EXHIBIT NO. 1

GeoPhone Company L.L.C. Application for Experimental Radio License Attachment to Section 4 " Particulars of Operation"

GeoPhone's VSAT terminals use a new type of spread spectrum modulation which is not allowed for in the normal emission and modulation designators listed in Section 2.201 of the FCC Rules. This attachment explains the type of emission and modulation used by the GeoPhone terminals for transmission of low data rate digital data, compressed digital voice data, or facsimile data between the GeoPhone Terminals.

GeoPhone's VSAT terminals use GeoPhone's new multiple access technology called CAMA (Patent Pending). CAMA is a type of code assigned multiple access transmission system which maps a unique fixed code for each terminal into a fast frequency hopped spread spectrum waveform that is transmitted in a **nominal 1-MHz bandwidth sub-band** of a standard commercial Geo-Stationary Ku Band Satellite transponder.

Each terminal in the GeoPhone network has a unique 16 digit code which assigns a sequence of sixteen frequencies (sixteen "chips") in a unique order of transmission within a selected transponder sub-band. The signal as transmitted is a **spread spectrum signal having uniform power spectral density over the selected sub-band** and having very well behaved spectral characteristics. Digital techniques are used to generate the waveforms that are transmitted by each terminal. The design provides that generation of the waveforms is done in such a way so to insure that each frequency chip starts and stops at voltage zero crossings so that artifacts of the hopping rate do not appear in the transmitted spectrum. The codes are partially orthogonal so that multiple users can operate in the same sub-band at the same time.

Data Types Transferred:

Compressed Digital Voice at 4.8 kbps
Standard Commercial Facsimile at 4.8 kbps
Digital Data at 4.8 kbps from/to customer equipment
Standard Computer Modems at 4.8 kbps
800 bps terminal to terminal overhead channel

Maximum Data Transfer Rate per channel

(64,48) Reed-Solomon Forward Error Correction is applied to the 4.8 kbps data channel and then a 800 bps overhead channel is used for terminal to terminal handshake, number and billing functions is added for a **maximum total data transfer rate of 7.2 kbps per channel.**

Maximum Data Transfer Rate per Terminal

Four data channels are time multiplexed together from each remote terminal. The data is buffered into the transmitter at 7.2 kbps and one, two, three or four calls can be made simultaneously from each terminal. **If four channels are used then the total transmitted bit rate is 4 x 7.2 kbps = 28,800 bits per second**

Modulation Characteristics (Complex)

The system uses 8 - Bit modulation such that the symbol rate = 28,800 / 8 = 3,600 Symbols per second for all four channels or 900 Symbols per second per channel. Modulation is imparted onto the spread spectrum frequency hopped transmitted signal by adjusting which of the chips in the assigned sequence is the first chip transmitted in the sequence. By varying the leading chip in the transmitted sequence, a symbol having 8 bits is transmitted during each set of 16 chips transmitted between two terminals. **In this way, no other modulation type, such as FSK or PSK is required to be added to the fast frequency hopped carrier.** The remote terminals are time and frequency synchronized using either GPS derived clock and frequency reference updates received directly at each terminal or using a system wide spread spectrum reference signal of the same type as above that is broadcast to all terminals in the network simultaneously from the control terminal.

EXHIBIT NO. 2

GeoPhone™

STATEMENT OF THE PROPOSED EXPERIMENT

INTRODUCTION

GeoPhone Company, L.L.C. is developing a new type of low cost Very Small Aperture Terminal (VSAT) for use with existing and planned Geo-Stationary Satellites to provide low data rate voice, fax and low rate data services for rural customers not currently served by public telephone infrastructure. Much of GeoPhone's projected markets are in developing countries, but certain private low rate data network applications that are available in the U.S. domestic market can also be served by this product. GeoPhone is developing this new VSAT terminal to provide services comparable to wired telephone infrastructure but at a very low competitive cost of $1,500.00 to $ 2,000.00 per telephone line.

STATEMENT OF THE PROPOSED EXPERIMENTS

GeoPhone Company, L.L.C. is requesting an experimental license to operate up to twelve (12) of its prototype GeoPhone VSAT terminals within a 100 mile radius of Annapolis, Maryland at selected GeoPhone and GeoPhone subcontractor sites. These terminals will be production prototypes of the GeoPhone VSAT terminal at Ku Band, manufactured by GeoPhone for use in communications of low data rate voice, facsimile and computer data at 4,800 bits per second (4.8 kbps) between any two GeoPhone terminals in a full mesh configuration. Each terminal will have four (4) telephony RJ-11 input ports capable of interface to a standard telephone handset, standard facsimile machines, selected two wire PABX and pay phone equipment or standard personal computer data modems.

Various over the air experiments will test voice transmission, facsimile transmission, personal computer data transmission and the combination of all three types of transmissions at the same time over the network at Ku Band. Tests will also be conducted to document the ability of the GeoPhone terminals to properly interface to pay phones, debit card phones, or to the line or trunk side of a standard two wire PABX that may be used on customer premises for certain applications. All transmissions will originate from and be received in the United States of America and there will be no services provided to the general public as part of these experiments.

SPECIFIC OBJECTIVES OF THE EXPERIMENTS

The specific objectives of these experiments will be to verify and validate through careful measurements the following items:

1. The terminal, network and system simulations.

2. The technical parameters of individual components, terminals, network, and terminal to terminal setup protocol's under realistic operating conditions using a commercial Ku Band Geo-Stationary Satellite.

3. Behavior and operation of the distributed network management software system, the billing software system, the call handshake and terminal link management software system, and the administrative terminal automatic terminal diagnostic software management system.

4. The behavior of the network during extremes of weather and temperature.

5. The behavior of the network with typical video and/or communications traffic on adjacent cross-polarized transponders at the same frequency or on adjacent co-polarized transponders of different frequency.

6. The behavior of the network synchronization and clock reference stability as a function of time and terminal update rates.

7. The achievable bit error rates, voice quality and data transfer quality for practical applications of the terminals in their intended markets.

8. The ability of the distributed network management software to detect and isolate remote terminal faults, and to reliably shut down terminals which are not operating within designated parameter boundaries.

CONTRIBUTION OF THE EXPERIMENT TO THE DEVELOPMENT OF THE RADIO ART

The GeoPhone terminals represent an entirely new type of radio communications system based upon use of existing types of geostationary satellites. In order to meet the increasing needs of rural markets for telephony, facsimile and low rate data services, particularly in developing countries or in economically depressed regions, GeoPhone uses new technologies that optimize the number of simultaneous conversations per transponder sub-band and allow for very low cost operations from multiple fixed locations. The experiments proposed by GeoPhone will validate and optimize the design of this new VSAT technology and will demonstrate the new and advanced features of system operations including:

- Use of advanced CAMA multiple access technology -- a type of Code Assigned Multiple Access technique that is asynchronous and has very high spectrum reuse capabilities
- Development of an affordable very well behaved fast frequency hopping spread spectrum transmitter and receiver that is low enough in cost for use in rural telephony applications
- Use of a "hub-less" distributed network management system
- Use of advanced monolithic transmitter and receiver components
- Use of a completely software programmable transmitter and receiver system that can be reconfigured over the air through network wide broadcasts
- The ability of the system to be automatically reconfigured into any number of virtual private networks through over the air network wide broadcasts
- The ability of the system to maintain autonomous call record logs and central billing data files even though the system has a distributed network management system
- Deployment of a system that can have voice, data and facsimile transmissions in the same sub band at the same time with high spectral reuse.