

# Report on Coordinated Observations 11/98

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The purpose of the Coordinated Observation Program is to provide an opportunity for INSPIRE participants to gather data at convenient times for purposes of comparing the resulting signals and attempting to interpret them. Since there is no manmade source of VLF that is being studied here, the signals of interest are those of natural origin. As in most natural radio listening, we would like to hear something "interesting". Most of that time that would be whistlers, but other sounds such as tweeks, chorus, triggered emissions and even hiss are also interesting. Whistlers, however, remain the prize for faithful listening. The problem with whistlers is that they are not the most common natural radio signal. Since coordinated listening schedules are determined arbitrarily and in advance of the listening sessions, it is only a matter of luck if whistlers are available to be detected. The experience of the author is that whistlers are heard about once every four or five morning sessions. When they are present, you will probably hear a lot of them until the rotation of the earth carries the ducting magnetic field lines into an unfavorable alignment. Unfortunately, Fall (November 28-29) did not provide many whistlers for observers. The following report includes sample spectrograms from contributing observers.

This table summarizes the sessions monitored by observers.

Date	11/28				11/29			
Time		1300	1400	1500	1200	1300	1400	1500
Team								
1			C	C			C	C
5					E	E	E	
21							C	
25			C			C		
29							C	C
E5 *	07	08	09	10	07	08	09	10

The times indicated are UT times.

The letter in the box indicates the time zone of the observer:

E = EST = UT-4, C=CST = UT-5,

M = MST = UT-6 and P = PST = UT-7

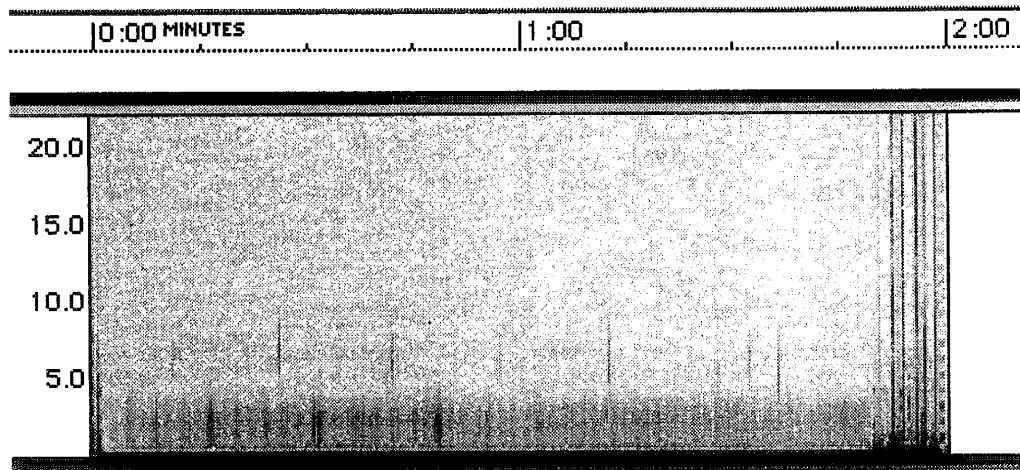
Team E5 observed in Italy where Local Time = UT + 1

Observers:	Team 1	Jack Lamb, Belton, Texas	(CST
	Team 5	Jean-Claude Touzin, St. Vital, Quebec, CANADA	(EST)
	Team 21	Phil Hartzell, Aurora, Nebraska	(CST)
	Team 25	Norm Anderson, Cedar Falls, Iowa	(CST)
	Team 29	Janet Lowry, Houston, Texas	(CST)
	Team E5	Renato Romeru, Cumiana, ITALY	(UT+1)

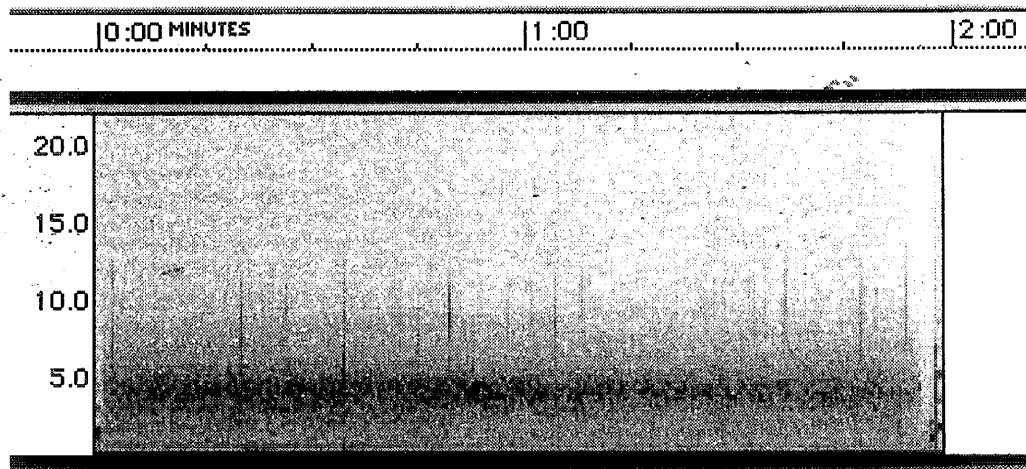
For analysis purposes, a spectrogram was made of the first two minutes of each 12-minute hourly session. Additional spectrograms were made of any items of interest and of any segments requested by the observer. Time marks were placed on the tape every two minutes and a complete log was made of each session.

11/28/98 1400 UT

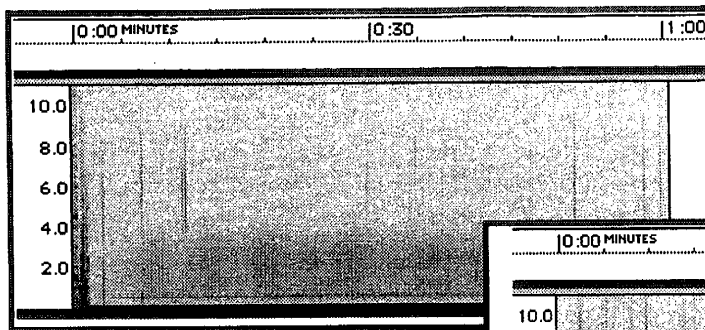
Observations were started off by Jack Lamb in Texas and Norm Anderson in Iowa.



Jack Lamb in Belton, TX, had quiet conditions  
with very little manmade hum.

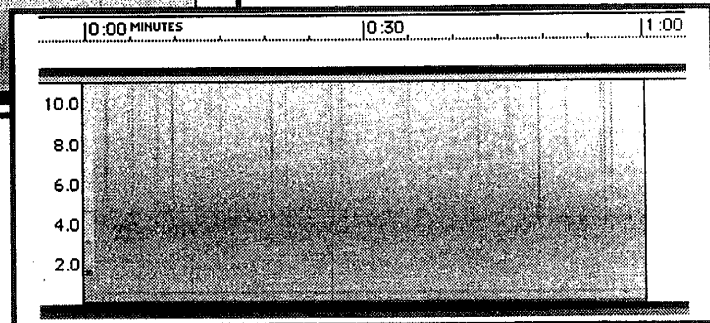


Norm Anderson in Cedar Falls, IA, had very similar quiet conditions.



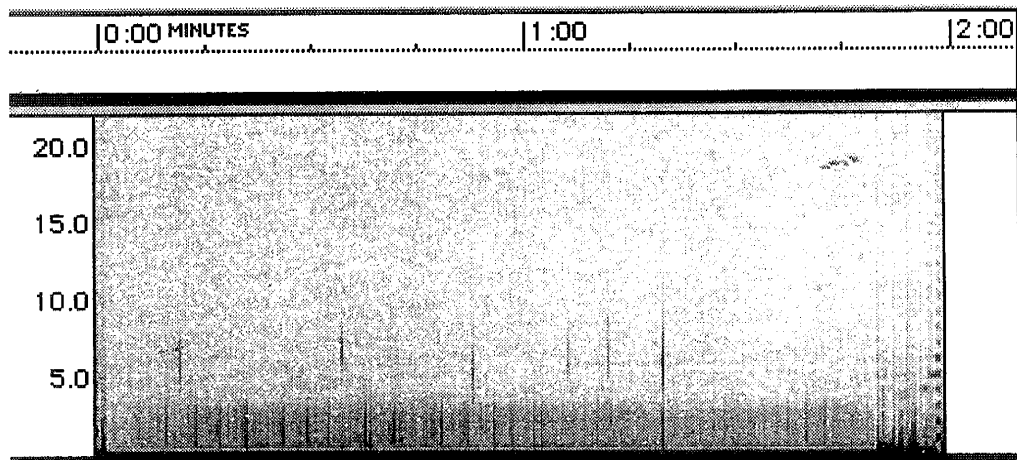
Team 1

Team 25

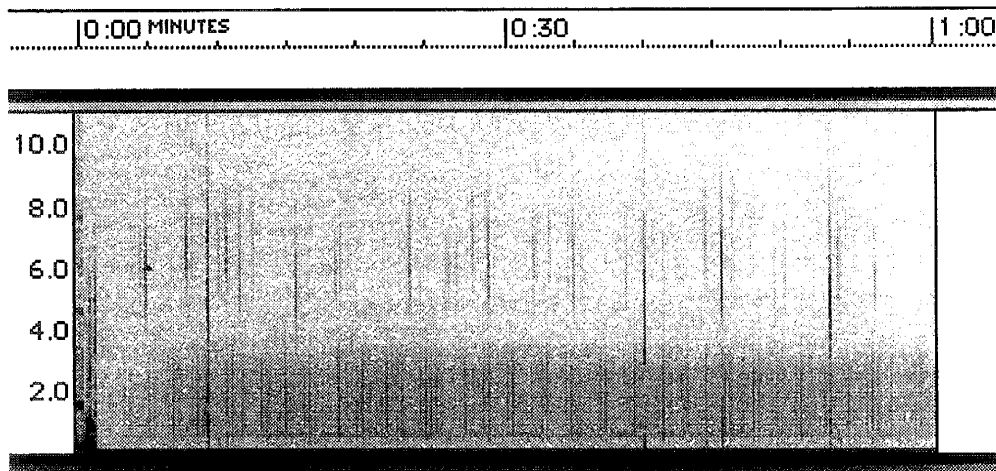


First minute at 1400 UT.

11/28/98 1500 UT

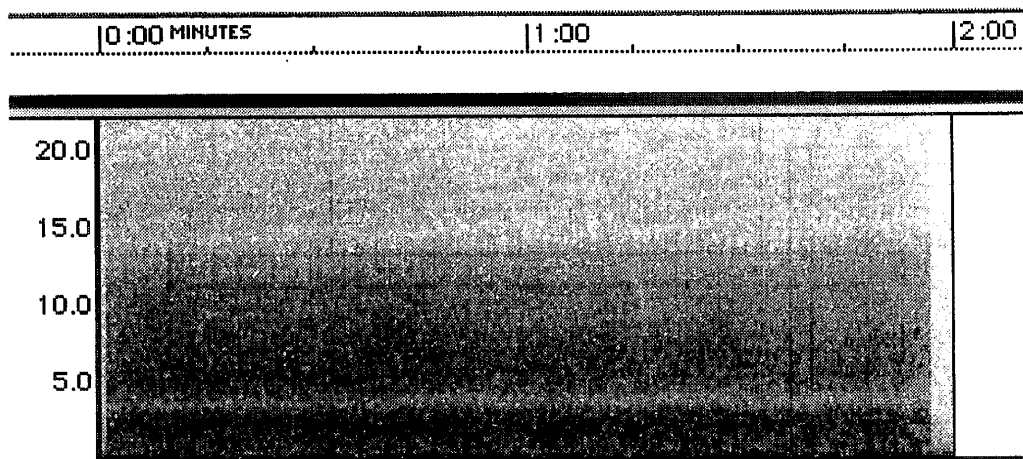


Team 1, Jack Lamb of Belton, TX, at 0900 CST, 1500 UT. Quiet conditions prevail.

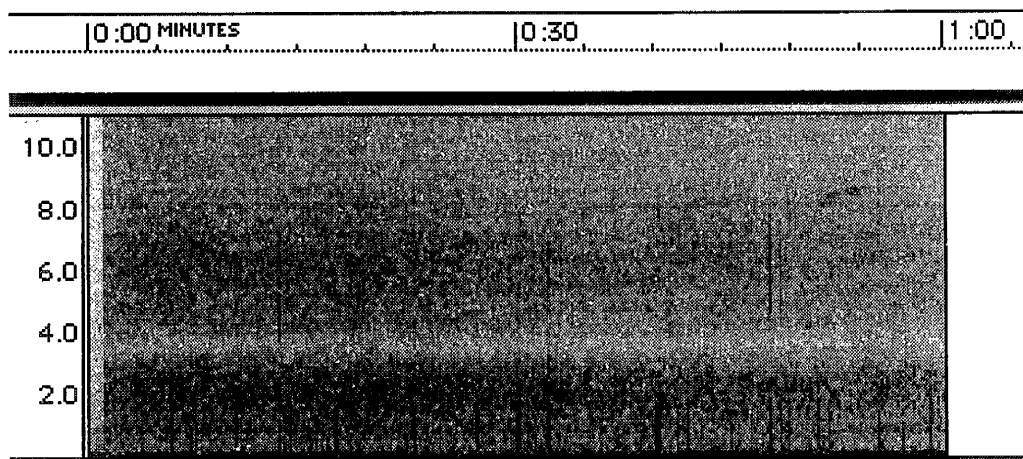


The first minute at 1500 UT. Starts with WWV tone.

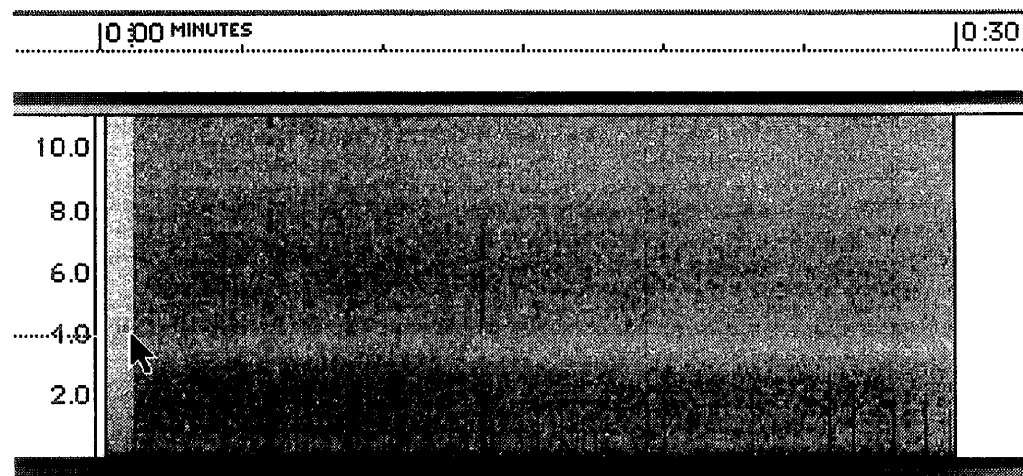
11/29/98 1200 UT



Team 5 Jean Claude Touzin, St. Vital, Quebec, CANADA

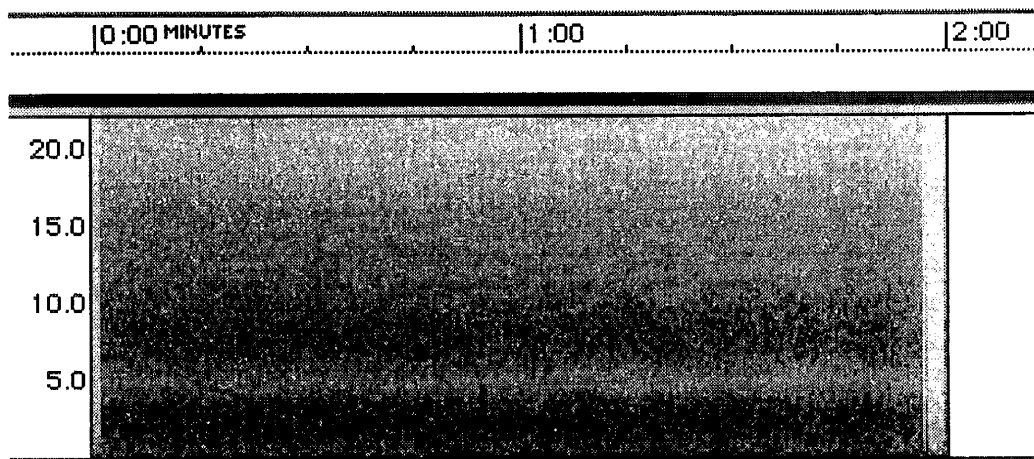


First minute. Quiet conditions.

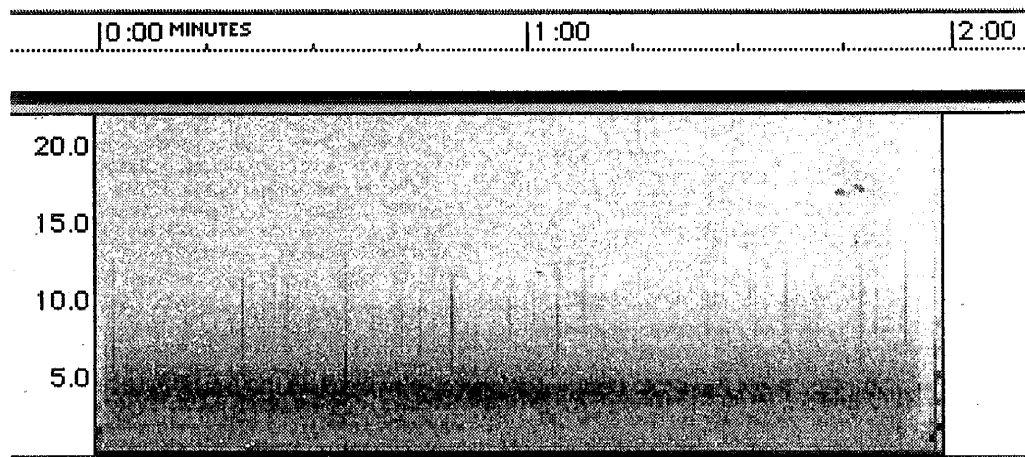


First 30 seconds. Arrow points to “beeps” at 7:00 AM EST

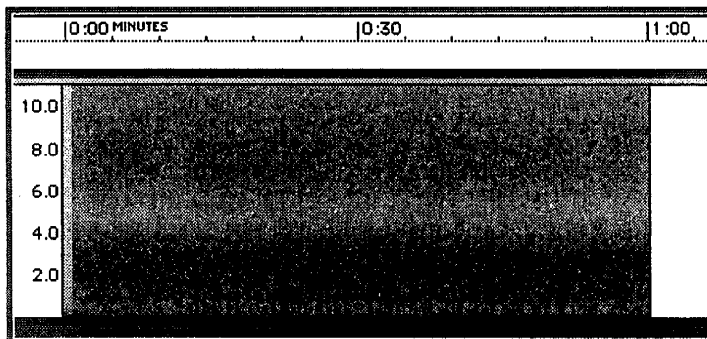
11/29/98 1300 UT



Team 5 Jean Claude Touzin, St. Vital, Quebec, CANADA

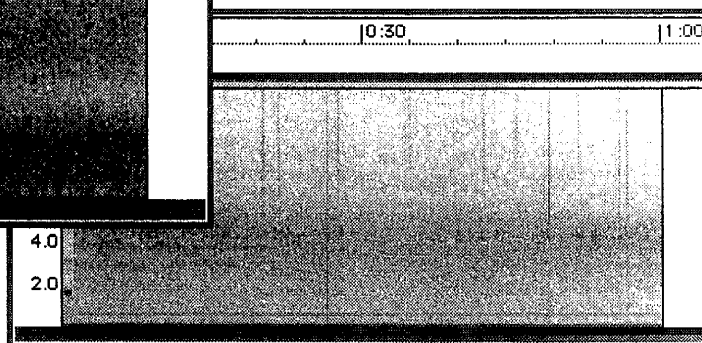


Team 25 Norm Anderson, Cedar Falls, Iowa



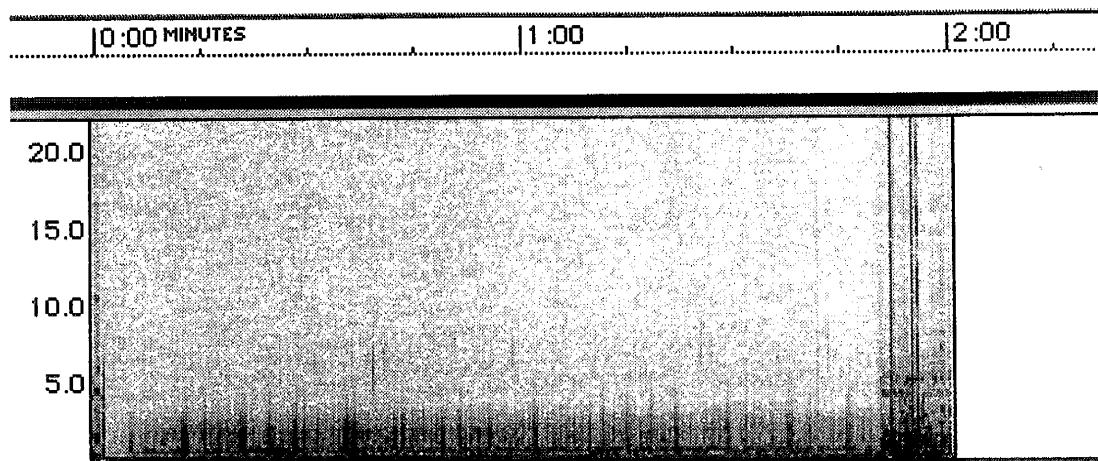
Team 5

Team 25

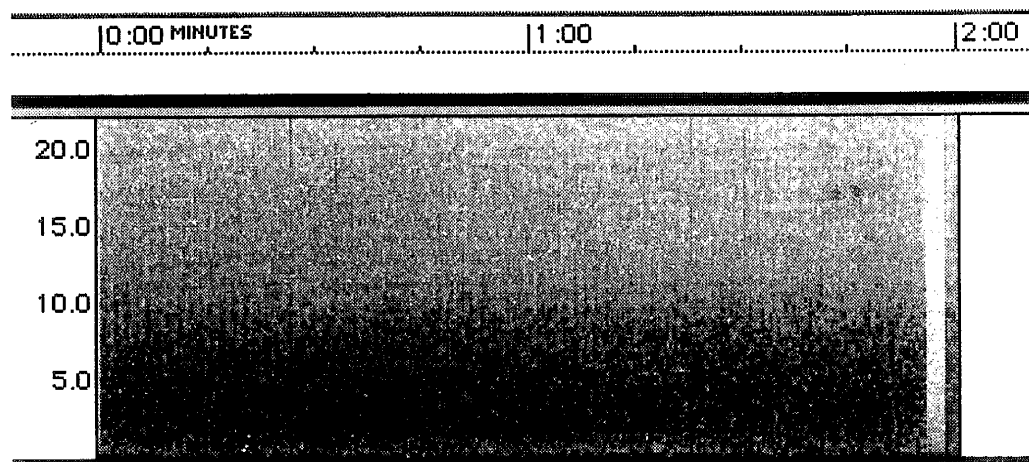


First minute.

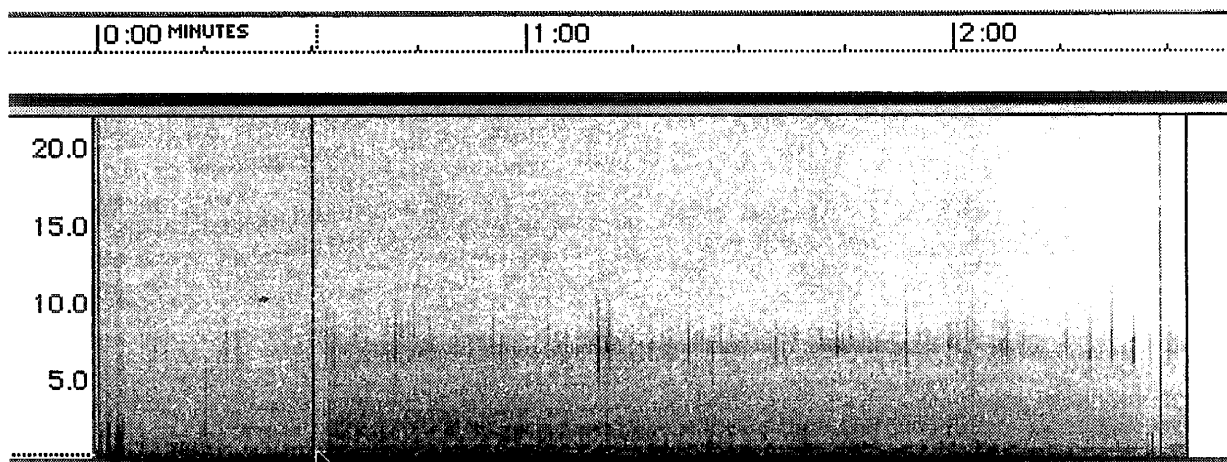
11/19/98 1400 UT



Team 1 Jack Lamb, Belton, Texas

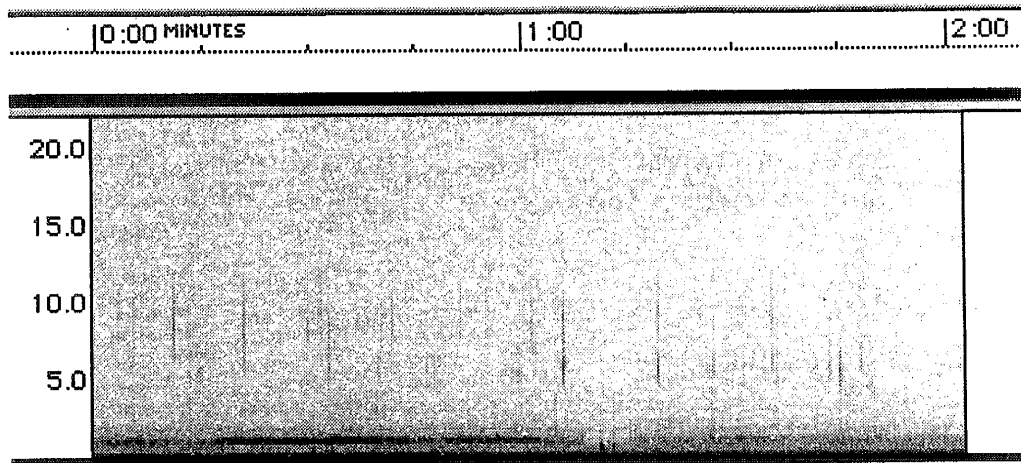


Team 5 Jean Claude Touzin, St. Vital, Quebec, CANADA

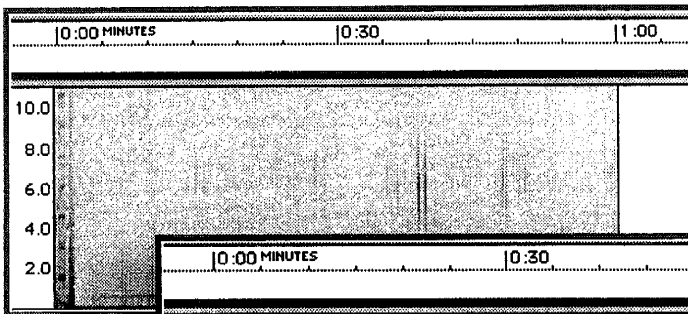


Team 21. Phil Hartzell, Aurora, Nebraska

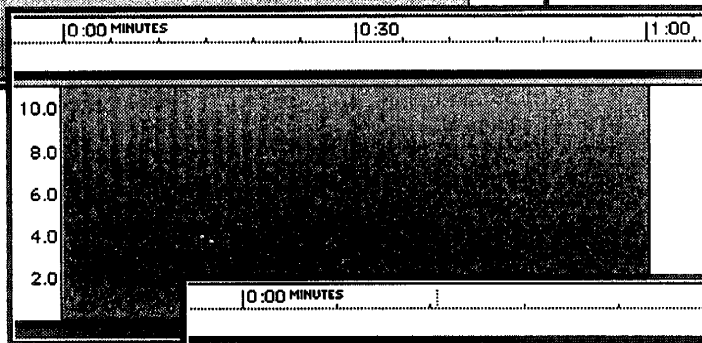




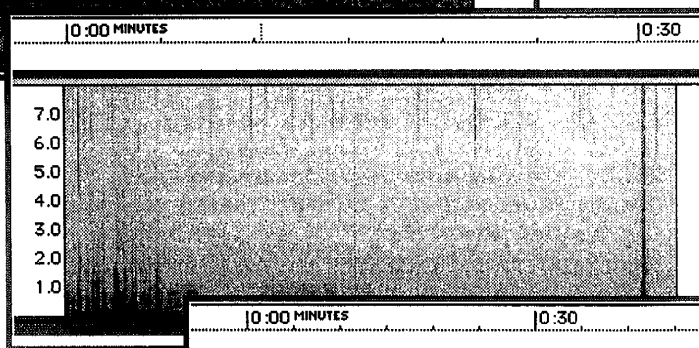
Team 29 Janet Lowry, Houston, Texas



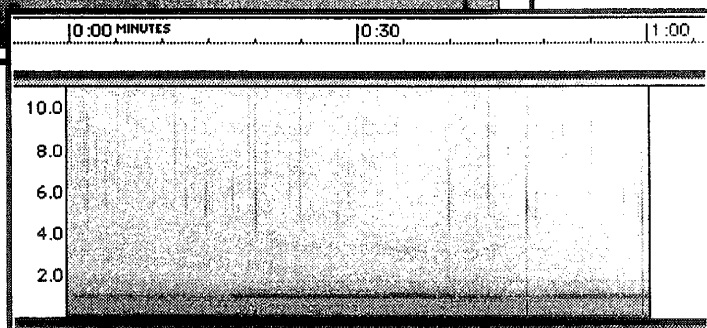
Team 1



Team 5

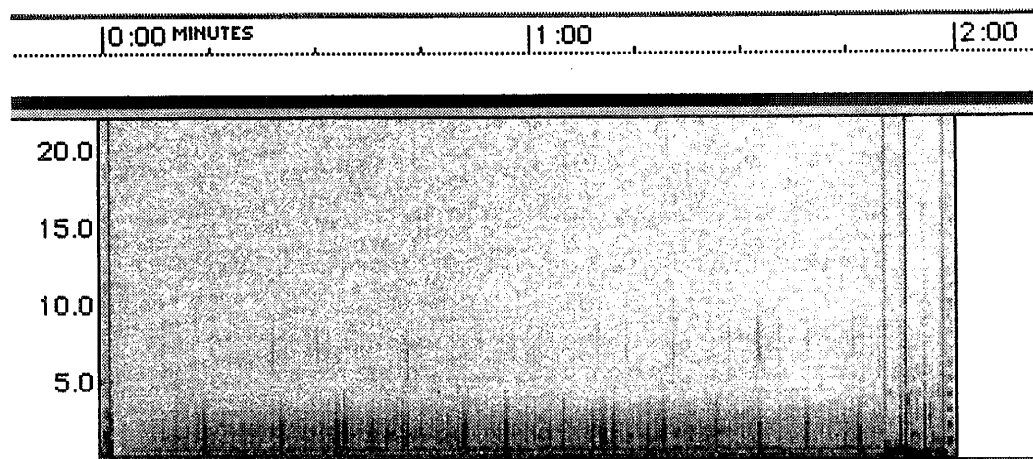


Team 21

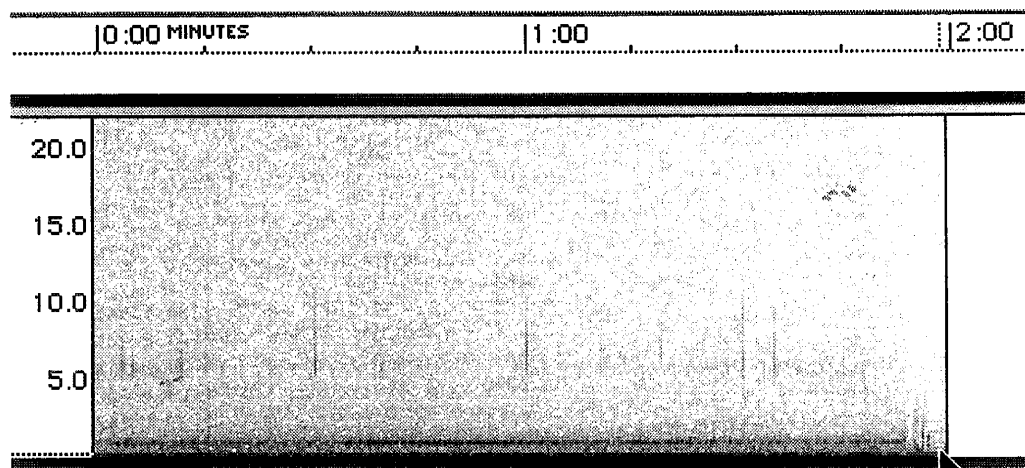


Team 29

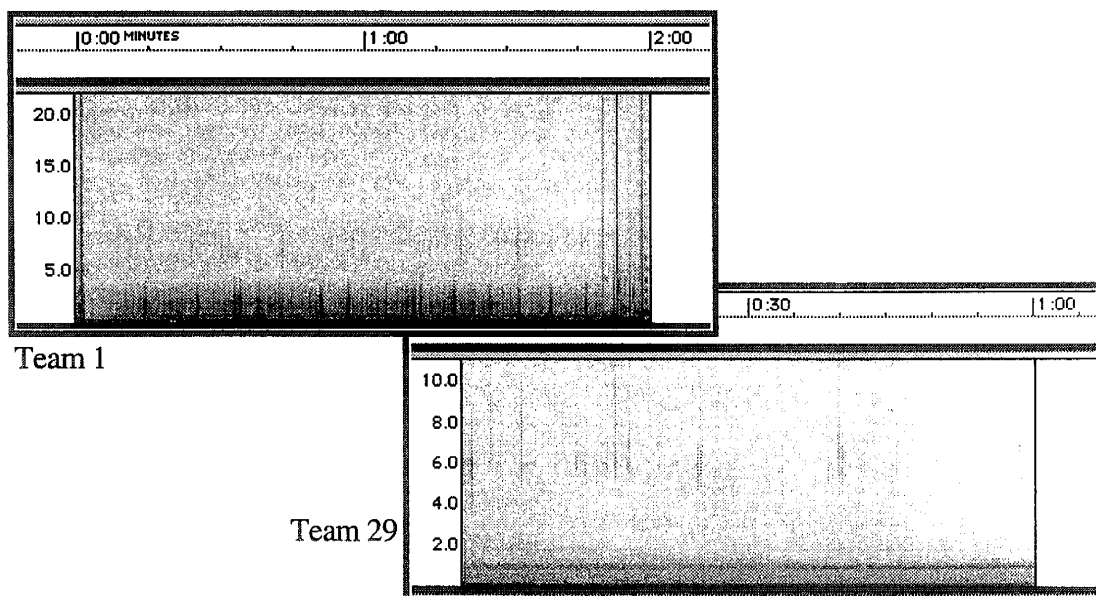
11/29/98 1500 UT



Team 1 Jack Lamb, Belton, Texas



Team 29 Janet Lowry, Houston, Texas

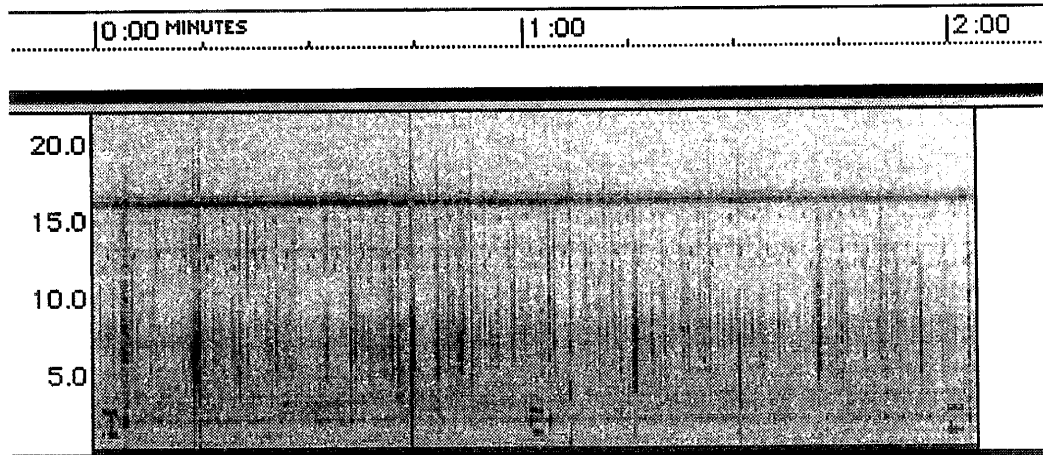




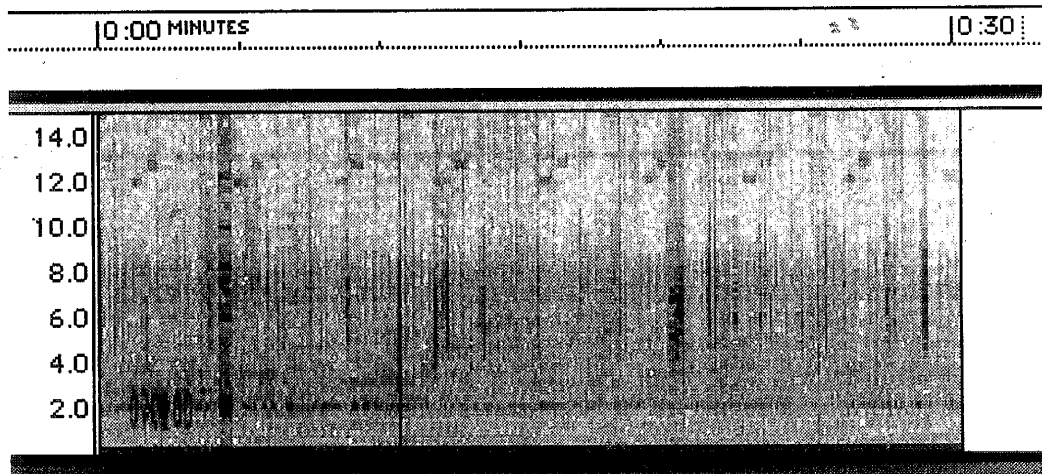
## European Coordinated Observations

Team E5 Renato Romero, Cumiana, ITALY, made a complete set of observations hourly from 0700 - 1000 local time on both 11/28 and 11/29. At his location, local time = UT + 1 hour.

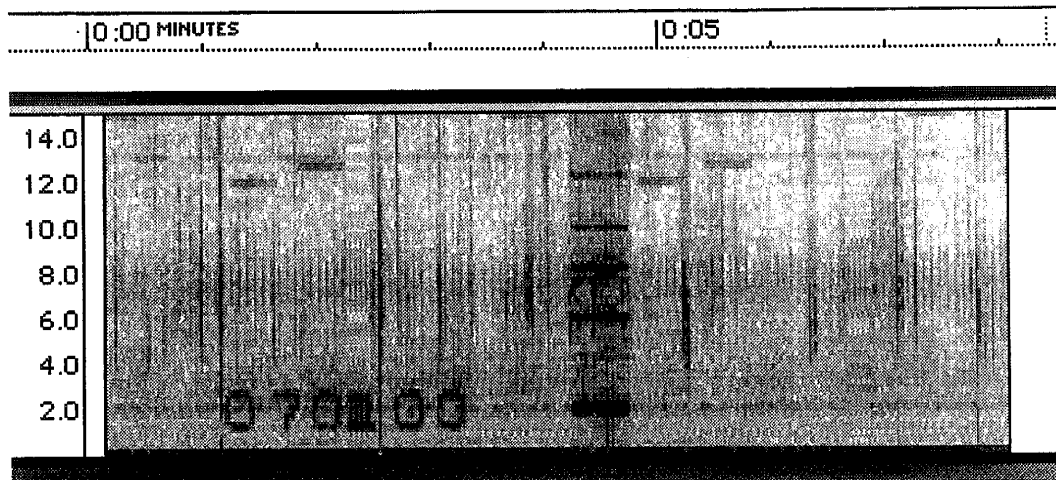
11/28



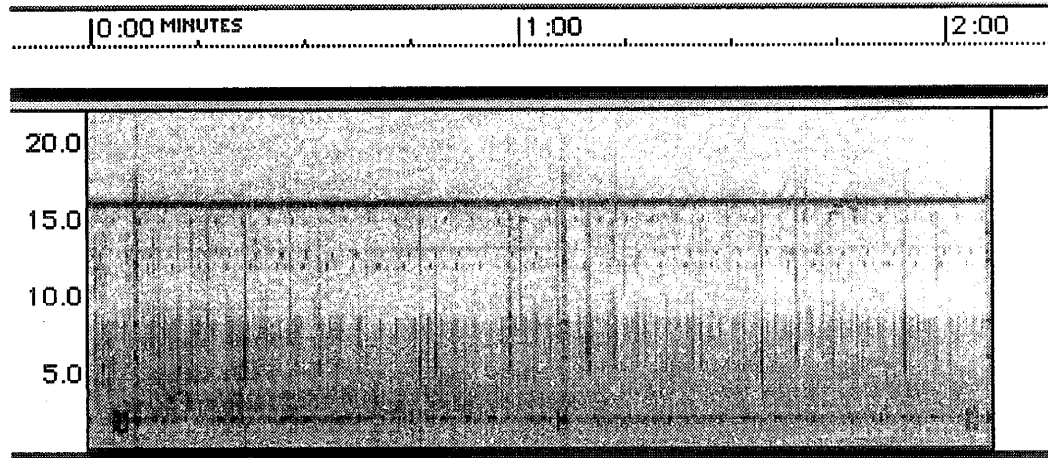
0801 AM Local, 0701 UT



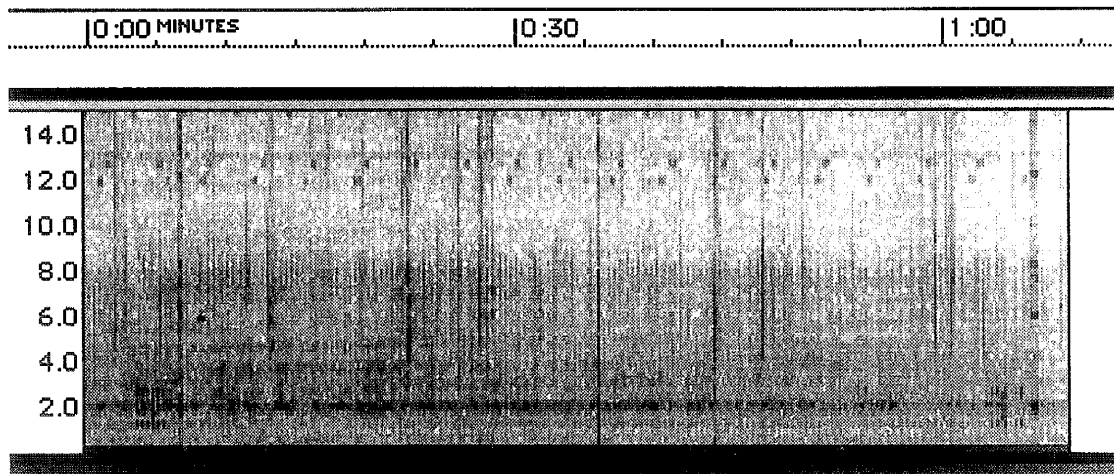
First 30 seconds. 0-15 kHz range to show Alpha signals.  
At the very beginning of the file is the time mark inserted automatically using a laptop computer and the ATM software from Mike Aiello.



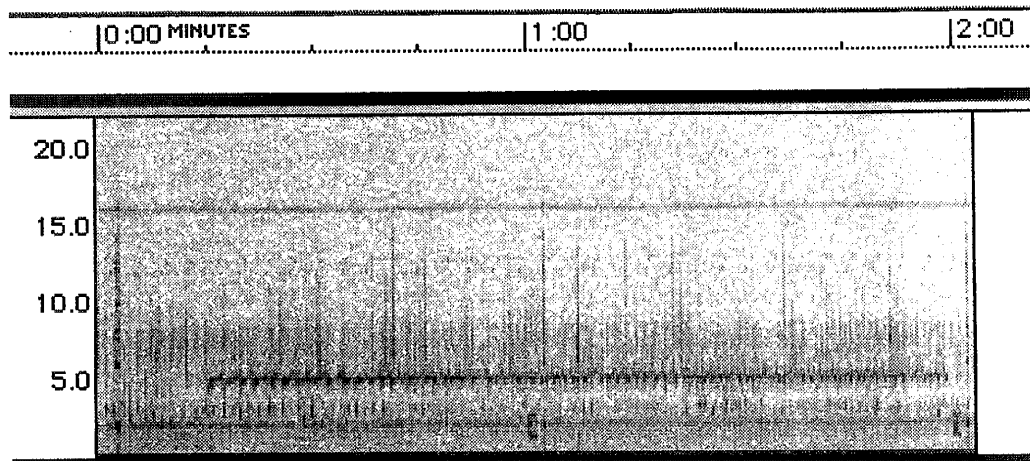
A closeup of the time mark and time tone at 2 kHz plus some harmonics.  
The dashes between 12 and 14 kHz are Alpha signals.



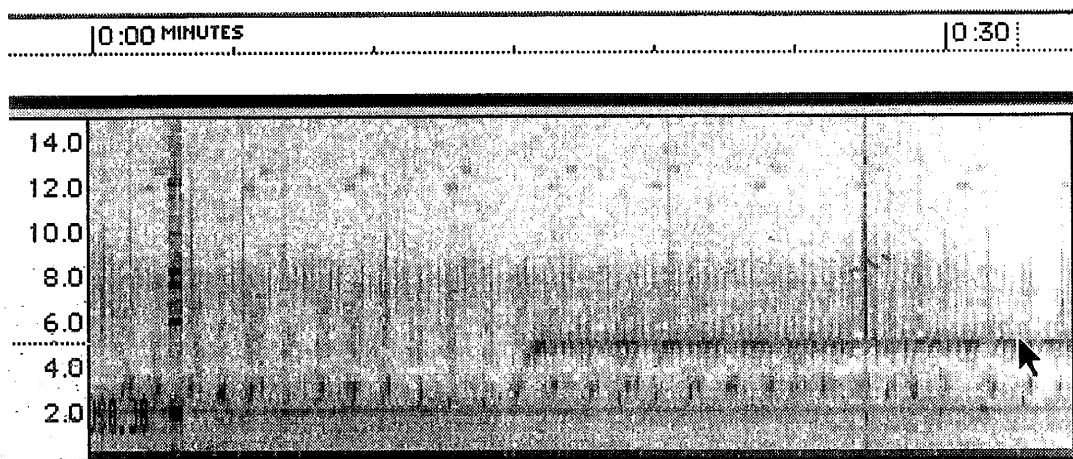
0901 AM Local; 0800 UT



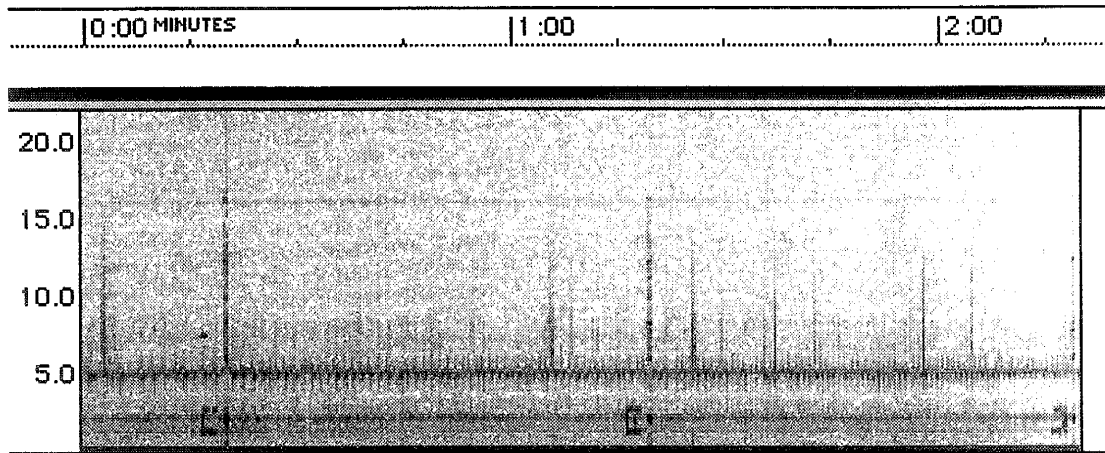
First minute.



10:00 AM Local; 0900 UT



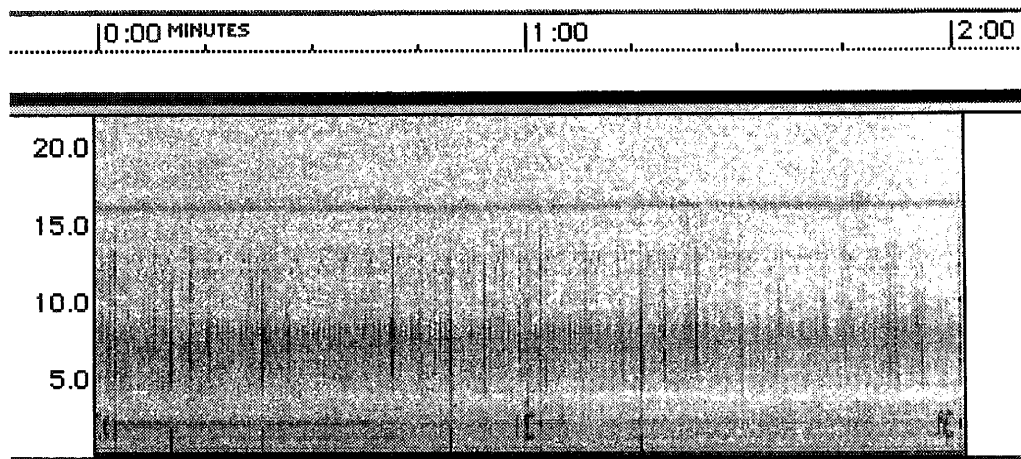
First 30 seconds. Arrow points to a whirring signal resembling a car ignition system that started 15 seconds into the file and persisted throughout.



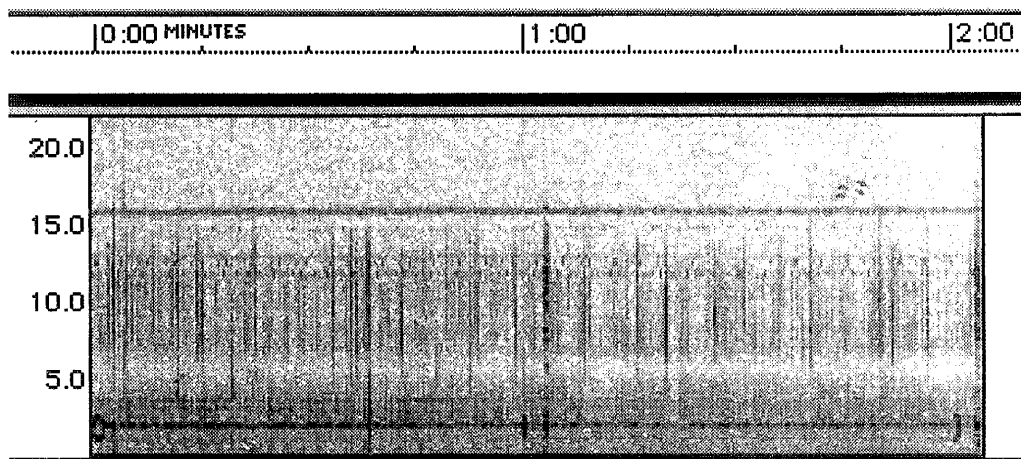
11:00 AM Local; 1000 UT

Note that Alpha is not evident and the signal at 5 kHz persists.

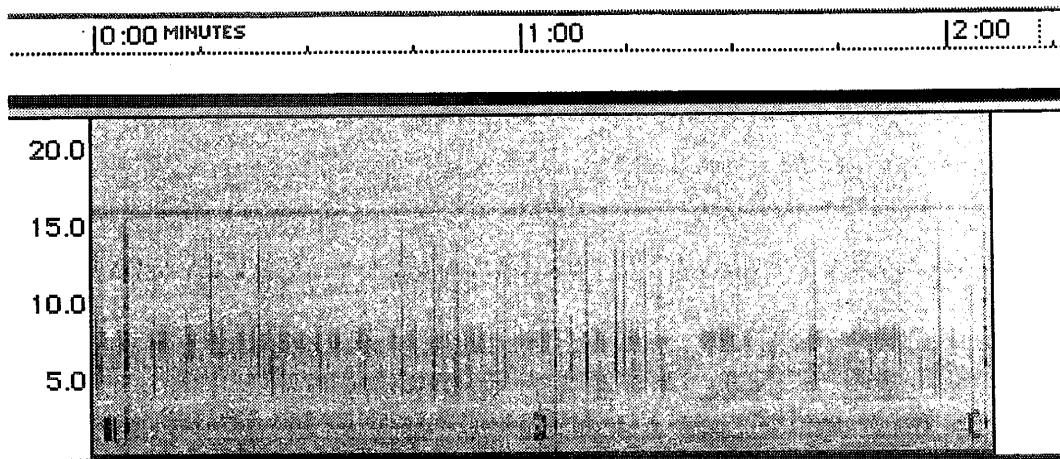
11/29/98



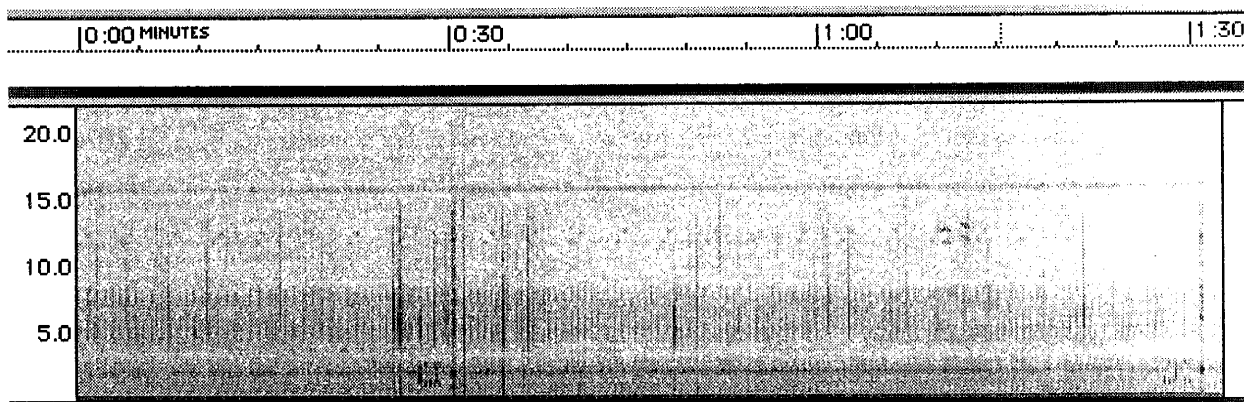
08:00 AM Local; 0700 UT



09:00 AM Local; 0800 UT  
Moderate density sferics, strong Alpha and a signal above 15 kHz.



10:00 Local; 0900 UT  
Sferics have increased in density and intensity. Alpha is fading



11:00 AM Local; 1000 UT  
Sferic level is dropping. Alpha still present. 15 kHz signal is down in level.