

In Reply Refer To:
2000/1L06.00-0027/Misc

20 March 2000

Subject: Notice of Filing a Certification Application

To: Federal Aviation Administration
Spectrum Engineering Division
800 Independence Ave., SW
Washington, DC 20591

Attention:

Raytheon Company, Navigation and Landing Systems of Salt Lake City, Utah hereby notifies you that it intends to apply for certification of equipment intended for transmission in one of the frequencies described in the information set forth below. The requested information is:

1. SCAT I DataLink Equipment

1.1 Description

The VHF SCAT-I data link is a D8PSK transmitter intended to communicate with aircraft within a 20 Nmi area surrounding an airport. It is a sub-component of the overall DIAS-3100 ground station. It is not intended to be sold as an independent commercial data link. The paragraphs that follow provide the in-depth technical information concerning this data link.

1.2 Equipment Characteristics

1.2.1 Identification

The part number for the datalink transmitter is 218150-102.

1.2.2 Antenna Characteristics

The VHF Datalink antenna is a horizontally polarized antenna. It is omnidirectional in the azimuth plane. Its main lobe gain is 2 dBi. It operates in the frequency range of 108 to 118 MHz. It operates with an RF input, continuous wave power of 20 watts and has a VSWR of 2.0:1. The antenna assembly contains a monitor port for routing the energy back to the VHF monitor at a greatly reduced level. The antenna weighs less than 30 lbs and is approximately 5 feet in diameter and 6 feet tall. It has an MTBF of 300,000 hours at an ambient temperature of 40 degrees C.

1.2.3 Rated Output Power

The transmitter operates at a maximum power level of +40.0 dBm (minimum) adjustable in 32 steps of 0.5 dB each down to approximately +25 dBm. The power setting is commanded via the transmitter control bus.

1.2.4 Type Of Emission

The transmitter produces a differential 8-state phase-shift keyed (D8PSK) signal with an emission designator 14K0G7D. The class of emission is G7D.

1.2.5 Frequency Range

The transmitter operates in the frequency range 112.0 MHz to 117.95 MHz. The frequency of operation is commanded via the transmitter control bus. The operating frequency channels are separated by 25 kHz.

Should you have questions or require additional information, please contact the undersigned at (714) 446-2631. Correspondence regarding this matter should be addressed to the undersigned at the letterhead address, Building 676, Mail Station H320.

RAYTHEON COMPANY

Donald V. Goode
Contracts Manager