Areas of Interest for Experimental Operations

Syntron Inc.
Experimental Radio License.
Phil De Marco 281-647-7502
17200 Park R Houston, 77084-4925

As a mobile operation in the Seismic Industry it is important that the Syntron system operates under all types of weather conditions, from extremely cold to extremely hot, humid and dry, in water and on land. It is also very important that the seismic data can be transmitted back to the central recording unit in all types of terrain. For these reasons it would be advantageous for Syntron to have an Experimental License for the continental U.S. including Alaska. (Alternate: 1A)

If an Experimental License for the Continental U.S. is unobtainable then Syntron request that their License be expanded to cover Central U.S. This will meet most of the conditions needed for testing, research, and development of the Syntron seismic system. (Alternate: 1B)

Alternate: 1C would be workable but imposes limitations on the testing, research and development of the Syntron Seismic system for operating in various terrain and adverse weather condition.

Syntron would greatly appreciate FCC consideration for granting and modifying our Experimental License for Alternate: 1A.

Alternate: 1A First Choice: ***CONTINENTAL U.S. including Alaska***

Alternate: 1B Second Choice

CENTRAL U.S.	
LONGITUDE	**LATITUDE**
90 -00 to 115 -00	25 -00 to 48 -00

Alternate: 1C Third Choice:

South East Texas Coastal Area		
LONGITUDE	**LATITUDE**	
95 -00 to 95 -20	29 -00 to 29 -45	See Area "A"
95 -30 to 96 -00	29 -30 to 30 -15	See Area "B"

AREA "A"	AREA "B"
Friendswood, Tx	Rosenberg, Tx.
Alvin, Tx.	Fulshear, Tx.
Chocolate Springs, Tx.	Katy, Tx.
Peterson Landing, Tx.	Hockley, Tx.
Hoskins, Tx.	
Bastrop Bay	

Exhibit 2
FCC Form 422
Syntron Inc.
17200 Park Row
Houston, Texas 77084-4925

Question 4 (F) Modulating Signal

125KF1D **Maximum Baud Rate of 100 Kbaud**
Duration of signal approximately 1.28 seconds every 4 minutes

250KF1D **Maximum Baud Rate of 200 Kbaud**
Duration of signal approximately 0.65 seconds every 2 minutes

500KF1D **Maximum Baud Rate of 400 Kbaud**
Duration of signal approximately 0.33 seconds every 1 minute

20K0F2D **Maximum Baud Rate of 4 Kbaud**
Signal is continually present except when receiving from above

Question 10 (a), (b), (c) and 13

(a) **This equipment is to be used to acquire seismic data for the Oil and Gas Industry. Its function is to provide seismic data for the purpose of defining subsurface structures to the industry prior to drilling for these reserves.**

The equipment utilizes a single Central Recording System (CRU) to receive the digitized seismic data and recording of same onto magnetic media. The CRU utilizes the 20K0F2D type of emission.

The equipment utilizes a plurality of Remote Telemetry Units (RTU), under the command and control of the CRU, to acquire, digitize and transmission of data to the CRU. The RTU utilizes either the 125KF1D, 250KF1D or 500KF1D type of emission. Each RTU is capable of acquiring up to 6 channels of seismic data. The present industry requirements are to record 1200 to 1400 channels of seismic data simultaneously. This would require the utilization of up to 233 RTUs.

Acquisition of Seismic Data occurs in the following manner. The single CRU is located within or near an area to be explored. A typical area would encompass a 2 dimensional array of RTUs placed on the surface of the earth in an ordered X, Y grid arrangement, this allows the system to acquire 3 dimensional subsurface seismic data. A seismic energy source is transmitted into the earth and the RTUs will record the reflected seismic energy for typically 4 to 8 seconds. Upon command from the CRU this data is then transmitted from the RTUs to the CRU. For an 8 second seismic record it would require 1.28 seconds to transmit this data to the CRU at 100

Kbaud, 650 milliseconds at 200 Kbaud or 330 milliseconds at 400 Kbaud. The RTU would not transmit again until the next seismic record is taken.

(b) Specifically we want to demonstrate to the Oil and Gas Industry the advantages of Radio Frequency Telemetry for acquisition of Seismic Data in difficult or obstructed areas of interest. The only way to achieve this is to provide demonstration of the system working to its full capacity.

(c) Traditional acquisition systems utilized to acquire seismic data have been interfaced from the RTU to the CRU by a wireline connection. This methodology requires that cables be interconnected to all RTUs and to the CRU. This is not feasible in many cases where seismic exploration is required. Natural and Manmade obstacles prevent a cabled system from efficient operation in numerous areas. Utilization of RF Telemetry from the CRU to the RTUs enhances and in some cases makes possible for the first time seismic exploration of the aforementioned areas.

Introduction and acceptance of Radio Telemetry for use in seismic data acquisition will expand the opportunity for seismic acquisition in heretofore inaccessible areas. In addition the lack of the necessity of interconnected cables will allow the industry to employ new geophysical techniques regarding random RTU placement. This will expand the possibilities for seismic exploration in difficult or obstructed areas.

Question 15

The CRU (20K0F2D) is located in a vehicle with a pneumatic mast capable of extending the antenna up to 30 meters above the ground. The mast will be extended during daylight hours for system operation and lowered to under 2 meters above ground at dusk and when the system is not in operation.

The CRU will not be set up on or near an airport. Particularly it will never be placed in the approach or departure path of any aircraft. The overall system flexability is such that the above situation is neither necessary nor usefull.

Exhibit 3

FCC Form 422

Syntron Inc.

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Calculations for Necessary Bandwith

Bn=2M+2DK M=B/2 K=1

Bn=B+2D

M=Max mod. freq. in Hertz

B=Modulation rate in bauds

D=Peak Freq. deviation, i.e. half the difference between the maximum and minimum values of the instantaneous freq. The instantaneuos freq. in Hertz is the time rate of change in radians divided by 2.

RTU III

for B=400 KBaud M=400 KBaud/2=200 KHz

D=100 KHz/2=50 KHz

Bn=400000+2(50000)

Bn=400000+2*50000

500000 500 KHz

for B=200 KBaud

D=50 KHz/2 = 25 KHz

Bn=200000+2(25000)

Bn=200000+50000

250000 250 KHz

for B=100 KBaud

D=25 KHz/2 = 12.5 KHz

Bn=100000+2(12500)

Bn=100000+25000

125000 125 KHz

DCU III

for B= 4 K Baud

D=16 KHz/2 = 8 KHz

Bn=4000+2(8000}

Bn=4000+2*8000

20000 20 KHz