Introduction

The Ryan TCAD 9900 Series Models use 1090 MHz receivers approved by the FAA through STC 1763GL. The Chicago ACO, Mr. Steve Lardinois (847-294-7834, Steven.Lardinois@faa.gov) is the cognizant office. The 9900B will be modified to accept a 1030 MHz transmitter for active interrogation of traffic. A transmitter module will be added to the processor. The unit is then designated as the Model 9900BX.

Project Overview

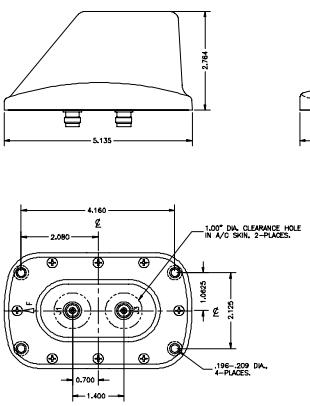
We are applying for the addition of a transmitter function to the Model 9900B as an alternative method of range determination, using Time of Arrival. The Model 9900BX will be tested and demonstrated to meet or exceed the transmitter requirements as set forth in FAA TSO-C147, Traffic Advisory System (TAS) Airborne Equipment. The equipment shall comply with all applicable rules of the Federal Communications Commission.

We are requesting the FCC to grant an experimental license in order to test the performance of the equipment in actual operation.

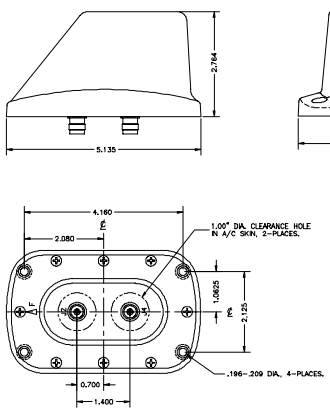
The equipment will meet all transmitter requirements of DO-197A with the following exception:

1. When transmitting at full (unattenuated) output power, the peak RF output power delivered to a quarter wave stub antenna of the Model 9900BX will be 40W. When transmitting at full (unattenuated) output power, the effective power radiated at the pattern peak will be 80W, EIRP. DO-197A calls for a minimum of 100 and 200 Watts, respectively. The TCAD will emit less power than the specification.

The antennas are small directional antennas mounted on the aircraft. Drawings of the antennas are included below:



Model 9900BX Top Antenna



Model 9900 BX Bottom Antenna

We request confidentiality for business reasons. Information can be exchanged freely between the FAA and the FCC, however.

Please contact me if you have any questions.

Regards,
William C. Brodegard
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