

RadCom



RADIO SOCIETY OF GREAT BRITAIN ♦ WORKING FOR THE FUTURE OF AMATEUR RADIO

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**British 144MHz ARDF champ
Andrew Soltysik, G4KWQ**

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The Sky Painter

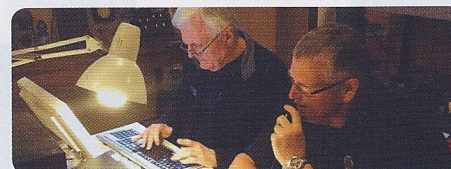
A portable 40m self-supporting dipole that fits easily in the back of a small car

Maritime Mobile



Using a handheld on a ferry

International Marconi Day



Activating Luttrell's Tower at Calshot

Winter QRP in the Australian Alps

Taking on the wilderness in search of radio contacts

REMOTE OPERATING. As Australia's smallest mainland state, Victoria is roughly the size of Great Britain, but has less than one tenth its population. In the north-east of the state, the Australian Alps stretch for several hundred miles into southern New South Wales and contain all of the nation's highest peaks, including Mt Kosciuszko that sits at 7310 feet.

Every winter, heavy falls of snow cover areas higher than 4000 feet and the mountains take on a remote and austere icy beauty. Victoria's ski fields are popular destinations for snow sports, but a few adventurers head out beyond civilization and explore the remote back country where unspoiled natural wilderness can still be experienced. Every August, a team of amateurs heads off to spend a week traversing some of Victoria's highest peaks across the Bogong High Plains, taking QRP gear to maintain contact and work from the roof of Australia. While this endeavour is a real test of organisation, fitness, equipment and self-reliance, it is also an amazing experience that goes beyond the everyday routine.

PREPARATION. Our work of preparing for a backcountry ski trip begins weeks in advance. All gear needs to be thoroughly checked as its reliable performance can prove crucial when out on the trip. Because literally every bit of kit needs to be carried, weight is a major consideration. The list of gear to be taken has developed over many years and contains things you may not realise – such as sunscreen and sunglasses

to go with the polar fleece and GORE-TEX®. With careful preparation, it is possible to head away for up to four nights with around 14-20kg packed weight.

Cross-country ski gear is much lighter than downhill equipment. The heel moves freely and the skier is able to head uphill, downhill and traverse almost any snow-covered terrain. All-weather clothing consists of GORE-TEX® and similar breathable yet waterproof modern synthetics, as well as goose down to provide warmth. Winter-rated down sleeping bags (down to at least -10°C) are essential. Food needs careful consideration in order to provide high levels of energy plus nutrition in a dense, weight-effective form. A full day skiing carrying a load of gear consumes some serious calories and all of the usual modern dietary recommendations can be pushed aside. We dehydrate many meals to keep weight down and eat a lot of pasta, chocolate, dried fruit, salami, flat bread and nuts. A good port or decent whiskey is very nice to sip before turning each evening too!

RADIO GEAR. Our QRP setup includes an Elecraft KX3 and a full-sized 80m dipole (made of strong hook-up wire) fed by RG-174 mini coax through a toroid-choke balun (made of 10 turns of RG-174 on a FT114-43 core) [1]. The KX3 is a remarkable QRP transceiver [2], with performance features comparable to many home-station rigs. We power the radio with lithium-ion batteries [3] that are a major advance on sealed lead-acid batteries in both weight and capacity. They are charged via folding 20W solar panels [4]. For liaison within the group, we use hand-held radios on 2m. The high elevation provides excellent line of sight opportunities for APRS and even very distant repeaters. All the antennas, transmission lines, baluns and charging equipment are homebrew.



After the blizzard that made the radio outing even tougher than usual.

STORMY WEATHER. The 2013 winter trip took place in the first week of August, with three of us departing Melbourne at 5am for the five-hour drive to the ski resort of Falls Creek. On arriving in the mountains, it was clear that the weather might be challenging. We left the four-wheel drive in the long-term car park and headed up the Bogong High Plains Road with two feet of snow under the skis. Between us, we carried enough gear to stay out in the wilderness for four days. After a while, we struck out beyond the groomed trails and headed across virgin snow plains. Several hours later we reached the point where we needed to decide on whether to head down to the protection of a sheltered valley and make camp, or climb higher and over the third highest peak in the state and before descending to safety on the other side of the range. This was a big decision, as once we set out turning back would be rather difficult. As it happened, the wind dropped, it stopped snowing and we committed ourselves to going over the top. This turned out to be a mistake...

For the next five hours, we came to regret deciding to press on. About halfway up the mountain, the wind picked up with a vengeance. The steep sides of the range were covered in treacherous sheets of glassy, rippled ice on which we slipped and stumbled. Strong wind gusted up to 70 miles per hour and blew sleety snow sideways. Visibility dropped to the point where it was impossible to discern ground from sky, let



Operating once set up in the mountain cabin.

alone picking the way ahead. With GPS navigation and liaising on 2m to keep together, we struggled forward, now painfully aware that turning around to head back down the mountain was not a good option either.

At one point, skiing itself became impossible and we were reduced to strapping the planks on to our packs and walking. I clumsily dropped one of my skis during this change-over and had to make a desperate face-plant lunge as it slid away at great speed towards a deep ravine. Grimly, we pressed on and finally reached the summit. The view from this point is stunning on a clear day, but it was no place to pause as the wind was now fully gale force. The way ahead snaked across several high ridges for about 5 miles before dropping down into the relative shelter of gully below the tree line. Every so often, a break in the snowy whiteout would allow glimpses of the way ahead and we eventually picked up the top of a large bowl from which an alpine creek ran down towards our final destination. It was with considerable relief that we began to descend into low forest and out of the wind. After another mile or so, we found our destination: a beautifully restored mountain hut nestled into the gully amongst a stand of mature snow-gums. Mountain huts are remnants of an era when cattlemen formerly grazed stock on the high plains during each summer. These are incredibly simple structures made of rough-cut local timber and furnished only with wooden benches. In winter, they are an absolute haven. Despite our fatigue, we quickly set about lighting a fire in the potbelly stove for warmth and cooking.

ON THE AIR. After a few hours spent foraging for firewood and cooking a hot meal, it was time to get on the air. Setting up a full size 80m dipole in heavy snow and bad weather is not so easy, but over the course of 30 minutes or so it was strung up as an inverted-V by throwing fishing line threaded through snow balls into suitable trees. What was really tricky was getting the mini coax feed line back into the hut, but by using a springy green stick we managed to pass it inside through a narrow gap under the roof. Once the battery and rig were connected we tuned up on 40m and were immediately able to make several contacts. With practically no noise, it was easy to hear lots of distant stations and our 5W on SSB worked extremely well. We also undertook the important task of letting family back in Melbourne that we were alive and well. Mobile phones have no coverage up in this



An icy antenna being set up by MOCYT.

region, so HF was our only link with the outside world. For the rest of the evening we stayed warm and cosy in the security of the hut, enjoying dark chocolate, whiskey and working plenty of stations on 80m while the blizzard howled outside.

The next day promised better weather. While the wind remained strong, sunny breaks shone through for extended period and snow flurries were brief. Down in the valleys heavy rain was falling and several mountain roads were closed. As a result, other members of our team who were hoping to join us made contact on 40m to advise it was impossible for them to journey up to the high plains. While this was disappointing news, it took away any need to make an early move from our present location. We took our time preparing to leave and waited patiently for the weather to improve. Around midday, we headed out from the hut and back around the main range. The wind was now at our backs and there were several stretches of flat terrain where it was possible to get a free ride for a mile or so by holding an open jacket as a sail. Views across the mountains were spectacular, with snow-capped peaks visible all the way to New South Wales. It was easy to navigate down a narrow spur and find a sheltered snow meadow. Protected by the massive bulk of Mt Nelse, this was a beautiful location to make camp. Before too long, we were settled in and had the dipole strung up in adjacent trees. It was also a good opportunity to set up the solar panels and put some charge back into the lithium batteries. Over the course of the afternoon we worked both 20m and 40m and also spent a bit of time exploring our immediate surrounds. By sunset we were happy to have dinner, climb into sleeping bags and work 80m until late.

Our third day was spectacular. Several stations had provided weather updates and

these proved to accurately predict a clear and sunny day. We decided to leave camp set up and make a 10-mile tour across the high plains with daypacks. Carrying just lunch and a few other essentials, we headed out. Our journey took us across frozen streams, over deep ravines and finally onto a wide plateau. From here we managed to utilise APRS [5] as we swept down once again below the tree line for lunch in an igloo built by a previous group of backcountry skiers. During the afternoon ski back, we spotted a bank of dark clouds rapidly advancing. As we arrived at camp, the wind had entirely disappeared, but heavy snow was falling. This continued into the night with and apart from the crackle and hiss of HF static with contacts on 80 and 160m, we were enveloped by a profound silence.

Our final day was marked by a deep blanket of powdery snow. Nearly 30 inches had fallen during the night and not a single footprint or ski trail was evident. We pulled down the antenna and packed away our gear. It was worth investing a little time re-waxing our ski bases to prevent fresh snow sticking and impeding progress. Climbing back up to the high plains, we turned back to Falls Creek and began the descent down to our vehicle. The sounds of civilisation were rather jarring as when we made it back to the resort, but it was time to depart. Aside from needing to clear away a lot of snow from the four-wheel drive we made a rapid exit from the mountains and started the trip home.

It had been a great trip. The weather was certainly more challenging than on previous adventures, but we'd had a fantastic time with excellent snow conditions. All our gear had worked well and the radio set up had done a terrific job. We'd made very good numbers of contacts and appreciated the security of a reliable link with the outside world during our mini-expedition. As always, there is a lot to learn on each trip and much of the discussion during the long drive home was about planning for next winter. It's never too early to start!

[1] www.n5ese.com/balun_1-1.htm

[2] www.elecrafter.com/KX3/kx3.htm

[3] www.powerstream.com/PST-MP3500.htm

[4] www.powerfilmsolar.com/products/?f161200&show=product&productID=271509&productCategoryIDs=6578,6579

[5] <http://aprs.fi/#!ts=1375747200&te=1375833600&call=a%2FVK3SN-7>

MOCYT currently spends most of his time in Australia where he is licensed as VK3SN. He is a member of both the RSGB and the WIA. His radio interests focus on operating portable from remote locations. For additional details on winter as well as summer wilderness activities in VK, visit www.vk3sn.net