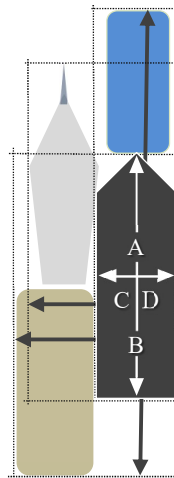


USCG AUTOMATIC IDENTIFICATION SYSTEM Encoding Guide 26-07-01

AIS is a valuable navigation safety radio-communication tool. However, the broadcast of improper or outdated data undermines its effectiveness. U.S. regulations (33 CFR 164.46) require that your AIS be in effective operating condition, which includes the accurate input and upkeep of all AIS data parameters. To ensure the efficacy of AIS and avoid possible penalties, ensure it is up-to-date and set⁹ as follows:

- **Maritime Mobile Service Identity (MMSI)**¹ should reflect the MMSI assigned to the vessel by its official communications authority (i.e., FCC) or one of its agents (e.g., BoatUS, U.S. Power Squadron).
- **Vessel Names** should not exceed 20-characters and can be shortened **but not truncated**. Either by using standard abbreviations (where applicable) followed by a period, e.g., Mr., N.J., N.Y.C.; and/or, shorten to contain the last 4 characters of the name or its unique numbering, preceded by an underscore, e.g., *THE BEST AND GREATEST BOAT EVER* to *THE BEST & GRE_ EVER*; *MY COMPANY BOAT 123456* to *MY COMPANY BO_123456*. Names should not include vessel type precursors, e.g., F/V, M/V, MV, OSV, P/V, REC, S/V, T/B; but may include entity ownership acronyms, e.g., CG, CBP, LAPD, NYFD, USN, USACE. Solely state registered vessels should name themselves with their state registration number preceded with 'USA#', e.g., USA#CA1234YZ. Associated (daughter) craft or tenders, should reflect the parent vessel's name, followed by a numerical sign '#' and its sequential number that distinguishes it from other daughter craft, e.g., *JOLLY ROGER#3*, would be the 3rd tender of the *JOLLY ROGER*.
- **Call-sign** should reflect the vessel's official radio license call-sign. Licensed by rule stations should leave it blank, except daughter craft, which should reflect the last 6-digits of its parent MMSI preceded by the letter 'A', e.g. A123456.
- **IMO Number**² should reflect the vessel's assigned IMO or U.S. Official number, if it lacks an IMO assigned number. Use leading zeroes, **not trailing zeroes**, to fill the parameter, e.g., 0001234567. Vessels using their U.S. official number should start with a "1", followed by zeroes, then the number, i.e., 100123456, 1000123456, 1001234567, or 101234567.
- **Static Draft** should be in meters, **not feet**, and reflect the vessel's maximum draft.
- **Ship Type** see Table.
- **Electronic Positioning Fixing System (EPFS)** in use should be type-certified and properly denoted in AIS position reports, i.e., GPS; and, interfaced to Transmitting Heading Device and Rate of Turn Indicator of AIS of passenger ships of 150 gross tonnage (GT) or more and cargo ships of 300 GT or more⁴, on international voyages. Although encouraged, external interfacing is not required on vessels that solely operate domestically.
- **EPFS ABCD values** should reflect accurate 2-D distances, **in meters not feet**, fore (A), aft (B), to port (C), and, to starboard (D) from the EPFS antenna location to the vessel's exterior hull (including appendages). Note, AIS Class A devices should be encoded with separate external and internal EPFS antenna location & Vessel dimensions. Push vessels ABCD values should reflect its dimension with its tow (see diagram). When doing so it's AIS Ship Code should be 86 (Integrated / Articulated / Push Tug-Barge) or 57 (Spare 2 - for assignments to local vessels), if 86 is unsupported.



- **Navigation Status** should reflect the current Navigation Rules status of the vessel. Especially when at anchor or moored, which reduces AIS reporting to a rate that greatly improves overall network efficiency and range. A **vessel underway not using their engines should set their status as '0-Underway using engine / Underway'** vice '2-Not under command', unless truly not under command. If capable⁵, vessels engaged in towing, should set their status as either '11-Towing astern' or '12-Towing ahead/alongside'.
- **Estimated Time of Arrival (ETA)** should reflect the ETA to your destination, in Universal Time Coordinated (UTC), **not local time**. It is not applicable to vessels at anchored, moored, or on variable schedule (e.g., workboats).
- **Destination**⁶ and origination port should be encoded⁷ (when safe to do so) in the format below, using UN/LOCODES or US/GUIDs:

Origination>Destination using UN/LOCODE only

USNYC>NLRTM ...one-way voyage New York City to Rotterdam

USCIR>USMSY>USCIR ...a roundtrip between Cairo, IL and New Orleans, LA

USHOU<>USHOU ...operating solely within a well-defined area, e.g. fleeting area, VTS, etc.

Origination>Destination using UN/LOCODE+2 only

KRPUS>USRCH22 ...one-way voyage Busan, Republic of Korea to Richmond, CA Pier

US^SF0xx><USOAKyy ...a scheduled route, San Francisco CA to Oakland CA

Origination>Destination using US/GUID only

US^0Y0P><0Q6L ...a scheduled route, e.g. Staten Island Ferry

US^0X6M>0WYY>0X6M ...a roundtrip between Cairo, IL and New Orleans, LA

US^0NVR<< ...anchored, moored, or on station (e.g. MODU, FPSO)

Origination>Destination using UN/LOCODE and US/GUID

CNSHA>US^0VCY ...for Shanghai to San Francisco Pier 35

- **AIS safety-related text messages** should be in English and **used solely to exchange navigation safety information**. Keep messaging concise and as short as possible (less than 90 characters). The use of common abbreviations is acceptable and encouraged; see the Notice to Mariners, USCG Local Notice to Mariners, Light List, and U.S. Nautical Chart No.1 for a listing of common abbreviations.
- **Although not prohibited, AIS should not be relied upon as the primary means for distress (MAYDAY) or urgent (PAN PAN) communications.**³

Notes--

1. See {Ship Radio Stations}.
2. Obtained at .
3. See 47 CFR 80.1109--Distress, urgency, and safety communications.
4. Per either IMO SN/Circ. 227, 224 or NMEA 0400 Installation Guidelines. ROT is only required on cargo ships $\geq 50,000$ GT
5. Older AIS devices will not offer these statuses or may show them as 'Reserved for Future' use. Although not required, we exhort all AIS users to seek AIS firmware upgrades to avail themselves of these advantageous statuses.
6. Any port or offshore place in which a vessel is bound to embark or disembark vessel passengers, crew or cargo (not barge movements); or anchor or maintain station for extended period (e.g., anchorage, Outer Continental Shelf (OCS) activity).
7. Per IMO SN/Circ.244, i.e., ISO 3166 country code followed by United Nations Location Code (UN/LOCODE); UN/LOCODE+2, locally adopted codes (i.e. SF VTS) composed of the UN/LOCODE followed by two-digits which represent a designated berths, pier or terminal; or, by U.S. Geographic Unique Identifiers (US/GUIDS) for waterways, route or places. For codes (or to request a new code) visit .
8. Note, the difference in symbology { ^ | > | >> | << | <> }. If your AIS lacks angle brackets {>} characters, substitute with parenthesis: { } | | () | (()
9. Note, U.S. AIS Class B devices are not user configurable. Contact the device manufacturer/vendor for reprogramming guidance.

AIS SHIP TYPE CODES – Embolden code numbers are the latest additions and may appear as ‘Reserved for future’ or not at all on older systems

00	Ship Codes unshown are <i>Reserved for future use</i>
01	Science / Research vessel*
02	Training vessel
03	Ship owned or operated by a government
04	Ice breaker
05	Buoy (Aids to Navigation) tender*
06	Cable layer*
07	Pipe layer*
09	Special purpose ship, no additional information
11	FPSO (Floating, Production, Storage, Offloading) vessel
12	Fish factory ship
13	Fish farm support vessel
14	Offshore support vessel, etc.
17	Construction vessel
18	Crew boat
19	Support vessel, no additional information
30	Fishing vessel*
31	Towing vessel*
32	Towing vessel and length of the tow exceeds 200 m or breadth exceeds 25 m*

33	Dredger*
34	Diving vessel
35	Warship or naval auxiliary
36	Sailing vessel*
37	Pleasure motor craft
38	Trawler
39	Patrol vessel
45	HSC, carrying passengers
46	HSC Ro-Ro ship (vehicle / rail)
50	Pilot vessel*
51	Search and rescue vessel*
52	Tugs
53	Port or fish tender
54	Anti-pollution or firefighting responder*
55	Law enforcement vessel
56	Spare 1 – for assignments to local vessels
57	Spare 2 – for assignments to local vessels
58	Medical transports (as defined in the 1949 Geneva Conventions and Additional Protocols)
59	Ships of States not parties to an armed conflict

65	Passenger (cruise) ship
66	Passenger (ferry) ship
67	Passenger (excursion) ship (i.e., harbour cruise boat, whale watcher, etc.)
75	Cargo ship, bulk carrier
76	Cargo ship, container ship
77	Cargo ship, roll-on-roll-off carrier
78	Cargo ship, landing craft
85	Tanker(s), non-hazardous or non-pollutant carrier
86	Integrated / articulated tug and tank barge * (ABCD values should reflect tug and barge dimensions)
<p>Ship types denoted with an asterisk should be particularly diligent reporting their current Navigation Status, i.e.,</p> <ul style="list-style-type: none"> 1-underway, 3-restricted maneuverability, 7-engaged fishing, 8-under sail only, 11-towing astern, or 12-towing ahead/alongside. 	

Wing-in-Ground Craft	High-Speed Craft	Passenger Ship	Tanker Ship	Cargo Ship	Other types of ship	
20	40	60	70	80	90	All ships of this type
21	41	61	71	81	91	Carrying dangerous goods (DG) and/or materials hazardous only in bulk (MHB), harmful substances (HS), or marine pollutants (MP), IMO hazard or pollutant category X (formerly A)
22	42	62	72	82	92	Carrying DG and/or MHB, HS, or MP, IMO hazard or pollutant category Y (formerly B)
23	43	63	73	83	93	Carrying DG and/or MHB, HS, or MP, IMO hazard or pollutant category Z (formerly C)
24	44	64	74	84	94	Carrying DG and/or MHB, HS, or MP, IMO hazard or pollutant category OS (formerly D)
29	49	69	79	89	99	No additional information

For further information on AIS and to verify your encoding visit <https://www.navcen.uscg.gov/ais-vivs-home>. For other inquiries email: cgnav@uscg.mil.