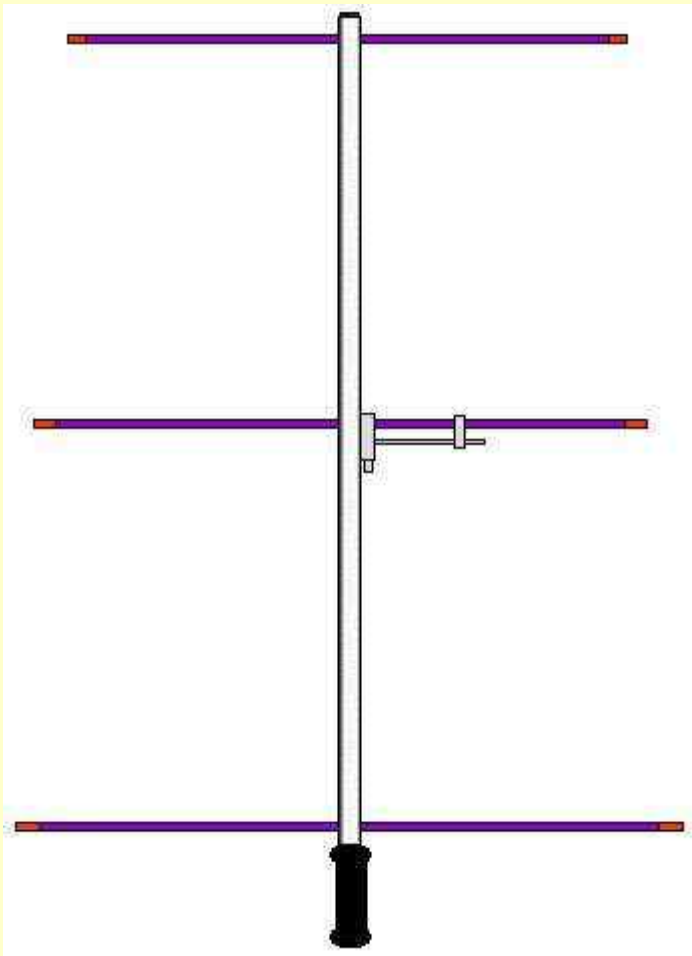


RDF



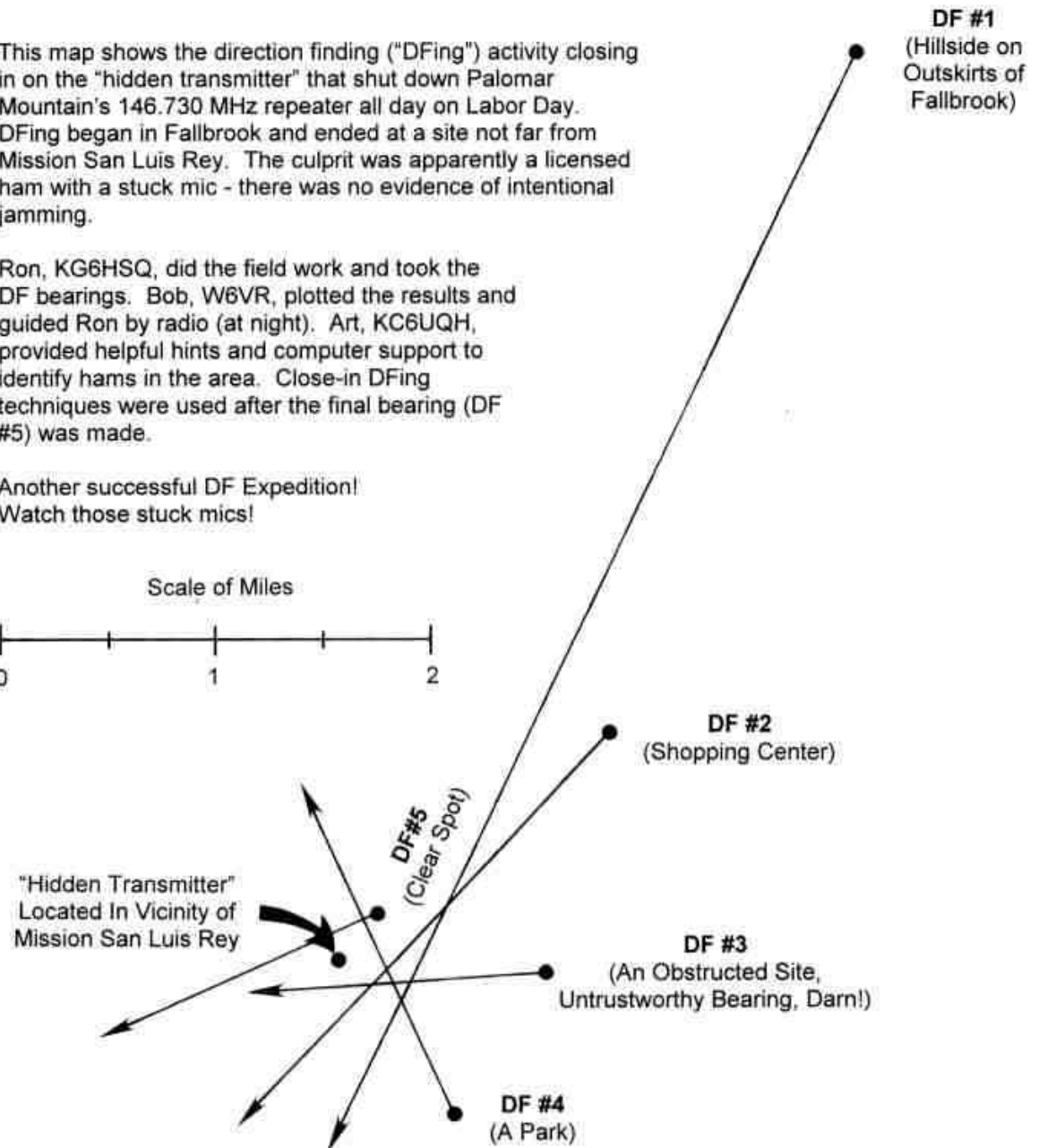
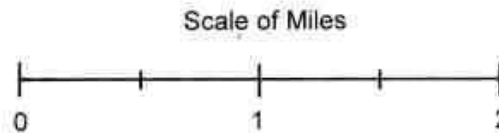
LABOR DAY DFing

Finding the Stuck Mic Locking Up
The 146.730 MHz Repeater on
September 1, 2003

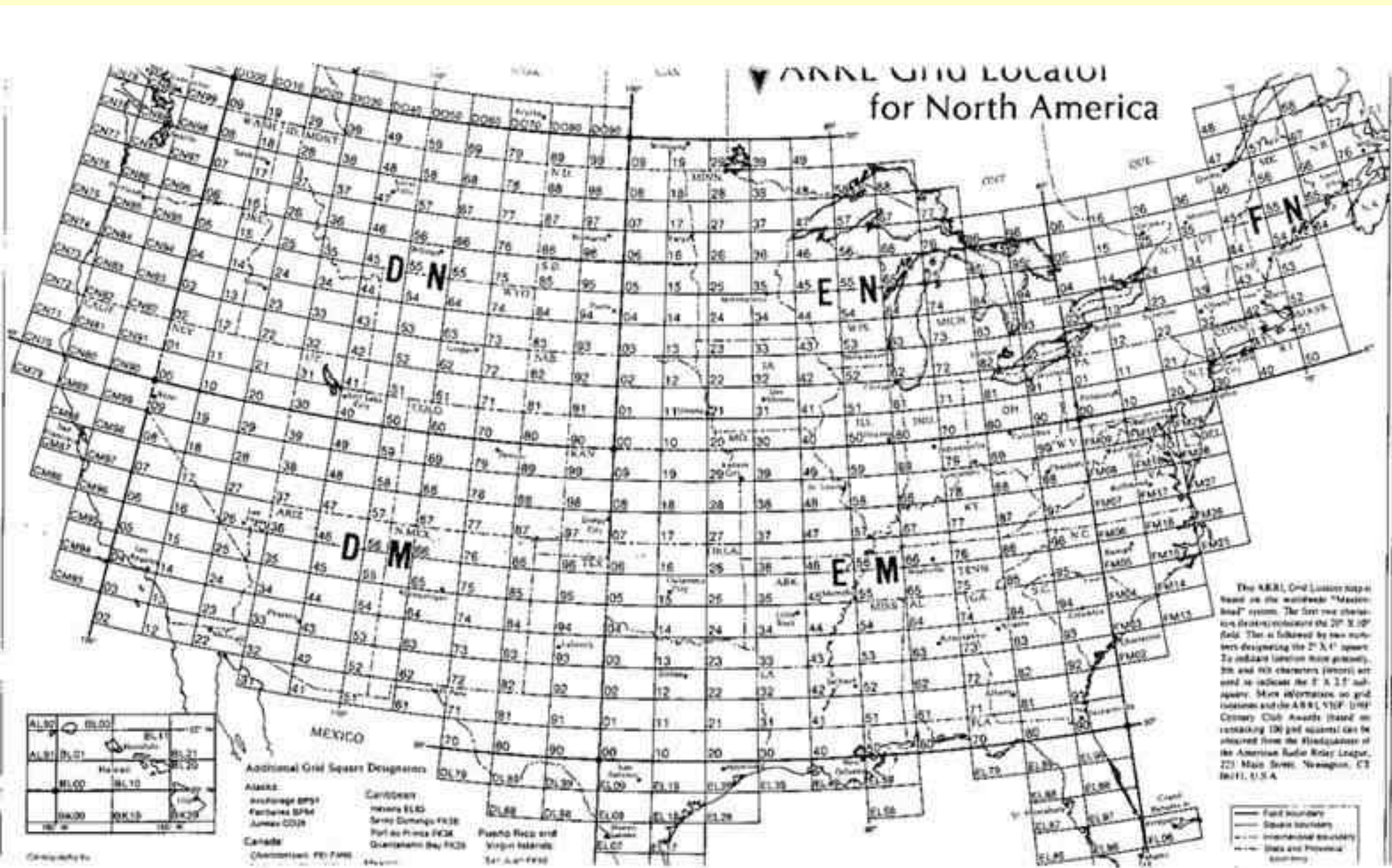
This map shows the direction finding ("DFing") activity closing in on the "hidden transmitter" that shut down Palomar Mountain's 146.730 MHz repeater all day on Labor Day. DFing began in Fallbrook and ended at a site not far from Mission San Luis Rey. The culprit was apparently a licensed ham with a stuck mic - there was no evidence of intentional jamming.

Ron, KG6HSQ, did the field work and took the DF bearings. Bob, W6VR, plotted the results and guided Ron by radio (at night). Art, KC6UQH, provided helpful hints and computer support to identify hams in the area. Close-in DFing techniques were used after the final bearing (DF #5) was made.

Another successful DF Expedition!
Watch those stuck mics!



Fallbrook is in DM13

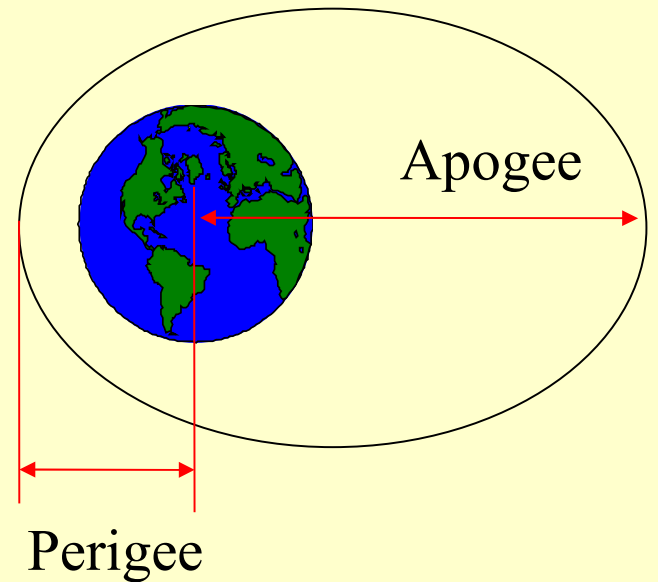


Hams have frequencies in the 6 meter band
for radio controlled models



Satellites

- ◆ Keplerian elements are a set of mathematical parameters used to calculate a satellite's position.
- ◆ A satellite's perigee is its closest approach to the Earth's center.
- ◆ A satellite's apogee is its farthest distance from the Earth's center.



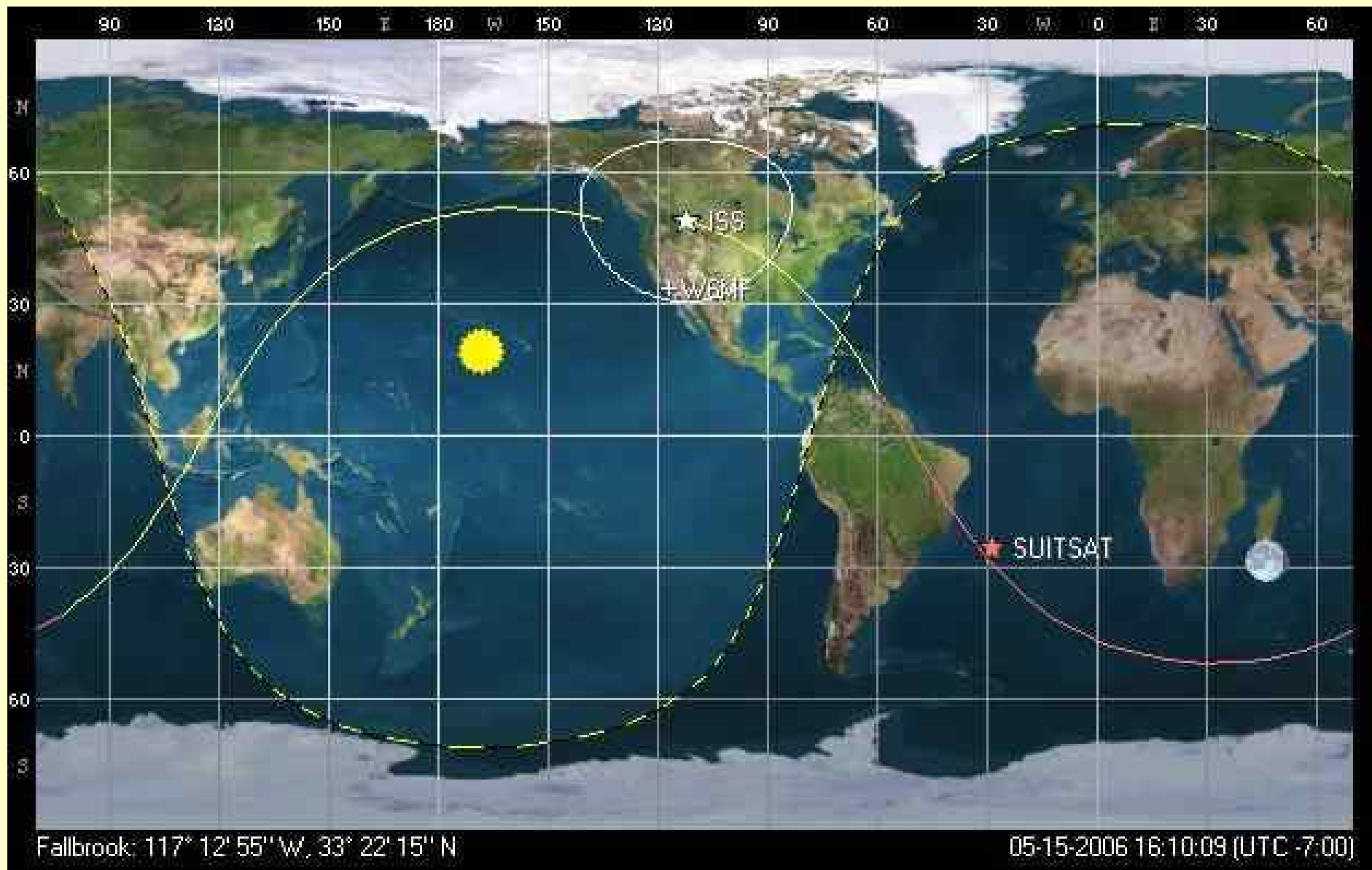


Expedition 13 Crew. Commander Pavel Vinogradov (RV 3BS) & Flight Engineer Jeffrey Williams (K D5TV Q)



**Expedition 13
Crew Patch**

Crew Docked with station April 26, 2006. Returns to Earth September 24, 2006



**Example of a Satellite Tracking Program Screen.
Software by Orbitron. Free download and use.**

Doppler Shift

(ignore mathematics)

Movement of the source alters the wavelength and the received frequency of sound, even though source frequency and wave velocity are unchanged.

Stationary source of frequency f_{source}

$$f_{\text{source}} = \frac{v}{\lambda}$$

Sound velocity v

Source approaching: $f'' = \frac{v}{\lambda''} = \frac{v}{v - v_s} f_{\text{source}}$

In period T , source moves closer by $v_s T$, so

Receding source:

$$f'' = \frac{v}{\lambda''} = \frac{v}{v + v_s} f_{\text{source}}$$

Source velocity

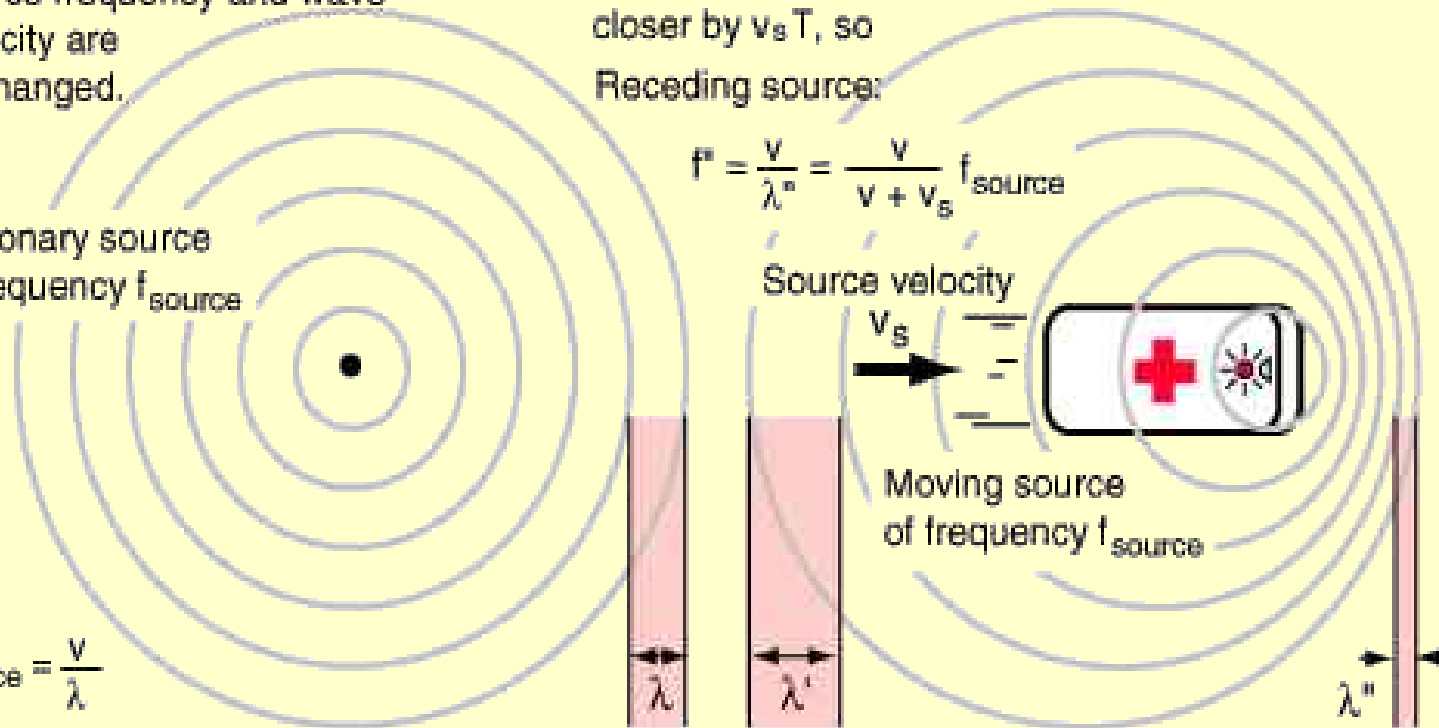
v_s

Moving source of frequency f_{source}

$$\lambda = vT$$

$$\lambda' = (v + v_s)T$$

$$\lambda'' = (v - v_s)T$$



ARRL 70-cm Wavelength Band Plan, 420-450 MHz



420.00-426.00 ATV repeater or simplex with 421.25 MHz video carrier control links and experimental

426.00-432.00 ATV simplex with 427.250 MHz video carrier frequency

432.00-432.07 EME (Earth-Moon-Earth)

432.07-432.08 Propagation beacons (old band plan)

432.08-432.10 Weak-signal CW

432.100 70 cm calling frequency

432.10-433.00 Mixed-mode and weak-signal work

432.30-432.40 New beacon band

433.00-435.00 Auxiliary/repeater links

435.00-438.00 Satellite only (internationally)

438.00-444.00 ATV repeater input with 439.250 MHz video carrier frequency and repeater links

442.00-445.00 Repeater inputs and outputs (local option)

445.00-447.00 Shared by auxiliary and control links, repeaters and simplex (local option); **446.00** MHz national simplex frequency

447.00-450.00 Repeater inputs and outputs