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SB-005

Service Bulletin

INTERMITTENT IF FILTERS IN THE DFP-1000B DF PROCESSOR

This Service Bulletin addresses issues associated with intermittent IF filters that have been found in some DFP-1000B DF Processors.

About RDF Products Service Bulletins...

RDF Products Service Bulletins are short advisories intended to provide users with the benefits of product or procedural enhancements to RDF Products equipment and software. These bulletins provide specific information regarding fixes, enhancements, and improved operating procedures. Where applicable, user procedures are provided for installing applicable Modification Work Orders (MWOs).

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I OVERVIEW

An issue has surfaced in some DFP-1000B DF processors where one or more of the 455 kHz ceramic IF filters have become intermittent or otherwise defective. These IF filters provide the necessary selectivity for the 6 kHz, 15 kHz, and 30 kHz IF bandwidths. (An LC filter is employed for the 200 kHz IF bandwidth which is unaffected by this issue.)

II DIAGNOSIS

The most typical symptoms of these defective IF filters is “crackling” or “popping” noises for the selected IF bandwidth (i.e., 6 kHz, 15 kHz, or 30 kHz). The procedure for diagnosing the problem is as follows:

1. Power-up the DFP-1000B with the MODE/DF RESPONSE switch set for CW/MED. Allow one minute for the unit to fully boot-up.
2. Disconnect the coaxial cable connecting the DFP-1000B rear-panel SIGNAL INPUT to the host receiver. (This test is most easily conducted when there is no 10.7 MHz IF signal input from the host receiver.)
3. Set the DFP-1000B IF BANDWIDTH to 6 kHz.
4. Set the SQUELCH control to 8 o'clock (i.e., squelch open) and listen for the normal background noise from the DFP-1000B speaker. Adjust the VOLUME control as required for a comfortable listening level.
5. If the 6 kHz IF filter is functioning normally, the noise heard should be smooth and continuous. If the 6 kHz IF filter is intermittent, the above-mentioned crackling/popping noise will be heard. Keep in mind that this crackling/popping noise may not always be present, and that the unit should be monitored for this noise over an extended period. Also keep in mind that the noise symptoms are often more prevalent at higher temperatures.
6. Repeat the above test for the 15 kHz and 30 kHz IF bandwidths.
7. If no symptoms are heard, connect the DFP-1000B to its host receiver and a DF antenna and tune in a strong, stable signal. Select the 6 kHz, 15 kHz, and 30 kHz IF bandwidths in succession and confirm that there is no large change in the S-meter reading. (In rare cases, the defective IF filter will exhibit symptoms of very low gain rather than the crackling/popping noise.) If a signal generator is available, use its output in lieu of an on-the-air signal and adjust its output amplitude for a 40-60% full-scale S-meter reading.

III USER REMEDIES

If the DFP-1000B is still under warranty, the unit will be repaired at no charge by RDF Products as per the provisions of the RDF Products limited warranty (i.e., the user pays one-way shipping charges).

If the DFP-1000B is out of warranty, the unit will be repaired at no charge by RDF Products under the "latent defect" provision of the RDF Products limited warranty (i.e., the user pays two-way freight charges). <>