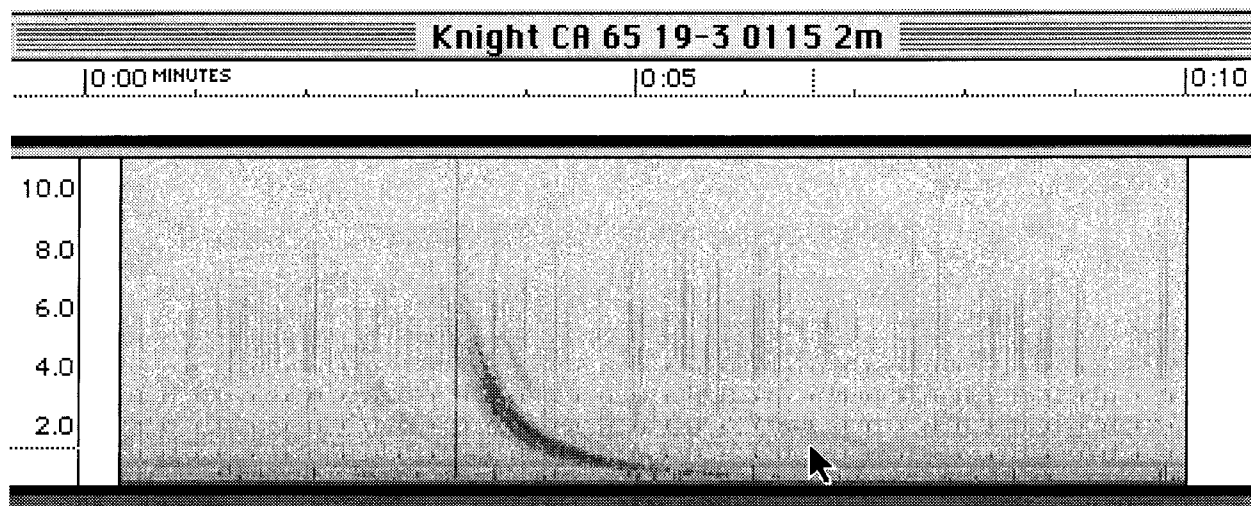


Team 7 Dean Knight Sonoma Valley High School Sonoma, CA

Dean and his students set up 3 receivers for Orbit 3 on all four days - April 19, 20, 26, 27. The second weekend was quiet, but the first weekend was more eventful - especially the 19th. Just one example of a great whistler is shown below.



The strong whistler is at 0110:59 UT. The arrow points to a faint whistler that is also audible on the tape. The increased dispersion indicates that it is probably a 3-hop echo of the original 1-hop whistler. This whistler was also recorded by the Chaffey High School team in Southern California.

Sonoma Valley High School students who participated included:

| | | |
|---------------------|---------------------|--------------------|
| Melissa Austin | Josh Deignon | Merideth Medin (2) |
| Erin Brady | Kati Estudillo (3) | Steve Norton (4) |
| Janae Brady (3) | Kristina Estudillo | Eric Phillips (2) |
| Jennifer Brewer (2) | Owen Hardisty (3) | Mindy Prziborowski |
| Laura Cali | Kati Kelly (2) | Matt Schunk |
| Jean Campbell | Julianne Krause (2) | Travis Tabares |
| Bill Capetanis | Joel Kushner (2) | Julia Tutor |
| Michelle Costanzo | Misha Maydoney (3) | Akaena Vasquez |
| | | Kim Walker |

Team E2 Silvio Bernocco Vaccera, ITALY

Silvio sent a photo of his field setup and asked about the new INSPIRE receiver. A field test of the new receiver has been done and the receivers have been ordered from the supplier. Final cost and pricing determinations will be made soon and the results will be announced in the April issue of *The INSPIRE Journal*.

Team 16 Leonard Marraccini

Finleyville, PA

Leonard writes:

Could you please comment on the particulars of the new INSPIRE receiver. How does it compare with the McGreevey WR3 whistler receiver available commercially?

The field test conducted this fall did not include the WR3, but perhaps I can include that receiver in a later test session.

Team 17 Kent Gardner

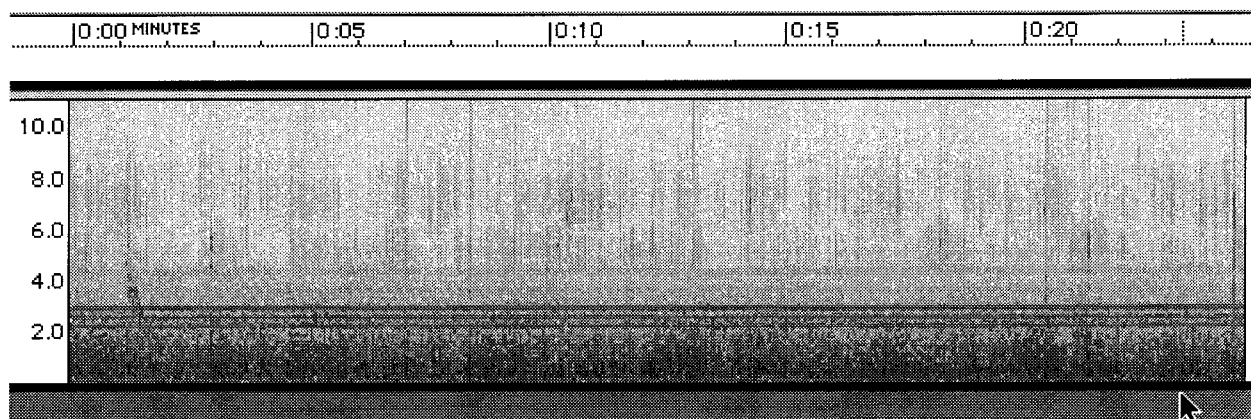
Fullerton, CA

Kent writes:

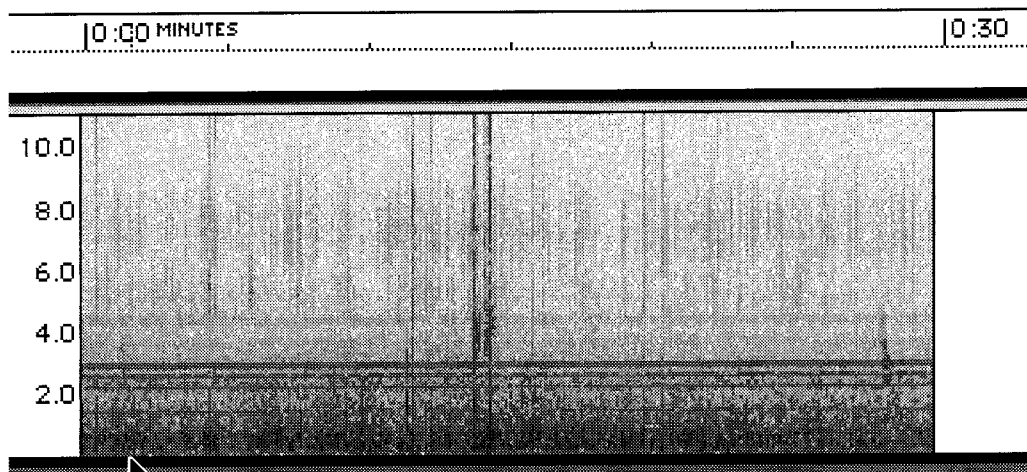
Enclosed is my tape recording of MIR-INTMINS pass 19-2 of 19 April 1996. I did not detect any signals from Mir, but I really recorded a lot of great whistlers and mainly am sending this tape because of them. I went over two years without getting but one weak one that was so faint it hardly showed up on the wave file printout. Then all of a sudden I get about two dozen on one tape.

This whole thing has been a great experience since you came to talk to the Fullerton Amateur Radio Club [in the fall of 1991]. My antennas are better and I found one of the transistors was wired in wrong. I have upgraded my audio recorder via a yard sale purchase, etc., etc.

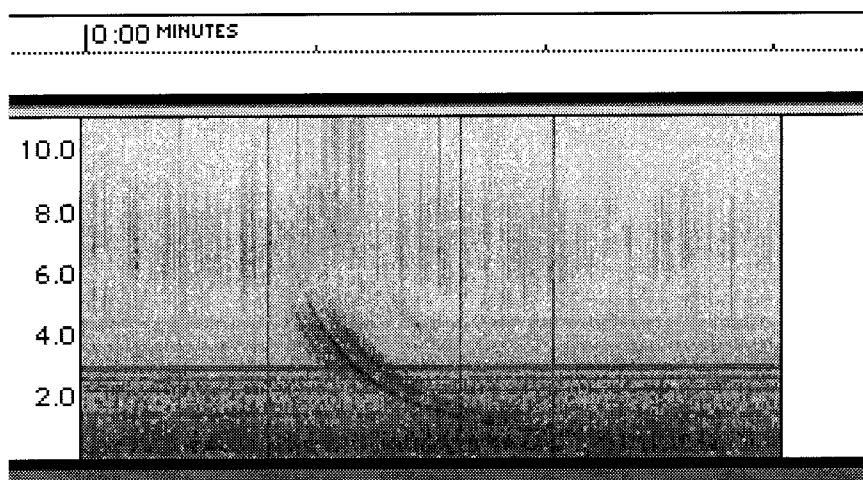
Kent reviewed his logs and tightened up the timing on all entries. He even numbered the whistlers on his tape of the 19-2 pass. Here is a gallery of whistlers from Kent's tape.



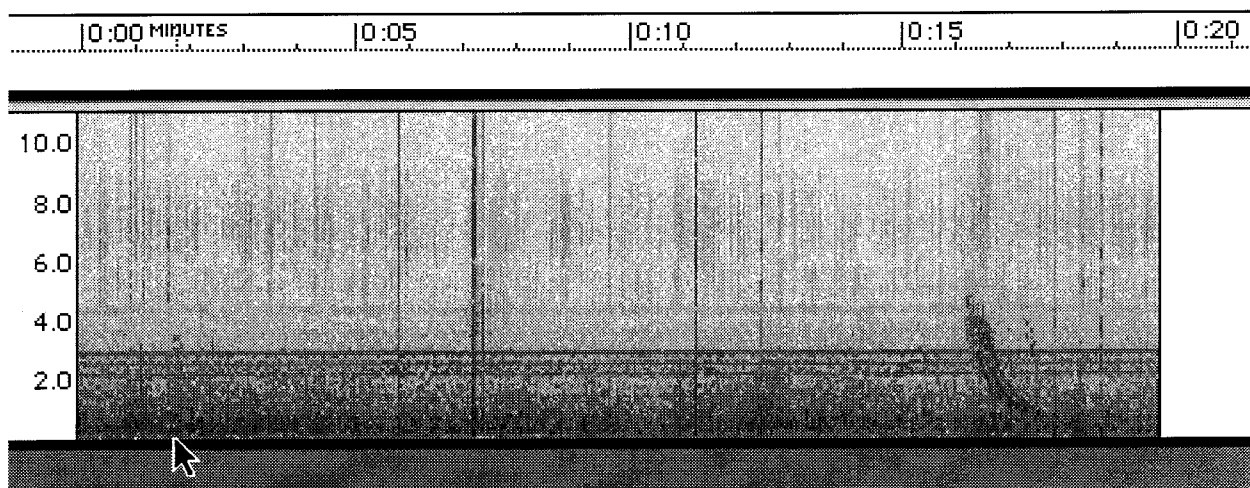
2319:15 UT #1 at :01 seconds, arrow points to #2



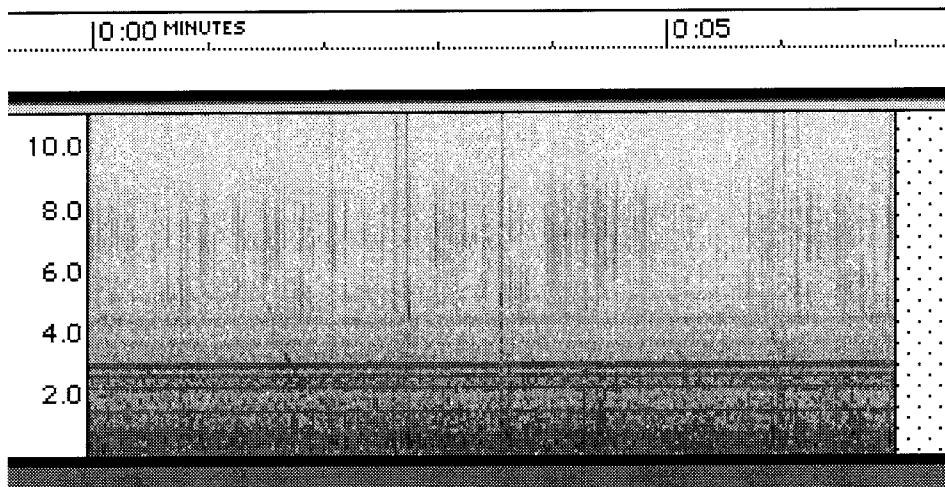
2320:25 UT Arrow points to #3; #4 is at :28 seconds.



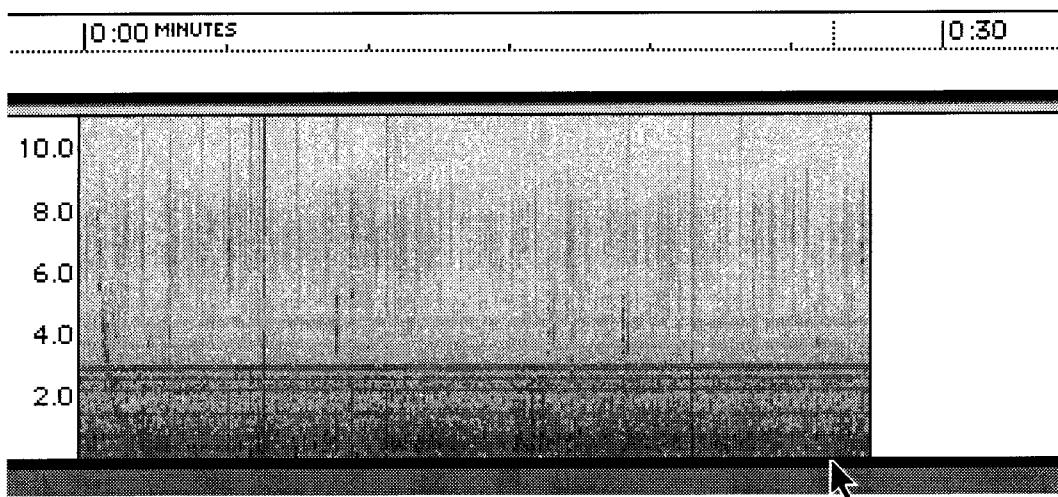
2321:53 UT #5. WOW !!!



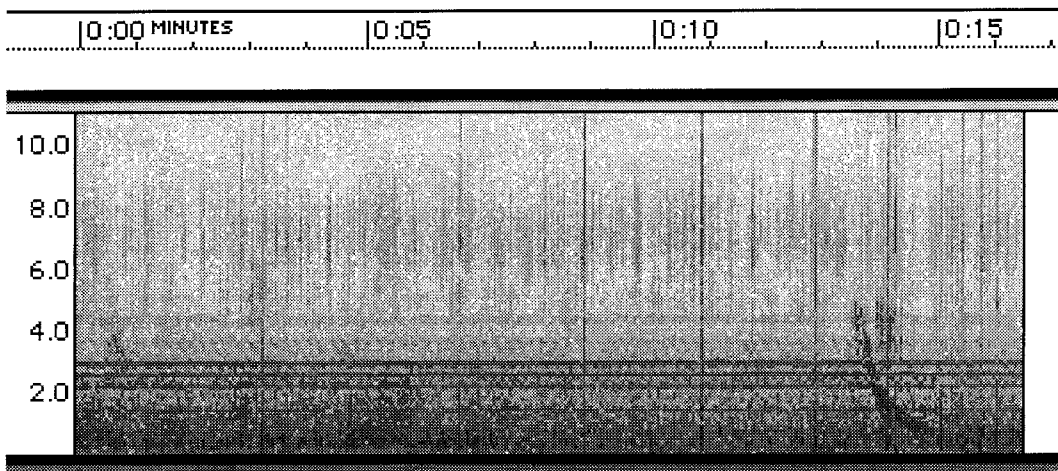
2322:40 UT #6 (arrow) and #7 at :16 seconds.



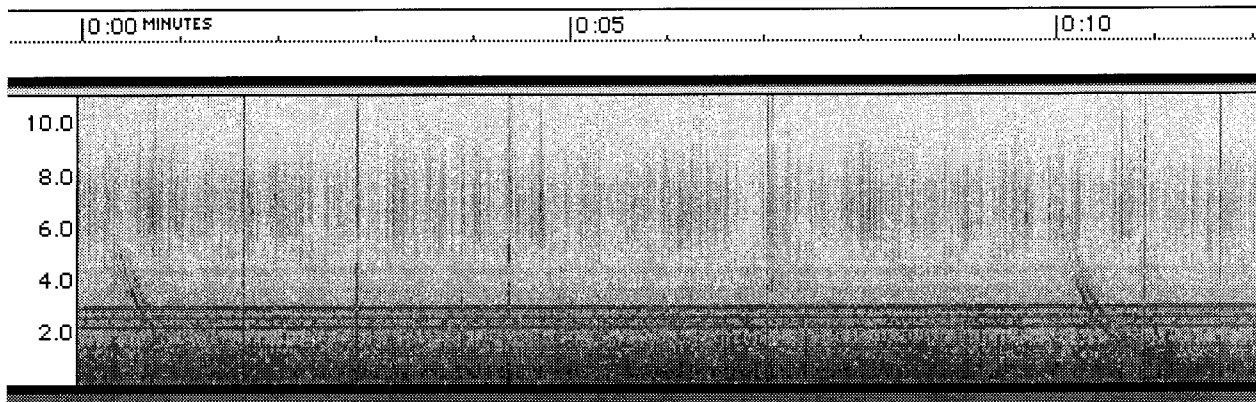
2323:?? UT #8 at :02 seconds; #9 at :06 seconds.



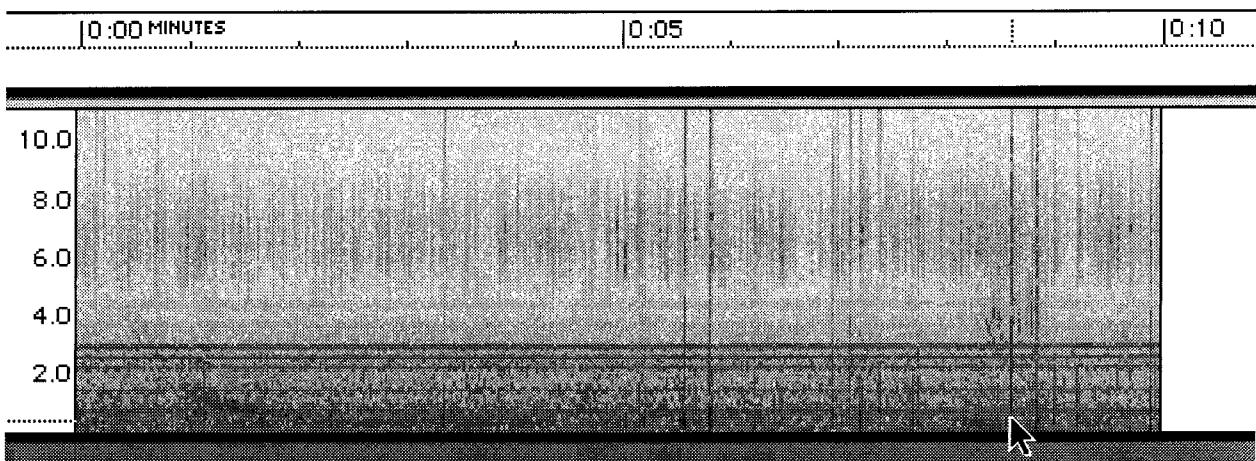
2326:30 UT #10 at :02 seconds; arrow points to #11.



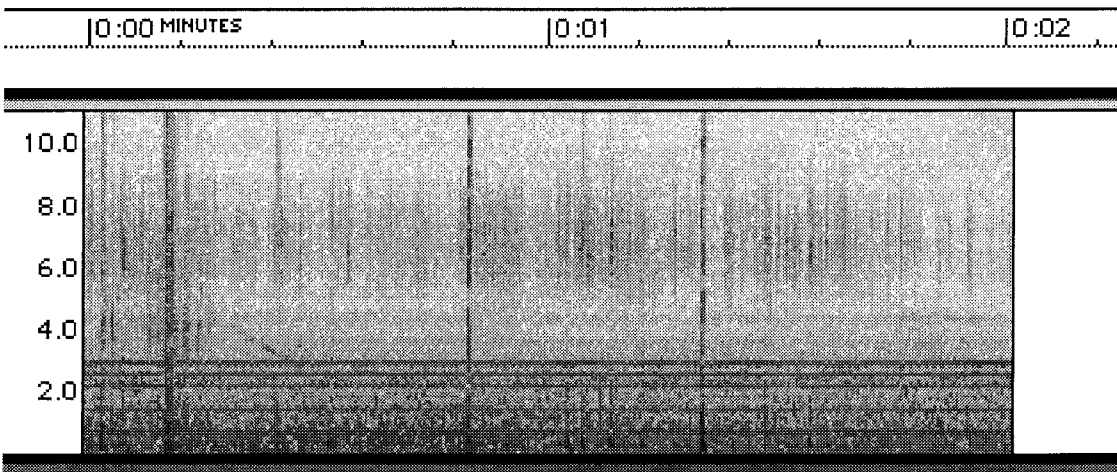
2327:15 UT #12 at the start; #13 at :14 seconds.



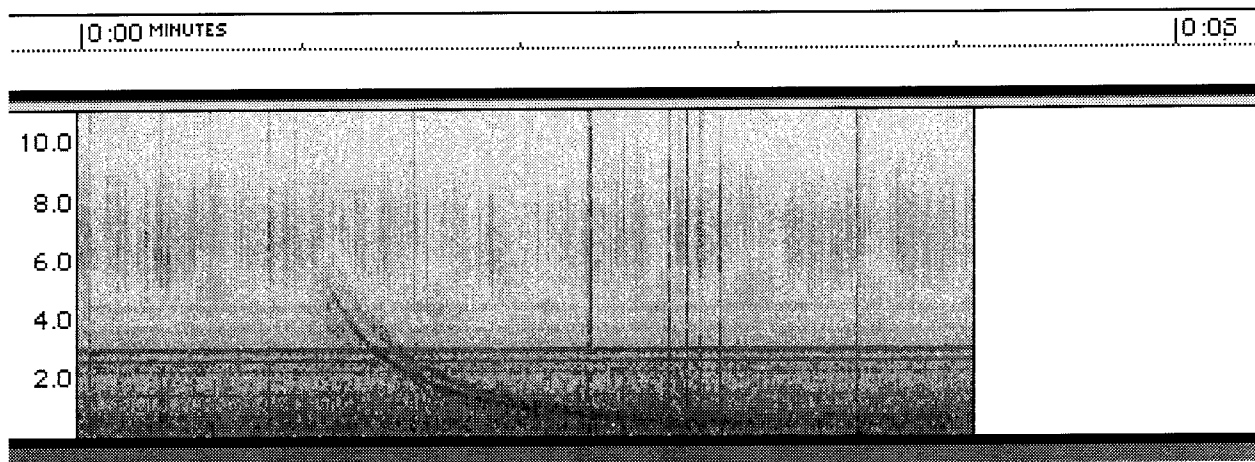
2328:25 UT #14 at the start; #15 at :10 seconds.



Could not get a good picture of #16; 2329:25 UT #17 at the start; arrow points to #18.



2333:00 UT #19 is a weak whistler in the first second above.



2333:50 UT #20 with a dispersion of two seconds.

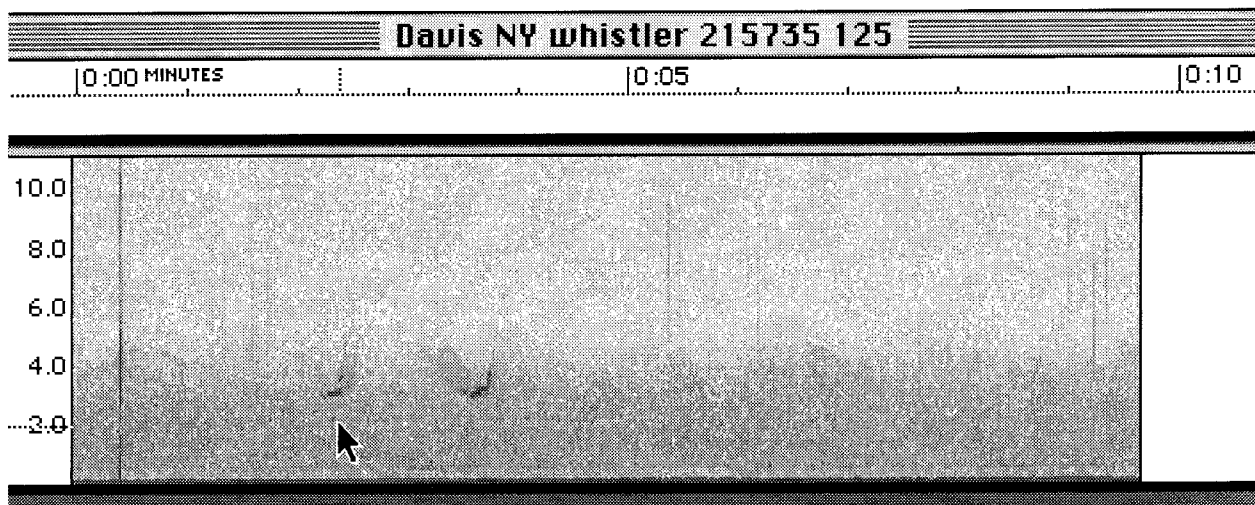
Team 2 Stephen G. Davis

Fort Edwards, NY

Stephen always produces detailed and accurate logs. This is of great help to the analyst since it makes it easy to keep track of where you are on the tape and where the areas of interest are. Stephen asks:

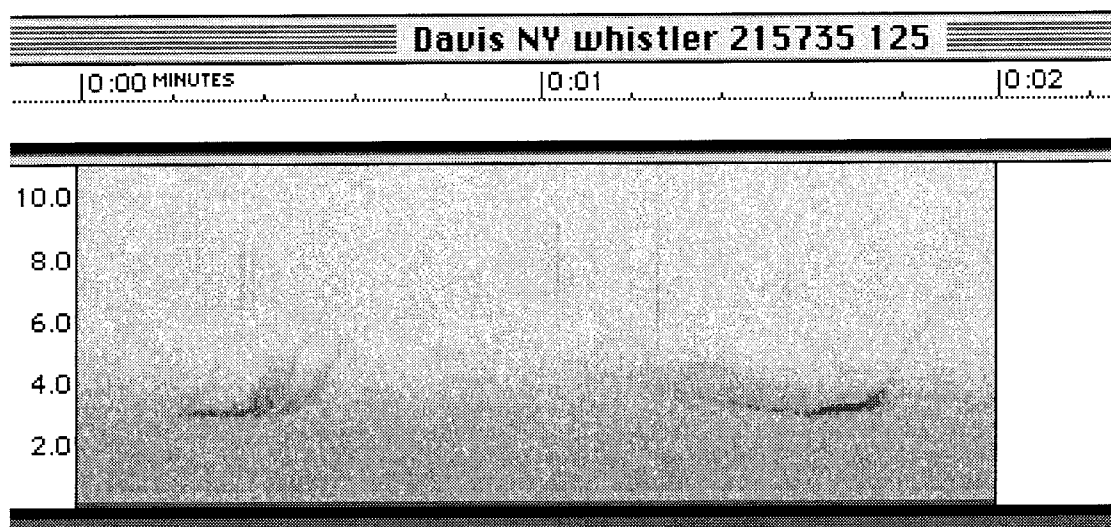
Why do some of the whistlers end with an ascending note?

On the tape are some very interesting sounds - similar to birds chirping, one chirp at a time. If the sounds were more continuous we would call it chorus. What is being heard are triggered emissions, which are characterized by quick tones that rise in frequency over a fraction of a second. Two of these triggered emissions are shown below.



2158:40 UT Arrow points to one "chirp"; the second is about one second later.

You can also see some very faint signals between times :05 and :07 seconds. These are faintly audible in the background while the two triggered emissions are quite prominent audibly. Note that the duration of each is about .5 seconds.



Closeup of two seconds from the previous spectrogram. Note the detailed structure of each is different. I think this is essentially very intermittent chorus. Chorus seems to be more common farther north - I have never heard it in Southern California.

Team E8 Zeljko Andreic Rudjer Boskovic Institute Zagreb, CROATIA

Zeljko writes:

A group of three students of physics at the Zagreb university had assembled the RS4 receiver and did some measurements. I hope to get a nice report from them this fall. They are either working to pass their exams now or have left for summer vacation. They received a Rector's Award for their work in VLF radio. The rector is the man at the head of the entire University and this is a respected award that appreciates scientific work done by pre-graduate students. They made me very proud. They tried to observe the April INTMINS experiment and I am sending you a cassette tape with their measurements. Unfortunately I was not able to check it, but hope it is OK. [It is! - ed.] It is a well done copy and data should be on one side of it. They used voice labeling as described in the INSPIRE Journal (at least they think they did!). [They did a good job. - ed.] I hope you will be able to use the tape although they said they were not able to find any signal related to the MIR experiment.

Congratulations on the Rector's Award! It is a great pleasure to have participants in Croatia. Our thoughts and prayers are with everyone in that part of the world. We wish you peace and safety.

Team 3 Don Shockey Oklahoma City, OK

Finally, a note from someone who was not able to participate. Don is a reporter in Oklahoma City and will be covering the trial of the Oklahoma City bombers.

Sorry to report there won't be any observations from me this time. The INTMINS schedule fell during a business trip to Denver to make arrangements for the upcoming bombing trial. Don't count me out, though, and the November operations are already on my schedule.

Good luck with this period. Keep in touch.

INSPIRE Observer Team _____ Receiver _____

Operation _____

Date _____ Tape Start Time (UT) _____

Operation details: Tape start time: _____ UT _____ local

Operation start time: _____ UT _____ local

Operation type: _____

Operation stop time: _____ UT _____ local

Tape stop time: _____ UT _____ local

| | | | | |
|------------|-----------|-------|-----------------|-------|
| Equipment: | Receiver | _____ | WW V reception: | _____ |
| | Recorder | _____ | | _____ |
| | Antenna | _____ | | _____ |
| | WWV radio | _____ | | _____ |

Site description: _____

Longitude: _____ ° _____ ' W Latitude: _____ ° _____ ' N

Local weather: _____

Personnel: _____

| | | |
|----------------------|---------------------------|-------|
| Team Leader address: | Name | _____ |
| | Street | _____ |
| | | _____ |
| | City, State, Zip, Country | _____ |

INSPIRE Data

(copy as needed)

Code: S - sferics 0 1 2 3 4 5 M - Mark T - tweek W - whistler O - OMEGA C - chorus
 L M H

| Time | Entry | Observer |
|-------|----------------------|----------|
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |
| _____ | _____ S: 0 1 2 3 4 5 | _____ |