



PREVENTATIVE MAINTENANCE BULLETIN

Series 9100 Connectors and Hardware (Headsets, Headset Stations, Belt Stations)

Areas of Concern:

1. Proper Cleaning
2. Protection from environmental exposure (water, salt fog, etc.)
3. Treatment of metals for corrosion and rust
4. Proper Storage of Headsets, Wireless Belt Stations

Initiating a regular maintenance schedule that provides attention to these areas will prove invaluable in preserving the reliable performance of your equipment. ***Please take care to follow the measures below, in the order of sequence outlined, after each use/mission.***

1. PROPER CLEANING

Headsets, Headset Stations, Wireless Gateways and Wireless Belt Stations are the most exposed components of the Digital Intercom System. Exposure to elements such as salt fog, water, and wind-driven particles will work to wear away or corrode any type of unprotected marine-grade steel, even stainless steel or aluminum.

Fortunately, simple cleaning and appropriate care of these units will mitigate the corrosive effects of such exposure and ensure the unit remains in operational condition.

Cleaning Steps:

- a. Inspect unit for debris or salt build-up.
 - i. Headsets, in particular, on the headband spring and/or suspension assembly, microphone boom, all fastening hardware, and the communication connector (both interior and exterior).
 - ii. Wireless Belt Stations should begin inspection by first removing the rubber protective skin (wash with mild soap and water, then let dry...reinstall on unit after unit has been cleaned).
- b. Brush away any debris or salt build-up with a nylon/synthetic bristled utility brush.
 - i. Interior of connector (Headset, Headset Station, Wireless Belt Station) and/or battery compartment on Wireless Belt Station may require the application of compressed air and/or a fine tip swab to adequately remove debris and/or pooled water
 - ii. Re-secure dust cap to headset connector and/or securely close battery compartment on Wireless Belt Station.

- c. The entire unit can then effectively be cleaned with a mixture of water and mild soap, such as a liquid dish detergent, using a clean cloth (Note: battery compartment of wireless belt stations should be wiped down with a clean, dry cloth or swab only.)
- d. For hygiene purposes when sharing headsets, head pads, overhead support straps, and ear seals, as well as microphone covers, can be wiped down with commercial alcohol wipes (such as 70% isopropyl) to kill germs.
- e. Allow unit to dry thoroughly prior to storage or the completion of next preventative maintenance steps

2. PROTECTION FROM ENVIRONMENTAL EXPOSURE (WATER, SALT FOG, ETC.)

The proper use of dielectric grease will help to ensure the integrity of all electrical contacts within the headset connector and it's mating receptacle. This electrically insulating grease will provide a waterproof barrier from any water that may enter and/or pool inside the connector, with the contact pressure (when mated) being sufficient to penetrate the grease film and ensure proper electrical contact.

Dielectric Grease Application Steps for Headset:

- a. Ensure dust cap is unplugged from headset connector (if applicable)
- b. Ensure headset connector (contact end) has been properly cleaned per prior Cleaning Steps 1a. & 1b.
- c. Unplug tethered dust cap from connector (if applicable)
- d. Using a fine tip swab, apply a sparing amount of dielectric grease to each contact pin
- e. Insert tethered dust cap to connector (if applicable)

Dielectric Grease Application Steps for Headset Station or Wireless Belt Station Receptacle:

- a. Ensure dust cap is unplugged from headset mating receptacle
- b. Ensure headset connector has been properly cleaned per prior Cleaning Steps 1a. & 1b.
- c. Using a fine tip swab, apply a sparing amount of dielectric grease to each contact pin
- d. Insert tethered dust cap to headset mating receptacle

Note: Insertion of the tethered dust cap – after each use/mission – is critical to mitigate water entry/pooling inside the headset connector or mating receptacle. While dielectric grease application provides a mitigating factor to contact corrosion, water entry/pooling will work against this protection measure. Should a dust cap be missing or broken off of its tether, contact your David Clark reseller to discuss replacing this cap immediately.

3. TREATMENT OF METALS FOR CORROSION AND RUST

The use of appropriate corrosion inhibitors will keep connectors and hardware/fasteners from seizing due to salt and debris build-up, and proper application **after each use/mission** should effectively inhibit corrosive rust and oxidation that would degrade and deteriorate marine-grade metals.

Corrosion Inhibitor Application for Headset:

Note: Always follow all of the manufacturer's instructions when applying corrosion inhibitors, particularly where personal safety is involved (i.e., eye and respiratory protection,) and appropriately mask any non-steel components or items not intended for application, such as microphones, ear cups and seals and head pads.

- a. Follow all **Cleaning Steps** from previous section (1), and allow to dry thoroughly.
- b. Work with each steel component separately
 - i. Headband spring, end-to-end, including fasteners and stirrups (over-head models only)
 - ii. Microphone boom, mounting end to hinge point, including fasteners
 - iii. Communication cord connector, pin-end to strain relief boot
- c. Prior to spray application, protect any non-steel surfaces with appropriately non-permeable masking material (e.g., paperboard, sheet plastic). Headset connectors should have their dust caps inserted prior to application (if applicable)
- d. Spray each steel component in turn with an appropriate corrosion inhibitor. Examples tested & approved by DCCI include:
 - i. Corrosion-X
 - ii. Boeshield T-9
- e. Wipe residue from any non-steel surface as necessary after application with clean cloth or paper towel

Corrosion Inhibitor Application, Other Components:

Wireless Gateway

As there are no steel surfaces on the Wireless Gateway, apart from the surface-mount bracket and stainless steel mounting screws, the application of corrosion inhibitors becomes less of a concern than the moving parts of other system components.

Nevertheless, regular application of corrosion inhibitors to these steel parts, where exposed to the elements following essentially the same steps as 3a. through 3e. above will ensure these parts do not seize due to corrosion and can be easily removed should the unit need to be removed for any reason.

Headset Station

Treatment of surface-mount bracket and stainless steel mounting screws with corrosion inhibitors should be identical to the notes above under Wireless Gateway.

In addition, the outer perimeter of the headset connector should be treated with the same corrosion inhibitors noted above (3.d.i. & ii.) by spraying liberally onto an appropriate swab and using the coated swab to apply a thin film of inhibitor around the exterior of the connector.

Wireless Belt Station

Treatment of the outer perimeter of the headset connector should follow steps noted above under Headset Station, with same method used to treat other steel surfaces on the unit (i.e., thumb-screw for battery compartment, bracket hardware for belt clip.)

4. PROPER STORAGE CONSIDERATIONS (HEADSETS, WIRELESS BELT STATIONS)

Headsets and Wireless Belt Stations, when not in use, can be hung up with the use of a Headset Restraint, Quick Release (P/N 43200G-01). Installing Headset Restraints in an elevated position above/behind/close to each headset position will provide a simple, secure method of keeping each Headset/Wireless Belt Station off of the deck or users seat, also keeping these units dry and out of the way.

David Clark also offers a Headset Carry Case (P/N 40688G-08), suitable to store a single 9100 Series Headset, as well as a single Wireless Belt Station, when not in operation. Keeping the Headset and/or Wireless Belt Station in a fully-zipped Carry Case after each use will significantly improve the environmental protection of these items, provided they are, in turn, to be stored in an area onboard the vessel protected from water and direct sunlight.