



# SHIP SAFETY BULLETIN

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**Subject:** Difficulties and best practices for detecting radar search and rescue transponders (SARTs)

## Purpose

This bulletin informs ship owners, masters, and navigational officers that the International Maritime Organization (IMO) recently released IMO Circular SN.1/Circ.345 about correctly operating marine X-band radars to detect and display Radar Search and Rescue Transponder (SART) signals.

## Background

Radar SARTs are emergency devices that help locate survivors or distressed vessels by transmitting a radar signal when interrogated by an X-band radar (9 GHz). Standard radar settings for navigation and anti-collision might not properly display Radar SART signals unless operators adjust settings such as range scale, gain, clutter controls, and tuning. When a radar is detuned or the range scale changed for better SART detection, normal radar targets may appear weaker or be less discernible.

## What you need to know

Crews should be familiar with the manufacturer’s recommended radar settings to detect radar SART signals. This includes adjusting tuning, gain, and clutter settings, and possibly selecting ranges that are better for SART detection. Switching to a SART-friendly mode can make SART signals more visible, but can also make detecting normal radar targets harder. Operators should be trained in when and how to make this change safely. Be careful not to compromise overall situational awareness when searching for a possible SART signal.

[Ship Safety Bulletin No. 05/1998](#) provides detailed and relevant guidelines on optimizing radar detection performance, especially during adverse weather conditions.

### Keywords:

1. Search and Rescue Transponder (SART)
2. Radar
3. Automatic Identification System (AIS)

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## ***Continuous training and operational readiness for radar search and rescue detection***

Modern marine radar systems are complex. Ship owners should develop training strategies that prepare crews for search and rescue operations. Training programs should challenge the traditional “set and forget” approach by encouraging a deeper understanding of advanced radar features and detection modes.

Practical skill development is crucial. Crews should practice training scenarios that focus on rapid radar mode transitions and adaptive search techniques. Training should emphasize active monitoring during potential rescue situations.

### ***AIS-SARTs***

Owners and operators may wish to install an AIS-SART instead of a radar SART. AIS-SARTs transmit a standard automatic identification system (AIS) message (rather than requiring specific X-band radar settings). They appear along with other AIS targets on compatible navigation devices and displays. Both domestic and international regulations consider AIS-SARTs equivalent to Radar SARTs, and they meet the same carriage requirements.

Since they don't generate an audible alarm, crews should familiarize themselves with detecting AIS-SARTs. The IMO symbol for an AIS-SART is a circle containing a cross drawn with solid lines:



The symbol may not always appear on old navigation devices and displays. In these cases, the device will display a ship without a name, together with range and bearing and a MMSI beginning with 970.

### ***Related Links***

- IMO SN.1/Circ.345, DIFFICULTIES AND RISKS INVOLVED IN THE SETTING OF RADAR DISPLAYS TO CORRECTLY VISUALIZE RADAR SEARCH AND RESCUE TRANSPONDER (SART) SIGNALS
- IMO SN/Circ. 197, OPERATION OF MARINE RADAR FOR SART DETECTION
- *Navigation Safety Regulations, 2020*
- Bulletin No.: 05/1998, Operation of Marine Radar for the Detection of Search and Rescue Transponders ( SART 'S)