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TECHNICAL NOTE

General Information about Stabilant

- *Why do electronic systems fail, especially the most sensitive and delicate systems?*

The surface of electronic connectors, smooth as they may look, are in fact highly irregular at the microscopic level. This irregularity worsens when rim, corrosion and movement further impair the contact between two mating connectors causing unpredictable contact resistance. Unpredictable contact resistance in turn causes electronic noise, static, intermittence, erratic electrical behavior and signal distortion. Ultimately these problems will lead to system malfunction or failure.

- *What can be done to improve the performance of connectors?*

Often liquid contact cleaners are used to break down grit and tarnish. This cleaning will improve the contact slightly and temporarily. Oxygen can still enter the connection and so can dirt. Tarnish and corrosion are just a matter of time. Any physical movement of the connector or the system can jar connectors farther apart. Stabilant 22 is the only safe and effective way to improve the performance of electronic connectors. Stabilant 22 coats the contact area of connectors, penetrating into the surface irregularities and keeps grime and oxygen out while inhibiting tarnish and corrosion. Stabilant 22 becomes conductive between two mating, charged connectors and thus broadens the contact area beyond the scattered contact points, improving the overall conductivity.

Because of its viscosity, Stabilant 22 overcomes the effects of most slight movements and will prevent signal loss.

- *Will repeated applications of Stabilant 22 build up on the connection destroying the electronic contact?*

Stabilant 22 does not varnish or build up on connectors. Chemically stable, it also will not react with other treatments previously applied to the connectors. Repeated applications are almost never needed.
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- Will repeated applications of Stabilant 22 build up on the connection destroying the electronic contact? (continued)

Stabilant 22 is long lasting. Some connectors, treated with Stabilant 22 six years ago have not yet required a second treatment.

- If Stabilant 22 is conductive, won't electrical signals be transmitted every which way if the Stabilant gets on the circuit board, for example?

No. Stabilant 22 ONLY becomes conductive between two mating, charged connectors. Stabilant 22 can be thought of as a "slow semiconductor" that is initially non-conductive, but switches to a conductive state when between two closely spaced metal surfaces that carry a threshold electrical voltage. Insulating surfaces are not compromised by Stabilant 22.

- Threshold electrical voltage?

Static electricity, for example, will not trigger the latent conductivity in Stabilant 22. In fact, Stabilant 22 is non-ionic and cannot be charged by the static electricity in the air or the electronic system. But, a low voltage directed current, the threshold voltage, will begin to make Stabilant 22 conductive, though always at a lower level of conductivity than the metal connectors themselves.

- Should connections be cleaned before applying Stabilant?

Keeping connections cleaned is always a good idea, but unless the connector is really filthy, Stabilant 22 will do the cleaning. Stabilant 22 has a detergent like action that will remove most grime and corrosion from the connector.

- How is Stabilant 22 applied?

Application of Stabilant 22 is easy! A cotton swab can be used on the connector surface or where lint might be a problem, and artist's brush or even a fingertip (because it is non-toxic) will do the job.

- What kind of connectors can Stabilant 22 be used on?

Any electronic connector will benefit from an application of Stabilant 22. Edge card connectors, cable connectors, relays, key contacts, switches, patching connectors--these are just some of the kinds of electronic connectors that Stabilant 22 has already made more reliable.

- Even integrated circuits?

Soldered integrated circuits (IC's) of course won't be affected by Stabilant 22. But Stabilant 22 does wonders for socketed IC's, perhaps the most vulnerable of all connectors.

Socketed IC's are prone to contact generated noise because of the way the connection is made. Signal loss and slow rise time are other problems associated with socketed IC's. Additionally, the poor heat transfer of IC's to the surrounding area can lead to "cooked IC's".

Stabilant 22 can solve all these problems reducing or eliminating contact noise and signal loss and speeding rise time by 40 to 70%. Heat transfer from an IC to its socket can also be increased sufficiently to keep the IC from overheating. Even IC's which have already been "cooked" can be made serviceable again.

Socketed IC's are less expensive than soldered IC's. Socketed IC's are easier and less expensive to assemble, pull and service as well. Use of socketed IC's with Stabilant 22 to enhance their performance will keep costs down.