

NTIA COMPLIANT RADIOS

Recently MARS members have had the opportunity to check into SHARES and/or FEMA nets by invitation during exercises. Unfortunately, it has come to my attention that members have been checking in using rigs that are not NTIA compliant. I thought that clarification of this issue would be beneficial to us all and lead to rectification of this matter.

It is important to understand that there is a requirement that equipment used for this purpose must meet NTIA specifications for stability and unwanted emissions:

Freq Stability +/- 20 Hz and TX Unwanted Emissions -38 db. MARS members need to understand that the vast majority of radios built for Amateur service DO NOT meet the NTIA spec in their standard form. Even brand new ones built today! Of the solid state radios built for Amateur service over the last 20 years, the ONLY exceptions that meet the HF NTIA spec. are; IC-703, IC-781 (that's 781 not 718), IC-756PRO-(all), IC-7800, FT-1000D, and the TM-950SDX. For any members that happen to have a Drake (tube or solid state) with the single frequency crystal controlled option, you are in luck as they will meet NTIA specifications when operated with a crystal cut for the desired frequency.

If you are one of the majority us using a rig not listed on the exception list above it might be possible to make your rig NTIA compliant by the installation of a TCXO (Temperature Compensated Crystal Oscillator). Some rigs have one TCXO option, others have a standard and a high stability TCXO unit available. You can find this information in the operators manual for your rig or on the equipment list shown on the CAP web page at: https://ntc.cap.af.mil/comm/equipment/hf_summary.cfm

I urge all MARS members to make certain they have the appropriate TCXO option installed on their rigs for HF use. Members anticipating the purchase of a new rig should purchase the optional TCXO.

Regarding VHF use, please note that NONE of the multi-band / multi-mode rigs that cover HF and VHF are NTIA compliant on VHF even with the TCXO installed. Currently MARS does not require NTIA compliance for VHF. However, by 2008 MARS must fall into line with all military and government agencies by complying with NTIA VHF specs. Those specifications are as follows:

Freq Stability) = 2.5 PPM
TX Unwanted Emissions = 50+10LOG(Pz) or 70 whichever is less
RX Selectivity = -70 db
RX Intermod Rejection = -70 db
RX Spurious Rejection = -70 db
RX Unwanted Emissions = -57 dbm

Currently, there are a few new rigs that seem to meet the NTIA specifications from the information provided by the manufacture. Those radios are: DR-620T (VHF/UHF), DR-135T (VHF), TM-271 (VHF), and IC-2720H (VHF/UHF). All of these radios will operate in the narrowband mode and meet frequency stability specifications.

If anyone has any questions feel free to contact AAA6NM by email. Thank you for your cooperation.

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