

PUBLIC INTEREST STATEMENT

I. Introduction

By the instant application (“Application”), Continental Automotive Systems US, Inc. (“Continental”) requests that the Commission grant a two year experimental license to permit Continental to operate the facilities specified in the instant Application.

It is noted that Continental has pre-coordinated the requested frequency pairs through APCO to ensure that such frequencies are not assigned and used in the requested area of operations. See attached Exhibit 2 – APCO coordination approval. Pursuant to the Commission’s experimental licensing regulations, Continental’s use of these frequencies will be secondary to future licensed stations operating in the Cedar Rapids area.

II. Description Of Research Program

As a general matter, this experiment involves the development and testing of a highly efficient high speed, digital radio data system with rapid polling to enhance the operation, command, and control of large transit fleets. The system is intended to meet the requirements of transit authorities for highly integrated ITS (Intelligent Transportation Systems) systems that provide fleet vehicle monitoring and location tracking, route assignment and schedule adherence, passenger information systems and dispatch center control functions, including two way voice and data messaging. The system will serve fixed-route transit systems, para-transit systems, and administrative/support vehicle service fleets.

Differential position corrections, data messages and polling requests will be continuously transmitted from the base stations to the mobiles. Each base station operates in a full duplex mode, simultaneously transmitting and receiving digital voice and data on one frequency pair for maximum efficiency. The mobile units respond to the polling requests and transmit information on a time division multiple access basis. The mobiles operate in the half duplex mode, quickly switching from receive to transmit and back to receive.

The system consists of fixed base equipment (communication equipment and computers) and mobile equipment (mobile data terminals, differential GPS receivers and communications equipment) along with associated computer software.

For the purposes of the proposed experimental operations, the requested frequencies will be used in the following manner for the purpose of designing a very highly loaded digital data radio system – based on Tyco Electronics OpenSky and/or other digital radio technologies:

Fixed	Transmit Frequencies: 858.9875 MHz; 859.9875 MHz (Rx: 813.9875 MHz, 814.9875 MHz)
Mobile	Transmit Frequencies: 813.9875 MHz; 814.9875 MHz (Rx: 858.9875 MHz; 859.9875 MHz)

A very efficient algorithm is required to achieve high throughput in very large implementations of the system. All mobile vehicles, will be sent data including position correction information and each vehicle will be polled and respond in rapid succession. For testing purposes, the mobile radios will be connected to a controller that will cause the mobile radios to simulate a very large fleet of vehicles.

III. Objectives Sought to be Accomplished

The objective to be accomplished is the development and testing of a highly efficient high speed, digital radio data system with rapid polling to enhance the operation, Command, and control of large transit fleets. It is intended to continuously service fleets exceeding 400 vehicles. The system will be capable of providing both high speed data and voice with one radio. It is Continental's objective to substantially reduce system voice communications required by dispatchers and dramatically increase the collection of vehicle and fleet data. This data may then be used to increase the operating efficiency of the fleet. These goals have already been accomplished by Continental's existing system on smaller single channel, single site analog radio deployments. The requested frequencies are required to develop and test future enhancements of the system, including use with digital radio technologies.

IV. How the Program Will Increase the Utilization of the Radio Art

Through this experimental program, Continental's fleet management and communication system will increase the utilization of the radio art by accomplishing all of the following requirements:

- A. High data rate messages
- B. High polling rates
- C. Two way data messaging
- D. Data and voice radio operation on one digital radio
- E. Provide highly-efficient digital radio solutions to Continental's customer base

Many current transit fleet management systems are deficient in one or more of the above requirements. To meet the needs of very large fleets with very limited radio frequencies available, all these requirements must be met or exceeded.

V. Stop Buzzer

Continental's Dan Meyer will be available by wireless telephone at (319) 573-9359. Mr. Meyer will act as a "stop buzzer" if any issues regarding interference arise during testing.