Stabilant 22 Contact Enhancer Application Notes

App. Note 5 - RTS & Dual Patch Bays

Background:

The jack fields used in most broadcast and studio consoles employ a variation on a connector developed originally for telephone switchboards. The main feature of these that has kept the design active has been the amount of switching that can be hung-on the jack, permitting very involved interrupt or bridging variations to take place upon the insertion of the plug.

However, by its very nature, the sleeve contact does not always make a good connection, and while this contact is used for the shield, and the other contacts maintain the balanced line conditions in most applications, even the presence of rectifying films in a shield circuit can cause problems with RFI.

Good contact is of course necessary in the signal path, when it is not made, there can be problems with poor signal to noise ratio, microphonics, RFI, and even distortion are present.

Existing solutions:

The treatments previously available fall into three general classes; cleaners, protective oils, and contact-plating-material stabilizers. Most cleaners are based on solvents such as perchloroethylene, or one of the Cellosolveves(TM), either singly or in combination. The protective oils range from silicones through vegetable oils. The third class would be a material like poly-phenyl-ether or something similar. A possible fourth class could the combination of any of the others, including a possible solvent.

However a problem often encountered with oils is their tendency to "Varnish" or for a tough film on the surface of the connector. This is especially aggravated by the presence of sulfur from the high-sulfur or free-machining brass stocks used in the manufacture of many of the jack field contact parts. Quite a number of the vegetable oils (such as palm oil) can be cross-linked (literally vulcanized) by free sulfur, forming a sort of crummy varnish-like deposit in the process.

The use of Stabilant 22--22A--22E:

Where varnishing has been experienced it is important to clean off any such deposit from the connector before applying **Stabilant 22/22A/22E.** We would suggest the use of any of the cleaners which do not contain silicone or oil of any other kind.

By then applying a thin coating of either **Stabilant 22, Stabilant 22A** or **Stabilant 22E**, to the ring tip, & sleeve contacts (or to the tip and sleeve contacts of the 2 circuit plugs) and only will the signal to noise ratio be improved, but harmonic distortion can be reduced as well.

Be sure to apply Stabilant **22/22A/22E** to the switching connections in the jack field as well. The use of one of the proprietary cleaner/applicators such as the burnishers made by Vertigo Recording Services is advisedl**

Results that are to be expected:

It is suggested that only one channel be treated initially and compared with an untreated channel. The difference us usually audible as a smoother more musical sound on the treated channel.

Reference:

Reference is made to Technical Note Number 24 "Effects of Stabilant 22 on Harmonic Distortion in Connectors"-

**Vertigo Recording Services

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Revision 3

Stabilants are a product of Dayton Wright research & development and are made in Canada

NSCM/Cage Code - NATO Supply Code 38948

15 mL of S22A has NATO Part # 5999-21-900-6937

MATERIAL SAFETY DATA SHEETS ARE AVAILABLE ON REQUEST

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