1 GPS Jamming and Spoofing Report Version: 0

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DAC: 367 **FI: 26**

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Future variant: TBD.

Summary of changes:

Release Version 1:

- TBD

1.1 Introduction

The GPS Jamming-Spoofing Report is intended to be used to transmit an alert if the ship systems sense a GPS jamming (loss of GPS) or GPS spoofing (incorrect position) event. When this happens, the last known good position and time will be transmitted in this message. When the event is over the same message can be sent with the complete bit set, with the time and position that GPS was regained. This message has been reduced in size to less than a single slot to provide increased probability of detection via satellite.

All directions are relative to True North, all positions are WGS-84 Datum.

1.2 Usage notes

1. If the process on the ship detects a loss of GPS or a spoofed position then this message is sent. The spoofing is detected by comparing the difference between two different GPS receivers onboard. If they are at different locations on the ship they will have different positions unless being spoofed, at which time they will have the same position.
2. Once the jamming or spoofing event is over another message is sent.

1.3 Message Format

Table 1: GPS Jamming-Spoofing Report Framework – Broadcast

Parameter			# of bits	Description
Standard Message Header		Message ID	6	Identifier for Message 8; **always 8**.
		Repeat Indicator	2	Used by the repeater to indicate how many times a message has been repeated. (See ITU-R M.1371-3, Annex 2, § 4.6.1). 0 – 3; 0 = default; 3 = do not repeat any more. **Set to 0** (default).
		Source MMSI	30	MMSI number of source station. This varies according to the transmitter ID.
		Spare	2	Not to be used. **Set to zero.**
Binary Data		Designated Area Code	10	Designated area code (DAC). (See Rec. ITU-R M.1371-3 § 2.1, Annex 5). **Set to 367** (US).
		Function Identifier	6	Function identifier. **Set to 26.**
		Version	3	Sequential number used to indicate the message version in steps of 1. 0 = test message = default; 1 – 7 = message version. **Set to 0.**
		UTC Day	5	Day of the last good position. 1 – 31; 0 = not available = default
		UTC hour	5	UTC hour of the time of the last good position. 0 – 23; 24 = UTC hour not available = default; 25 - 31 (reserved for future use).
		UTC minute	6	UTC minute of the time of the last good position. 0 – 59; 60 = UTC minute not available = default; 61 - 63 (reserved for future use).
		Longitude	25	Longitude of the last known good position in 1/1,000 minute (±180°) in WGS-84 datum. East = positive, West = negative (as per 2's complement); 181° = not available = default.
		Latitude	24	Latitude of the last known good position in 1/1,000 minute (±90°) in WGS-84 datum. North = positive, South = negative (as per 2's complement); 91° = not available = default.
		Type	1	Type of event 0 = Jamming; 1 = spoofing
		Status	1	Status 0 = Start of event; 1 = end of event
		Spare	2	Set to zero
Total bits			**128**	**1 slot message**