

Purpose of Modification

Currently we are limited to broadcast between 1 and 10 MHz and this allows us to probe the lower portions of the ionosphere well. We have found that the frequency of the F2 region of the ionosphere can be up to 20 MHz. Our equipment has the ability to broadcast between 1 and 20 MHz so we are proposing that we increase our range to this. With this expanded range, we will be able to fully quantify the electron density profile up to an altitude of 1000 km. Additionally, we will be able to determine the effects of natural and rocket-triggered lightning on the entire ionosphere, and not just the lower 300 km.