

ComFix 24' Project Proposal



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A Problem at the Sea

Sailors, particularly fishermen, often face challenges in maintaining communication with their loved ones while at sea. Existing communication solutions are predominantly high-tech and expensive, making them inaccessible to many local fishermen.

The current lack of affordable and efficient communication options poses significant obstacles for fishermen who need to stay connected with their families and seek assistance during emergencies. While some technological solutions exist, they remain out of reach for many due to cost constraints.

What they do now

The current method for fishermen to communicate with their families during emergencies often hinges on land-based communication centers acting as relays. This process typically involves:

- **Initial Contact:** fishermen attempt to establish contact with a land center geographically close to their families' residence.
- **Relay Request:** The fishermen relay the emergency message to the land center staff.
- **Delivery Options:** The land center personnel then have two options:
 - Message Delivery: They can directly convey the message to their family, potentially compromising privacy.
 - Family Contact: Alternatively, they can attempt to contact the family and ask them to travel to the land center to receive the message, which can be inefficient and impractical in urgent situations.



Drawbacks of the Current Method


This existing approach suffers from several critical shortcomings:

- **Inefficiency:** The reliance on manual relay by land center staff is time-consuming and prone to delays, hindering timely communication.
- **Manpower Dependence:** This method necessitates dedicated personnel at land centers, increasing operational costs.
- **Privacy Concerns:** Direct message delivery by land center staff may inadvertently compromise the sailor's personal information or the nature of the emergency.
- **Limited Capacity:** The system cannot handle concurrent communication requests from multiple sailors efficiently, potentially delaying critical messages.
- **Unreliable Nature:** The success of this approach hinges on factors beyond control, such as the availability of land center staff and the ability to reach the sailor's family promptly.

Addressing this issue requires the development of a communication system tailored specifically to the needs and constraints of fishermen. Such a system should be both affordable and straightforward to use, ensuring accessibility for all members of the fishing community.

What we propose

We propose a methodology to address the aforementioned communication challenge. Initially, a connection will be established between the vessel and the designated central location by leveraging existing high-frequency (HF) radio equipment. Subsequently, the call will be routed via conventional telephone lines, guaranteeing a reliable communication channel between the sailors and the intended recipient.



Advantages of the Proposed Solution

- **Affordability:** By utilizing existing hardware, the proposed system significantly reduces costs, making it accessible to fishermen of all income levels.
- **Direct Communication:** Sailors can directly call their families from the boat, eliminating the need for intermediary land centers and streamlining the communication process.
- **Privacy Protection:** Unlike current methods, the proposed solution ensures the privacy of communications between sailors and their families, enhancing trust and confidentiality.
- **Reliability:** Leveraging telephone lines for communication enhances reliability compared to traditional methods, reducing the risk of communication failures during emergencies.
- **Ease of Use:** The system is designed to be straightforward and user-friendly, requiring minimal training for fishermen to operate effectively.

Implementation

The implementation of this solution involves integrating HF sets on boats with land-based telephone lines through appropriate interfaces. This may require collaboration with telecommunications providers and regulatory authorities to ensure compatibility and compliance with standards. Training programs can also be developed to educate fishermen on the use of the system.

