



Number 5

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APPLICATION NOTE

Use of Stabilant 22a on RTS & Dual Plug 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 that has kept the design active has been the amount of switching that can be hung-on to 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, problems with poor signal to noise ratio, microphonics, RFI, and even distortion are present.

- *Existing solutions:*

The treatments previously available fall into two general classes; cleaners, and protective oils. Most cleaners are based on solvents such as perchloroethylene, or one of the Cellosolves™ either singly or in combination. The protective oils range from silicones through vegetable oils. A third class would be the combination of solvents with oils.

However a problem often encountered with oils is their tendency to "varnish" or form a tough film on the surface of the connector. This is especially aggravated by the presence of sulphur from the high-sulphur 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 sulphur, forming a sort of crummy varnish-like deposit in the process.

- *The use of Stabilant 22/22a:*

Where varnishing has been experienced it is important to clean off any such deposits from the connector before applying **Stabilant 22/22a**. 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 or Stabilant 22a to the ring, tip, & sleeve contacts (or to the tip and sleeve contacts of the 2 circuit plugs) not

only will the signal to noise ratio be improved, but harmonic distortion can be reduced as well.

Be sure to apply **Stabilant 22/22a** 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‡

- **Results to be expected:**

It is suggested that only one channel be treated initially and compared with an untreated channel. The difference is 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
12115 Magnolia Blvd.
North Hollywood, Ca 91607

NATO Supply Code 38948 - 15 mL of S22A has NATO Part # 5999-21-900-6937

The **Stabilants** are patented in Canada - 1987; US Patent number 4696832. World-wide patents applied for. Because the patents cover contacts treated with the material, a Point-of-sale License is granted with each sale of the material.

MATERIAL SAFETY DATA SHEETS ARE AVAILABLE ON REQUEST

NOTICE

This Application Note is based on customer-supplied information, and D.W. Electrochemicals Ltd. is publishing it for information purposes only. In the event of a conflict between the instructions supplied by the manufacturer of the equipment on which the Stabilant material was used, and the service procedure employed by our customer, we recommend that the manufacturer of the equipment be contacted to make sure that their warranties will not be voided by the procedures herein. While to our knowledge the information is accurate, prospective users of the material should determine the suitability of the Stabilant materials for their application by running their own tests. Neither D.W. Electrochemicals Ltd., their distributors, or their dealers assume any responsibility or liability for damage to equipment and/or any consequent damages, howsoever caused, through the use of the information herein.

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