

September 2015

INTERFACE

MONTHLY BULLETIN

MARLBOROUGH AMATEUR RADIO CLUB INC. P.O. BOX 432 BLENHEIM NZ

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Club Calendar

General Meeting; 10 Sept EOC, 19.30hrs

Social Group; 17 Sept 12.00hrs - The Vines

Committee Meeting; 24 Sept 2015 07.30hrs - EOC

VHF Mondays 1930 hrs
146.950MHz, 145.600MHz,
147.225MHz

Net Controller; Ken Hynds ZL2KHZ

Branch 22 Notices

1. CONSTRUCTORS' AWARDSept 10

VHF - USB Net Wednesdays 1930
144.150MHz

It looks like this might be the last Interface as nobody has stepped forward to take on the secretarial role so there may be no Minutes. Without Minutes, I see no reason for the Interface.

I understand it has been suggested committee members take it in turns but I can't see that working very well. It is important a club has cohesive and accurate Minutes, especially if you are an incorporated society. In fact, I think Minutes are a legal requirement!

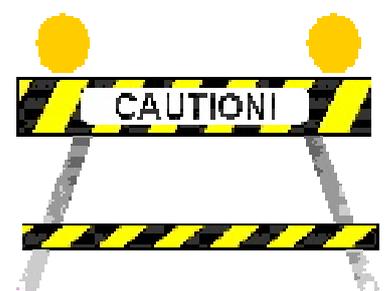
How sad that a club with around 30 members can't find a secretary. Perhaps you need to look to pay someone from outside of the club? After all, your editor is not a club member as you couldn't find someone to do that job either.



CONSTRUCTORS' AWARD SEPTEMBER 10th

Have you finished your entry yet?

\$50 Jaycar Gift Voucher First Prize



MARLBOROUGH AMATEUR RADIO CLUB GENERAL MEETING
Held at EOC on 13th August 2015 @ 1940 hrs.

Present: 8 members

Apologies: Chris Grant, Ken Hynds, Kaye Hannagan

Correspondence:

Bank Statement

Email approving use of ZL6CC for 12 months.

Email from Stuart Watchman regarding Insurance meeting.

Reports:

Grant Simpson presented a brief statement of the current financial affairs on behalf of Treasurer Ken Hynds.

Business Arising:

Brayshaw Park Site: Martellas have indicated that assembly of the shed should take place next week.

General Business:

Next General Meeting (10th September): Constructors Night.

ZL6CC Callsign: Rob Carter moved that a request be submitted to NZART HQ to relinquish the ZL2MARC callsign and make ZL6CC a permanent allocation to the club.

Seconded by Ken Menzies. Carried.

Bill Cousins to send the request to NZART HQ.

Secretarial Position: Discussion took place regarding the secretarial vacancy.

Monday Night Branch 22 Net: Rob Carter reminded members of this event and requested more participation from members.

AON Insurance Meeting: Grant Simpson to contact Stuart Watchmen and Ken Hynds regarding this meeting.

There being no further business the meeting was closed at 2015 hrs and followed by a talk by Bill Cousins summarizing the book "Crystal Clear".


PRESIDENT'S PRATTLE

We had a great turn-out to the mid winter lunch at Speights though and I think everyone enjoyed themselves, the food and drink. Photos further on in this Interface.

We are still in desperate need of a secretary. The job is not too onerous, the main thing being to take the monthly committee and general minutes. There is a bit of correspondence to deal with as well but not a lot. Please contact one of the committee ASAP if you can help.

It's good to hear our hut has arrived onsite at Brayshaw Park and will soon be moved into its permanent position. Many thanks to those involved with the organisation of this big job.

Those who attended Lighthouse Weekend had a good time with some good contacts. Further information on this can be found further on in this Interface.

Bill had great fun at St Mary's School. Thanks for getting the word out about amateur radio and thank you for doing such a good job as secretary for so long! Enjoy your 'retirement'.

- Grant, ZL2BK

MARLBOROUGH AMATEUR RADIO CLUB COMMITTEE MEETING
Held at EOC on 27th August, 2015 @ 19:35 hrs

PRESENT: Grant Simpson (President), Ken Menzies, Bill Cousins (Acting Sec), Rob Carter, Stuart Watchman, Ken Hynds (Treasurer)

APOLOGIES: Chris Grant (overseas), Paul Rennie

CORRESPONDENCE:

Inwards: AON Insurance Invoice
QSL Cards (Bureau)

Outwards: Sympathy card to Holland Family
Email to Vintage Farm Machinery re hut siting.

REPORTS: Brief financial report from the Treasurer.

BUSINESS ARISING:

Inventory of Club Equipment: Ongoing.

Brayshaw Park HF site: Hut construction ongoing.

Working Group visited the site and determined position for the hut.

Vintage machinery premises also inspected regarding installation of Internet link.

Kaikoura Repeater: Rob advised that Thaddeus Julian confirmed that the equipment building has been installed but he has yet to determine where equipment should be sited.

Guy Wires at Ward: Ongoing due to winter weather.

Lighthouse Weekend: Weekend went well despite variable weather.

Tentative booking of site for 2016 has been made.

Branch Website: Registration as ZL2KS.org.nz is ongoing.

GENERAL BUSINESS:

Letter of Thanks to ZL2JKP: President Grant to write a letter of thanks to Foss Leach, ZL2JKP, for his contributions to the Brayshaw Park establishment.

St Mary's School: Bill doing a series of sessions with a class on Ham Radio with particular emphasis on satellites and kit projects. AO79 ideal for this sort of thing. The teacher (Lara McIntyre) is also interested in the hobby.

Car Club Events: Rob mentioned the possibility of some Car Club events on 18th October & 15th November respectively that may call for some assistance with communications.

NEXT COMMITTEE MEETING: 24th September, 2015

CLOSURE: There being no further business the meeting was closed at 2020 hrs.



**I just burned 2000 calories.
That's the last time I leave the Afghans in the oven while I take a nap!**

MID WINTER LUNCH AT SPEIGHT'S ALEHOUSE

We had 24 tum up for this and I think a good time was had by all. There were 26 booked but one illness and one no-show (I suspect he forgot!)

The menu had a good selection and as far as I know, everyone liked what they ordered. The Banoffee dessert was scumdidilyumptious!



My only complaint would be that they could not fit us all at the one long table they had set up so several had to sit next to the main table. It would have been better to split the main table as well and have three or four spread out within the area. We were separated from the main room in an alcove so would have all still been together.

Sorry about the photo quality but the sun was belting in through the windows, as you can see, so it was hard to get a decent shot.



A close-up of the banoffee dessert. I am a great fan of banoffee and have tried many different styles. This was best by far!



Money may not buy you happiness but it is more comfortable to cry in a Mercedes than on a bicycle!



ST MARY'S SCHOOL

Near the beginning of the current school term, I was contacted by Lara McIntyre, a teacher at St Mary's School, to see if the club could assist with a series of activities relating to amateur radio and electronics in general. Lara had already done some excellent work on space and satellites with her year 8 class, taking advantage of recent publicity regarding the Pluto flyby and other material concerning the solar system. Satellites were an obvious project which came to mind as a result, particularly seeing AMSAT-UK in cooperation with others had launched AO73 in 2013 for this very purpose.

The first session with this delightful, responsive, group of children covered ham radio in general and "what's out there" in terms of radio stations other than just broadcasting. Demonstrations of weather FAX, aeradio comms, use of repeaters, etc were included. Following sessions focussed on satellites and the live pickup of EO79 as it passed conveniently overhead. The children tracked EO79 with a handheld yagi and were able to clearly hear the beacon signal. The story of Laika, the first animal in space aboard Sputnik 2 and her sad demise after a few days even produced tears!



However, AO73 was the most useful to us. This satellite has easily downloadable data (given a good pass) purposely intended for schools to carry out simple exercises. So we tracked the satellite, downloaded the whole-orbit data and, from that, checked out the time for the satellite to complete one orbit of the earth (97 minutes), calculate its speed (7.3 km/sec), time exposed to the sun, time in darkness (eclipse), maximum and minimum temperature of a panel on the outside of the satellite (30°C & -20°C) as well as compare the relative response of a black panel to a silver panel. Much of this complemented their previous studies. The number and quality of the questions the children asked clearly indicated their interest and comprehension.

Later sessions went on to electronic kits which the school had on their shelves gathering dust and assembly of simple projects. I had to give these kits a good going over to make them more reliable, as previous attempts at their use had just led largely to disappointment which was not necessarily the fault of the children's assembly.



Such has been the children's interest and courtesy, along with the brave and enthusiastic approach by Lara, I have found this involvement rewarding and enjoyable. I have certainly learnt a few things in terms of working with children of this age and would do some things a little differently another time in order to make the

concepts more comprehensible. So if you are asked to do anything similar, give it a go - you will find it very encouraging! The international space station could be of interest next time a ham astronaut goes up there.....

- Bill Cousins, ZL2AYZ



AO-73

facts

- It takes 90 minutes for AO-73 to orbit the whole Earth.
- on the 10 of August 2015 AO-73 will be directly above us!
- When Mr Cousins came in he had an antenna that he aimed at the satellite AO-73 when he opened he heard alot of noise from the radio that Mr Cousins brought with him
- AO-73 orbits the Earth 670 km above the Earth.

THIS is the AO-73 (funcube) satellite



INTRODUCTION

Our class have been learning about space and planets and space a volunteer called Mr Bill Cousins that has come in to teach us more about satellites and radio. He also comes in to teach us about AO-73. He brought us about AO-73. He brought in equipment like an antenna, cables, radio receiver and a speaker. He used the

Word Dictionary

AMSAT = (Radio) Amateur Satellite (Corporation).
 ISIS = International Solution in space
 Funcube Dongle = It's the exact same but a pro.
 Funcube Dashboard = The funcube Dashboard is a download

facts

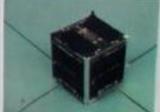
antenna to track AO-73 while we listened on the radio receiver to some beeping that was actually encrypted data

AO-73 (FUNcube-1)

FUNcube-1, also known as AO-73, is a 1U cubesat (10cm x 10cm x 10cm) built and launched as a collaborative effort between AMSAT-UK, AMSAT-NL, and ISIS-EV. The primary function of the satellite is educational outreach, utilizing onboard experiments, an easy-to-copy 1200 baud BPSK beacon, an innovative SDR receiver (the FUNcube Dongle), and telemetry decoding, archiving, and display program (FUNcube Dashboard). While in eclipse the beacon reduces power, and a 20 MHz UV transponder is activated.

Frequencies are as follows:

- 145.935 MHz BPSK Telemetry 30mW (eclipse) or 300 mW (illuminated)
- Inverting SSB/CW transponder 300 mW PEP (eclipse)
- 435.150 - 435.190 MHz Uplink
- 145.950 - 145.970 MHz Downlink



Launched November 21st, 2013 on a Dnepr rocket, AO-73 was placed in a 682 x 595 km sun-synchronous



ILLW 2015 CAPE CAMPBELL NZ0001

This year's team consisted of: Ian ZL2BGL, Paul ZL2RE, Gavin ZL4IY, Rob ZL2IW with pre event assistance (yummy food, and logistics) from Christine Conway, Bill ZL2AYZ, and Kaye ZL2KU. Gavin ZL4IY attended for the Saturday, antenna erecting, part of the weekend. Thanks Gavin, appreciate your help.

We met at the chookyards near the turn off to the Cape Campbell light house track. Ian had the large antenna mast on his ute and trailer. Paul carried extra food, power supply and misc tools in his 4WD. The Subaru was packed with various radio transceivers, computer, batteries, food, tools, and the cape Windom antenna. Gavin came on board the Subaru with me to travel the final leg to the Cape.

Conditions at the Cape are quite variable. Often ranging from idyllic and heavenly, to isolated and hellish. Both states are spectacular, but for different reasons. This year we were spared the extremes, but the cape had on its sultry, brooding face... just to remind us of what it could be like. The sky was gray and visibility to seaward was often less than a mile. Whitecaps covered the sea, and the wind keened, enough to keep our cold weather gear on, while attending to the numerous gates.



On arrival we unloaded the mast, and during a lull in the weather, erected it to stage one. The hard part being done, was now just a matter of cranking up the inside sections. This uses a cunning method of winching up some telescopic sections. Ian will describe this elsewhere... it really is a very good system. Of course we had to experiment this year, and the mast was even higher than previously, due to the addition of yet another telescopic section. Shortly the mast reached full height, and was admiring it from a short distance away, when I saw Ian making a strategic exit from the winch position. With a couple of clearly audible clanks the mast telescoped rapidly down. It remained standing,

but only at a minimum height. No harm being done, except to our pride, we adjourned for a warm drink and some sustenance.

After a conference we decided to bring the mast down for investigation. While the engineering team checked the mast, I brought the cape Windom antenna out of hibernation, and laid it out ready for the lift. The engineering team had deduced the use of cheap winch rope, to extend our system, had been false economy therefore we reverted to the previous configuration and once again raised the mast. It was a little shorter than before.

The radio signals were strong, but the local noise was also rather strong. Strength 9 on the lower bands, and only tapering off above 20 metres. So we operated with as much DSP noise canceling as we could. We had numerous contacts with VK, and Paul managed a contact with Slovenia. Lighthouse stations were elusive as always, but we had our share of contacts.

The accommodation was restored to original after being used



as a movie set. The advantage was the electrical and plumbing fittings were renewed. The décor was still in the period for the movie set and the addition of another bedroom was quite nice. One of the Cape traditions is to eat well, so we take about 4 days food for a 2 day Dxpedition. We continued making contacts into the night until there were few to be had. Sunday morning dawned gray and cool, again. Signals held up in to the day, and we had many more pleasant contacts.



Paul & Ian relax

All too soon it was time to pack up. We worked between rain squalls to bring in the antennas. We logged about 90 contacts on HF and a couple on VHF.

The time to leave always seems to come too soon. We departed the Cape to make our way inland, leaving the wind and sea, with plans already being made for a bigger and better antenna array next year.

Thank you to the Cape team and our supporters. Trust you had an enjoyable time.



antenna from lighthouse steps

73
Rob

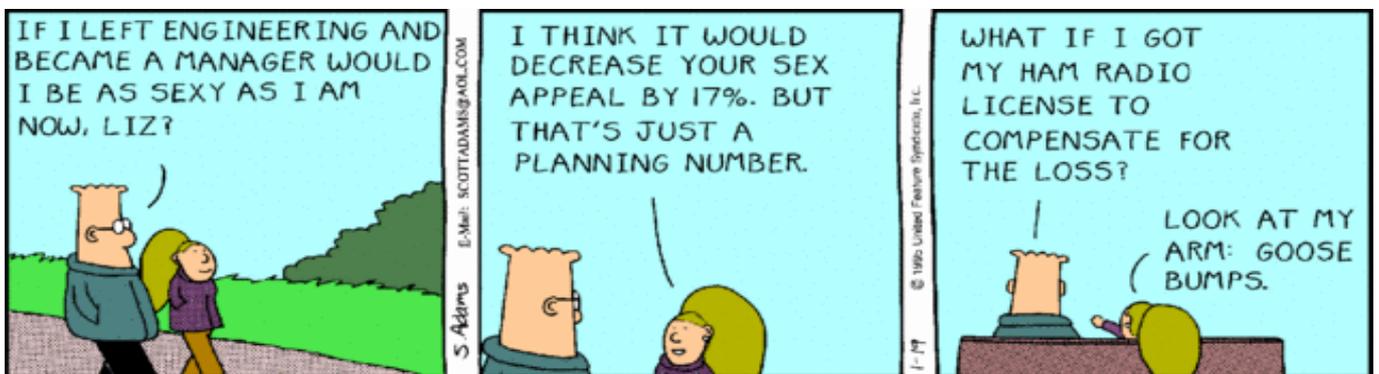


Windom antenna for HF

Ian's succinct description of the mast problem... The aerial mast was wound up to a height of 20m then, due to a rope failure, erectile dysfunction took over causing the two top sections to slither very rapidly down into the base section. As you can imagine, I stepped aside to avoid any falling debris associated with

this situation!! Subsequent to this happening, two sections of the mast were successfully re-erected.

- Thanks to Rob Carter for the article and photos.



CALENDAR OF EVENTS

See what's coming up in **your** club. Make sure **you** volunteer for something, if able, & mark it on your calendar!

SEPTEMBER 2015

10 Constructors' Award

