

## **FM ATV GRAND SLAM ATTEMPT – VK2GG & VK2TRF**

On the week-end when the heads of governments were gathering in Sydney for the APEC Summit, two ATV teams were venturing west for an attempt on 5 or even 6 National FM ATV Records. *If we had set up microwave dishes in Sydney that week end, we would have been arrested as possible terrorists!* Jack and I between us already hold records on three bands: Jack and I for 6 cm and 3cm, and Jack and Nick VK2ZTY for 13 cm; how would 23 cm, 9 cm and 1.2 cm go added to those, along a 240km near LOS path? Going begging was a possible GRAND SLAM attack on 4 existing FM ATV records, and the possible setting of 2 more, including 24Ghz!

Early on Thursday morning, Jack VK2TRF and Garry VK2UNI headed for Mt Ginini in Canberra. Dan VK2GG headed for Mt Canobolas near Orange, in the Inner West of NSW.

The trip had been the result of at least 12 months planning. An earlier survey trip to Mt Canobolas had found a near perfect location with good clear air southward. A back-up location had been catered for, as well as a second back-up location, ear-marked for the relatively un-tried band: 24Ghz. We had, of course to build transmitters and feeds, test them across other test paths, and to cope with unforeseen events like one exciter failing a week prior to our departure, and two video invertors not producing acceptably stable video even on the day. Also, we had failed to achieve two-way contact on two bands!

As I did some preliminary testing from Mt Canobolas, some VK1 hams on the Mt Ginini repeater were surprised that I was getting into Canberra from 240km away on a handheld! Early on Friday morning, we proved that Mt Ginini was far too populated by trees to be useful on any band other than 2.4G. P2-3 pictures were received on the 241 km path. Jack, Garry and Bob VK2MRP then proceeded to Mt Coree, where conditions were more favourable, and all 5 FM bands from 23 cm to 3 cm were able to be logged with pictures on all bands being at least P4. Dan had been joined at Mt Canobolas that morning by Dave VK2TDN and his XYL. As well as assisting on ATV, some 23 cm FM voice was being successfully experimented with from several locations. Dave has a varactor diode transverter, which works very well on FM.

Jack and Garry were also joined by Bob VK2MRP, who said he thoroughly enjoyed himself. Bob obviously likes Tim-Tams – the obligatory ATV snack!

The following day, Jack VK2TRF, Garry VK2UNI and Bob VK2MRP drove to Boorowa, which is almost exactly in the same line of fire as Mt Coree, but is only 120km from Mt Canobolas. 24Ghz ATV was attempted, but no pictures were seen. There were storms in the path, and rain was threatening at Canobolas. We decided to try again on Sunday. Jack had found that their access up to the top of the hill at Boorowa was blocked by a chained and padlocked gate! Fortunately, the chain was one which could be lifted over the post!

What a beautiful day was Sunday 9<sup>th</sup> September! Wall to wall blue sky – no clouds on both ends of the link. We set up for 24G ATV – nothing for 4 hours! Peter, VK2YGM and new wife Irene had joined me at Canobolas. We had been both watching the same cloud in the centre of the path from each end - that was weird! Jack actually was able to

see the TV towers on Mt Canobolas, such were the clear conditions. The humidity was checked via internet, and it was discovered that it was dropping from 70-80% to something like 50%; looking promising! Still nothing until about one o'clock, when Jack announced that he was receiving our carrier full-scale. Wow! Virtually P5 pictures were then received, with conditions apparently worsening for the reception on Canobolas. P2-P3 pictures failed to dampen our elevated spirits! We had done it, not only on the five bands from Coree to Canobolas, but on 24G, which had proved a very tricky band. Our dishes had a beamwidth of a little over 1 degree! Rain makes reception almost impossible, and humidity also attenuates the signal. Grand Slam? More like an ATV Marathon! Many thanks to Dave VK2TDN, Garry VK2UNI, Bob VK2MRP and Peter VK2YGM. Where next? More ATV on 47G?, EME? Narrow band?

### EQUIPMENT:

23cm Tx: Minikits exciter, 50W PA, 16 el yagi; Minikits 20W PA into slot/plate (splash) fed 1.2m dish.

23cm Rx: G1MFG receivers with G6ALU ATV Controller, Minikits (VK5EME) pre-amp.

13cm Tx: G1MFG exciters, 20W PA, Gridpack antenna, modified Conifer feed.

13cm Rx: G1MFG receivers, home brewed Sig Strength Meters.

9cm Tx: Minikits (VK5EME) exciter with VK5EME 3X multiplier into 40W Toshiba PA's, slot/plate (splash) fed parabolic dishes.

9cm Rx: C Band extended LNB (Minikits) into G1MFG receivers, G6ALU controller.

6cm TX: A/V sender into 8W PA; 1.2m dish fed with penny feed. Other end same exciter/PA with modified gridpack antenna (30db).

6cm RX: A/V receiver (Jaycar) from same antennae.

10G Tx: G1MFG exciter, DB6NT (Kuhne) X 4 multiplier, penny fed 1.2m dish; other end same with 1W DB6NT PA into 60 cm dish.

10G RX: LNB's, G1MFG receiver, G6ALU controllers, penny fed dishes.

24G Tx: Microwave Radio Gunn (50mW) into 60 cm dish with penny feed.

24G Rx: DB6NT (Khune) LNB with G1MFG receiver, G6ALU Comtech ATV Controller, 60 cm dish with "penny feed".