

White paper on SWAP technology

Servicing and repairing shipboard electronics can be time consuming and expensive. Now there's a solid, safe and simple solution that removes the repair from ship to shore, thanks to new SWAP technology from Danelec Marine. SWAP stands for SoftWare Advanced Protection, and it's nothing short of revolutionary when it comes to servicing onboard electronics. This white paper provides an overview of the SWAP technology.

How Does SWAP Work?

SWAP technology was developed to address the expensive and time-consuming issue of servicing and repairing shipboard electronics. It is a completely new approach that removes the repair from ship to shore, reduces labor costs for service calls, protects valuable shipboard data and eliminates in-port delays for repairs.

Danelec marine electronic products are designed so that all system configuration and programming data is saved automatically onto a memory card, which slides into a slot in the front of the data processing unit. The memory card can be moved to a replacement unit, transferring all the programming and configuration files to the new unit, eliminating the need for reloading files manually. Then the old unit can be taken ashore for repair in a Danelec-certified workshop without holding up the ship's schedule.

The Traditional Way

The traditional service scenario goes something like this:

- The ship experiences problems with a vital piece of electronics and schedules a service call at the next port.
- The service technicians meet the ship to troubleshoot the problem and determine what spares are needed to make the repair.
- They leave the ship to get the parts. If they are not available locally, the parts must be ordered and it could take several days for them to arrive.
- The service technicians return to the ship to make the repairs. It may take several hours of reprogramming and reloading software and reconfiguring files.

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- In the meantime, Port State Control authorities may delay the ship's departure, resulting in expensive demurrage and port costs. If the ship is allowed to sail, the spares must be delivered to its next port, requiring a second service call to complete the repairs. Either way, the process is slow and expensive.

The Danelec Way

Now consider the same scenario with SWAP technology:

- The ship requests a service call, as before.
- The Danelec-trained technician meets the ship carrying a replacement unit in hand.
- He unplugs the existing unit, removes the memory card from the slot and slides the faulty unit out of the cabinet.
- He slides the replacement unit into place, plugs in the cables and inserts the memory card containing programming and configuration files into the slot.
- The technician performs a quick check to make certain the system is functioning properly, and then leaves the ship taking the old unit to be repaired ashore.
- The entire procedure is accomplished in just a few hours with a single service call, and the ship sails on time.

Benefits

The benefits of SWAP technology are invaluable. SWAP technology:

- **Saves time** by enabling onboard repairs to be accomplished in a matter of hours, not days
- **Saves money** by reducing man hours for service calls
- **Protects valuable shipboard data** on a hot-swappable memory card
- **Keeps the ship on schedule**, eliminating in-port delays for repairs

Best regards
Danelec Marine A/S

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