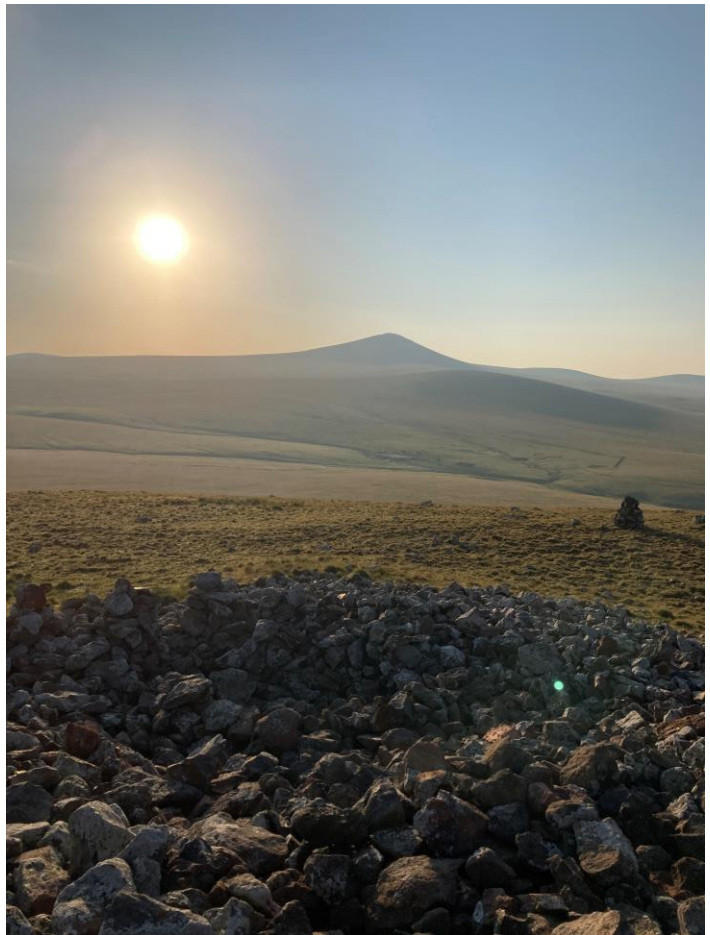
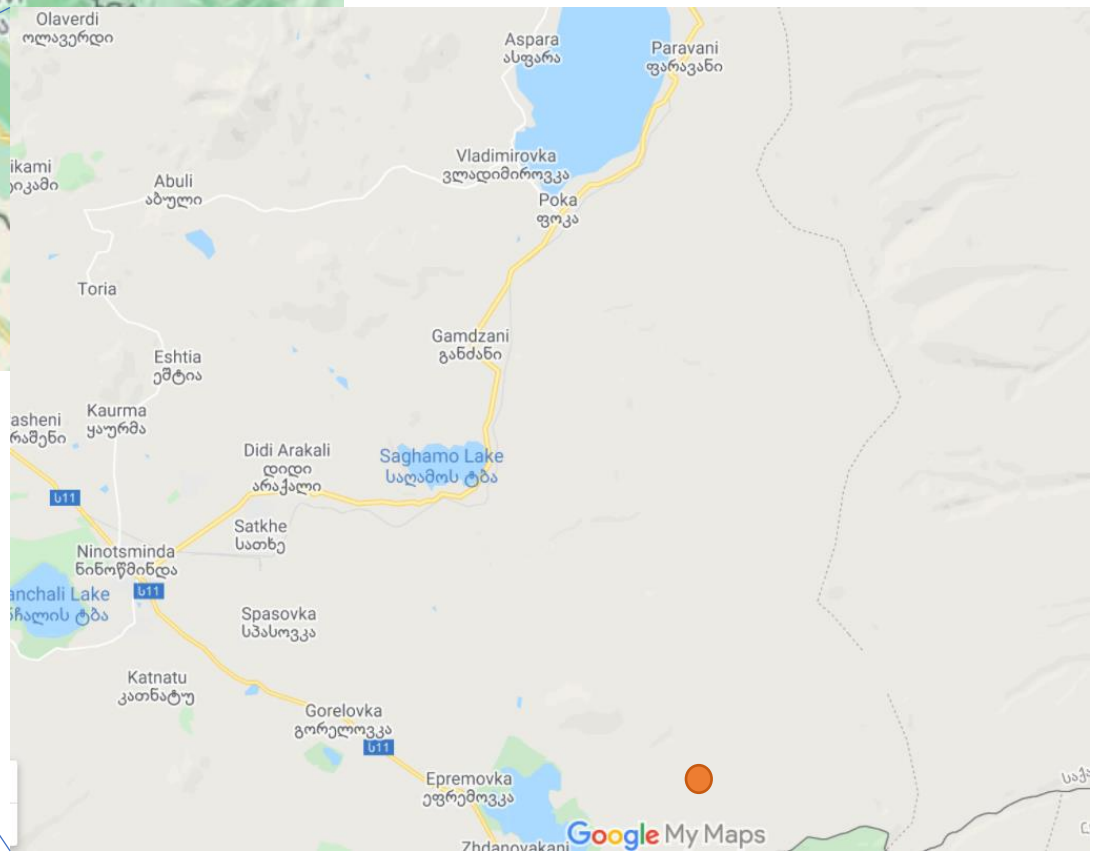
4L/DL7ZM Georgia LN11WG 2021

2700 m asl

David Pommerenke

OE6NZM / DL7ZM / AD0PY





David

Team to bring up and down equipment

A big thanks to:

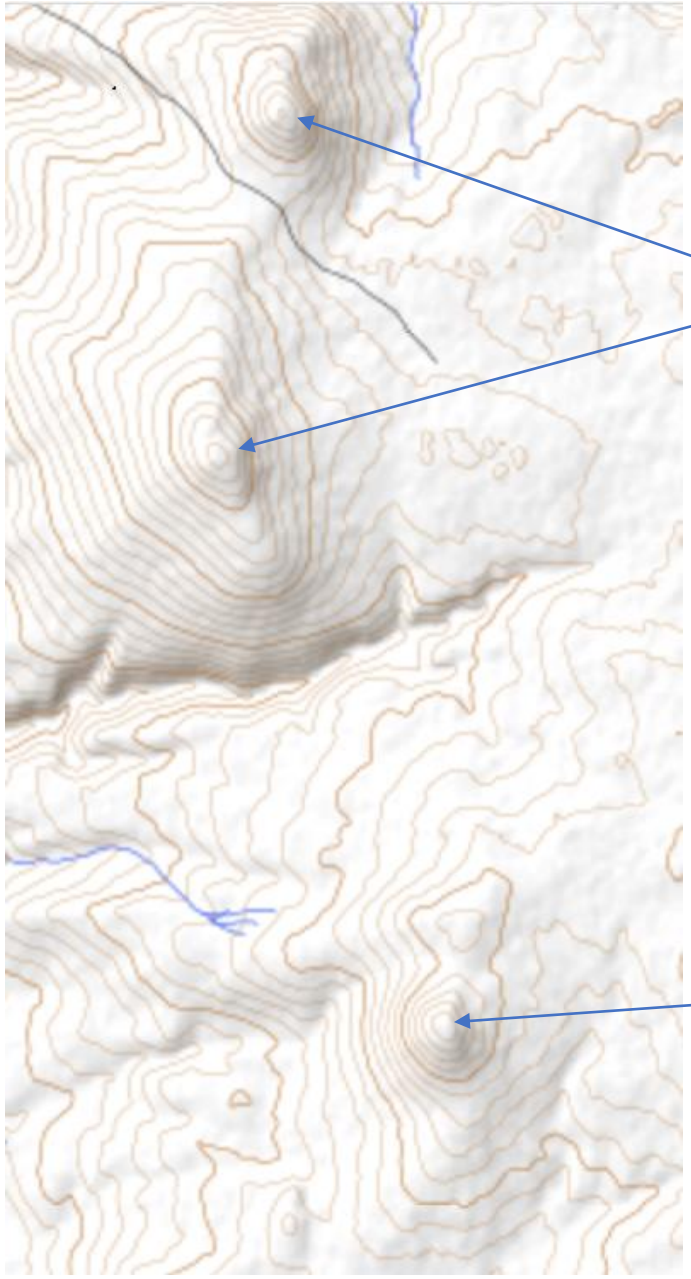
Support from Family Corner (2050m asl), about 7 km from the mountain. They organized all transport and help for carrying equipment

https://www.facebook.com/FamilyCorner.MS/

EMCoS is a company in Georgia that creates top electromagnetic solution software.

See www.emcos.com

A big thank you!



Planned to go to either of this locations

Add Emcos

But got lost when driving in clouds and had no common language to guide ☺

Ended on this mountain. Nearly same height, and !! only 100 m height difference to carry

Eight days on the top of the mountain:

- 3 days mainly sunny, only a few thunderstorms
- 3 mixed days, fog, rain, wind
- 2 days storm
- All photos are from good days. In storm, I was too busy to take photos.

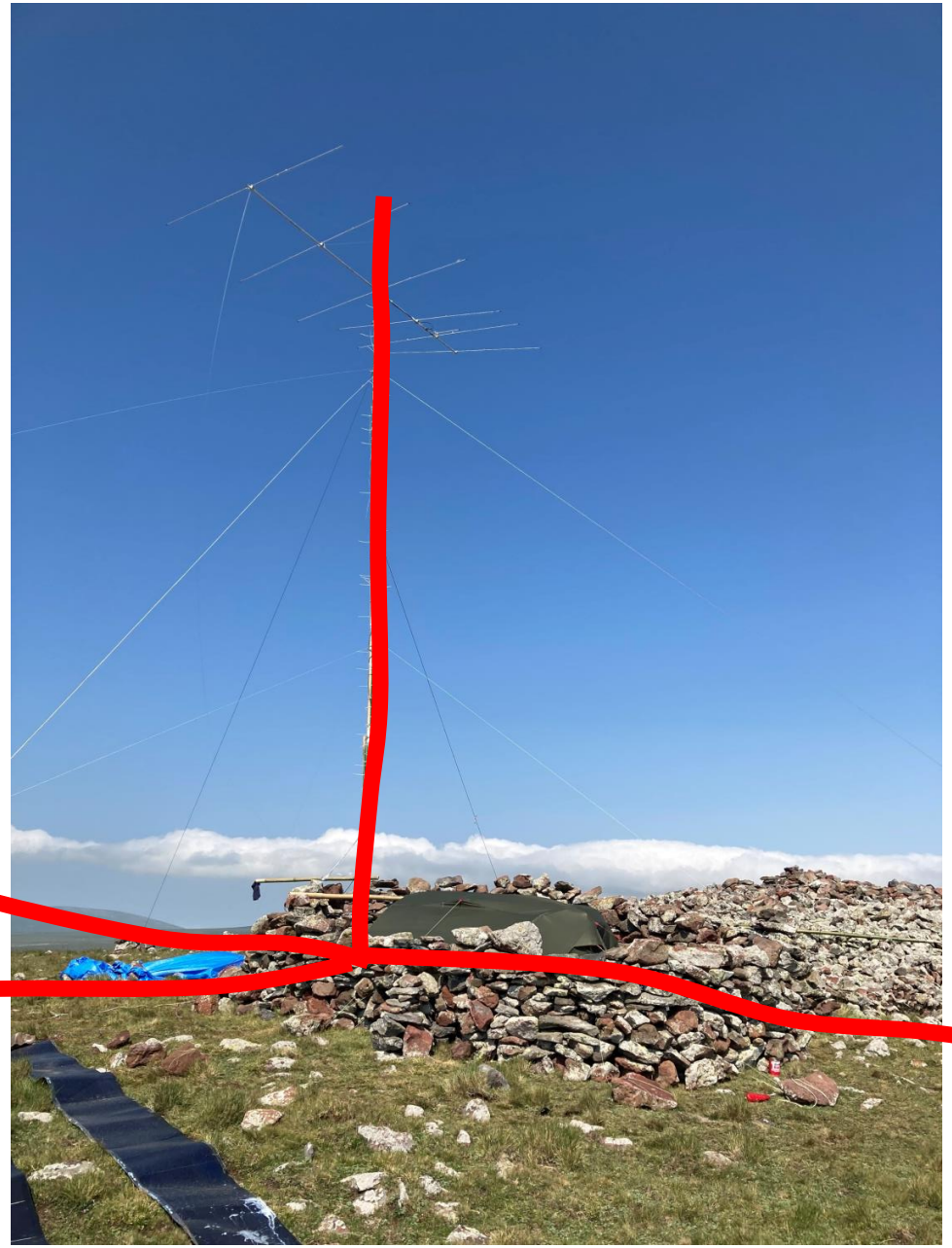
Keeping the tower and the tent up was a main challenge. Many repairs day and night

> 24 hour 100 – 130 km/hour wind + thunderstorms. The mountain did not like me! It used WIND, I used ROCK

Lightning protection

- Metal wires 2 x 3 mm in the tower
- Three wires, 10 m long, spread the current on the surface
- There is a metal foil underneath the tent to keep equipotential under the tent when a lightning strikes
- All coax, power, solar panel wires are removed before thunderstorm.

There was no direct lightning stroke during the week in my mountain. The next mountain received a stroke.



Note the wind protection: 3 days work

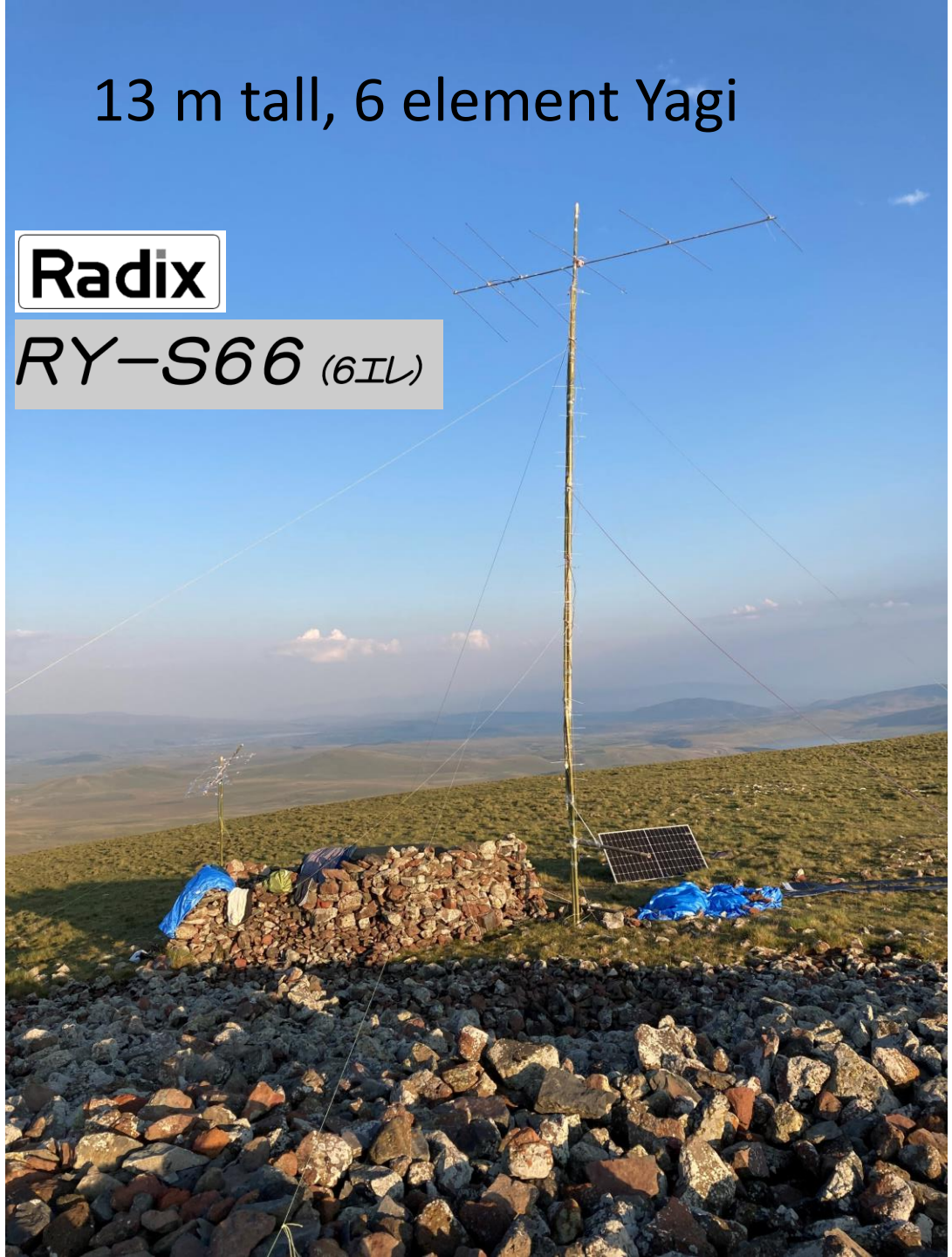
In dry weather a good 4x4 can drive up!

When we arrived, too much rain to drive up, on take down, sunny weather.

13 m tall, 6 element Yagi

Radix

RY-S66 (6エレ)



My “high priced” antenna rotator

In the stormy nights, I had to rotate and keep the antenna pointed into the wind

Tape is so important!

144 MHz antenna

My 144 MHz antenna. No signal found on 144 MHz, but only two days set-up 144 MHz

Power

2 x rollable solar cell: 7 kG each, 144 watt easy to take into airplane

New 370 Watt solar panel, 21 kG

At low light, the rollable panels operate better than the fixed panel.

Power

The 12 V “brain”

3 x 45 Ah

In series to run the PA

In parallel to run only the TS 480

Cables burned totally to ashes because of short circuit and due to overvoltage which caused a diode to short out

Station

I slept, cooked etc. in the same tent, just pushed the power amplifier away.

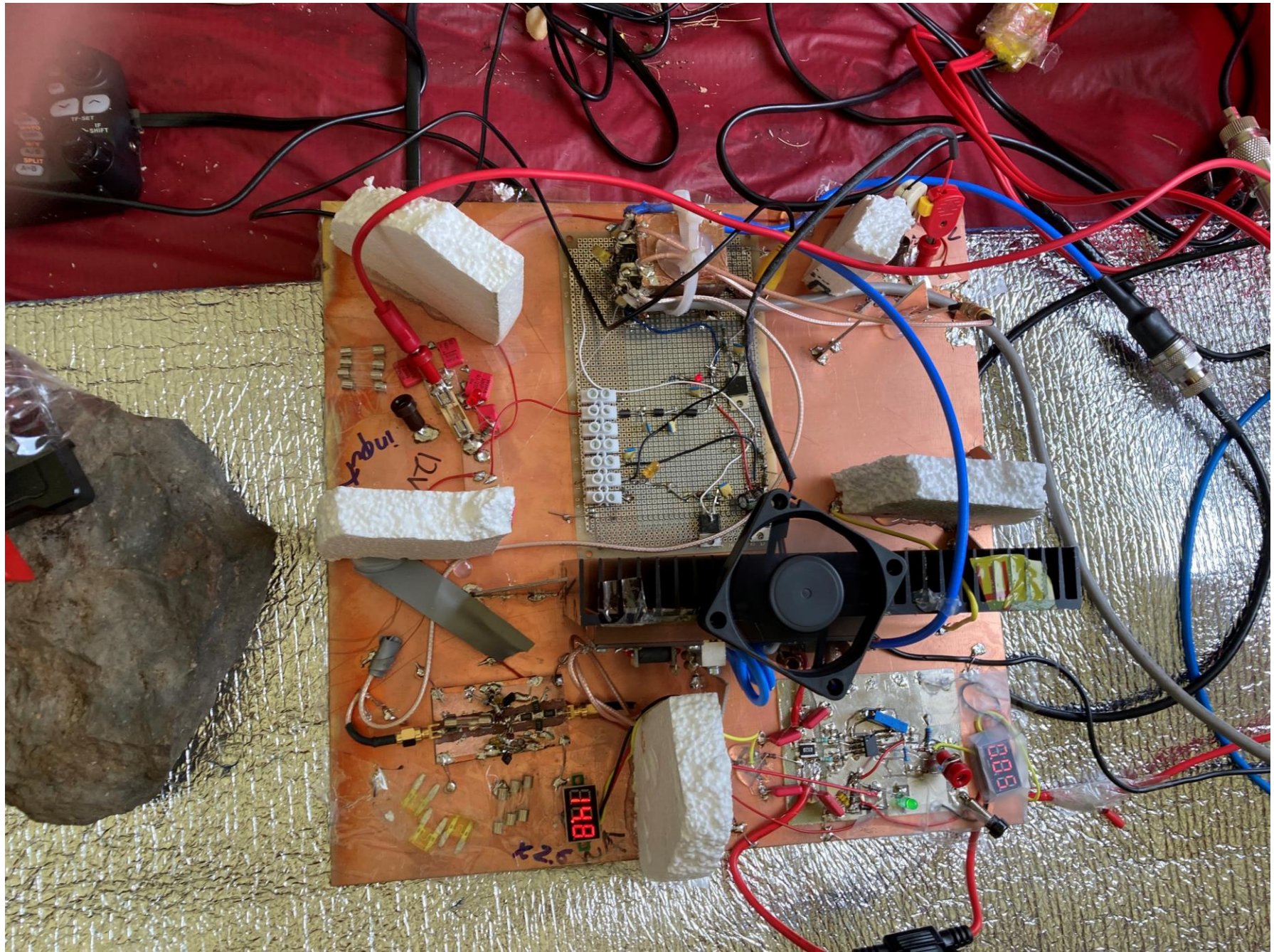
It is a 2 person mountaineering tent. About 120 cm high on the inside.

Station

Power Amplifier

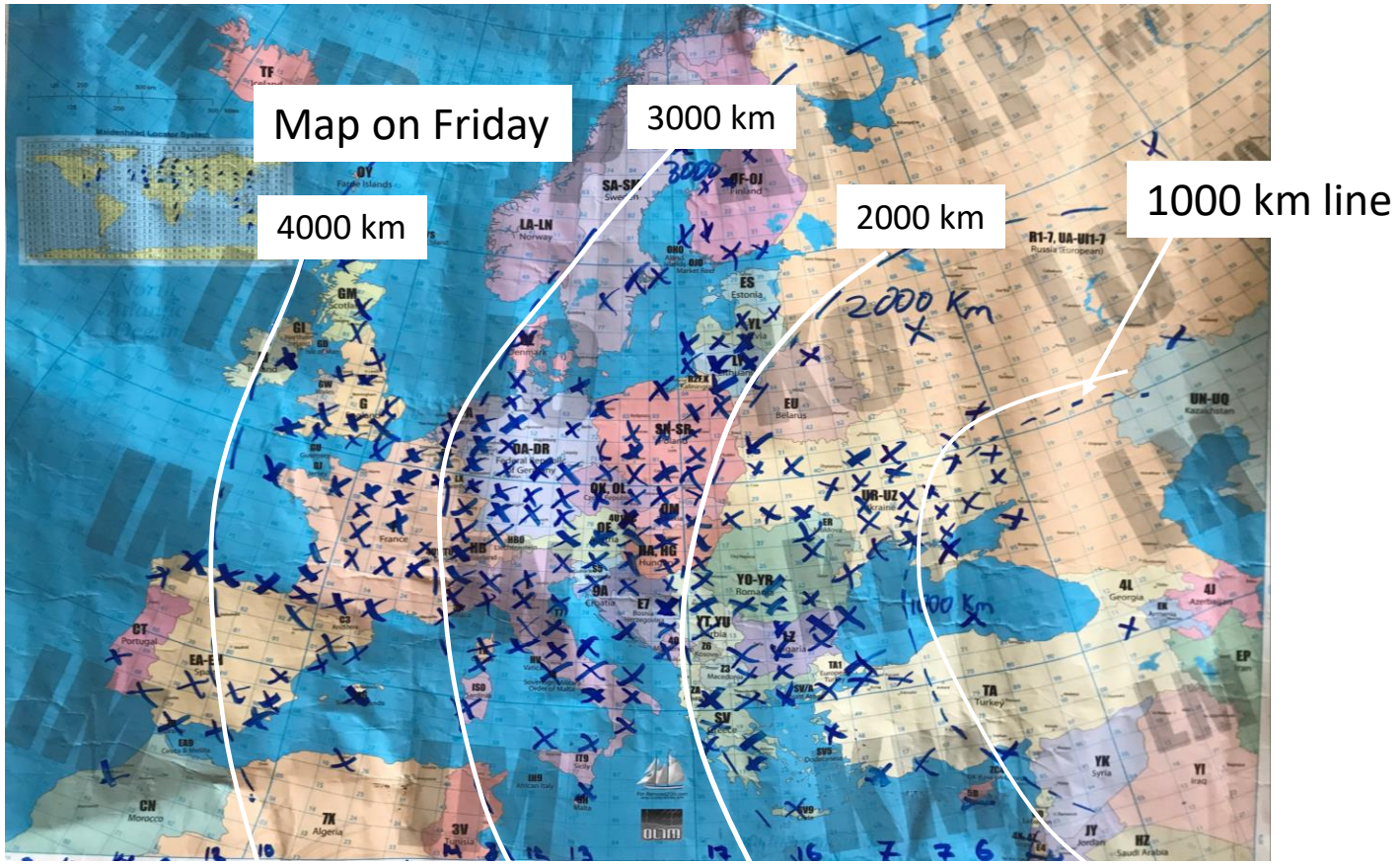
36 V @ 10 A
Class C, no SSB

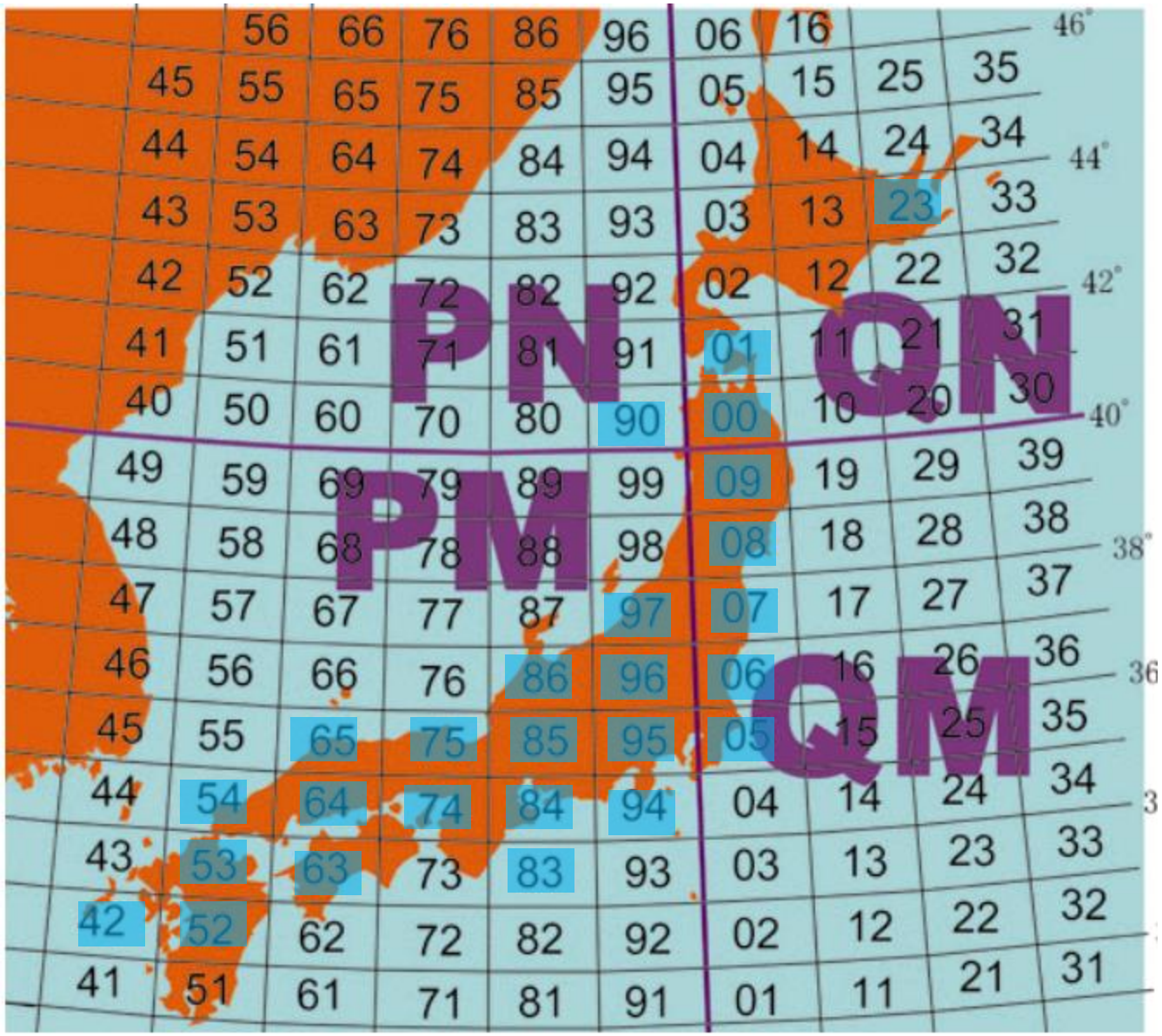
Later all control circuits and the fan are destroyed, still I could repair it to run without any control and measurements.



Ham Radio Outcome

- About 1280 QSOs in 8 days
- About 361 grid squares – 119 outside the European map
- Many OSOs with Japan: 302
- People like FT-8. I understand its convenience and that it allows further connections, still, I like CW (although I am not so good at it)
- Highlights:
  - US
  - ZL and VK
  - Heart a station from YI (Iraq)
  - Egypt
  - Many QSOs with J, HL, B




PN
QN
PM
QM
46°
44°
42°
40°
38°
36°
56 66 76 86 96 06 16
45 55 65 75 85 95 05 15 25 35
44 54 64 74 84 94 04 14 24 34
43 53 63 73 83 93 03 13 23 33
42 52 62 72 82 92 02 12 22 32
41 51 61 71 81 91 01 11 21 31
40 50 60 70 80 90 00 10 20 30
49 59 69 79 89 99 09 19 29 39
48 58 68 78 88 98 08 18 28 38
47 57 67 77 87 97 07 17 27 37
46 56 66 76 86 96 06 16 26 36
45 55 65 75 85 95 05 15 25 35
44 54 64 74 84 94 04 14 24 34
43 53 63 73 83 93 03 13 23 33
42 52 62 72 82 92 02 12 22 32
41 51 61 71 81 91 01 11 21 31

Main challenges:

I am by myself, only for carry up and down people helped. It is not trivial to stay on the mountain and maintain operation.

- Overall organization
  - Shipment of material, e.g., my main package was lost by UPS but re-appeared a week later, customs, duties, extra luggage in air-planes
  - Taking redundant hardware: I had 3 radios, 2 computers, many DC DC converters, many cables, soldering iron, spare parts, wires, …. In sum, with batteries and solar cells (panel was bought in Georgia)150 kG. In airplane 57 kg.
- Staying on the mountain
  - The mountain did not like me! It used wind, I I used rock (from my mountain experience I guess that I had 100-130 km/hour for about 24 hours), Constant repairs on the tent and ropes
  - Building a significant wall against the wind
  - Thunderstorm
  - Often getting up in the night, re-directing the antenna in the wind, repairing tent and ropes
- Electronic failures
  - DC/DC converters failed, I had double spare level
  - The solar cell, under full sun, lost its battery connection. That killed everything on the 12 V circuit, except the radio (Radio was hardwired to the battery, 12 V circuit not). This killed my complete PA control circuit, all voltage and current measurements and the fan of the PA. I re-wired all to just run the bare RF board and to switch the RF relay directly from the radio
  - Many things sometimes simply stopped working: Software re-install, power cycle of the radio many times to “fix” a PA control problem
- Power was **NOT** a problem. 3 x 45 Ah battery + 3 solar panels (in top sun 700 W rated, realistically more like 500 W). The rollable solar panels are also good in dim light. They perform better in dim light or clouds than the large new panel.

QRT for 2021