

Justification of Nationwide Operation
Experimental Radio Station
Reference Call Sign KI2XAO

One of the primary objectives of Honeywell's High Frequency (HF) development effort is to ensure that our HF systems operate effectively with a wide variety of aircraft and a wide variety of aircraft HF antennas. It is important that we have the ability to evaluate the communications performance of the HF system over the range of operating frequencies normally used in aircraft HF communications. Through our Experimental Radio Station, KI2XAO, Honeywell is authorized the use of frequencies ranging from 2.857 MHz up to 21.950 MHz to support our evaluations.

In HF communications, the effective communications distance is closely related to the operating frequency. Due to HF propagation characteristics, evaluations of system performance at a low frequency of 2.857 MHz are best conducted within distances of approximately 200 miles during daylight hours. At the higher frequencies of 17.949 MHz and 21.950 MHz, the characteristics of ionospheric propagation generally dictate evaluations be conducted at distances of approximately 1000 to 1500 miles. Evaluations utilizing our authorized frequencies of 8.885 MHz and 11.321 MHz are normally conducted at distances somewhat less than 1000 miles. In order to allow Honeywell to conduct our evaluations over the frequency range normally used for aircraft HF communications, it is important that we be able to conduct these tests over a wide variety of distances from our Olathe Kansas fixed station, appropriate to the frequency being tested. Honeywell therefore considers the authorization to operate throughout the nation to be an important aspect of our Experimental Radio Station License.

Additionally, Honeywell's fleet of aircraft is limited to relatively few makes and models. In order to evaluate our HF systems on a diverse sampling of aircraft utilizing a wide variety of antennas, it is often necessary to install our HF systems on customer's aircraft for evaluation. Generally Honeywell does not have direct control of where in the nation these customer aircraft are based. As a result, we may be conducting evaluation from aircraft located throughout the Continental United States.