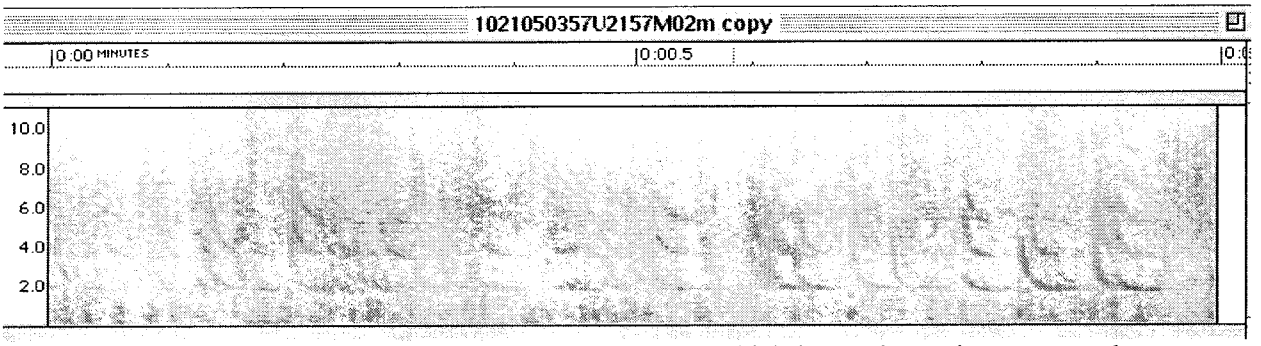
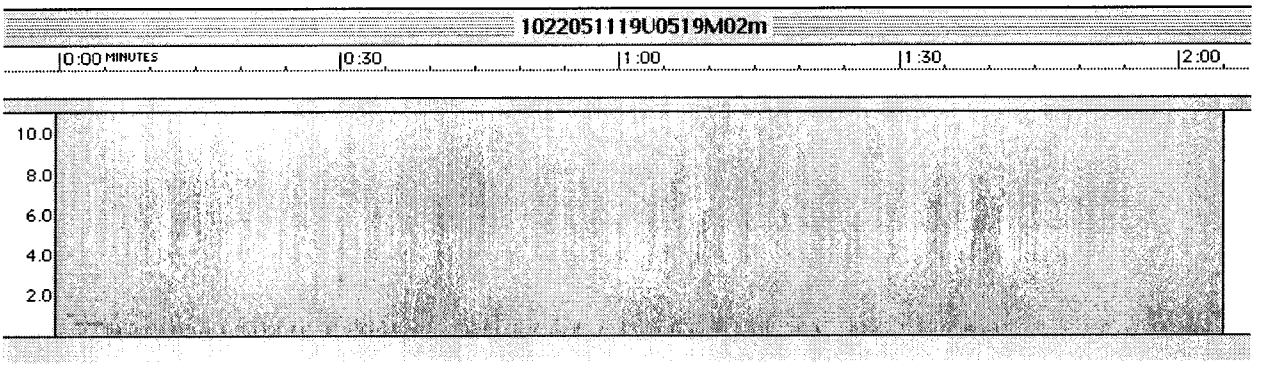


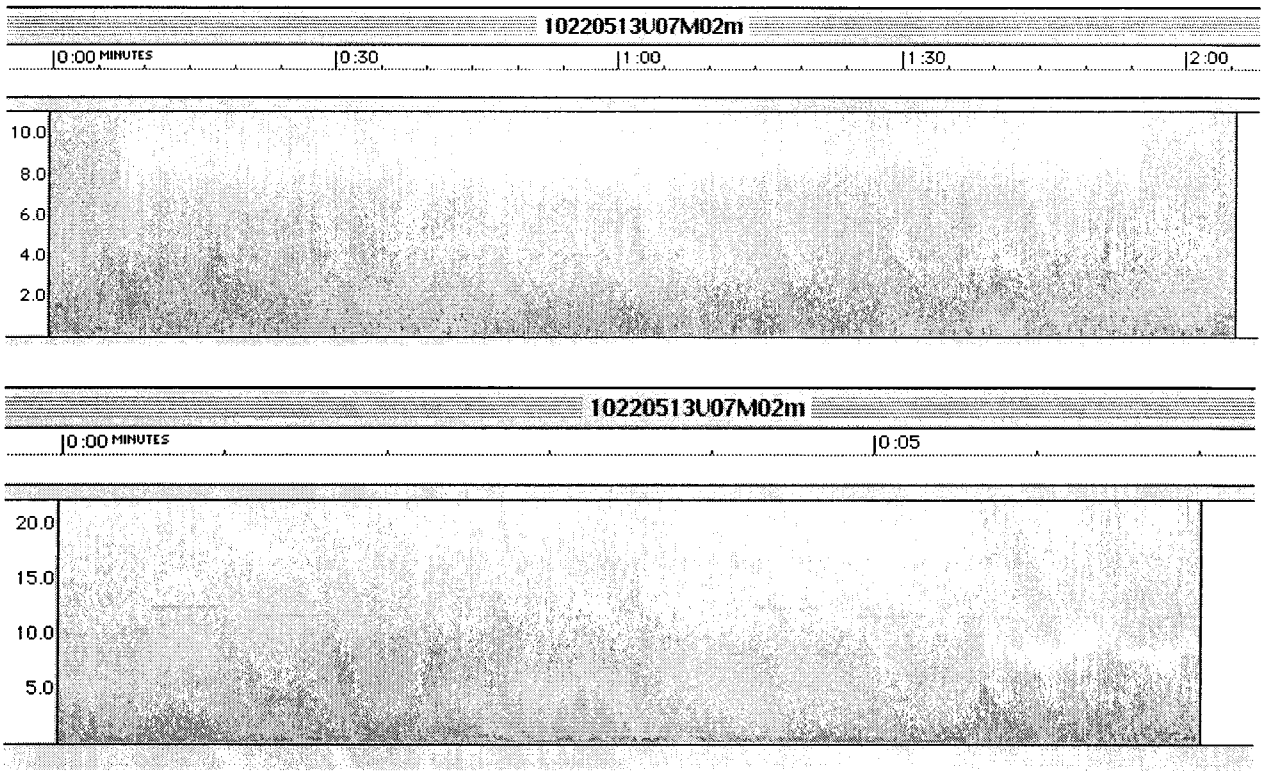
One second sample showing dense sferics and tweeks. Note the multiple harmonics on the strong tweeks.

The second session started at 0520 MDT Saturday morning. The sferic levels were very high and the tweeks were strong and frequent. I noted one whistler while recording. When I listened to the tape after returning home, I noted that I had missed two whistlers. This session was plagued with equipment problems. The audio patch cord from the WWV receiver to the VLF-3 developed an internal open circuit. I did not have a spare cable (LESSON LEARNED!). By experimentation I found that I could establish connectivity by bending the cable into a near circle at a specific point. Troubleshooting was difficult because it was still dark. Sunrise would not occur for another hour and I was wearing a heavy coat and gloves. The outside temperature was 38° F. Because of the outside temperature, I moved the natural radio receiving set-up into the cab of my truck for the other sessions.



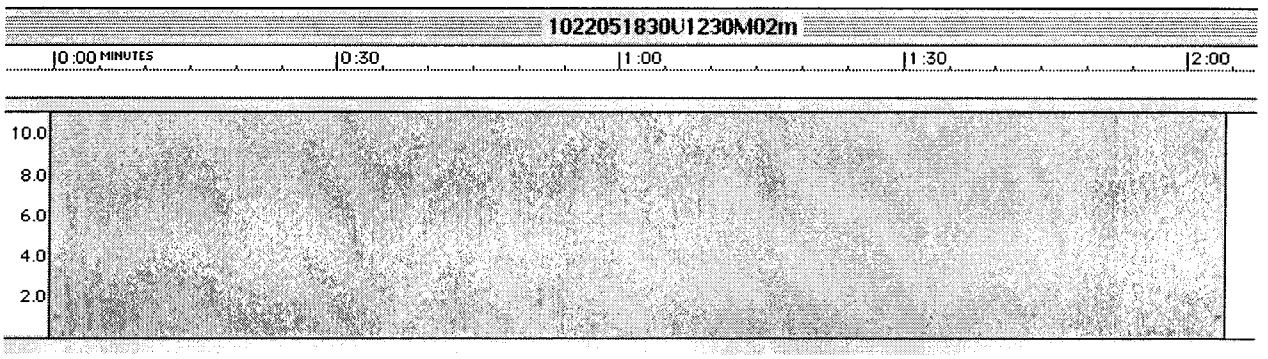
I tried to monitor again at 0600 MDT but had additional equipment problems. After spending 30 minutes checking all my equipment, I found the problem, which should have been obvious to me immediately. The antenna lead-in had shorted to the receiver metal case!

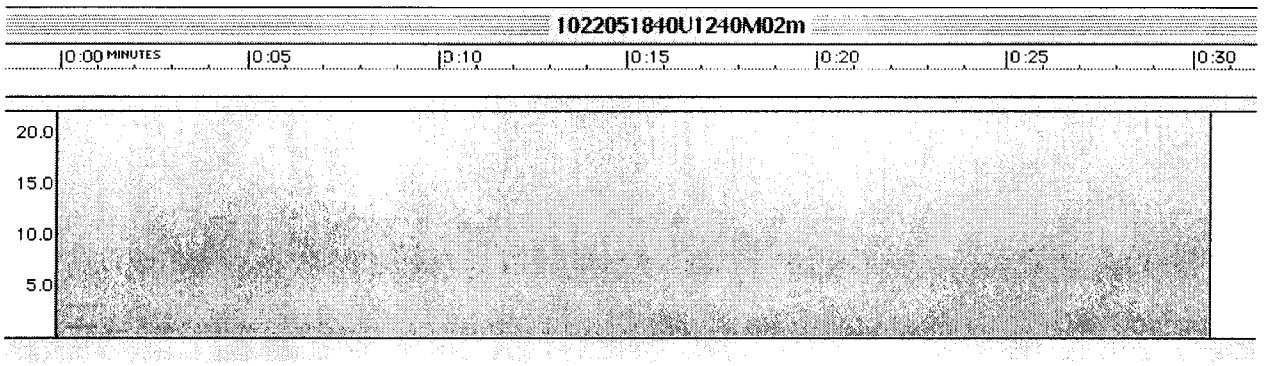
The third session finally occurred at 0700 MDT. The first thing I noted was that all natural radio levels had decreased significantly from the 0520 session. I did not detect any signals of great interest during this session.



This spectrogram is of about 7 seconds from the above session. The horizontal dashes between 10- and 15-kHz are tones from the Russian ALPHA navigation system If you look carefully at the strongest tones, you will see another dash right below, at about half the frequency. This is "aliasing", which results from strong signals. The actual tones (10- to 15-kHz) are too high frequency for many people to hear. The alias signals are well within the audio range and can be heard.

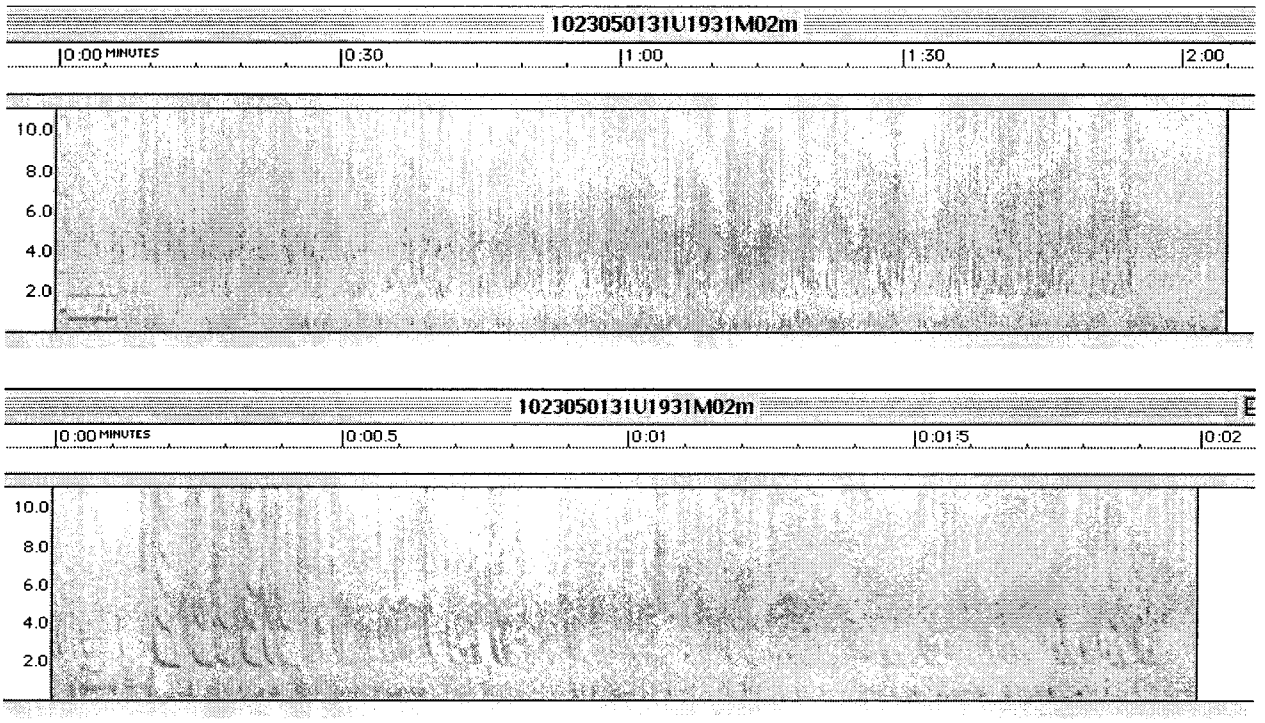
The next session occurred after lunch on Saturday at about 1230. All the natural radio levels were significantly lower than in the morning. The sferic level was at best weak. I detected a few tweeks and one weak whistler.





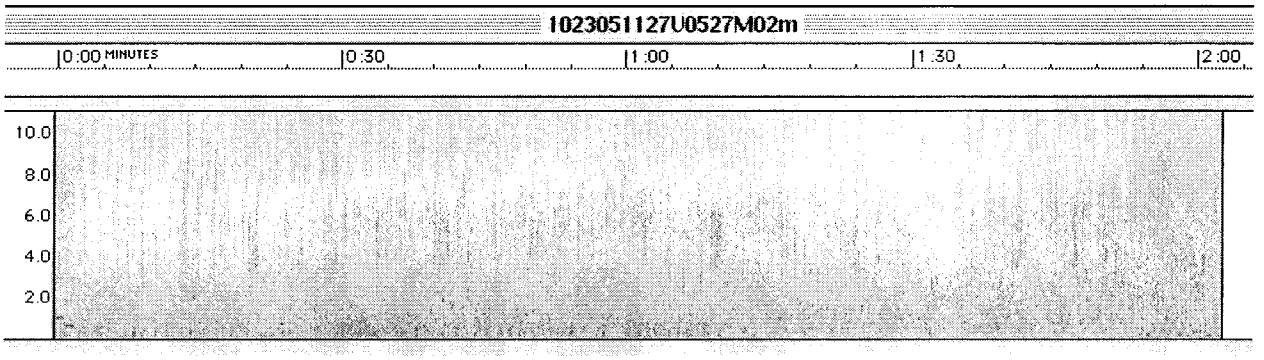
A 30 second, 0-22 kHz sample showing more Russian ALPHA signals.

I next monitored after dinner on Saturday at 1930 MDT. All the natural radio signal levels were still depressed and I didn't detect anything of interest.

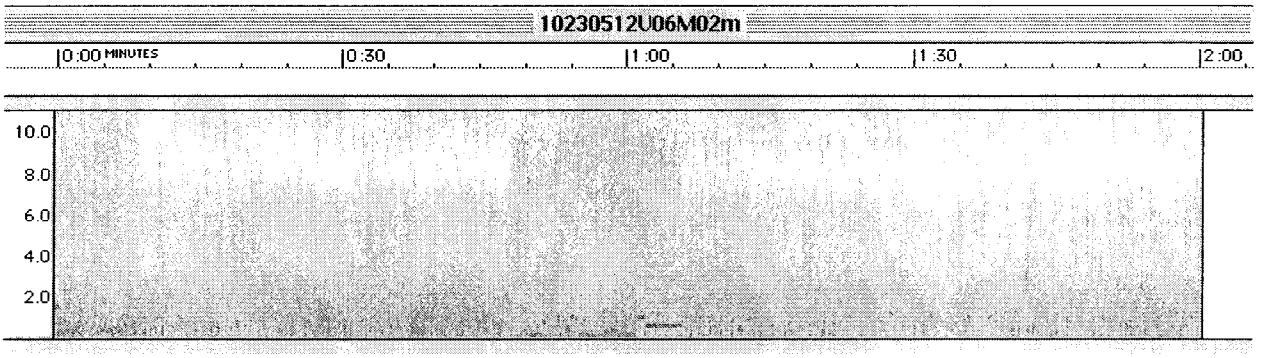


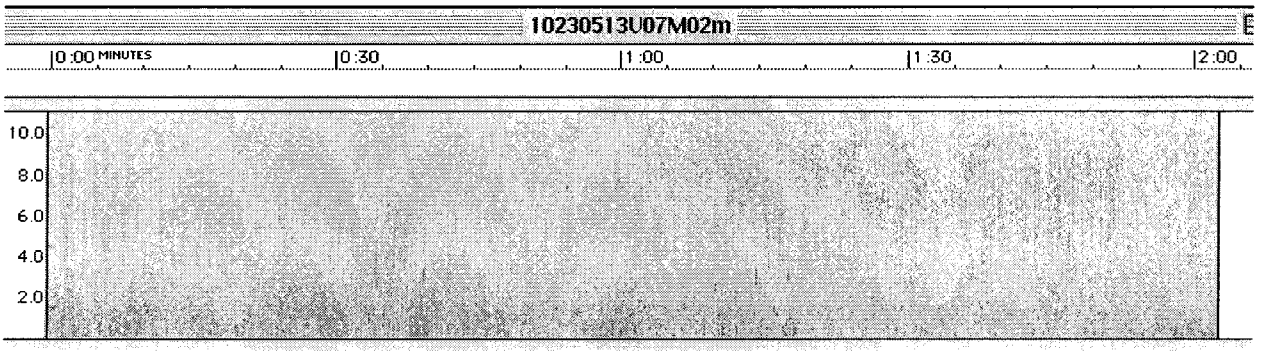
Two seconds showing tweeks.

The next monitoring session was on Sunday morning, 23 Oct. at about 0530 MDT. I again monitored from the cab of my truck. Signal levels were higher than the previous evening but not as intense as they were early Saturday morning. When I reviewed the tapes after returning home, I noted that the Russian "Alfa" navigation signals were absent. This is the first time I have monitored when they were off the air. The only natural radio signals of interest I noticed were some very strong tweeks.



My last monitoring sessions occurred at 0600 and 0700 MDT Sunday morning. I didn't notice any natural radio signals of interest.





All things considered, I had a good natural radio observing experience. I learned two lessons. One: I need to carry some spare audio patch cords. And two: I need more practice filling out log sheets. When I compared the log sheets for this session with ones I made in the past, it appears that I am getting a little sloppy. I had a great time camping.

Coordinated Observation Schedule

The Coordinated Observations will be held on the first weekend of October and the last weekend in April. This schedule will apply to all future Coordinated Observations. All data is welcome and should be submitted even if the conditions are quiet. Any data you can contribute is valuable. The procedure to use for Coordinated Observations will be as follows:

1. Use the Data Cover Sheet and Data Log forms found at the end of the *Journal*. (Make copies as needed.)
2. Put a voice introduction at the start of each session indicating your name, your INSPIRE Team name, the date, local time and UT time.
3. Record for 12 minutes at the start of each hour that you can monitor on the specified days. Keep a detailed written log of all signals that you hear and indicate any items of interest. When you submit your tapes, spectrograms will be made of any parts of the tape that you indicate.
4. Place a time mark on the tape on the hour and each two minutes for the next 12 minutes. Use Coordinated Universal Time (UTC) for all time marks.

Local Time to UT Conversion Table

EDT + 4 = UT
CDT + 5 = UT
MDT + 6 = UT
PDT + 7 = UT

Next Coordinated Observations:

April 29 – 30, 2006
October 7 – 8, 2006

5. Record at 8 AM and 9 AM **LOCAL** time.
6. In addition, record on other hours to compare results with those in neighboring time zones. For example, an observer in the Central Time Zone might record at 7 AM (8 AM EDT), at 8 and 9 AM CDT and at 10 AM (9 AM MDT).
7. Use 60 minute tapes (30 minutes per side) with two sessions per side. It is preferred that you record on one side of the audio tape only.
8. Label all tapes and logs to indicate the sessions monitored and send to:

Bill Pine
1348 Quince Avenue
Upland, CA 91786

9. Your tapes will be returned with spectrograms of your data. An article reporting on the results will appear in the next *Journal*.
10. SPECIAL NOTE: If you are hearing whistlers, replace the data tape after 12 minutes with a "Whistler" tape and continue recording with time marks every two minutes. If we get whistlers, this would be a good opportunity to try to determine the "footprint" of a whistler (the "footprint" is the geographical area where a whistler can be detected).

Field Observation Schedule

Field observations may be made according to the following schedule:

ANY TIME !

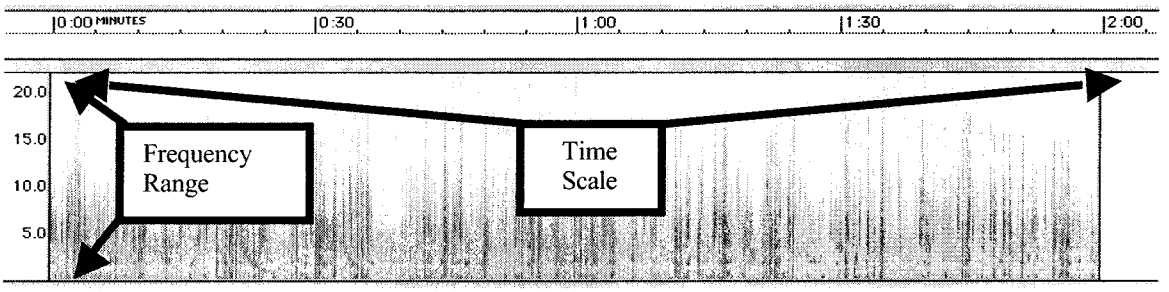
In addition to an article reporting on the Coordinated Observations, will be an article on Field Observations. These observations may be made at any time and submitted for inclusion in the next *Journal*.

Use the same procedure as described for Coordinated Observations (previous page). Since field observations can be made any time of year, the following table is provided for conversion from local time to Coordinated Universal Time (UTC).

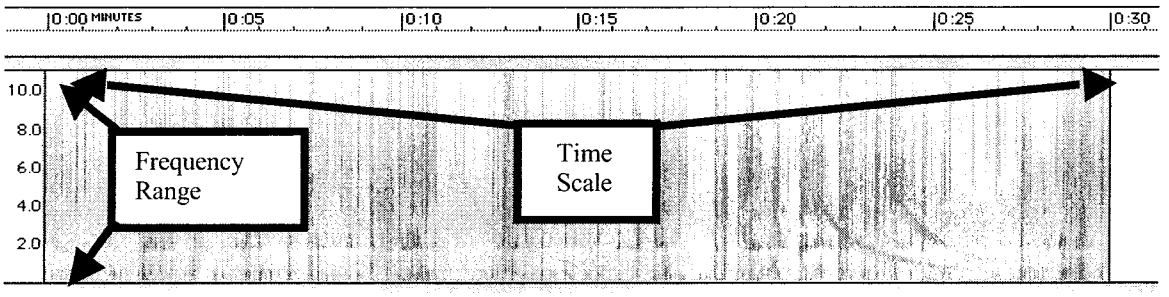
Local Time to UT Conversion Table

EST + 5	=	UT	EDT + 4	=	UT
CST + 6	=	UT	CDT + 5	=	UT
MST + 7	=	UT	MDT + 6	=	UT
PST + 8	=	UT	PDT + 7	=	UT

Sample Spectrograms:



This spectrogram is for two minutes using a frequency range of 0 - 22 kHz.



This spectrogram is for 30 seconds using a frequency range of 0 - 11 kHz.

Data Log Cover Sheet (copy as needed)

INSPIRE Observer Team _____

Equipment: Receiver _____

Recorder _____

Antenna _____

WWV radio _____

Site description: _____

Longitude: _____° _____′ W Latitude: _____° _____′ N

Personnel: _____ _____ _____

_____ _____ _____

Team Leader address: Name _____

Street _____

_____

City, State, Zip, Country _____

email: _____

Local Time to UT Conversion Table

EST + 5 = UT	EDT + 4 = UT
CST + 6 = UT	CDT + 5 = UT
MST + 7 = UT	MDT + 6 = UT
PST + 8 = UT	PDT + 7 = UT

INSPIRE Data (copy as needed)

INSPIRE Observer Team ____________________________

Observation Date: ____________ Receiver ________

Tape Start Time (UT) ____________ Tape Start Time (Local) ____________

Local weather: ____

Code: M - Mark (WWV or Voice) S - sferics T - tweek W - whistler A - Alpha C – chorus
Sferic Density: D: ___ Scale of 1-5 (1 – Very Low, 3 – Medium, 5 – Very High)

Time (UT)	Entry		Observer
__________	M-WWV M-V S T C W_________________________	D: ___	____________
__________	M-WWV M-V S T C W_________________________	D: ___	____________
__________	M-WWV M-V S T C W_________________________	D: ___	____________
__________	M-WWV M-V S T C W_________________________	D: ___	____________
__________	M-WWV M-V S T C W_________________________	D: ___	____________
__________	M-WWV M-V S T C W_________________________	D: ___	____________
__________	M-WWV M-V S T C W_________________________	D: ___	____________
__________	M-WWV M-V S T C W_________________________	D: ___	____________
__________	M-WWV M-V S T C W_________________________	D: ___	____________
__________	M-WWV M-V S T C W_________________________	D: ___	____________
__________	M-WWV M-V S T C W_________________________	D: ___	____________
__________	M-WWV M-V S T C W_________________________	D: ___	____________
__________	M-WWV M-V S T C W_________________________	D: ___	____________
__________	M-WWV M-V S T C W_________________________	D: ___	____________