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SERVICE BULLETIN
DTX-145 and DTX-445 (DTX Ls) Transmitter Deviation and CDCSS Issue

Background:

It has been recently noted that the transmitter deviation on some units can vary somewhat from transmission to transmission. Errant deviation might occur in up to 30% of the transmissions, but is typically less common. Upon investigation it has been determined that a bug in the radio's internal firmware results in an error in the calculated deviation. Fortunately, the errant deviation always falls between the band-edge alignment values as determined at the factory and stored inside the radio. For example, if the transmitter is set to transmit on 452.9375 MHz and adjusted to 2.5 kHz deviation, one could potentially see deviations in the range of 2.1 kHz to 2.6 kHz when the issue occurs. For a frequency toward the middle of the band, say at 457.9375 MHz, one could see FM deviations of about 2.2 kHz to 2.7 kHz. For frequencies towards the low end of the band one could see FM deviations lower than normal and for the high end of the band one would see deviations higher than normal. Please note that since the radios are set up to limit properly for narrowband modulation any excess deviation will not violate the FCC's narrowband emissions mask.

A second issue noticed was that for a channel programmed for CDCSS (digitally-coded squelch, digital quiet call or DQC) the radio could occasionally exhibit a transmit frequency error. In this case, an internal firmware error was occasionally causing the transmit synthesizer to be loaded with the wrong information. This would tend to occur in about 1% or less of the transmissions and would only occur when CDCSS was being used during transmit.

Solution:

Available now on the Ritron website, www.Ritron.com/tech, is a file, 30.22 (9s1N3022.s19), that fixes the FM deviation problem. Available about the second week of February will be 30.23 (9s1N3023.s19) which fixes both the FM deviation and the DCDSS issues. In upgrading with these files business band radios sold in the USA will become narrow-band only. Before upgrading using these files, an upgrade to the DTXL programmer, at least version 2.3.3, must be downloaded and installed. This programmer is found on the same site. Once the programmer is installed and 9s1N3022.s19 is copied to a directory of your choosing, connect the Ritron programming cable to the radio. Run the Ritron programmer and select the menu "Radio" followed by "Upgrade Firmware". Locate and click on the file 9s1N3022.s19 or 9s1N3023.s19 as appropriate and then click "Open". The firmware upgrade will take about 15 to 20 minutes. Make sure power is not interrupted during this process. Future shipments of radios will have the latest firmware factory-installed unless directed otherwise by the customer. Contact Ritron for further details and any questions.