

For group calls, the INMARSAT mobile number takes the following format:

$$0\ X_1X_2X_3X_4X_5X_6X_7X_8 \text{(9 digits)}$$

where 0 corresponds to the T digit and X_1 through X_8 takes values assigned by INMARSAT.

The group call numbering scheme is shown in § B.2.2.

The length of the INMARSAT mobile number will be 9 digits making the length of the INMARSAT mobile international number equal to 12 digits.

4.3 *Formats for INMARSAT Standard-B system*

4.3.1 *Ordinary calls*

For ordinary calls to ship earth stations in INMARSAT Standard-B system, the format shall be initially:

$$3\ {}_1I_2D_3X_4X_5X_6X_7X_8 \text{(9 digits)}$$

where 3 corresponds to the T digit and the $M_1I_2D_3X_4X_5X_6$ are the first 6 digits of the ship station identity MIDXXXOOO (see Annex A). The INMARSAT mobile terminal number digits X_7X_8 may be used for identifying terminal equipment connected to a ship earth station, for discriminating between channels for multi-channel ship earth stations and for discriminating between several ship earth stations on the same ship.

The number format is:

$$3\ {}_1X_2X_3X_4X_5X_6X_7X_8 \text{(9 digits)}$$

where the digit X_1 may take the values 8 or 9 which are reserved for future INMARSAT applications.

4.3.2 *Group calls*

The group call numbering scheme is shown in Annex B.

The length of the INMARSAT mobile number will be 9 digits making the length of the INMARSAT mobile international number equal to 12 digits.

4.4 *Format for INMARSAT Standard-C system*

4.4.1 *Ordinary calls*

For ordinary calls to ship earth stations in INMARSAT Standard-C system, the format shall be initially:

$$4\ {}_1I_2D_3X_4X_5X_6X_7X_8 \text{(9 digits)}$$

where 4 corresponds to the T digit and where at least the digits $M_1I_2D_3X_4X_5X_6$ are part of the ship station identity. The digits X_7X_8 may also be part of the ship station identity or be used for discrimination between several ship earth stations on the same ship.

The number format is:

$$4\ {}_1X_2X_3X_4X_5X_6X_7X_8 \text{(9 digits)}$$

where the digit X_1 may take the values 8 or 9 which are reserved for INMARSAT applications.

4.4.2 *Group calls*

The group call numbering scheme is shown in Annex B. The length of the INMARSAT mobile number will be 9 digits making the length of the INMARSAT mobile international number equal to 12 digits.

4.5 *Format for INMARSAT aeronautical system*

The general format of numbers in the INMARSAT aeronautical system is as follows:

$$5\,X_1X_2X_3X_4X_5X_6X_7X_8 \text{ (9 digits)}$$

where 5 corresponds to the T digit.

The format of the digits X_1 through X_8 is still to be determined.

The length of the INMARSAT mobile number will be 9 digits making the length of the INMARSAT mobile international number equal to 12 digits.

4.6 *Future INMARSAT standard systems*

T digits should be allocated for each new INMARSAT standard system in the future. If an earlier system is taken out of service, T digits allocated for that system may be reallocated to new systems.

If the capacity provided by the T digits of Table 2/F.125 is not sufficient, then further capacity may be made available by using T = 9 followed by an additional digit (U) as follows:

$$9\ U\ X_1X_2\ .\ |\ |\ X_k$$

where the digits $X_1\ .\ |\ |\ X_k$ | identifies the mobile earth station and any extension connected to it. The digit U is used to identify new INMARSAT systems or for technical and operational reasons (see § 6 below).

5 Digit analysis

If different routing and/or accounting applies to different INMARSAT standard systems, then the digits CCCT need to be analyzed at international exchanges.

If the routing capacity is increased by using T = 9 (see § 4.6), then the digits CCC9U need to be analyzed and this is for further study.

6 Presentation of INMARSAT mobile numbers in directories

6.1 *General*

INMARSAT mobile numbers | may be published in separate directories or in separate sections of general directories.

In directories, only the INMARSAT mobile numbers, as specified in § 4.1, shall be listed. The telex destination code to be used and instruction for the subscribers should be contained in general parts of the directories.

The subject on directories for mobile satellite services requires further studies.

ANNEX A

(to Recommendation F.125)

Use of
ship station identification for maritime applications

of systems operated by INMARSAT

A.1 *General*

Appendix 43 of the Radio Regulations defines an international identification plan for ships participating in the maritime mobile services. The ship station identity consists of nine digits and is composed as follows:

$$M_1I_2D_3X_4X_5X_6X_7X_8X_9$$

where the digits $M_1I_2D_3$determine the ship's nationality.

For ships participating in systems operated by INMARSAT, the main part of this Recommendation specifies a format of the INMARSAT mobile number as follows:

$$T\,X_1X_2\,.\,|\,|\;X_k$$

The purpose of the digit T is explained in § 4.

For maritime applications, the number can be regarded as being composed of three blocks as follows:

H.T. [T3.125]

T X *n*+1 . | | X *k* }	X 1X 2 . | | X *n*	{
Block 1	Block 2	Block 3

Table [T3.125], p.

where the digit in block 1 is the digit T, the digits in block 2 are related to the ship station identity as explained below, and block 3 contains digits which are used for other purposes (e.g. INMARSAT mobile terminal number). In some INMARSAT systems, block 3 may be empty.

Note 1 — For the INMARSAT Standard-A system, INMARSAT applies a ship numbering plan which is not related to the ship station identification plan of the Radio Regulations. In this numbering plan the digit T takes the fixed value T = 1.

Note 2 — For INMARSAT Standard-B and C systems, the digit X_1 may take the values 8 or 9 for future applications. In this case, the digits in block 2 are not related to the ship station identification plan.

A.2 *Constraints on ship station identification and numbering*

A.2.1 The present number capacity of the telex network requires that the INMARSAT mobile number must consist of 9 or fewer digits to comply with the requirements of international signalling systems specified in the U-Series Recommendations.

A.2.2 The new numbering plan must cater for the following:

— identification for calls to ship board terminal equipment connected to the ship earth station;

— the possibility of several ship earth stations on the same ship where all ship earth stations have a number associated with the unique ship station identity of the ship;

— the capability of supporting multi-channel ship earth stations.

These capabilities may require digits in block 3 of the INMARSAT mobile number, thus reducing the available space for block 2.

A.3 *Applications of ship station identity*

A.3.1 *Digit capacity in block 2*

The INMARSAT Standard-A system can only support 6 digits in block 2 because of the addressing capacity on the radio path.

The addressing capacity of INMARSAT Standard-B and C systems on the ratio path can cater for up to 9 digits in block 2. However, the limited digit capacity of the terrestrial networks puts the following initial constraints to the number of digits in block 2:

— for the INMARSAT Standard-B system, the initial digit capacity in block 2 is 6 digits in order to allow sufficient capacity in block 3 for supporting the capabilities listed in § A.2.2 above.

— for the INMARSAT Standard-C system, the initial digital capacity in block 2 is 6 digits to allow sufficient capacity in block 3 for supporting the possibility of identifying several terminal equipments connected to a ship earth station and of several ship earth stations on the same ship.

A.3.2 *Mapping between ship station identity and digits in block 2*

The mapping between ship station identity and digits in block 2 is shown in Table A-1/F.125.

For ship earth stations, the ship station identity is thus derived from the digits in block 2 by adding 0_5at the end until the identity consists of 9 digits.

The digit T in block 1 determines the type of ship earth station and, implicitly, the number of digits in block 2. The relationship is shown in Table A-2/F.125. Further details of the number structure is given in the main part of the Recommendation.

A.3.3 *Ships equipped with several INMARSAT standard systems*

The ship station identity for such ships is the one derived from the ship earth station standard having the smallest size of block 2. This applies only if the numbering systems for the ship earth station standards are related to the ship station identification plan.

H.T. [T4.125]

TABLE A-1/F.125

Mapping between ship station identity and digits in block 2 of the INMARSAT mobile station number

Ship station identity	XXX XXX 000	XXX XXX 0X0	XXX XXX 0XX		
Block 2 mapping Mapping not possible X: any digit between zero (0) and nine (9) 0: zero (0) }	Size of block 2	6 digits	XXX XXX	Mapping not possible	{

Tableau A-1/F.125 [T4.125]. p.

H.T. [T5.125]

TABLE A-2/F.125

Relationship between the digit T and the format

of the ship station identity in 12 digit INMARSAT mobile international numbers

Value of digit T Format of ship station identity }	INMARSAT standard system	Number of digits in block 2	{
0	A	(Note 1)	(Note 1)
1	A	6	(Note 2)
2	Reserved	—	—
3	B	6	XXX XXX 000
4	C	6	XXX XXX 000
5	Aeronautical	(Note 3)	(Note 3)
6	Reserved	—	—
7	Reserved	—	—
8	A	(Note 4)	(Note 4)
9	Future expansion	Further study	Further study

Note 1 — Group call address (see Annex B for format of group call addresses).

Note 2 — The INMARSAT mobile number is not related to the ship station identification plan of Appendix 43, Radio Regulations.

Note 3 — The numbering plan for the Aeronautical-Satellite service is not related to the ship station identification plan of Appendix 43, Radio Regulations.

Note 4 — See § 4 for the use of this T-digit.

Tableau A-2/F.125 [T5.125]. p.

ANNEX B

(to Recommendation F.125)

Group call numbering scheme for the INMARSAT system

B.1 *Categories for group call services*

At present, four different categories of group call service have been envisaged within the maritime mobile-satellite service.

B.1.1 *National group calls*

The category is defined to address all ships of the same nationality.

B.1.2 *Fleet group calls*

This category is defined to address all ships within one fleet.

B.1.3 *Selected group calls*

This category is defined to address a number of ships having a community of interest irrespective of nationalities or fleets, and forming a predefined group.

B.1.4 *Area group calls*

This category is defined to address all ships of any nationality located within a predetermined geographical area.

B.2 *Group call formats*

B.2.1 The general group call format is $T_1X_2X_3X_4X_5X_6X_7X_8$ where the digits $T_1X_2X_3X_4X_5X_6X_7X_8$ take the values in § B.2.2 for INMARSAT Standard-A and the values in § B.2.3 for other INMARSAT standards.

B.2.2 The group call numbering schemes for the INMARSAT Standard-A system will use eight decimal digits X_1 . | | X_8 following the T digit, with T = 0, allocated as follows:

$M_2I_3D_40_50_60_70_80_9$ National group call

$M_2I_3D_4F_5F_6F_7F_8F_9$ Fleet group call

$0_20_3S_4S_5S_6S_7S_8S_9$ Selected group call

$0_20_30_4A_5A_6A_7A_8A_9$ Area group call

where $M_2 \neq 0$ $M_2 \neq 1$ $F_5 \neq 0$ $S_4 \neq 0$.

For T = 1 or 8, the group call number is not valid.

B.2.3 For INMARSAT standards other than Standard-A, the format of the digits X_1 . | | X_8 is as follows:

0MID $0_50_60_70_8$ National group calls

0MID $F_5F_6F_7F_8$ Fleet group calls

000 $S_4S_5S_6S_7S_8$ Selected group calls

0000 $A_5A_6A_7A_8$ Area group calls

The T digit takes the value allocated for the particular standard in accordance with Table 2/F.125.

Hence, for a fleet group call to a Standard B ship earth station, the format would be:

$$3\ 0\ \text{MID}\ F_5F_6F_7F_8$$

and for a fleet group call to a Standard-C ship earth station, the format would be:

4 0 MID $F_5F_6F_7F_8$.bp

B.2.4 The MIDs in national and fleet group numbers are those allocated in Table 1 of Appendix 43, Radio Regulations [1].

B.2.5 In accordance with § 4 of the above-mentioned Appendix, the particular MID reflects only the country allocating the group call identity and therefore does not prevent group calls to fleets containing more than one ship nationality. Allocation of selected group numbers should be avoided when the same group could equally well be assigned a fleet group number.

B.2.6 National group numbers and fleet group numbers should be allocated by countries. Selected group numbers and area group numbers as applicable to the INMARSAT system should be allocated by INMARSAT; allocation of such numbers may require cooperation with other organizations.

B.2.7 A country having assigned a national group or fleet group number should notify the Director-General of INMARSAT if those numbers are going to be used within the INMARSAT system.

Reference

[1] *Radio Regulations* , Appendix 43, ITU, Geneva, 1982, revised in 1985, 1986 and 1988.

Recommendation F.126

SELECTION PROCEDURES FOR THE INMARSAT
MOBIILE-SATELLITE TELEX SERVICE

1 Introduction

1.1 *Purpose*

The purpose of this Recommendation is to standardize:

a) the numbering and selection procedures for subscribers in the international telex service calling a ship-earth station in the INMARSAT systems;

b) the procedures for calling a subscriber, an operator or a special service termination in the international telex service from a ship-earth station.

This Recommendation applies to INMARSAT Standard-A, B and C systems. Selection procedures for the INMARSAT aeronautical system is for further study.

1.2 *Related CCITT Recommendations*

F.125 Telex numbering plan for the mobile-satellite services of INMARSAT

F.127 Operational procedures for interworking between the telex service and the service offered by INMARSAT Standard-C system

F.60 Operational provisions for the international telex service

F.68 Establishment of the automatic intercontinental telex network

F.69 Plan for telex destination codes

F.72 International telex store-and-forward — general principles and operational aspects

E.200/F.110 Operational provisions for the Maritime Mobile Service

F.122 Operational procedures for the Maritime Satellite Data Transmission Service

F.130 Maritime answer-back codes

F.131 Radiotelex service codes

E.215 Telephone/ISDN numbering plan for the mobile-satellite services of INMARSAT

U.61 Detailed requirements to be met in interfacing the international telex network with maritime satellite systems

E.216 Selection procedures for the INMARSAT mobile-satellite telephone and ISDN services

2 Numbering procedures

2.1 Maritime mobile-satellite services are international in nature and international procedures will be adopted to provide access to these services. For some purposes, a maritime mobile-satellite system can be regarded as analogous to a national network and the ship-earth stations as subscribers within that network.

For automatic shore originated calls, international selection procedures will be adopted using the three-digit telex destination code 58S and an INMARSAT mobile number where the digit S indicates the ocean region. The telex numbering plan for ship-earth stations in the INMARSAT System is given in Recommendation F.125.

2.2 For automatic ship originated calls international selection procedures will be used, including a stand ardized access code, i.e. all ships in all ocean areas will use the same access code to identify an automatic international call.

In addition, access codes will be adopted to identify other functions of the satellite system. Annex A lists the allocation of the access codes. Additional access codes may be required and these can be added, using the spare decimal numeric combinations.

It is desirable to have one set of access codes for all services. The access codes listed in Annex A can be used where applicable for telephone and data services and, if necessary, additional access codes for these services may be assigned by the competent Study Group. Close cooperation between the competent Study Groups will be necessary when assigning new access codes.

The use of some access codes could be barred to some customers.

2.3 The access codes will be sent over the radio path to the coast earth station but would not be used outside the satellite sys-tem. Hence, an access code sent to the coast earth station would not be used in the international network.

2.4 The service associated with each access code is defined in Annex B.

3 Procedures for shore-to-ship calls

3.1 *General selection sequence*

A shore based subscriber calling a ship in the INMARSAT system will select a numbering sequence as follows:

58S Telex destination code

$T_1X_2 \, | \, | \, | \, |_n$ INMARSAT mobile number

\+ End of selection.

3.2 *Selection of S digit*

The numbering sequence requires the subscriber to know the satellite coverage area in which the ship is located. The values of the S digit are given in Recommendation F.125.

3.3 *INMARSAT mobile number*

The INMARSAT mobile number T X_1X_2 | | | | $_n$ takes one of the formats defined in Recommendation F.125. The various possibilities are summarized in Table 1/F.126 and are further outlined below.

H.T. [T1.126]
TABLE 1/F.126
Formats of INMARSAT mobile numbers

Format	Application
1 X 1X 2X 3X 4X 5X 6 Ordinary call to INMARSAT Standard-A ship-earth station }	{
3 M 1I 2D 3X 4X 5X 6X 7X 8 Ordinary call to INMARSAT Standard-B ship-earth station }	{
4 M 1I 2D 3X 4X 5X 6X 7X 8 Ordinary call to INMARSAT Standard-C ship-earth station }	{
5 X 1X 2X 3X 4X 5X 6X 7X 8 Call to INMARSAT aeronautical aircraft earth station }	{

Tableau 1/F.126 [T1.126], p.10

3.3.1 *INMARSAT Standard-A system*

For an ordinary call to an INMARSAT Standard-A ship earth station, the format of the INMARSAT mobile number is:

$$1\ X_1X_2X_3X_4X_5X_6$$

where the digits $X_1X_2X_3X_4X_5X_6$ identify a specific ship earth station. If there are more than one ship earth station at the ship, each will have its own unique INMARSAT mobile number.

3.3.2 *INMARSAT Standard-B system*

The INMARSAT mobile number takes the following format for ship earth stations in INMARSAT Standard B system:

$$3\ {}_1I_2D_3X_4X_5X_6X_7X_8$$

3.3.3 *INMARSAT Standard-C system*

The INMARSAT mobile number takes the following format:

$$4\ {}_1I_2D_3X_4X_5X_6X_7X_8$$

3.3.4 *INMARSAT Aeronautical system*

The format of the INMARSAT mobile number, 5 $X_1X_2X_3X_4X_5X_6X_7X_8$ is still to be determined.

4 Procedures for ship-to-shore calls

4.1 *General*

It should be possible to provide all information required for establishing a call from user terminals connected to the ship-earth station. Such information may include:

a) called party address including any access code;

b) desired coast-earth station;

c) supplementary service requests.

The information in a) is required for all calls. The information in b) and c) may be required on some calls, e.g. if the user requests a specific routing of the call or if specific service characteristics are to be applied.

These ship-to-shore procedures are not applicable to Standard C and reference should be made to Recommendation F.127 for further details.

4.2 *Calling a terrestrial subscriber*

4.2.1 A shipboard user will select the access code 00 followed by the full international telex number required, whether or not the coast-earth station is located in the country of the called subscriber. Hence the numbering sequence selected by a ship board subscriber will be of the form:

00 Access code for automatic call

00 $I_1I_2I_3$ 2 or 3 digit telex destination code

$00I_1I_2I_3N_1$-N_n National number of the subscriber.

$00I_1I_2I_3N_1$-N_n+ End of selection.

4.2.2 It is also possible to select specific services associated with the call by use of access codes other than 00, e.g. 21 (store and forward international), 22 (store and forward national), 23 (short code selection) and 24 (telex letter services).

A_1 A_2 Access code

$A_1A_2I_1I_2I_3$ 2 or 3 digit telex destination code

$A_1A_2I_1I_2I_3N_1$-N_n National number of the subscriber

$A_1A_2I_1I_2I_3N_1$-N_n+ End of selection.

4.2.3 The ship earth station will permit the choice of coast earth station identity through which the call is to be routed. Convenient land-line routings (e.g. use of the coast earth station nearest the destination country) could be encouraged by tariff considerations.

4.2.4 In INMARSAT Standard-B systems the user may choose among several service options. If some service characteristics are user selectable, it should be possible to make the selection from the user terminal.

4.3 *Calling an operator*

4.3.1 A shipboard user will select the access code followed by a second digit to identify the type of operator required.

4.3.2 Table 2/F.126 illustrates the principle involved for two types of operator.

Some Administrations may wish to operate a system whereby shipboard users insert after the operator access code a telex destination code (I_1,I_2,I_3). The insertion of the telex destination code will allow the call to be routed to a relevant operator. If an Administration operating such a system receives an operator access code without the optional digits, then the call must still be connected to an appropriate operator. Similarly, if an Administration not operating such a system receives an operator access code followed by optional digits, then the optional digits should be ignored and the call connected to the operator denoted by the access code alone.

H.T. [T2.126]

TABLE 2/F.126

Access code				
Digit 1 Digit 2 Optional digits End of selection Type of operator }	{			
1	1	I 1I 2I 3	+	International operator
1	2	I 1I 2I 3	+	International enquiries

Table 2/F.126 [T2.126], p.

4.3.3 Each Administration may decide which operators to provide, where they are to be located and how the call would 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 an operator convenient for that Administration.

4.4 *Other access codes in Annex A*

Each Administration may decide which services to provide and how the call will be routed. If a request is received from a ship for a service that the Administration does not provide, then the call will be routed to a location convenient for that Administration.

The general selection sequence could be as shown in Table 3/F.126.

The actual sequence may be decided by the Administration or INMARSAT.

H.T. [T3.126]

TABLE 3/F.126

Access code Digit 1 Digit 2 Optional digits End of selection Type of service }	{			
2	3	X 1X 2	+	Short code selection
3	2	I 1I 2I 3	+	Medical advice
3	8	—	+	Medical assistance

Table 3/F.126 [T3.126], p.

5 Procedures for ship-to-ship calls

5.1 Selection procedures for ship-to-ship calls will be similar to those for ship-to-shore calls, using the maritime telex destination code 58S. The numbering sequence selected by the shipboard user will be of the form:

00 Access code for automatic call

00 58S Telex destination code

0058S T $_1X_2$. | | X_n INMARSAT mobile number

This format will be used whether or not the ships are in the same ocean area.

5.2 Each Administration operating a coast earth station may decide whether to switch ship-to-ship traffic within an ocean area at the coast earth station or at an international telex switching centre.

6 Instructions for telex subscribers

The general principles laid down in Recommendation F.60 apply also to the Maritime Mobile-Satellite Service. The instructions should contain the full procedures.

7 Instructions for users at ship earth stations

It would be beneficial if coast earth station operators and/or INMARSAT provided user manuals defining the system capabilities and services offered. The manuals should contain information such as:

— general instructions for use of the INMARSAT services,

— location of coast earth stations;

— facilities provided and services supported by each coast earth station;

— selection procedures for setting up automatic calls;

— selection procedures for operator assisted calls for each coast earth station;

— selection procedures for setting up calls to the services listed in Annex A for each coast earth station;

— other instructions which INMARSAT may feel useful or important to users.

ANNEX A
(to Recommendation F.126)

Allocation of telephone prefixes, telex access codes and data transmission prefixes

A.1 Administrations should make application for the allocation of new prefixes and access codes to the CCITT Secretariat. The application should contain a definition for the service, termination or facility to be accessed.

The CCITT Secretariat would be responsible for coordinating the allocation of new prefixes and access codes with the competent Study Groups. The allocation of new prefixes and access codes should be done in such a way as to ensure that equivalent services carried by means of telephone, telex or data circuits are given the same prefix.

The prefixes and access codes to be used for automatic calling should be as follows:

Telephone — For international calls the prefix should be 00 followed by the international telephone number of the called subscriber. As an option, for national calls, the prefix 0 followed by the national (significant) number of the called subscriber could be used.

Note — In the Maritime Satellite Service only, the international format is preferred.

Telex — For international calls the access code should be 00 followed by the international telex number of the called subscriber. As an option for national calls the access code should be 0 followed by the national telex number of the called subscriber could be used.

Note — In the Maritime Satellite Service only the international format is recommended.

Data transmission — For data calls through a public data network the format should always consist of the prefix 0 followed by the international data number of the called subscriber (see Recommendation X.350, § 5.2.1).

A.2 Table A-1/F.126 contains a list of prefixes and access codes allocated up to the present time for access to special destinations, services or facilities.

A.3 The facilities are defined in Annex B.

Blanc

H.T. [1T4.126]

TABLE A-1/F.126 (Note 1)

Allocation of telephone prefixes,
telex access codes and data transmission prefixes

lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 1 0 Spare — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 1 1 International outgoing operator A A NA
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 1 2 International information service A A FS
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 1 3 National operator A A NA lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 1 4 National information service A A FS Operator 1 5 Radiotelegram service FS A NA
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 1 6 Spare — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 1 7 Booking of telephone calls (Note 4) A A NA
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 1 8 Spare — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 1 9 Spare — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 2 0 Access to maritime PAD (Note 5) A NA NA
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 2 1 Store-and-forward (international) NA A NA
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 2 2 Store-and-forward (national) NA A NA Automatic facilities 2 3 Abbreviated dialling (short code selection) A A NA
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 2 4 Telex letter service NA A NA
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 2 5 Access to PSPDN (Note 8) NA (Note 8)
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 2 6 — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 2 7 Spare — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 2 8 — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 2 9 — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 3 0 Spare — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 3 1 Maritime enquiries A A A lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 3 2 Medical advice A A A Specialized 3 3 Technical assistance A A A assistance 3 4 Person-to-person call A NA NA (Note 6) 3 5 Collect calls A NA NA
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 3 6 Credit card calls A A NA lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 3 7 Time and charges requested at end of call A A NA
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 3 8 Medical assistance A A A lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 3 9 Maritime assistance A A A lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 4 0 Spare — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 4 1 Meteorological reports A A A Ship 4 2 Navigational hazards and warnings A A A reporting 4 3 Ship position reports A A A
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 4 4 — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 4 5 — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 4 6 Spare — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 4 7 — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 4 8 — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 4 9 — — —

Tableau A-1/F.126 [1T4.126], p.9

H.T. [2T4.126]

TABLE A-1/F.126 *(cont.)*

lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 5 0 Spare — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 5 1 Meteorological forecasts FS FS FS
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 5 2 Navigational warnings FS FS FS
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 5 3 Videotex (international) FS NA FS Information 5 4 Videotex (national) FS NA FS retrieval 5 5 News (international) FS FS FS
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 5 6 News (national) FS FS FS lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 5 7 — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 5 8 Spare — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 5 9 { — — — Specialized use (Note 7) 6
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ Administration specialized use, e.g. leased lines A A FS
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 7 Spare — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 8 Spare — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 9 0 Spare — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 9 1 Automatic test line A A FS
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 9 2 Commissioning tests A A A lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 9 3 Spare — — — Test 9 4 Spare — — —
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) .
{ 9 5 Operational coordination A A A
} lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 9 6 — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 9 7 — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 9 8 Spare — — — lw(30p) | lw(24p) | lw(24p) | lw(78p) | lw(24p) | lw(24p) | lw(24p) . 9 9 — — —

Tableau A-1/F.126 (suite)+ notes [2T4.126], p.10

ANNEX B
(to Recommendation F.126)

Application of telephone prefixes , data transmission prefixes

and telex access codes — Definitions and descriptions

Services and facilities normally provided by the telephone data or telex networks are otherwise defined in CCITT Recommendations and do not require any further definitions. This annex provides definitions and descriptions of some of the special facilities of Annex A.

Note 1 — The same annex is contained in Recommendation E.216.

Note 2 — In this annex the term prefix is used to designate telephone prefix, telex access code and data transmission prefix.

B.1 *Operator*

B.1.1 **international outgoing operator (prefix 11)**

Prefix 11 will connect the caller to an international operator position. The prefix may be followed by a country code. If so, the procedure for servicing the call is described in § 4.3.

B.1.2 **international information service (prefix 12)**

Prefix 12 will connect the caller to the international information service. The prefix may be followed by a country code. If so, the procedure for servicing the call is described in § 4.3.

B.1.3 **national operator (prefix 13)**

Prefix 13 will connect the caller to a national or international operator position in the country where the coast earth station is located. The type of operator to be used is decided by the Administration.

Note — Prefix 13 may not be offered on all coast earth stations.

B.1.4 **national information service (prefix 14)**

Prefix 14 will connect the caller to a national or international operator position. The type of information service to be used is decided by the Administration.

Note — Prefix 14 may not be offered on all coast earth stations.

B.1.5 **radiotelegram service (prefix 15)**

Prefix 15 will connect the caller to the radio telegram service position. The transmission of radio telegram should normally be made by radio telex only. The radio telegram service in this case should be arranged in such a way that automatic retransmission is possible.

B.1.6 **booking of telephone calls (prefix 17)**

Prefix 17 will allow the caller to book a telephone call via the telex service.

This telex message will be routed to the relevant international (or national) telephone operator.

B.2 *Automatic facilities*

B.2.1 **access to maritime PAD (prefix 20)**

Prefix 20 is used for gaining access to a packet assembly/disassembly (PAD) facility in a packet switched public data network. The PAD is accessed via telephone circuits in the INMARSAT system. The prefix is followed by two additional digits indicating the required data rate (see Recommendation X.351).

B.2.2 store-and-forward (international) (prefix 21)

Prefix 21 is used for gaining access to a store-and-forward unit (SFU) for international calls.

B.2.3 store-and-forward (national) (prefix 22)

Prefix 22 is used for gaining access to a store-and-forward unit (SFU) for national calls.

B.2.4 abbreviated dialling (short-code selection) (prefix 23)

Abbreviated dialling (short-code selection) will allow the caller to make a connection by selecting a short special number (e.g. 2 or 3 digits) instead of a full international (or national) number.

B.2.5 telex letter service (prefix 24)

Prefix 24 is used for directly transmitting a message originated from a ship earth station (SES) to a selected telegraph office for delivery by mail or any appropriate means.

B.2.6 access to PSPDN (prefix 25)

Prefix 25 is used for obtaining access via INMARSAT telephone circuits to a maritime satellite data switching exchange (MSDSE) (see Recommendation X.350) for virtual call data services (Recommendation X.25). The prefix is followed by additional digits indicating data rate or other parameters associated with the call.

B.3 *Specialized assistance*

B.3.1 maritime enquiries (prefix 31)

Prefix 31 may be used for special enquiries such as ship location, authorization, all telegrams, etc.

B.3.2 medical advice (prefix 32)

Prefix 32 provides connection to national medical facilities (hospital, etc.) for obtaining medical advice or consultation. The prefix may be followed by a country code.

B.3.3 technical assistance (prefix 33)

For the Maritime Satellite Service, prefix 33 provides connection to the technical personnel of the coast earth station in case difficulties are experienced in establishing communication.

For other maritime systems, further study is required.

B.3.4 person-to-person call (prefix 34)

Prefix 34 should be used when the call is for a specific person at the called number. An operator will intervene in the call, and should be provided with the details of the person to be called. The prefix may be followed by the number of the called party.

B.3.5 **collect calls (prefix 35)**

Prefix 35 should be used for calls, charges for which will be billed to the called party. The telephone operator will intervene in the call and should be provided with the information pertinent to the call. The prefix may be followed by the number of the called party.

B.3.6 **credit card calls (prefix 36)**

Arrangements can be made with the Administration of certain coast stations or coast earth stations for payments for communication services to be made by a credit card. The arrangement is valid only for the services of the station with which it is made.

An operator will intervene in the call and should be provided with details of the credit card. The prefix may be followed by the number of the called party.

B.3.7 **time and charges requested at end of call (prefix 37)**

Prefix 37 provides, upon completion of the call, either automatic printout of charging information, or connection to an operator who will supply charging information on the call. The prefix is followed by the number of the called party.

B.3.8 **medical assistance (prefix 38)**

If the condition of an ill or injured person aboard ship requires his urgent delivery ashore or the delivery of a doctor aboard ship, prefix 38 provides connection to the appropriate national authority responsible for this kind of activity.

B.3.9 **maritime assistance (prefix 39)**

Prefix 39 provides connection to the appropriate national authority in case maritime assistance is required (e.g. tow, oil pollution).

B.4 *Ship reporting*

B.4.1 **meteorological reports (prefix 41)**

Prefix 41 provides connection to the meteorological office for transmission of ship weather reports.

B.4.2 **navigational reports from ships (prefix 42)**

Prefix 42 provides connection to a navigational office for transmission of information from ships on any hazards which could endanger safety of navigation (e.g. wrecks, derelicts, floating obstructions, defective radiobeacons or light vessels, icebergs, floating mines, etc.).

B.4.3 **ship position reports (prefix 43)**

Prefix 43 provides connection to an appropriate national or international centre collecting ship movement information for search and rescue (or other) purposes.

B.5 *Information retrieval services (prefixes 5x)*

Further study is required.

B.6 *Specialized use* (prefixes 6x)

Further study is required.

B.7 *(Prefixes 7x are reserved for future use.)*

B.8 *(Prefixes 8x are reserved for future use.)*

B.9 *Test*

B.9.1 **automatic test line (prefix 91)**

Prefix 91 provides an automatic test of the ship earth station in telex and telephony mode. In the Maritime-Satellite Service the coast earth station will automatically transmit a ‘‘QUICK BROWN FOX’’ test message for telex and provide a loop-around test line connection in accordance with Recommendation Q.11 for telephony. Test lines for data transmission are for further study.

B.9.2 **commissioning tests (prefix 92)**

Prefix 92 is used in the Maritime-Satellite Service for conducting commissioning tests of ship earth stations.

B.9.3 **operational coordination (prefix 95)**

Prefix 95 is used in the Maritime-Satellite Service for operational communications between management and maintenance elements of the system.

Recommendation F.127

OPERATIONAL PROCEDURES FOR INTERWORKING BETWEEN THE TELEX SERVICE AND THE SERVICE OFFERED BY INMARSAT STANDARD-C SYSTEM

The CCITT,

considering

(a) that INMARSAT has introduced various maritime services based on their Standard-A, Standard-B and Standard-C systems;

(b) that Recommendation F.120 specifies ship station identification for the Maritime Mobile-Satellite Service;

(c) that Recommendation F.125 specifies the numbering plan for the Maritime Mobile-Satellite Telex Service;

(d) that Recommendation F.126 specifies the selection procedures for Maritime-Satellite Telex Service;

(e) that the provision of interworking with the telex service is a mandatory requirement of the INMARSAT Standard-C system;

unanimously recommends

that operational procedures for interworking between the telex service and the service provided by the INMARSAT Standard-C system should be in accordance with this Recommendation.

1 Definitions

1.1 Ship earth station is defined in Article 1, Section 4.16 of the *Radio Regulations* , ITU, Geneva 1982.

1.2 Coast earth station is defined in Article 1, Section 4.14 of the *Radio Regulations* , ITU, Geneva 1982.

1.3 **maritime-satellite store-and-forward unit (MSSFU)** is the functional interface between the maritime-satellite message transmission system and a public telex network.

2 Scope

2.1 The purpose of this Recommendation is:

a) to standardise procedures for the subscribers to a public telex network calling ship earth stations in the maritime satellite Standard-C system;

b) to standardise procedures for ship earth stations calling subscribers in the public telex network;

c) to standardise procedures for ship-to-ship calls that transit the public telex network.

3 Introduction

3.1 The characteristics of the maritime satellite circuit provided by the INMARSAT Standard-C System are such that only store-to-store operation is supported.

3.2 The present limitation means that the maritime-satellite network provided by the INMARSAT Standard-C system must be viewed as conceptually different from that provided by the INMARSAT Standard-A system. As expressed in Recommendation F.126 for the Standard-A system the terminals on-board ships may be viewed as belonging to the subscribers of a national (telephone, telex or packet) network, because normal international working is supported and is so percieved by the users. However the network provided by Standard-C system cannot be viewed in this way because, in this case, the basic concept is that of interworking between different networks (where the MSSFU functions as an interworking unit).

3.3 A general description of the INMARSAT Standard-C system and the services it may support is given in a Supplement to the F-Series Recommendations.

4 Service outline

4.1 Communication between subscribers of the telex service and a ship-earth station is on a store-and-forward basis. Thus, conversational mode interworking between terminals is not provided.

4.2 In the shore-to-ship direction two modes of operation are considered by this Recommendation. These are designated as one-stage and two-stage selection. Administration/RPOAs may provide either or both modes of operation.

These services may be extended across international borders on a bilateral basis. Where no such bilateral agreement exists the Administration operating the system may clear the call and return the service signal (NA).

4.3 In ship-to-shore direction subscribers to the Maritime-Satellite Service provided by the Standard-C system may send single messages to the subscribers to the public telex network and to the appropriate Applications (from the list shown in Table A-1/F.126). The messages are forwarded by the MSSFU via the public telex network.

4.4 In the ship-to-ship direction calls between different ocean regions may be established via the international telex network and will follow the procedures for ship-to-shore calls.

The procedures for calls between ships within the same ocean region are not a matter for this Recommendation. See the Supplement No. 3 to the F-Series Recommendations.

5 Operational procedures

5.1 *Shore-to-ship calls*

5.1.1 *One-stage selection*

5.1.1.1 A terrestrial subscriber may place a call to the desired ship earth station using normal telex selection procedures with the designated telex destination code and the ship earth station number. Because it is an essential feature of this service that the called address is automatically passed forward by the telex network to the MSSFU, the subscriber achieves access to the unit and addresses the ship by a single stage of selection.

5.1.1.2 A telex subscriber calling a ship earth station will select a numbering sequence as follows:

58S Telex destination code

58S 4 $M_1 I_2 D_3 X_4 . | \; | \; X_8$ INMARSAT, mobile number

where 4 corresponds to the T-digit and where at least the digits $M_1 I_2 D_3 X_4 X_5 X_6$ are part of the ship station identity in accordance with Recommendation F.125.

5.1.1.3 On receipt of this address, the MSSFU should check that the required ship is logged into the ocean region and should accept or reject the call accordingly. No call connect should be returned to the originating telex network until this check has been completed. The time period for the return of call connect and the subsequent answerback must be in accordance with the relevant U-Series Recommendations.

If this check fails, the appropriate service signal should be returned to the originator in accordance with Recommendation F.131.

5.1.1.4 The MSSFU shall return the answerback associated with the called ship earth station. The format of this answerback should be in accordance with Recommendation F.74.

5.1.1.5 The answerback associated with the called ship earth station shall always be returned in response to a WRU signal.

5.1.1.6 The answerback of the calling telex subscriber should be determined at the establishment of the call using procedures in accordance with § 9 of Recommendation F.72.

5.1.1.7 Where the calling answerback is not obtained at the beginning of the call, or if obtained but the determination of the calling address is not possible, the call should be cleared.

The call may be accepted where, in the event of non-delivery of a message, alternative arrangements for delivery are provided. The alternative arrangements, for example, may be the provision of a manual operator position.

5.1.1.8 At the completion of text transmission the connection should be cleared in accordance with normal telex procedures.

5.1.1.9 After the complete message has been received, the MSSFU shall attempt to deliver it at the earliest opportunity. However, the message should not be held for longer than 24 hours in accordance with § 3.3 of Recommendation F.72.

5.1.1.10 In the event of non-delivery of the message to the ship earth station, a non-delivery advice should be returned to the originating telex subscriber. The content of the non-delivery advice and procedures for its transmission should be in accordance with §§ 12, 13 and 14 of Recommendation F.72.

5.1.1.11 Telex selection information should be extracted from the calling telex answerback in accordance with Recommendation U.74.

5.1.1.12 The action to be taken when the MSSFU is unable to notify the originator of the non-delivery of their message is for further study.

5.1.2 *Two-stage selection*

5.1.2.1 The subscribers should use normal telex call establishment procedures to access the MSSFU, which is allocated a national number for this purpose.

5.1.2.2 Principles and procedures for access to the MSSFU shall be in accordance with §§ 6 and 7 of Recommendation F.72.

5.1.2.3 The information field content for the address line should be in accordance with § 8 of Recommendation F.72.

5.1.2.4 Enhanced Group Call facilities of the INMARSAT Standard-C system enable authorised users to send a message simultaneously to a number of ship earth stations which have been specially equipped. Where Enhanced Group Call facilities are provided, by the MSSFU, an additional five address attributes will be contained in the address line. These attributes (abbreviated addresses) are known as C-codes and will follow immediately after the end of address delimiter, Combination No. 26, with each C-code being delimited by a Combination No. 3. The address line will be terminated by the End of Address (EOA) signal in accordance with Recommendation F.72.

The general structure of the C-codes is defined in Supplement No. 3 to the F-Series Recommendations.

5.1.2.5 MSSFU access protocols shall be in accordance with Recommendation U.80. However, where the MSSFU acts only as an interface between the maritime message transmission system and a public telex network, only the INMARSAT mobile number need be input in the address field.

5.1.2.6 If the calling address cannot be determined from the calling subscriber's answerback for the purpose of delivering a non-delivery advice, the call should be cleared.

The call may be accepted where, in the event of non-delivery of a message, alternative arrangements for delivery are provided. The alternative arrangements, for example, may be the provision of an operator position.

5.1.3 *Abnormal conditions*

5.1.3.1 The action to be taken when abnormal conditions are encountered during message input shall be in accordance with § 10 of Recommendation F.72 where applicable.

5.2 *Ship-to-shore calls*

5.2.1 Shipboard subscribers to the Maritime-Satellite Service provided by the Standard-C system may send messages to the subscribers to public telex networks.

5.2.2 The messages are forwarded by the MSSFU to the addressed telex subscriber via the public telex network.

5.2.3 Upon delivery of the message to the telex destination, a delivery notification should be sent to the ship. In the event of non-delivery of the message to the telex destination, the action to be taken is not the subject for international standardisation.

5.2.4 The procedures for call establishment and delivery to the telex destination should be in accordance with §§ 12, 13 and 14 of Recommendation F.72.

5.3 *Ship-to-ship calls*

5.3.1 A shipboard subscriber to the Maritime-Satellite Service provided by the Standard-C system may send a message to a subscriber aboard another ship.

5.3.2 Where the call is to a ship in a different ocean region and the call transits the public telex network, the call procedures shall be in accordance with the ship-to-shore procedures set out in § 5.2 above.

In cases where the call is to a Standard-C ship earth station in the destination ocean region and the destination MSSFU does not support one-stage selection, the procedures to be used are for further study.

5.3.3 The procedures for calls between shipboard subscribers in the same ocean region are not a subject for this Recommendation. See Supplement No. 3 to the F-Series Recommendations.

Recommendation F.130

MARITIME ANSWER-BACK CODES

The CCITT,

considering

(a) that it is technically feasible to interconnect certain radiocommunication systems in the Maritime Mobile Service with the international telex network in order to provide a radiotelex service between ships and telex subscribers, in accordance with Recommendation F.110;

(b) that Recommendation F.60 specifies the operational provisions for the international telex service, and in particular, for the composition of answer-back codes;

(c) that, since no single Administration is responsible for the allocation of answer-back codes to ships in the way that such codes are administered in individual national telex networks, some rules further to those set down in Recommendation F.60 are desirable, for example to facilitate automatic operation in the ship-to-shore direction and to simplify the handling of inquiries concerning calls to or from ships;

(d) that, to the extent possible, the alphabetic portion of maritime answer-back codes should provide a means for detecting possible mutilation of the numerical portion, particularly in the case of ship-to-shore calls where it may be used for charging and accounting purposes,

unanimously declares

that, at least in cases where interconnection with the international telex network is desired, answer-back codes generated by teleprinters (or equivalent terminal devices) on ships shall comply with the following requirements.

1 Regardless of the transmission medium used (e.g. maritime-mobile satellite, HF ‘‘direct printing’’, VHF), the answer-back code, as printed out for a distant subscriber, shall include the following three components in the order indicated:

a) the ‘‘ship station’s number’’ of 6, 7, 8 or 9 digits (see § 2 below);

As in Recommendations F.110 and F.111, the term Maritime Mobile Service is intended to include also the Maritime Mobile-Satellite Service.

b) the ‘‘ship’s (abbreviated) name’’ of 4 letters (see § 3 below);

c) the letter X, preceded by a space, as a ‘‘telex network identification code’’ reserved for mobile stations (see Recommendation F.68).

2 The 6, 7, 8 or 9 digits of the ship station's number are those allocated by the licensing Administration in accordance with Recommendation F.120 but with the final 3, 2 or 1 zeroes deleted for 6, 7 or 8-digit numbers respectively.

3 The letters comprising the ship's (abbreviated) name [§ 1b) above] should be chosen with the guidance and under the control of the licensing Administration with a view not only to identifying the ship (or the company, or the fleet, as is most appropriate) in a clear manner for a distant subscriber, but also to providing a means for checking the ship station's number as recorded in the answer-back code. The name should not include shifts, figures or signs. Where a ship has been allocated a 6, 7 or 8-digit number, in principle the ship's (abbreviated) name should not need to be changed when the numbering plan is modified to incorporate 7, 8 or 9-digit numbers.

4 The series of twenty combinations in International Telegraph Alphabet No. 2 comprising the answer-back code shall be allocated as follows:

a) figure-shift, or (if permanently fitted) letter-shift;

b) carriage-return;

c) line-feed;

d) the ship station's number, or (if a letter-shift is fitted in the first position) figure-shift followed by the ship station's number;

e) letter-shift;

f) space, which should however be omitted if both the ship station's number consists of 8 digits and a letter-shift is fitted in the first position;

g) the ship's (abbreviated) name;

h) space;

i) if necessary, a letter-shift or letter-shifts to bring the total number of combinations in the answer-back code up to twenty;

j) the letter X;

k) letter-shift (if permanently fitted).

5 The technical requirements for answer-back generators are laid down in Recommendation S.6.

6 In accordance with Recommendation S.6, it is preferred that teleprinters having all 20 positions in the answer-back which are freely assignable should be used in the future, i.e. where the first position is a figure-shift and the last the letter X. In the meantime, teleprinters that have a letter-shift permanently fitted in the first and last positions of the answer-back code may be used where the ship station's number does not exceed 8 digits.

Recommendation F.131

RADIOTELEX SERVICE CODES

The CCITT,

considering

(a) that it is technically feasible to interconnect certain radiocommunication systems in the Maritime Mobile Service and the Maritime Mobile-Satellite Service with the international telex network in order to provide a radiotelex service between ships and telex subscribers in accordance with Recommendation F.110;

(b) that Recommendation F.60 specifies the code expressions used for service correspondence in the international telex service;

(c) that whilst it is desirable for the same service code expressions to be used in the radiotelex service as in the international telex service, because of the nature of the service the reasons for the uses of these codes may vary;

(d) that agreement as to the circumstances when specific codes are used is desirable, *recommends the following*

(1) In general for shore-to-ship calls the telex service codes specified in Recommendation F.60 should be used. However, the telex service codes listed below should be used by the radiotelex service in the following circumstances:

ABS — *Absent subscriber/office closed* (to be used when radio contact cannot be established, i.e. radio equipment is faulty, the ship is outside the coverage area or the terminal is turned off);

DER — *Out of order* (to be used when the radio path and associated handshaking procedure is accomplished normally but the teleprinter fails to respond to the **WRU** signals);

NC — *No circuits* (to be used when congestion occurs in either the network or switching equipment);

NP — *The called party is not or is no longer a subscriber* (to be used when the ship number received is invalid);

NA — *Correspondence with this subscriber is not admitted* (to be used if the ship's number is barred or if unauthorized group calls are attempted);

OCC — *Subscriber engaged* (to be used if the ship station is engaged).

Note — See also Recommendation U.61 [1].

(2) For ship-to-shore calls all service codes generated in the international telex service, as specified in Recommendation F.60, should be capable of being returned and presented to the calling ship subscriber.

Reference

[1] CCITT Recommendation *Detailed requirements to be met in interfacing the international telex network with maritime satellite systems* , Recommendation U.61.

Recommendation F.140

POINT-TO-MULTIPOINT TELECOMMUNICATION SERVICE VIA SATELLITE

The CCITT,

considering

(a) the need for a point-to-multipoint telecommunication service;

(b) the loss of the HF multi-destinational Press broadcast service for this purpose;

(c) the availability of satellites for point-to-multipoint telecommunications services on a regional and world-wide basis;

(d) the availability of a multiplicity of earth station sizes;

(e) the need for a clarification in terms of the functional elements of this service;

(f) the need for the flexibility of their implementation in order to adapt to the needs of all Administrations,

recommends

the following operational guidelines and Quality of Service requirements for an international point-to-multipoint telecommunication service via satellite.

1 Scope

This Recommendation provides operational guidelines and Quality of Service requirements for an international one-way point-to-multipoint telecommunication service via satellite. See Recommendation D.185 for the general tariff and accounting principles for the international point-to-multipoint telecommunication service via satellite.

1.1 *Definition of service*

The **international point-to-multipoint telecommunication service via satellite** is defined as a service provided to a customer by Administrations for the transmission for example, of text, photographs or data via a satellite for the reception at a multiplicity of destinations by receive-only earth stations.

2 Service description

2.1 *Functional elements of service*

A point-to-multipoint telecommunication service via satellite includes the seven following elements (see Figure 1/F.140);

1) the provider(s) of information;

2) the link between the provider(s) and the control management centre;

3) the control management centre which uses various transmission means in order to collect, address, and multiplex the information from the provider(s);

4) the transmit earth station(s);

5) the transponder of a satellite(s);

6) one or several receive earth stations;

7) the link(s) from the receive earth station(s) to the user(s) equipment.

2.2 *Service provision*

The service may be provided on either a full time 24-hour basis, a scheduled part-time basis (e.g., five hours per day), or occasional use basis (e.g., a special event), subject to such terms as may be agreed between Administrations.

2.3 *Types of service*

The service may be provided:

a) in the form of one or more analogue channels, the bandwidth of which may lie anywhere within the maximum available bandwidth of one transponder, or

b) in the form of one or more digital channels operating at any speed within the maximum available digital capacity of one transponder.

Multipoint-to-point and two-way multiple access services are not addressed in this Recommendation, and are subject to further study.

2.4 *Areas of service coverage*

The service may be provided on a regional or global basis depending on customer requirements and satellite capability.

2.5 *Service configurations*

As illustrated in Figure 1/F.140, there are seven (7) functional elements in the provision of a point-to-multipoint telecommunication service via satellite. Owing to the need for flexibility, the systems may be adapted to a diversity of needs and the regulations of each Administration involved.

The conditions of use of the transmit (4) and receive (6) earth stations and the links (2) conveying the information flow remain a national matter to be determined by the competent authority in each country.

The conditions of use of the space segment (5) are defined by the organizations (INTELSAT, EUTELSAT, etc.) in charge of their provision and by whatever agreements on coordination made by the competent international organizations.

The control management centre (3) for the service may be located and/or operated with the transmit earth station, the provider of the information or independently of these two entities.

3 Quality of Service

The efficiency of operation and therefore the Quality of Service provided to the users are linked to the relationship of all parties which contribute to the provision of the service, i.e. the technical equipment and the entities in charge of their operation. Quality of Service parameters and values are for further study based on operational experience.

3.1 *Service availability*

Service availability is the ratio of aggregate time during which satisfactory or tolerable service is or could be provided, to the total observation period (Recommendation X.140, definition).

As this availability of service depends on the class of space segment, the earth station configurations, the propagation and interference effects and the bit error ratio required, it is not possible to specify a service availability requirement for all point-to-multipoint telecommunication services via satellite. The service availability for each customer will have to be calculated on an individual case basis considering all the points mentioned above.

4 Access

4.1 *Transmit*

The point of interconnection to the service may be located at the providers' location or on the Administrations' premises. When the point of interconnection to the service is located on the Administrations' premises, the providers' access may be via a lease circuit or a public switched network.

4.2 *Receive*

The receive earth station(s) may be located on the users premises or at Administrations' premises. Where the receive earth stations are located at the Administration's premises, access to the user should be via direct connection. The user of a public switched network is for further study.

5 Classes of space segment

Services offered may take account of classes of space segment available from the space segment provider(s). The following classes of space segment may be utilized to provide service:

a) *non-pre-emptible* — A service which may not be interrupted or terminated for the provision of a service to another customer. There are two types of non-pre-emptible service:

1) protected — A service for which restoration is guaranteed; and

2) unprotected — A service for which restoration is not guaranteed and which may only be restored subject to availability of an alternate facility;

b) *pre-emptible* — A service which may be interrupted to provide a service of higher priority.

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Figure 1/F.140, p.11

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