

Portable satellite operation in Norway

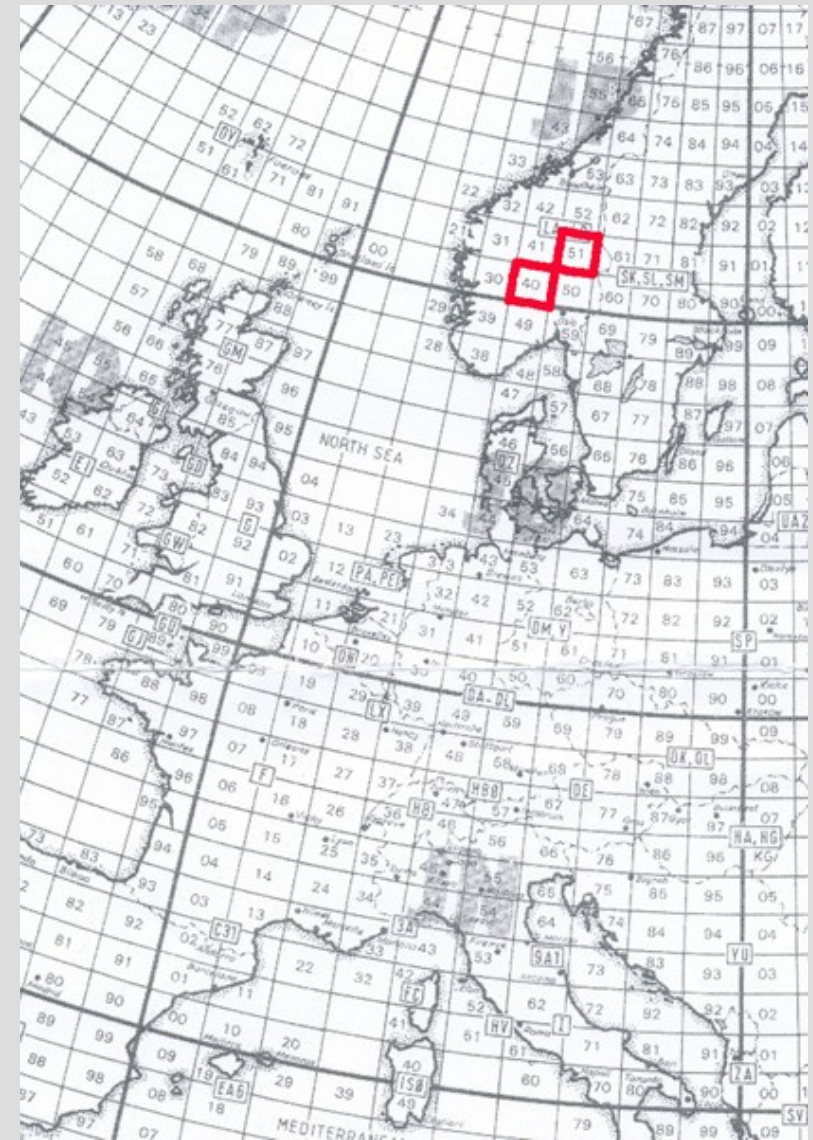
August 2006



Ivo Klinkert, PA1IVO
AMSAT-UK Colloquium 2007
20 July, Guildford

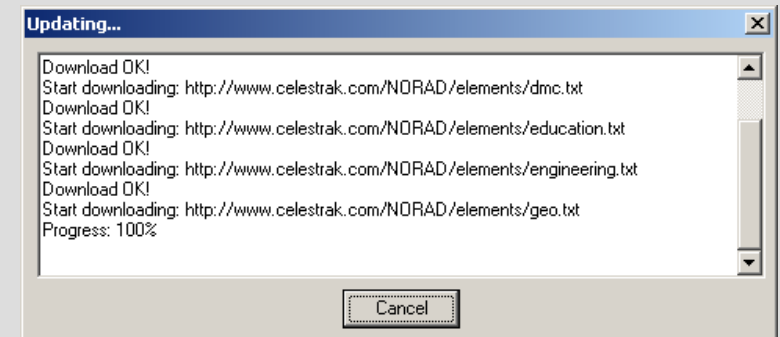
Portable satellite operation in Norway

- Portable / QRP
- Two weeks in August 2006
- Minimum (?) equipment
- Mainly FM QSO's



My preparations

- Careful planning and packing
No radio stores in the middle-of-nowhere
- Download latest Kepler sets
Probably no wireless networks available
- Check satellite schedules
Especially for AO-51
- Test your equipment at home
But pack everything....

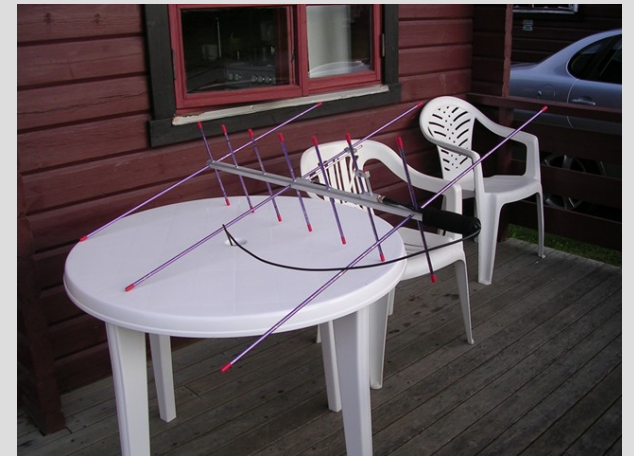


A screenshot of a Netscape browser window displaying the "AO-51 Monthly Schedule" page. The page title is "AMSAT - AO-51 Schedule". The URL bar shows "http://www.amsat.org/amsat-new/echo/ControlTeam.php". The page content includes a dropdown menu for the month (set to "July") and the year (set to "2007"). Below this, it says "Schedule for July" and "All dates begin at 0000 UTC, Sundays shown in gold". The main content is a table with columns for "Channel A", "Beacon", and "Channel B", each with "Uplink" and "Downlink" sub-columns. The table lists 8 rows of data.

	Channel A		Beacon	Channel B	
	Uplink	Downlink		Uplink	Downlink
1	145.920 FM	435.300 FM	435.150 FM	Off	Off 9k6
2	145.920 FM	435.300 FM	435.150 FM	Off	Off 9k6
3	145.920 FM	435.300 FM	435.150 FM	Off	Off 9k6
4	145.920 FM	435.300 FM	435.150 FM	Off	Off 9k6
5	145.920 FM	435.300 FM	435.150 FM	Off	Off 9k6
6	145.920 FM	435.300 FM	435.150 FM	Off	Off 9k6
7	145.920 FM	435.300 FM	435.150 FM	Off	Off 9k6
8	145.920 FM	435.300 FM	435.150 FM	Off	Off 9k6

Equipment

- FT817
- No AA batteries, external one
 - Hip bag for carrying external battery
- Arrow antenna (145/435 MHz)
- Special Arrow carrying case
- Headphones
- Mike, including speech processor
 - Maximum modulation working QRP
- Small laptop



Location JP40CN, cabin in Geilo

Turned out to be a rare location.

Take a look at the area,
most of JP40 looks like:



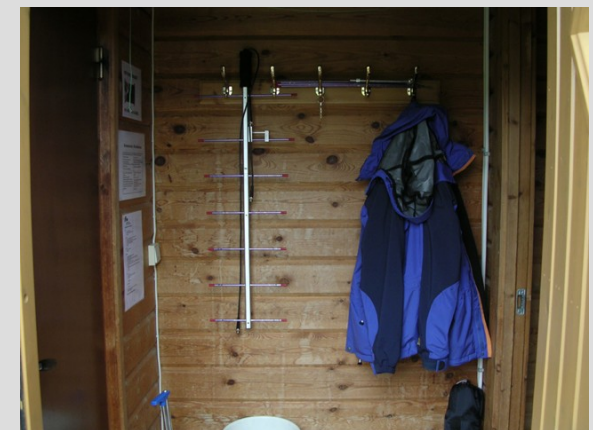
Location JP51BP, Venabu Fjellhotel

This time staying in the Venabu Fjell hotel.
Sneak out of the hotel with your equipment.....
Sometimes you get some very strange looks....



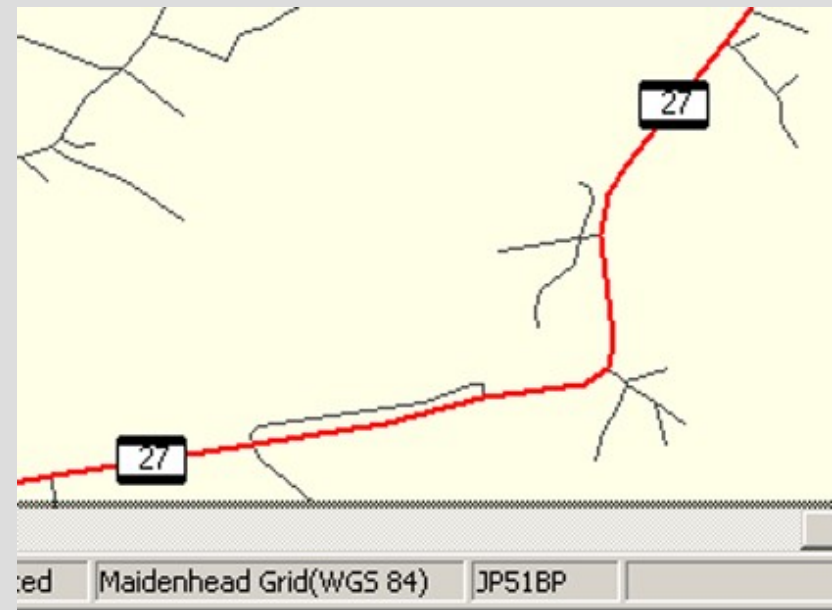
Results...

- Many contacts on FM satellites
AO-51 and SO-50
- SO-50 was a 'night-bird'
- 'South' very crowded,
'North' mostly no activity at all....
- LA/PA1IVO/P is a LONG callsign
Especially when working half duplex
- Improvise



QTH locator square

- No computer programs or maps needed...
- Take your GPS, set to Maidenhead
- GPS support software



Operating with a single FT817

- Half duplex, so listen, listen, listen....
- Handy FT817 display settings

Battery voltage

SWR

Smart tags



✓	AO-51 +5	435.290.000	145.923.300	FM
✓	SO-50 -5	436.805.000	145.846.700	FM
✓	SO-50 -4	436.803.000	145.847.300	FM
✓	SO-50 -3	436.801.000	145.848.000	FM
✓	SO-50 -2	436.799.000	145.848.700	FM
✓	SO-50 -1	436.797.000	145.849.300	FM
✓	SO-50 C	436.795.000	145.850.000	FM
✓	SO-50 +1	436.793.000	145.850.600	FM
✓	SO-50 +2	436.791.000	145.851.300	FM
✓	SO-50 +3	436.789.000	145.852.000	FM
✓	SO-50 +4	436.787.000	145.852.600	FM
✓	SO-50 +5	436.785.000	145.853.300	FM
✓	AO-27 -5	436.805.000	145.846.700	FM
✓	AO-27 -4	436.803.000	145.847.300	FM
✓	AO-27 -3	436.801.000	145.848.000	FM

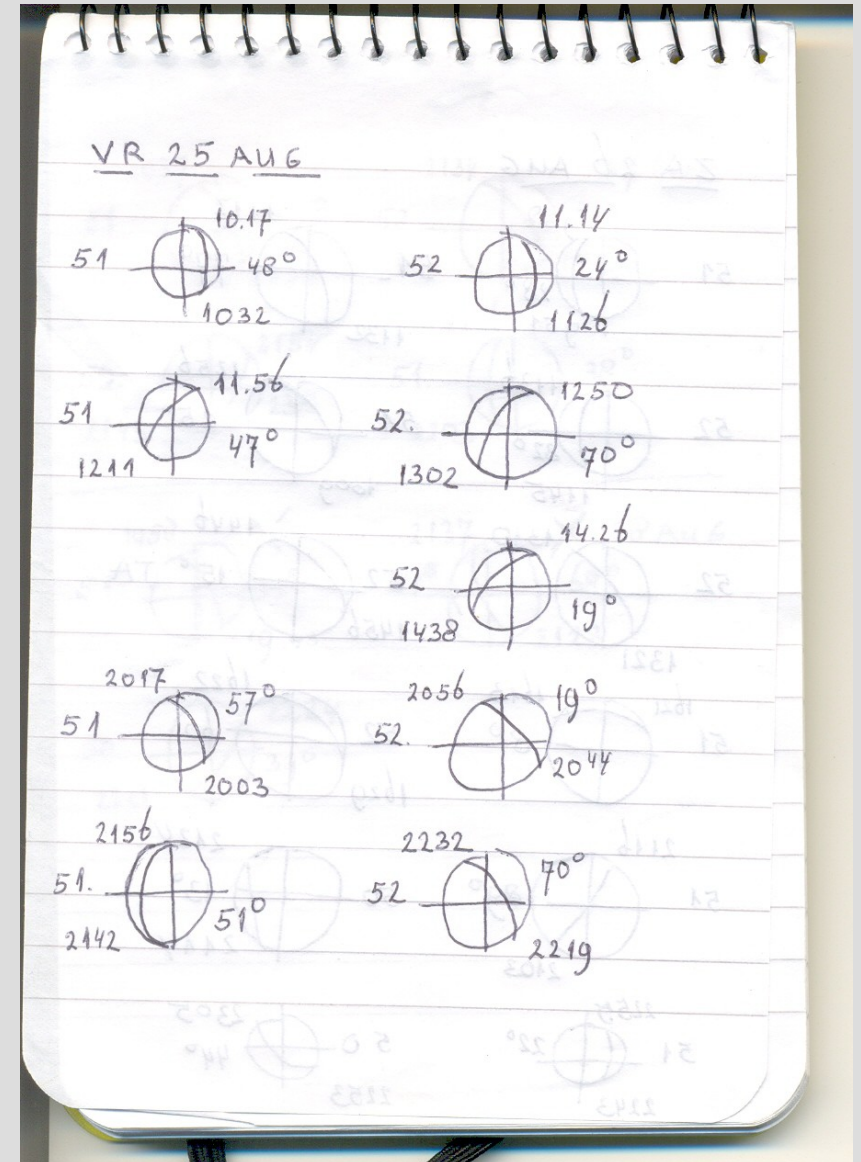
Operating QRP

- Discussion on AMSAT-BB, QRP is possible...
- QRP is real fun!
- Use /P added to your call sign
- QSO with Russia, Switzerland and Italy
- Don't get disappointed too soon!
Some passes no contacts, others up till four.
- Keep QSO short on FM satellites
- Growing interest to transponders....



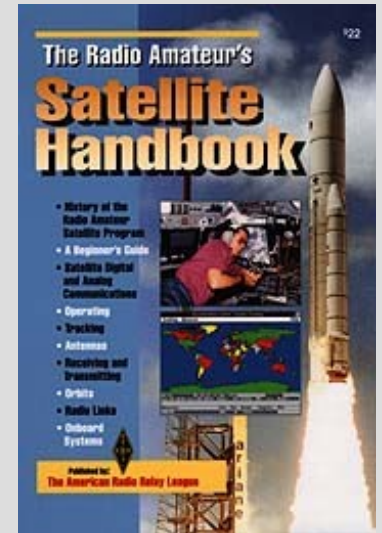
Satellite tracking

- Small laptop, Orbitron, used once a day
- Small notepad is sufficient
- Use your watch and your ears
- No preamp has advantages



Portable linear transponder experiments

- Extra FT290rII (receiver 145 MHz)
- VO-52 (due to RX 145 MHz)
- Small study on the topic of Doppler
- All equipment stored in small thermos bag
 - Stuffed with hiking socks
- Using VOX and a lot of improvisation
- So much bandwidth.....
- First QSO while I was only just running a test!



So ...

- Take your equipment with you next holiday
- No birds in sight (or only at night)? There's more ...



- Thanks to Ib OZ1MY and Walter ON5NY

confirmation of qso with

LA/PA1IVO/P

- ☐ JP40CN
- ☐ JP51BP

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- ☐ SO-50
- ☐ AO-51
- ☐ VO-52

