

**The Official Newsletter of the
Auckland VHF Group Inc.
Spectrum 2007**





Auckland VHF Group Inc.

Branch 66 NZART

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Clubrooms: Hazel Ave, Mt Roskill

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ATV Interest Group					http://www.qsl.net/zl1qf/atvug/ATVusers.html

Club News and Net:

The combined Auckland VHF Group and Auckland Regional Branch News and Net are held on 146.625 MHz and 439.875 MHz at 8.15 pm each Sunday or after the ZL6A National Broadcast on the last Sunday of the month.

Club meetings are held at the Clubrooms at Hazel Avenue, on the second Monday of each month at 7.30 pm. For other details, listen to the News and Net each Sunday evening.

Membership of the Auckland VHF Group is via subscription; \$30 within the Auckland free dialling area, and \$25 outside. It is expected that members of the Auckland VHF Group Inc. are also members of NZART, as we are branch number 66 of NZART.

SPECTRUM is the official journal of the Auckland VHF Group Inc.

Opinions expressed are those of the authors and do not necessarily reflect club points of view. The closing date for SPECTRUM articles is the Monday 7 days before the following General Meeting. Articles may be submitted to the Editor.

Cover photo: Doug Cooke ZL1TTE receiving the Auckland City Cup for Outstanding Volunteer Award.

Coming Events:

NOTE the change to the SECOND MONDAY of the month, except January 08

December 10th at 19:30: End of year Bash.

Refer page 8

January 21st (Note this is third Monday for January only). Meeting and BBQ

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Contest Calendar:

February 23 & 24: National Field Day Contest.

From the Chair – December 2007.

Well Well! Look who's back in the chair – again. I am not sure if it is by accident or design. Never-the-less we have a new committee with some old faces and a new one or two, so things look good for the New Year.

Firstly, many thanks for the efforts and work put in by the outgoing committee. They came together when things were tight and managed the ship. Tim, ZL1TN has shifted to Australia – taking an opportunity that was too good to miss. We all wish him the best in his new venture, and thank him and his committee for the work they did.

COMMITTEE.

The new committee has already met and sorted out the nuts and bolts for the forthcoming year. We have already seconded others to help with various important aspects of running the group, and looking ahead to projects and things that need to be attended to soon.

Jim ZL2BHF is looking after agenda's and rosters, so he would like to know about anything that needs to come to the attention of committee or the meetings. He has already started the News and Net Roster for 2008, and looking for people to fill the various dates throughout the year. If you would like to support that service and assist, then please let Jim know now so that you can be included. Other branches may want to participate also – and we welcome that approach. At this stage dates do not need to be set in concrete – these will be confirmed as the year progresses.



The Secretary and Treasury positions are full on. Ken ZL1TD is settling in nicely and getting to grips with the secretarial process, while Doug ZL1TTE is carrying on his splendid job that he started last year. These guys have a busy time – so any support you can offer them is always appreciated.

AREC section Leader is Laurie ZL1ICU, who is looking for a deputy. Harry ZL1BK and

Vaughan ZL1TGC are the Klondyke managers. Trading Table is Franc ZL1SLO. Web Master is Peter ZL1UPB. Ian ZL1VFO is looking after IRLP and Grant ZL1WTT is looking after projects. Ian ZL1AOX has kindly accepted to continue as Spectrum Editor.

All these volunteers will be looking for assistance from time to time, so please be available to assist when the call comes. It's the old story – many hands make light work - and help make the venture a success.

MEETINGS:

The full meeting program for 2008 has not been finalised yet but plans are well under way. Some of the subjects planned will involve inviting members of other organisations and branches to join us – such as the NZ Electronics Institute, who will also have interest in the subject.

Examples are:

- Electronics in Modern Aircraft, (a) the cockpit – a possible visit to the simulators, (b) The modern entertainment system – video and audio on demand.
- A visit to the Navy Simulator.
- Communications – A visit to the Coast Guard
- EMC and RFI Measurements – A visit to a Lab.
- Medical Electronics, (a) The Cat Scan and (b) The Remote Surgeon – Medical Robotics

And so on.

There is a lot to look forward to, and we trust that you will all take advantage of these opportunities to make the visits and subjects well worth while organising.

SUBSCRIPTIONS

The subs for this year remain the same as last. The membership forms are being re-done over the holiday period as there is additional information the Treasurer and our data base needs in order to keep you all informed of what is going on. So look out for those early in the New Year, and then get your subs in as quickly

as possible. There is a lot to look forward to, and it is real value for money.

JAN 2008 MEETING/BBQ

Please note that the committee have moved this to the THIRD MONDAY in January (the usual time) to overcome the problem of people still away on Holiday. So mark the date, 21st Jan 2008 for the BBQ evening at the club rooms. The first get together for 2008.

690 REPEATER

A temporary repeater has been set-up in the hills behind Papakura. It is only running 10 watts, and currently only on trial to ensure that it does not interfere with other important equipment near the site. For safety, it may be turned off from time to time. Until we can acquire some more filters for it, there may be some limitations with weak signals into the repeater. If interference to other equipment proves not to be a problem, then some improvements to the repeater can then be made to improve coverage and operation. It should be noted that this unit IS NOT the replacement for 690. It is only intended until a permanent replacement is obtained, and a decision is made about the original 690 site.

CHRISTMAS GREETINGS

Well it has come around again, and so quickly it seems. Once again the committee would like to take this opportunity to wish everyone a very merry Christmas, and a happy and prosperous New Year. We trust that you have a pleasant and relaxing holiday period, and look forward to seeing you all at the December meeting, and again at the January BBQ. Enjoy the season, and take care.

de ZL1JD

Auckland City Cup – Outstanding Volunteer Award

Speech delivered by Councillor Greg Moyle to Doug Cooke during the Santa parade on the 25th November 2007.

Firstly I would like to apologise on behalf of His Worship the Mayor Hon. John Banks for not being able to be here today to present this noteworthy award.

Every year, around 4000 volunteers give their time and their energy to this parade in some capacity to make it the huge success that it is. Auckland City Council believes in the importance of recognising the effort and generosity of every volunteer who participates in the Farmers Santa Parade.

While we think that all of the volunteers and the nominees we have received for the award this year are remarkable and deserve recognition, the winner we have chosen could not be more committed or more worthy of the title, Outstanding Volunteer.

This year's winner of the Auckland City Cup – Outstanding Volunteer Award is Doug Cooke is, but before presenting Doug with the Cup I would like to provide a little background on Doug and why he so thoroughly deserves this award.

Doug Cooke started volunteering on the Farmers Santa parade when his two little girls, Stacey and Emily were around six or seven. Those two girls are now twenty-one and twenty-two. Both of them used to be in the parade, Stacey works on the costumes (and usually ends up in it too) and Emily has helped dad out in previous years. Wife Juliana, who nominated Doug for this award, used to organise all of the wonderfully colour coordinated balloons; this parade is truly in the Cooke family bloodstream.

Doug's role in the parade is looking after the dispersal of the floats and controlling the crowds, which means looking after the safety of all the people on the floats and the public, liaising with the police and contractors prior to the parade.

Doug also works on the Hamilton Santa parade, the Auckland Cup Week Parade of Champions in Newmarket, and was there when the America's Cup made its way down Queen St, earning him the title so aptly given to him by parade organiser Pam Glaser – “Mr Dispersal”.

When Doug is not working on parades, he works for the fire service in the communications centre, taking 111 calls. This is a man you could definitely rely on if your house was on fire. His sense of community spirit has seen him involved in Amateur Radio Emergency Communications for civil defence search and rescue - he is the treasurer of the VHF Group and he has been involved with the International Car Rally since 1977 on the radio communications base calculating the results.

Doug Cooke probably deserves awards for a great deal of services, but today we are recognising his dedication to the Auckland Farmers Santa Parade, and I am delighted to award him with the Auckland City Outstanding Volunteer Cup.



Greg Moyle and Doug Cooke



Doug replying

Minutes of the Auckland VHF Group
General Meeting held 7:30 pm 12th November
2007 at the Clubrooms, Hazel Avenue, Mt.
Roskill.

Present: As per attendance book.

Apologies: ZL1AOX, ZL1PO & ZL1KM

Minutes of Previous Meeting: Moved
Vaughan ZL1TGC, Seconded ZL1JD

Matters Arising: Further comment by John on
the lease renewal and Payment from ACC CD.

Correspondence In:
NZART Branch circular, Donation from
Howick and District Radio Club, Thank you
from Whangarei.

Newsletters from:
The 29er, Papakura RC, Western Suburbs RC,
Papakura, South Queensland ATV group and
Suburban RC.

Correspondence Out:
Letter of thanks to Franklin ARC.
Accepted/Approved: ZL1AWL/Sec ZL1HN

Treasurer's Report: Nil.

Reports: As per AGM.

General Business:

New keys bought by Vaughan who will hold
one and Ken ZL1TD to hold the other. Daniels
keys have been returned to John ZL1JD.

Jim ZL2BHF thanked Alan ZL1AWL for his
contribution over the years.

Meeting Closed 8:45 pm

Minutes of the Auckland VHF Group
Annual General Meeting held 7:30 pm 12th
November 2007 at the Clubrooms, Hazel
Avenue, Mt. Roskill.

Present: As per attendance book.

Apologies: ZL1AOX, ZL1PO, & ZL1KM

Minutes of Previous Meeting: Moved
Vaughan ZL1TGC Seconded ZL1HN
Matters Arising: Nil

Correspondence: Nil

Presidents Report: Printed in November
Spectrum.

Created in the absence of Tim ZL1TN by Alan
ZL1AWL, Vice President of The Auckland
VHF Group.

Accepted: ZL1AWL/ZL1TGC

Treasurers Report:

Some errors were reported by Peter ZL1UKG
which requires correcting. Approval of this
report has been deferred until the next General
Meeting.

John ZL1JD moved a vote of thanks to Doug
for doing a fine job. Sec ZL1UKG.

Trading Table Report: Printed in November Spectrum.

I Move that the report be accepted

ZL1JD

Accepted: ZL1JD/ZL1TGC

Repeater Trustee Report: Printed in November Spectrum.

I Move that the report be accepted

ZL1JD

Further Notes: John has paid the Beacon Licences. The STSP repeater (690) is nearly ready to be installed at the QTH of Ian ZL1AOX. The insurance claim for 690 has been accepted. A quote for a replacement has been received for the amount of about \$5,800.00 including GST.

Accepted: ZL1JD/ZL1AWL

Secretaries Report: Printed in November Spectrum.

Peter Bennett

Accepted: ZL1AWL/ZL2BHF

Web Masters Report: Printed in November Spectrum.

Peter Bennett

Webmaster Auckland VHF Group.

Accepted: ZL1AWL/ZL1JD. John thanked Peter for taking over this role. Jim ZL2BHF noted that it was good to see information on the web site updated regularly.

AREC Report: Printed in November Spectrum.

Laurie Mathews
ZL1ICU

Accepted: ZL1UKG/ZL1HN

Nominations for officers:

President: John ZL1JD Nominated by ZL2BHF, Sec ZL1TGC

Vice President: Jim ZL2BHF Nominated by ZL1JD, Sec ZL1HN

Secretary: Ken ZL1TD Nominated by ZL1TGC, Sec ZL1AWL

Treasurer: Doug ZL1TTE Nominated by ZL1TGC, Sec ZL1ICU

Committee: Grant ZL1WTT, Laurie ZL1ICU, Franc ZL1SLO, Brian ZL1HN

AREC Section Leader: Laurie ZL1ICU Nominated by ZL1TGC, Sec ZL1HN

Auditor: Peter ZL1UKG Nominated by ZL1JD, Sec ZL1AWL

Spectrum Editor: Ian ZL1AOX Nominated by ZL1ICU, Sec ZL2BHF

Call Sign Trustee: John ZL1JD Nominated by ZL1AWL, Sec ZL1UKG

Repeater Trustee: John ZL1JD Nominated by ZL1TGC, Sec ZL1AWL

All nominations for officers of the Auckland VHF Group were elected unopposed.

General Business:

Peter ZL1UPB Moved that Alan ZL1AWL continues keeping the minutes' book. Sec ZL1HN. Carried.

Subscriptions:

Alan ZL1AWL moved that subs for the upcoming year remain the same. Sec ZL1UKG. Carried.

Meeting Closed 8:25 pm

AUCKLAND VHF GROUP (INC)

NOTICE OF GENERAL MEETING

MONDAY DECEMBER 10 TH, COMMENCING 7.30 PM.

A SOCIAL EVENING – XMAS GET TOGETHER

Bring a plate – and something to drink

Meet and Socialise with everybody – and catch up on:

What's going to happen this summer?

LOCATION; HAZEL AVE CLUBROOMS, MT ROSKILL

EVERYBODY WELCOME



Doug Cooke ZL1TTE addressing the crowd at Aotea Square after receiving trophy.



Doug ZL1AVY reports that an updated data modes CD will be available at the next meeting.

VHF Field Day Weekend Reports

VHF FD

Simon ZL1SWW

Well here it was, just about late again up to the site to set up. Left about 2 hours earlier but still managed to miss the 4 pm test appointment with the boys down south.

As it was, I find that they were a bit late as well. Decided to set up the microwave stuff first this time. Normally the low band stuff goes up first.

Missed the first period on some bands as still in a state of bad disarray. I've really got to get my act sorted. Year by year it gets better but I have to work on my power reticulation. Always too many power cables.

Had no luck whatsoever on the high bands to the normal regulars like Steve ZL1TPH and Ted ZL2IP. Band seemed closed and Steve rings me to say the contact from him to Brian was pretty bad on 10 Gigs. I might have saved some space and not taken it if I was a mind/propagation reader.

Carried on with other bands with good contacts on most bands with the ZL2 boys ZL1TYF, ZL2AS, ZL2DX, ZL2WA, ZL2FX, ZL2TAL, ZL2IP and any others I may have forgotten. Thanks guys for being there.

1296 offered reasonable DX but not stunning. 2424, 3400 were mainly local and 5760 was mainly local bar 2 good contacts to Kevin ZL1MRF (Aka ZL1UJG) at 174 km.

Had one and only contact on 925 MHz with Ralph ZL1TBG which was a bit tricky first off but we made it in the end.

Some difficulty experienced with FM on the SSB frequencies on some bands that caused a bit of trouble.

Sunday morning had the second car of the weekend down the road. A green Legacy showed up. Looked like Q's car but no, it's Peter ZL1UKG and Roger ZL1ASV (nice to meet you Roger!). They were looking for a site and they stumbled across me well ensconced in my pozzie I have used for about 4 years now. They ended up about 3 kms away and good to have hammy neighbours close by!! Strong signal interference the only let down.

Later Sunday morning, generator only putting out 190 volts and Switch mode charger died. Now batteries sagging to 10.8v with 2 Pas, 7 transverters and 2 706's all sapping power. 2M pa drawing heaps and causing 706 to distort on voice peaks, they don't like working at 11v.

Rain was a constant bane of my life as mud /clay now inside the car and things getting wet. Restless night as I forgot the mozzie repellent as well. Running 8-9 bands single handed has you jumping in and out of the car to some transverters out the back.

Still, it's always fun to go out and have a bash.... Character building so say the least... Now back home to fix the broken bits...

Cheers,

Simon ZL1SWW....

VHF Field Day report by Quentin ZL1QF

FD excursions between domestic fronts! Well yes good to see so many out and about in the local area. First time I've seen so many DX contesters just running local! Good WX for most of it. Least it's warmer than last year. Wait till solar cycle 24 (2010-2012)!! I remember in cycle 21 the Aussie 6m beacons were 5x5 in the basement on a whip!

So looks like I got a deaf 5760 RX or something no go with Harry or Simon. (I think the freq is ok checked it at home again afterwards.)

But I had contacts with ZL1SWW on 2424 S9 on a patch! 46 km and ZL1AOX, ZL1SWW, and ZL1BK on 1296. Heard Ted ZL2IP on a single quad diamond on 1296.1 from Crown Hill, but no two way - need to readjust the amp!

It was good to get out.

Quentin ZL1QF

Reply from Steve ZL2KG

Yes much warmer this year at 4000 ft up the east coast this time, only needed the Antarctic clothes for about 90 minutes around 2100 Sat when a blast of cold icy cloud came past the 23cm operator sitting up at the trig station at Tarapounui! Nice not to have snow and ice dropping off the teamtalk antennas all weekend like last year !! LOL

Steve ZL2KG

Contacts into ZL3 on 144 MHz before the contest

Every time I go to Taranaki I have a listen on the WSJT Saturday / Sunday meteor scatter net on 144.230 MHz 8 to 9 am. I do not take my PC and sound card as too much damage results up those hills.

Having worked out where to point South into ZL3 (bottom of the Stratford Plateau carpark) on Saturday morning I could hear ZL1BT beaming South. David is not strong with QSB. By swinging my beam south for the Southerners TX period I could hear them nearly as strong.

I put out a few SSB calls on 144.230 and I was heard. But I did not know who it was. I had an idea that maybe Bob ZL3TY or maybe Starr ZL3CU. So a phone call to Kevin to get up on the CP logger and to ask them for a QSO on SSB on 144.2.

So with a few calls south I could hear ZL3TY on CW but weak. There was another station on SSB also calling. But shortly afterwards I worked Bob ZL3TY on SSB. Nice signal from Bob and an easy QSO with QSB at 425 km.

Then to my surprise Starr ZL3CU punched out of noise on SSB (485 km). I completed with him and although he was not as strong as Bob he was above Q5. The path into the flats of Christchurch is a slog and a half. I think the same into Greymouth as well. Thanks Bob and Starr....

Being late to get to Ted's place that morning was no excuse. I told him I got tied up working into Christchurch and Greymouth. His reply was "I could not think of a better excuse". I think Ted was as surprised as I was.

Steve - ZL1TPH

(more ZL3 contacts in the contest coming)...

Contacts on 1296 MHz in contest

Just after the activity session on Saturday morning I did some tests with Chris ZL2DX (240 km) on 1296. Driving down to Taranaki I realised I did not have a bracket for my 1296 loop yagi. So to give Chris a carrier I had to hold the antenna in the air. He heard the signal and he asked me to take the carrier off so I just pointed it into the ground.

At Ted's place we built a new bracket ready for the contest. But with swinging this antenna all over the place earlier in the morning I had damaged the LMR600. With it just getting dark I changed the coax and the fault was fixed. The Wellington 1296.275 beacon came in most useful for this task. Another good reason why beacons are important.

So from Taranaki worked into ZL2DX for a first on the band and a new path. I missed John ZL4JY as I could not find you and the faulty

coax did not help. Also worked into Auckland and North of to ZL1SWW, ZL1AOX, ZL1BK, ZL1AKW, and ZL1TBG (strongest signal by far Ralph) and around to the east to the ZL2AS team on 1296.250 FM.

In all I had 44 contacts on 1296 and if we compare this with 144 (and I pushed it along) I only had 100 contacts. Proves a point that 1296 is a popular band.

Steve ZL1TPH

Semi grizzle session (Contest Mayhem)

Just to remind myself that I'm not perfect either, here is my grizzle session.

Stations on 144 MHz (at distance) on the calling frequency 144.2 trying to get each others maidenhead locator. A simple solution to this is to QSY up or down the band and clear the calling frequency...

The two ZL2's (220 km) that QSYed up only 5 KHz and had a chat. This is not HF but VHF. What made it worse one of them was spluttering 20 KHz wide no doubt with low battery voltage. You will notice that I will move at least 20 KHz down usually.

Some one in Auckland must have made the move to FM on 1296.1 MHz (no doubt with a handheld). I could not hear them but I am sure it made a few shift to FM. And one station with a good signal was heard fully limiting on 1296.1 MHz off the Mountain at 320 km while I was in QSO with Kevin, Ray and Ted.

We need to define the FM calling frequency. Normally 1296.3 FM. Admittedly I was using 1296.250 to work across to the ZL2AS team.

Am I perfect myself. Na ... I've broken every rule in the book... he he :-)

Steve - ZL1TPH (the flame thrower)

Microwave Propagation (leading edge of anticyclone)

Flat as a pancake to my surprise and not expected despite good summer enhancement on 144.2 MHz.

Carrier down on 10.368 MHz was zero heard to Simon ZL1SWW at 343 Km with not a

whisper. I had one contact with Brian ZL1AVZ (273 km) but it was not strong at all. Normally Brian takes my needle hard over and no matter which way I point I will hear him.

Most strange indeed. Discussing with Ted (and he was not heard North either on 10 GHz) (we had two carriers running 10 KHz apart for Simon) was that we were in the leading edge of an anti cyclone that was coming down as a Northwester towards the South Island.

A trailing edge of the anti cyclone would have been better or even the high on top of us. I found this most interesting indeed despite the lack of contacts...

Strange things happen and most bizarre ...

Steve ZL1TPH

ZL3NW and ZL3MH in contest

Sitting in the lower carpark (Stratford Plateau) on Saturday evening and upon dusk was most interesting. Surrounded by mounds of dirt and alpine grass in thick cloud and many rabbits come out of the holes and just sit there and watch you. They don't move and look quite cute....

So I made a little noise on 144.2 South to Christchurch. No doubt the word had spread to the Southerners and I was determined at least not to let them down...

First out of the noise was Rod ZL3NW with a very nice SSB signal. Worked him a couple of times despite the QRM. I moved down to 144.150 and put Murray ZL3MH in the log just. Path distance was just under 500 km and to work yet again into the flats of Christchurch made my day despite the high mountainous path profile...

As for the rabbits they went into hiding. And still to this day I thought it would be impossible to punch into Christchurch from Taranaki... As they say DX IS...

Steve ZL1TPH..

3.4 GHz contact to Brian ZL1AVZ

Determined to promote 3.4 GHz (at distance) myself and Brian did some tests on the Taranaki to Muriwai path (273 km). Remember I just placed a feed on a silly 2 foot dish with no test.

We started tests before the contest to at least get one contact in. On carrier down to Brian I was not that strong. Brian to me was not that great either. We panned each other for the best at this was somewhat marginally for me and I needed a few more dB at least.

With a contact just before the contest (just) we then completed in the contest at the start of the first period. I had to wear head phones and it was hard going with QSB and the secret is to repeat the numbers many times..

So hopefully Doug the contest manager will appreciate the 273 km contact on 3.4 GHz as a first example for a long time. To promote more contacts into Taranaki next year I have left my 3.4 GHz with Ted and he will be QRV before he gets his own DXR on the air.

This will leave me with no radio but I am close to giving up. More challenges from ZL1 into ZL2 so get more distance activity I hope. But I won't be in the mix.

Steve - ZL1TPH

24 GHZ Test

My last posting and I hope not the final bore... he he :-)

With a failed attempt (second time) to John ZL2HD and Gavin ZL2TVM the ZL2WA team on Belmont on 24 GHz (217 km) yet again silence and no contact.

Thanks (John and Gavin) for the attempt to promote but we either had gear failure or path loss. I think the former and win some and lose some on the bands. But good to see the ZL2WA perched on the hill and in the mix.

With the drive North home today I set up on 24 GHz at a beach called Mokau about 80 km

North of Ted to test. Nice to hear the surf pounding in from the West on the black sand. Ted's radio horizon is about 80 km and he took the S meter on the Icom 202 to hard over (both ways) on 24 GHz.

Proved the gear is still working and I enjoyed the contact out of contest hours. Starting to run out of challenges and I would like to build something different next year.

ATV is of interest but I know nothing about it. I know the Wellington VHF Group have many ATV'ers and hopefully more articles in Q-BIT please. (not forgetting Spectrum. Ed.)

It's either that or an HF power amp.....

Steve - ZL1TPH

My Best DX by Murray Hely ZL3MH

Hi All,
My best DX from home station in Christchurch was ZL1TPH on Mt Egmont at 9.10 pm Sat evening on 144.150.

I was running low power FT101zd mk3 to FTV250 to an 80 watt HB Amp to 12 elements up 10 meters.

See my pic's under VHF contest --- photos --- ZL3MH

Bye now ZL3MH Murray

VHF Field Day ZL1AC

I was at a carpark just past the Arataki scenic look out. Both days were fine weather except for the last hour on Sunday, so I left early.

Harry ZL1BK visited on Sunday, and he set up his 5760 on the back of my truck. He was able to work Simon ZL1SWW, ZL1AOX and ZL1MRF, with sigs over the 9 level in all cases. No luck with Quentin ZL1QF.

Frequencies were a little approximate, I must say, and I feel we do need a bit of local testing so we can all find each other faster.

My highlight of the weekend was working ZL2AS a couple of times and ZL2WA (479

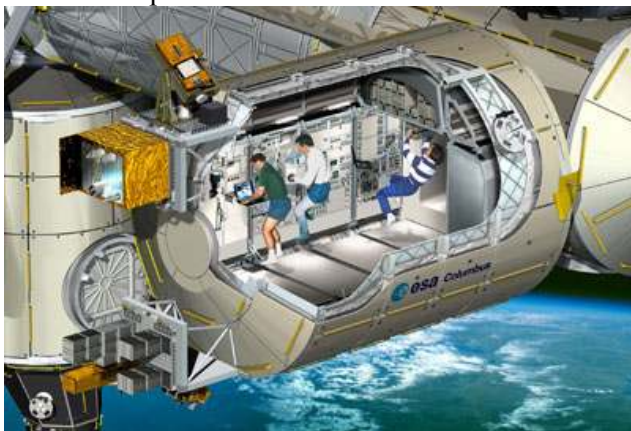
km) once on Saturday at 21:08 or thereabouts (my clock was not that accurate).

My batteries lasted ok although I was only working QRP, Ft-817nd barefoot, mostly 2.5 watts, as the external power feed failed. I have found I burnt out a track in the power section of the rig, on the negative feed to the power charger/regulator system. I suspect the inverter used for the rotator may have come in contact with the earth of the rig at some point. It was on another battery but there may have been a common path through the truck chassis and the antenna cabling.

I heard ZL3AA and ZL3AX a few times and ZL1TYF often but without contacts.

An amateur radio station on Columbus

1. **Columbus:** the main European contribution to the International Space Station (ISS) Mankind's outpost in Space, the International Space Station, is a common scientific exploration effort of 16 nations: the United States, Canada, Japan, Russia, 11 nations of the European Space Agency (Belgium, Denmark, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland, United Kingdom) and Brazil. Several modules have already been installed: Zarya (the Russian functional cargo block), Swesda (the Russian service module), Destiny (the American laboratory). These modules constitute a pressurized ensemble.



The European Space Agency (ESA) has built Columbus, a Space laboratory, which will be attached to the ISS in the near future. (Planned launch on Shuttle 122 6th December 2007. Ed.)

Total number of contacts 64 on 2m, 40 on 432, and 3 on 5.7G.

Anyway a good test of my new antenna on 2m, 12 element K1FO, compared to my old 4 element it gave about 3 "S" points more on strong signals, and was able to hear weak ones not readable on the shorter boom.

I would support a cumulative points contest, say once a month on the last Sunday of each month, for say three hours 3pm to 6pm.

Rgds Andrew.

2. Amateur radio on the International Space Station (ARISS)

The first element of the ISS, Zarya the Functional Cargo Block, was launched from Baikonour, Kazakhstan in 1998. Two years later, the ARISS initial station gear went into space and William Shepherd--who dubbed the ISS "Space Station Alpha"--made the first ARISS school group contact on December 21, 2000.

As the Space Station grows, the amateur radio station on board also evolves. The initial ham station Phase 1 is located on Zarya and ham station Phase2 is located on Swesda, both on Russian territory.

During several EVA's (Extravehicular Activities), four antennas have been fixed on handrails outside Swesda. The primary function of these antennas is to provide microwave communications for the astronauts when they work outside the ISS. These antennas are multiplexed to antenna elements covering several amateur radio bands, HF, VHF, UHF and L-band.

Presently the amateur station is running as Packet Radio (VHF) or as FM crossband repeater (VHF downlink, UHF uplink).

Licensed astronauts and cosmonauts also use the VHF station for QSO's with amateur radio ground stations.

Most significant is the use of the VHF station for educational outreach. ARISS has developed a very efficient organisation for setting up School Contacts, allowing students and schoolchildren to ask questions to

astronauts and get their answer direct from Space. Volunteering amateur radio operators provide the ground station for the selected school when a contact is scheduled. In principle, NASA allows one contact per week. ARISS-Europe has also an arrangement with ESA for European astronauts and a similar agreement is under discussion with Energia, the Russian Space agency. ARISS School Contacts energize youngsters' interest in science, technology, and learning. In Germany and in France, participating students have become licensed radio amateurs. Moreover these radio contacts are widely covered by the news media and contribute to show the general public a positive image of amateur radio.

3. An amateur radio station on Columbus

November 2002, ARISS Europe extended a request to ESA's Directorate for Manned Space Flight and Microgravity, asking for ham radio facilities on the European Space Laboratory. In 2003, ESA's Columbus division agreed on the principle. October 2007, the antennas have been installed on the module.

Columbus will be transported in the bay of an American Shuttle. Therefore, since little room is left between the module and the Shuttle bay, the ARISS antennas are patch antennas, flat planes ten millimetres thick.

The patch antennas are fixed on the Meteorite Debris Panels (MDP) protecting the hull of Columbus. On the port cone of the module, where it attaches to the ISS main structure, feedthroughs have been installed for the ARISS antennas and coax cables are run from the feedthroughs to the nadir.

The development of the antennas has been taken care of by the Institute of Telecommunications and Acoustics of the Wroclaw University of Technology. The Columbus antennas will work on L-band and S-band. UHF was initially considered also, but was abandoned by lack of funding.

4. The benefits of adding ARISS antennas to the Columbus module

The existing ARISS antennas on the Service Module are shared through diplexers and will not be especially effective on the microwave bands. Using the dedicated antennas on

Columbus will, for the first time, permit viable ARISS operations on these useful bands.

With the Columbus module being located at some considerable distance from the other two ARISS stations, this will permit parallel operations on the new bands at the same time as the existing operations.

The availability of these new frequencies will enable us to establish wideband and video operations for the first time. This facility will provide ATV facilities for School contacts and, additionally, continuous transponder operation.

The Columbus module is designed to undertake experiments but may also be used as temporary sleeping accommodation for the European astronauts. It is anticipated that most, if not all of them, will be licensed amateurs.

To summarise, the addition of these new antennas will provide greatly enhanced opportunities for amateur radio operations on the ISS and an additional emergency communication facility for the astronauts.

5. Funding the ARISS antennas on Columbus

The construction of Columbus has reached its final stage. The ARISS antennas have been installed in October 2007. A most important aspect has still to be solved : funding.

The installation cost of the ARISS antennas on Columbus exceeds 100,000 euro (coaxial feedthroughs, coax cables on the hull of the module, etc.). ESA initially offered to support 50,000 euro of this amount. Presently ESA has decided to cover the installation cost completely.

The Wroclaw University of Technology has obtained a special funding for the ARISS antennas from the Polish Ministry of Research and Development. This helps cover the total cost and limits our effort to 86,000 euro.

69,000 euro has already been paid by ARISS.

We still have to pay 17,000 euro to finish the work.

Presently our goal has been set to 100,000 euro, but it will most probably be reconsidered. After Columbus is attached to the ISS, we will still need to build the onboard equipment.

Abridged, Ed. Full story is at

<http://www.ariss-eu.org/columbus.htm>

Trading Table Specials – December 2007

MGF1302	Low noise GaAs FET Nf = 1.4dB @ 4GHz, 4dB @ 12Hz. [S.case]	\$15.00 each
BFR91	NS RF Amp. 5GHz 1.9dBnf @ 500MHz [S.case]	\$2.00 each
MPS5179	NS TO92 12V 50mA 200mW ft 2000MHz Nf 5.0dB [S.5.7] RF Transistor. Use in UHF/VHF amplifiers with collector currents in the 100 μ A to 30 mA range, and in low frequency drift, high output UHF oscillators.	\$0.50 each
MRF237	NS RF Pwr. VHF 4.0W 12V TO39 [S.5.8]	\$3.00 each
3SK73GR	Dual-Gate FET N-channel 30V 7mA [S.6.7]	\$1.50 each

SMD RESISTORS – 10 per pack. Most are 1206 Format.

Values in stock: 22, 33, 49, 100, 270, 330, 390, 510, 1k, 2k2, 68k 100k Ohms. 10 per packet. 50c per packet

SMD CAPACITORS – 10 per pack. Most are 1206 Format

NPO 50V working: 2.2pF, 6.8pF, 47pF, 68pF, 82pF, 270pF, 470pF 10 per packet.
63V working: 10pF, 100pF, 1nF, 10nF, 100nF 50c per packet.
10uF 25V electrolytic packet

Kitsets:

VHF/UHF Preamplifier Kit.

Parts, pcb and instructions to build a preamp for 2m, 70cm, \$18.00 each
Now includes instructions for using a SMD package transistor, e.g. the BFG67 in place of the BFR91A supplied with the kit.

Moving Coil Meters - 500 μ A movement with back lighting via separate terminals.

Two scales 0 – 30 and 0 – 100, plus a battery “replace/good” indication. \$3.00 each
Scale can be removed/reversed for different uses. A very versatile meter.

Integrated Circuits

ZSM560 under voltage monitor IC's. 4.6 volt threshold for 5 volt systems. \$2.00 per packet Spec sheet available on request. Packet of 5	
HEF4060B SMD IC's. and HEF4060BT 14-stage ripple-carry binary counter/divider and oscillator. Spec sheets available on request. \$1.00 each	
74HC74D SMD IC's Dual D-type flip-flop with set and reset; positive- edge trigger. Spec sheets available on request. \$1.00 each	
LM393D IC's (SO8 package) and LM393DT Low Power Dual Voltage Comparators. Wide single supply voltage range or dual supplies: +2V to +36V or +/- 1V to +/- 18V. Spec sheets available on request. \$0.50 each	
74LS38N IC's Quad 2-Input NAND Buffer with Open-Collector Outputs. Still in original RS packets. \$1.00 each	

- GPS Receivers** – 12 channel GPS receivers in plastic dome mounting with DB9 Connector. RS232 output on pins 2,3 and 5 and power +ve 6-12V on pin 6. NMEA output sentences. \$120.00 each
- GPS Patch Antenna** – with Macom SO8 preamp 26dB @ 1.575 GHz, 1.15 dB NF. It still has 20dB gain @ 1.3GHz but the noise figure is rising a bit. Fitted with 3m of RG174 cable and MCX connector. No housing/case for patch antenna. \$10.00 each
- GPS Patch Antenna** – as above but in plastic case. Fitted with about 3m RG58 coax cable and SMA connector. \$20.00 each

Mail Order accepted. Please forward your mail orders to Auckland VHF Group, PO Box 10138, Dominion Road, Auckland. Or Email to john.dunn@clear.net.nz.

Please Note: For mail orders please add \$5.00 for packing and postage.

For Sale from the Trading Table (Ex estate of ZL1MO)

Maker	Model	Description	Ticket
Kenwood	TH-D7A	Dual band Handheld + manual	\$400.00
Kenwood	TM 255A	2m multimode	\$450.00
Kenwood	TM 851A	70cm multimode	\$450.00
Kenwood	TR 7930	2m Mobile + mounting bracket	\$250.00
Sabtronics	8100	Frequency counter 100 MHz	\$75.00
TAPR	PSK-1	300 bps + manual	\$60.00
TAPR	PSK-1	1200 bps + manual	\$80.00
Uniden	UBC 100XL	16 channel Handheld scanner	\$125.00
Yaesu	709-R	70cm Handheld + extended manual	\$150.00
Yaesu	G-250	Rotator	\$300.00

NEW INTO STOCK – LIMITED NUMBERS – A/V Distribution Amplifiers.

Talia professional Audio/Video Distribution amplifiers in a single 1U rack unit. 75 ohm looping video input with 10 separate outputs, all on BNC connectors. Stereo balanced or unbalanced audio input (RTS Jack's) with 10 stereo outputs on RCA connectors. This will be the last of these.

Limited numbers available. \$40.00 each.

Hi to all
 May I wish you all a Merry Christmas and a Happy New Year and to let you know that a new version of the Branch 66 Data Modes CD will be released in time for the December meeting of Branch 66.

This will make an excellent present to give to your ham mates - keep it in mind!. It does contain a lot of new programmes and many updates.

73, Doug ZL1AVY

Happy Holidays everyone.