

GMDSS DATA ELEMENTS

Maritime Distress & Safety Telecommunication Data Elements

What these Data Elements Are

The following data elements are used in the transmission of maritime distress and safety information between the Coast Guard and ships at sea. These elements are defined by international conventions or standards organizations, such as the International Telecommunications Union (ITU) Radio Regulations or ITU Sector for Radiocommunications. Each data element listed is necessary to either contact a ship at sea, or identify the sender of a distress alert. Since data described in these elements may provide the only means for Coast Guard Operations Centers to identify and contact vessels in distress, a means to accurately identify and relate these elements to several kinds of search and rescue and telecommunications-related data bases is essential to safety of life.

The data elements specified are currently in use for maritime distress, safety and routine telecommunication purposes, and are defined by international organizations outside the Coast Guard.

Name of the new system or application: **GLOBAL MARITIME DISTRESS & SAFETY SYSTEM**

DATA ELEMENT NAMES AND DEFINITIONS

CALL SIGN

Definition: A unique identifier of a radio station. Named by ITU. (see Article 25 of the ITU Radio Regulations)

Used for: manual identification of Morse and radiotelephone ship and coast stations, 406 MHz EPIRBs, other radio transmissions.

Data element data type: Character string

Data element maximum length: 7 characters

Data element domain: alphanumeric

Alias name: Radio Call Sign

MARITIME MOBILE SERVICE IDENTITY

Definition: "Maritime mobile service identities are formed of a series of nine digits which are transmitted over the radio path in order to uniquely identify ship stations, ship earth stations, coast stations, coast earth stations and group calls." Named by ITU. (from Article 19.100 of the ITU Radio Regulations)

Used for: DSC identifier, universal shipborne Automatic Identification System (AIS), 406 MHz EPIRB identifier, SITOR (narrow-band direct printing) identifier, basis for certain Inmarsat identifiers.

Data element data type: character string

Data element maximum length: 9 digits (See Note)

Data element domain: numeric

Alias Name: MMSI (abbreviation approved by ITU), or Digital Selective Calling (DSC) number, or AIS identity.

Note: The first three digits of the MMSI are Maritime Identification Digits defined by Appendix 43 of the ITU Radio Regulations, identifying the country to which the vessel belongs. "366" is one of the MID assigned to the United States. The MMSI is also used by several foreign countries for 406 MHz EPIRBs. In DSC, a 10th digit may be transmitted as described in ITU-R Rec M. 1080.

SELECTIVE CALL NUMBER

Definition: A unique numeric identifier of a ship or coast station in the maritime mobile service for simplex teletype over radio (SITOR). Named by ITU. (see Article 25 of the ITU Radio Regulations)

Used for: SITOR identifier (intended to be replaced by MMSI)

Data element data type: character string

Data element maximum length: 5 (ship stations) or 4 (coast stations) digits

Data element domain: numeric only

Alias name: SELCAL number, SITOR number

Note: ITU has depleted its store of 5-digit SELCAL numbers

MOBILE EARTH STATION IDENTIFICATION NUMBER (MESIN)

Definition: A unique numeric identifier of an INMARSAT-C, INMARSAT-M, INMARSAT-B and all new INMARSAT ship earth station. Named by the INMARSAT Organization.

Used for: Calls to INMARSAT (except INMARSAT-A) satellite terminals on ships. INMARSAT-C (as of summer 92, the only non-A operational system) is restricted to data or telex only.

Data element data type: character string

Data element maximum length: 9 digits

Data element domain: numeric only

Its format is "TMIDXXXZZ" where

T = type of terminal ("4" for INMARSAT-C)
MID is Maritime Identification Digits (see MMSI)
XXX are digits 4-6 of the MMSI, provided the MMSI ends in three zeros.
ZZ is the ship's extension number (the primary extension is always "10")
For Inmarsat C, ZZ may exceptionally be the digits 7-8 of the MMSI

If freeform identification is used because an MMSI is not available (see below), then:

XXX are the digits 001, ascending to 999
ZZ are the digits 99, descending to 81 (i.e. when the 99 to 81 is exhausted, then you move from 001 to 002 in the XXX numbers, and so forth)

Note: When an MMSI is used, the nine digit Inmarsat number is related to the MMSI as follows:

TMIDNNN10 ==> MIDNNN000 (For T = 3, 4 or 6)
TMIDNNNNN ==> MIDNNNNN0 (for T = 4) (optional, not in US)

T is equal to:

2 - (reserved)
3 - Inmarsat B (39 - land mobile Inmarsat B or maritime high speed data)
4 - Inmarsat C (49 - land mobile Inmarsat C)
5 - Aeronautical
6 - Inmarsat M (76 - Inmarsat Mini M; 69 - land mobile Inmarsat M)
7 - Inmarsat Fleet 77 & 55: T1 T2 = Double T-digit - **76** for Fleet 77 and Fleet 55 AMBE voice and 9.6kbps fax and data service, and **60** for 56 or 64 or 128kbps, and X1-X7 = freeform decimal number.
9 - (future use)

For example, a US vessel having an Inmarsat C identity of 436612310 should have a DSC number (MMSI identity) of 366123000. Other vessels having an Inmarsat C identity of 4MID12310 could have an MMSI of either MID123000 or MID12310. When Inmarsat C maritime terminals are used, the associated MMSIs assigned by the US always end in three zero's.

Although maritime Mini-M terminals use nine digits, these identities have no relationship to the ship's MMSI. Land mobile and maritime mobile Mini-M terminals are numbered in the same manner, and cannot be distinguished.

You can tell the type of terminal used by the first digit; for example, if you need to contact a vessel having an Inmarsat identity beginning with "4", you can only call by using a data message such as telex or C-LINK. If the terminal identity begins with 6, 76, 3, or 1, you normally should be able to contact the vessel by telephone. If a vessel has more than one identity, try the identity ending in "10" first.

Freeform numbering of maritime ship earth stations. Although ITU-R Rec. E.215 requires maritime mobile earth station identities to be derived from an MMSI, several Administrations are commissioning terminals without an MMSI, or with an MMSI not having three trailing zeros. If the MMSI used on a ship does not have trailing zeros, or if an MMSI is not used at all, the freeform numbering scheme described above is being used. Although freeform numbering has not been sanctioned by ITU, its use does resolve the potential shortage of MIDs.

Alias name: INM, INMARSAT IDENTITY or INMARSAT NUMBER

SHIP EARTH STATION IDENTITY NUMBER

Definition: A unique numeric identifier of an INMARSAT-C ship earth station. Named by the INMARSAT Organization.

Used for: Calls to INMARSAT-C satellite terminals on ships, for telephone and telex.

Data element data type: character string

Data element maximum length: 7 digits

Data element domain: numeric only

Alias name: SES ID or Primary ID (Named by the INMARSAT Organization)

406 MHZ EPIRB UNIQUE IDENTIFIER NUMBER

Definition: A unique alphanumeric identifier of a 406 MHZ satellite EPIRB.

Used for: Identification of 406 MHZ EPIRBs

Data element data type: character string

Data element maximum length: 15 characters

Data element domain: hex number

Alias name: Unique Identifier Number, or 406 MHZ EPIRB HEX number.

Note: This number is maintained in a registration database by NOAA/NESDIS (U.S.) and by similar organizations in each country using this method of identity.

CANDIDATE PRIME WORDS

STATION. STATION refers to ship or coast radio station, EPIRB, or other device transmitting a radio signal.