



Auckland Branch
N Z Association of Radio Transmitters Inc.

NEWSLETTER

August 2012



GENERAL MEETING

Clubroom, 400 St. John's Road, Kohimarama
Saturday 18th August, 2012

BBQ at 1200 - 1300 hours

Meeting starts at 1330 hours

Agenda

- **Reports from your Committee**
- **Antennas**
- **Other business**
- **Report from Jeff Lowe ZL1TOU**
about his visit to 2012L (2 Oscar 12 London) amateur site for the Olympics
- **Paul Barratt ZL1AJY demonstrates toroids on coax cables**
- **Video of an early Jock White Field Day (time permitting)**



From the Secretary, Wallace, ZL1WAL

Contact the club:

Email: ZL1AA@NZART.ORG.NZ The Telephone number is 528-2039.
The VHF radio is always on and is tuned to the Musick Point repeater 145.775 MHz.

Visit to the Telephone Exchange:

Last month we were given a conducted tour through the St Heliers Telephone Exchange next to our right of way. Jack Findlay, a Chorus Engineer explained the security measures that are taken to protect their network. 25 such batteries as are pictured here, each measuring 1½ m high, that together provide 50v DC. We are grateful to Telecom who sponsored this visit.



Alignment of the Beam:

For two years this item has been on the agenda. After our visit to the Telephone Exchange, the mast was stepped and lowered to the roof of Japie's van which provided the platform from which he worked to adjust the rotator. Calibration of its control unit reveals a fault in the rotor which will be replaced next time that the mast is stepped. Meanwhile, Gwynne attached a halyard to be used for a future antenna project.

Noise on the bands:

Increasingly we despair about noise on our bands. At our next General Meeting Paul ZL1AJY has kindly offered to demonstrate the benefit of putting toroids on coax cables. Brush up on this subject by referring to <http://www.emergencyradio.ca/course/RFI-Ham.pdf> Elsewhere in this newsletter, John ZL1GWE is launching a project to monitor noise on our HF bands, being the first step to make an evidence-based case to help ourselves.

Amateur station at the Olympics:

Our member Jeff Lowe ZL1TOU has just visited 2O12L, site of the Amateur station for the Olympics in London. Here is a sunset picture of their 40m Yagi. At our next General Meeting on Saturday 18th August, he will describe their station which had logged 30,000 QSOs from 174 countries by its 9th day. Their web page <http://www.2o12l.com/index.php?page=news-update> states: **"... best DX was a visitor from ZL"**. A search of their log shows our Members, Franc ZL1SLO and Wes ZL3TE using phone on 20m. Jeff urges the rest of us to QSO this station before they pack up on 9th September after the Para-Olympics. Use Google Chrome at: <http://www.clublog.org/charts/?c=2O12l#r> to see their Geo propagation times/ band, then click on NZ on the globe. The best is 0500 GMT on 40m. Use calling frequencies 40.023 MHz for CW and 40.083 MHz for USB. Expect a pile up.



Antennas:

The Committee has been giving thought to using 'our' vast vacant section that seems to be begging for use as an antenna farm. Initially we have decided to erect a large loop antenna. (See Google Earth view below). This project will be open for discussion at the next General Meeting on Saturday 18th August. Bring your own version of the map below.



LEGEND AntennaPlan.kmz

Yellow = 80m loop

Green = Rhombic
Sides = 60m.
It points 50° T to USA

Red = V Beam

Purple = Insulators

Scale: The distance along front of the implement shed next to the clubroom = 27m.

<http://maps.google.com/?ll=36.86915,174.84401&z=19&t=h>

HF Noise Measuring Campaign for New Zealand: by John Martin ZL1GWE [Edited].

I spotted an article within the latest RSGB Bulletin (July 2012). It mentioned a HF Noise Measuring Campaign. All users of the HF bands in particular, have issues with background noise. As I was reading this, I thought, "Such a campaign could be quite useful to the whole of New Zealand: SWLers, and Radio Amateurs alike." Further, it would make an interesting and worthwhile project, in which clubs and associations could participate in a once a month basis.

We know that the ITU-R, for instance ITU-R P.372, provides information on the background levels of radio-frequency noise in the frequency range from 0.1 Hz to 100GHz. This takes account of noise due to lightening, to man-made sources, to the galaxy and to the temperature of the lower atmosphere. The level of radio noise sets a limit to the performance of radio systems.

The aim is to not only provide those participating with the knowledge of their own circumstance as far as background noise levels are concerned, but to eventually provide the necessary agencies with sufficient evidence so that a more scientific campaign may be launched, if necessary.

Bob Knowles and I are planning on participating and collating the information from all participants on a regular basis. The proposal is to get all participants to measure (at their own location or QTH), the background noise on the bands 1.8 MHz to 28 MHz once per month, for perhaps 2-3 years.

The requirement would be that the level (in S-points) be noted in a spread sheet (which will be supplied), and if the participants use an SDR receiver, the dBm figure as well. A requirement would be that the same radio and aerial setup be used for the whole campaign.

If you wish to participate, please contact ZL1GWE at MS@NZART.ORG.NZ and you will be supplied with a suitable spread sheet to complete.

You will be required to state whether you are using SSB or CW filters i.e. bandwidth for the measurements, and use the same aerial, and carry out the same measurements at the same time/day of the month to ensure consistency.

Or if you wish you can contact Gwyn Williams, G4FKH, OTHR, e-mail g4fkh@btinternet.com for further information directly.

Bob and I believe this is a worthwhile campaign, which could be also used to compare ITU-R figures background noise for New Zealand in reality. It will provide assistance to others with interference issues, which could be passed on to the EMC Officer to assist participants.

Reference: <http://www.giangrandi.ch/electronics/radio/smeter/smeter.html> - S-points for frequencies below 30 MHz.

S-meter and signal strength



The S-meter is an instrument present on the majority of radio receivers that measures the strength of the signal that is being received, and uses a special unit: the S-point. S-points are often used for RST reports.

S-points go from S1 to S9 and each S-point is defined as a 6 dB change in signal strength. This means that each time the voltage is halved (-6 dB) the signal strength decreases by one point. S9 is already a very strong signal, but to describe larger signals, steps of 10 dB are used instead of 6 dB, like "S9+20" meaning 20 dB above S9.

Today two references values exist: for frequencies **below 30 MHz**, S9 is defined as a voltage of **50 uV** over 50 Ohms at the receiver antenna connector; for frequencies **above 30 MHz**, S9 is defined as a voltage of **5 uV** over 50 Ohms at the receiver antenna connector. This refers to an unmodulated carrier signal (NON) that uses almost no bandwidth; in case of real signals using a given bandwidth, this definition may not be enough since a smaller receiver bandwidth allows a weaker minimum detectable signal, but S-points are still a good tool for comparing received signals.

S-points for frequencies below 30 MHz:

Signal strength	Relative intensity	Received voltage		Received power (Z _e = 50 Ohm)	
S1	-48 dB	0.20 uV	-14 dBuV	790 aW	-121 dBm
S2	-42 dB	0.40 uV	-8 dBuV	3.2 fW	-115 dBm
S3	-36 dB	0.79 uV	-2 dBuV	13 fW	-109 dBm
S4	-30 dB	1.6 uV	4 dBuV	50 fW	-103 dBm
S5	-24 dB	3.2 uV	10 dBuV	200 fW	-97 dBm
S6	-18 dB	6.3 uV	16 dBuV	790 fW	-91 dBm
S7	-12 dB	13 uV	22 dBuV	3.2 pW	-85 dBm
S8	-6 dB	25 uV	28 dBuV	13 pW	-79 dBm
S9	0 dB	50 uV	34 dBuV	50 pW	-73 dBm
S9+10	10 dB	160 uV	44 dBuV	500 pW	-63 dBm
S9+20	20 dB	500 uV	54 dBuV	5.0 nW	-53 dBm
S9+30	30 dB	1.6 mV	64 dBuV	50 nW	-43 dBm
S9+40	40 dB	5.0 mV	74 dBuV	500 nW	-33 dBm
S9+50	50 dB	16 mV	84 dBuV	5.0 uW	-23 dBm
S9+60	60 dB	50 mV	94 dBuV	50 uW	-13 dBm

Older receivers were calibrated using the old standard that defined S9 as a voltage of 100 uV instead of 50 uV over 50 Ohms at the receiver antenna connector.

Usually S-meters in amateur radio equipment are not calibrated and are not very precise. S-meter readings may also vary from one band to another and it's always interesting to check an S-meter with a precise generator and a step by step attenuator..

Auckland Branch 02, NZART (Inc)

Minutes of Committee Meeting

Date / Time / Place:

Tuesday 7th August 2012 / 1950 hours / Clubroom

Attendees:

George ZL1TUJ (presiding); Steve ZL1FS, Wallace ZL1WAL, Ray ZL1AJR.

Apologies:

Gwynne ZL1AAR, Japie ZL1JJN,

Sustained ZL1WAL / ZL1AJR

Visitor:

Brian ZL1UBX

Minutes of the previous Committee meeting on 3rd July 2012

Taken as read and approved ZL1WAL / ZL1TUJ

Correspondence In:

Newsletters: North Shore, Franklin, Hibiscus Coast
Break in

Correspondence out:

Letter of thanks to Chorus for hosting our visit to the St Heliers Telephone Exchange

. Received and approved ZL1WAL / ZL1AJR

Finance:

The Treasurer said that the accounts have been prepared but he could **not** present them because his printer failed. Worse, he discovered incompatibility between the .xls file on his memory stick and the Excel program on both computers at the clubroom. Nevertheless, Wallace reported that he had transferred \$500.00 from the Fast Saver account to the Cheque account to meet present bills, thus leaving \$166.00 in the Fast Saver account. He is anxious not to break the term deposit at Kiwi Bank which does not mature until February 2013.

Payments requiring approval:

Higgins – Lawns	\$36.80
NZART – Subscription	\$89.00 (includes discount of \$10.00 for early payment)
J Lowe – Use of Woosh	102.00
Telecom	\$52.24

Approved ZL1TUJ / ZL1AJR

Fund raising

Lotteries - George intends to apply through Ministry of Internal Affairs for \$2,000 per year.

Wallace will submit an application for a grant from the Lotteries Board.

George donated \$55.00 to meet this month's Telecom bill.

Sale of equipment – Steve has prepared a list of items within the clubroom that could be sold.

He intends to go to the Hamilton Branch equipment sale and take some items with him to sell.

They will be listed in the newsletter so that members are made aware that they will be auctioned.

General business:

Reports:

AREC: A regional meeting is to be held on 16th August at the VHF Group rooms at Hazel Street.

Membership:

New Member Robert Dean ZL1RED. He wishes to operate from the clubroom.

Resignations: Eric ZL1ERI and Ole ZL1OLE (who has returned to Germany)

Subscriptions – 40 have paid.

Membership drive; No action taken yet.

Batteries– One was checked last week. The other two will be tested next week.

The gel cell batteries in the 2m foxes need to be charged each month, irrespective of use.

Steve has offered to fix the NZART charger (that charges all 5 at once). Liaise with Vaughan.

Electricity: Auckland Council have resolved the threat of disconnection.

Beam Alignment – The mast was stepped after the visit to the Telephone Exchange. However the rotator has since been found to be faulty. It will be totally replaced with a new one. This means that the mast will have to be stepped again.

ISP: George will arrange Broadband with Orcon at a cost of \$75/ month which he will finance temporarily until a sponsor is found.

Maintenance:

Gate: The hinge post was knocked over by John Fillmore Construction while they parked their digger in the driveway. Steve has advised Auckland Council.

Sign: The sign was knocked down by vandals the previous week, but it is not damaged. Ross Scarborough has offered to erect it again in due course (after the gate is replaced).

Minutes (continued)

Reports

Equipment out on loan – A 2m rig is out on loan to Allan Hobbs ZL1AJH.

Nets: This is a good opportunity to check in with the Committee and discuss activity in the Branch.

LAN: To be set up after the Broadband is operational.

Phone line It is terminated behind the door. A Wifi modem will be mounted there also.

Program for General Meetings (on 3rd Saturday of each month):

Speakers

Projects

Aug 18th Bench demo of chokes on Coax by Paul ZL1AJ

Sept 15th TBA

Oct 20th JWFD Antenna tests

Nov 17th TBA

A visit to Motat was discussed, but to get a group discount, there need to be 20 people.

A visit to the Coastguard was also suggested

Fox hunting – An event is being planned near Musick Point and /or Churchill Park

Remotely operated station;

It is operational for listening. However Wallace reported that in his attempt to transmit, the K3 put out a carrier only – but no audio was heard.

Antenna 2 is always connected to the 40 dipole. Antenna 1 is sometimes connected to the beam.

HRD have put out a preliminary manual on their web site: [http://www.hrdsoftwarellc.com/](http://www.hrdsoftwarellc.com/HRD521preliminary-11may.pdf)

[HRD521preliminary-11may.pdf](http://www.hrdsoftwarellc.com/HRD521preliminary-11may.pdf)

George will print a copy of it (138 pages). This is recommended reading for users of the station.

No progress on antenna switching project – relays are wanted.

Projects

Keyers for two foxes for 80 m: Wallace has written to Rakon but no reply has been received

It was stated that crystals 3.51 and 3.55 mHz are not standard, so they will have to be made in Australia

Sniffers: No progress about procuring more kitsets.

Antennas:

Wallace circulated Google Earth views of the vacant section on which he had drawn some antennas for consideration; including:

160m,
Rhombic,
Beverage
Loop
V beam

Decisions:

The consensus of the Committee is to erect an 80 m loop. Square is better than irregular.

The feed point should be at the mid-point of one side.

Four 20 litre barrels will be partly filled with concrete into which bamboo poles may be subsequently inserted when they are needed. (The ground is unsuitable for securing guy wires).

A 100 m coil of multi-stranded antenna wire is required.

The meeting concluded at 2200 hours with supper provided by Ray ZL1AJR.

Short list of Equipment that will shortly be put on TradeMe for auction.



Atlas 210-X
and PSU



Atlas 350-XI
and PSA



Kenwood TS-430S
(no power supply)



ZL1 Mark II

. KW-107 Tuner supermatch



Heathkit HM-15

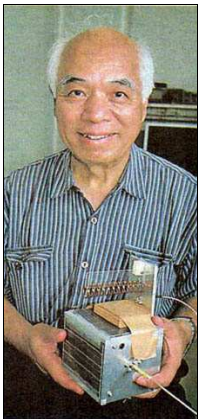
MFJ 941 Tuner

The complete list is posted on the notice board

Amateur Radio CubeSat FITSAT-1 (NIWAKA) [Edited]

Amateur radio CubeSat FITSAT-1 also known as NIWAKA was launched to the International Space Station (ISS) on July 21. FITSAT-1 has multiple downlinks, CW on 437.250 MHz, AX.25 on 437.445 MHz and a 4 watt high speed data transmitter on 5840 MHz capable of sending a 640 by 480 pixel VGA JPEG image in 6 seconds.

In addition it carries high power LEDs that will be driven with 100W pulses to produce extremely bright flashes. These, it is hoped, will be observable by the unaided eye or with small binoculars. Both the 5840 MHz and optical downlinks have a high power consumption so they may only be activated when in range of the ground station in Japan. It uses a neodymium magnet for attitude control.



The CubeSat will remain on the ISS until September when it will be deployed by Japanese astronaut and radio amateur **Akihiko Hoshide KE5DNI** using the ISS Kibo robot arm.

FITSAT-1 (NIWAKA) is mounted in a JEM-Small Satellite Orbital Deployer (J-SSOD) with the amateur radio TechEdSat and F-1 CubeSats. In a second deployment pod are WeWish and a scientific 2U CubeSat Raiko. The CubeSats will be deployed into a 400 km orbit and should have a lifetime of 3 or 4 months before re-entering the Earth's atmosphere and burning up.

FITSAT-1 information, pictures and deployment movie <http://www.fit.ac.jp/~tanaka/fitsat.shtml> Takushi Tanaka JA6AVG and students from the Fukuoka Institute of Technology (FIT) talk about the project.

The trajectory of the ISS is inclined 51.6 deg from the equator, so NIWAKA will travel between 51.6 degrees north latitude and 51.6 degrees south latitude..

NIWAKA will carry a mounted neodymium magnet to force it to always point to magnetic north like a compass. When NIWAKA rises above the horizon, it will be to the south of the Fukuoka ground station, and both the 5.8 GHz antenna and the LEDs will be aimed accurately enough by the magnet aligning itself and the satellite with the earth's magnetic field that the Fukuoka ground station will be within the main beams.

Both 5.8 GHz high-speed and optical communication experiments will be performed for about 3 minutes as the satellite travels along the orbit over Fukuoka City.

The name NIWAKA is from "Hakata Niwaka", which is traditional impromptu comical talking with this mask. Here, Hakata is old name of Fukuoka city.



AMSAT NEWS SERVICE

ANS-199

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

DISTANCE RECORD

A new distance record of 7843 km (4898 Miles) via AO-7 was established on July 15 between Luciano, PY5LF and Joe, K3SZH. The estimated maximum range of AO-7 is ~7,900 km. Pirajá, PS8RF noted that the log of QSO can be seen on the unofficial AO-7 web site:

<http://www.planetemily.com/ao7/ao7log.php>.

Auckland Branch, NZART (Inc.)

Minutes of General Club Meeting

On: Saturday, 21st July 2012 at 1300 hours
At: Clubrooms

Present: George ZL1TUJ (presiding), Steve ZL1FS, Wallace ZL1WAL, Ray ZL1AJR, Gwynne ZL1AAR;
James ZL1KNI, Martin ZL1ANJ

Visitors: Robert Dean ZL1RD (Western Branch), Jack Findlay (Chorus Limited)

Apologies: Bob ZL1AFU; Selwyn ZL1BRC, Japie ZL1JJN (who arrived later).

Sustained ZL1FS / ZL1AAR

Welcome: The Chairman welcomed the visitors, especially, Jack Findlay who is to host us at the Telephone Exchange after this meeting. His time is sponsored by Telecom Limited.

Minutes of the previous General Meeting on 16th June 2012 at Clubroom.

Having been circulated (in July newsletter), these were taken as read and approved:

ZL1AJR / ZL1TUJ

Reports:

Library: A loan book has been placed at the east end of the shelving.

Fund raising:

George said that he was applying for funds (\$2,000) from three donors in the hope of getting one of them to subsidise our expenses to operate our Remotely Controlled Station. This is a service to our Members in rest homes, etc, and it will facilitate emergency communications in the event of a disaster in Auckland.

Finance:

The Treasurer circulated the accounts as they had been presented to the Committee on 3rd July 2012.

Subscriptions have been received by 35 of 40 members (in 2011).

Payment of Insurance to State Insurance \$579.16 (being over \$300.00) was ratified.

Approved ZL1AAR / ZL1AJR

Final (third) instalment of payment for trenching to Scarbros \$343.19 was ratified.

Approved ZL1TUJ / ZL1KNI

Next General Meeting:

Next month Paul Barratt ZL1AJY will demonstrate the use of toroids on coax cables. He can also show a DVD of an early field day. We hope to have time to assess requirements for new antennas in the yard, so that the following month, a working bee can be called to erect it (them) while the section is still vacant.

t.

Antennas:

Alignment of the beam is possible only when Steve and Japie are available at the same time.

The Committee has yet to decide what antenna to erect (160m loop or V long wire or both?).

Leave of absence: Gwynne ZL1AAR will be away for the next six weeks.

Meeting closed at 1325 hours.

Visit to the Telephone Exchange:

After the meeting, Jack Findlay, an engineer from Chorus, walked us over to the building next to the right-of-way where we were given a conducted tour of the St Heliers Telephone Exchange. The security of the building and of the network is paramount. Time counters on internal doors are monitored by their Palmerston North Control Centre. Whereas the building was once occupied by racks of rotary switches, this has been replaced by just a few cabinets of electronic switches. The 50v DC battery bank was huge. So too were the backup diesel powered motors that can provide continuous telephone service for the next 100 hours.

At 1430 hours George gave a vote of thanks. Jack responded that it was good to get to know the neighbours.

Aligning the beam antenna.

Most Members stayed to step the main mast and align the beam antenna. Steve's truck provided the grunt and Japie's van provided the platform from which to work. Adjustment of the rotator has yet to be done. This task was finished by 1700 hours.



The fox hunting page

By Wallace ZL1WAL



As a result of interest having been shown by southern branches in our recent Inter-Branch Fox Hunting Competition in Auckland, I was asked by the Editor of the Call Book to provide an article on Amateur Radio Direction Finding (ARDF) as it applies to this sport. It is due out with the next Break In in October. Here is a sneak preview:

Amateur Radio Direction Finding (ARDF) Wallace^{by} Bottomley ZL1WAL-

What is ARDF?

Amateur Radio Direction Finding (ARDF), colloquially called "Fox Hunting", is a sport resembling Orienteering, but in addition to using compass and map reading skills, competitors need to use radio directional finding skills to find the transmitters.

An ARDF competition would normally be set in a park or rural area, preferably having sparsely tree-covered valleys. Within this area, five transmitters would have been placed and now have to be found by the competitors whom the starter issues with a topographical map and releases them individually at five minute intervals to avoid "following". A sixth transmitter is usually provided at the finish line to help competitors find their way home.

The rules used throughout the world, with minor variations, are maintained by the IARU ARDF Working Group. There may be several classes of competitor, based on age. Not all classes are required to find all the transmitters. Contestants are free to find the transmitters in any order they wish, thus taking advantage of any tracks that are shown on the map (figure 1).



A time limit is set by the organiser who takes into account the terrain and the length of the course. The rules recommend that it should be 60 - 90 minutes for a 4 km course.

Competitors who are late back would have points deducted, or who do not finish within two hours would be disqualified.

Separate events are held for the 80m and 2m bands. Each transmitter will be keying a unique identification Morse code, viz: MOE, MOI, MOS, MOH, and MO5. On VHF this will be MCW. The five transmitters operate on a common frequency, each taking a turn to operate for one minute and then be silent for four minutes, during which time the other four transmitters will operate in turn.

The transmitters are not really "hidden". Beside each is an orange and white prism shaped control flag (figure 2) on which is mounted a "unique pattern punch" that the competitor impresses on his time card to prove afterwards that he has visited it.



The winners of each class in the event are the competitors who find the most number of transmitters in the shortest elapsed time.

What is needed to participate?

It is possible to use a simple handheld rig. Any form of directional aerial can be used for ARDF. Additionally an attenuator and a method of accurately determining signal strength would be useful. As the level of competition becomes keener, your equipment needs to become more refined. For example, use Google to find construction details of circuits that use phased antenna arrays.

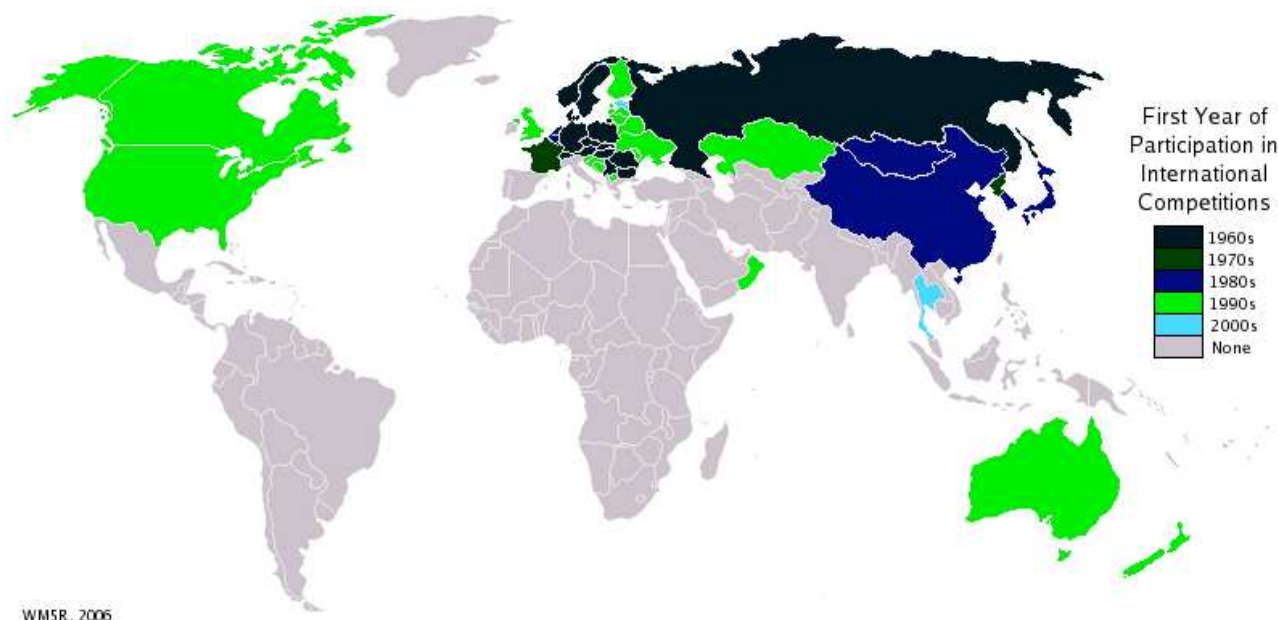
Auckland VHF Group¹ are custodians of five NZART owned transmitters using 144.700 MHz and some AM receivers mounted on a 2 element Yagi array. These are loaned to neighbouring Branches and to JOTA for their events.

Auckland Branch has programmed arduino keyers for homebuilt transmitters using 80m. Their transmitters differ from the foregoing description in that the five transmitters send their codes continuously on 3.51, 3.52, 3.53, 3.54, and 3.55 MHz respectively. Finding these transmitters is much easier because signals are not deflected as experienced at 2m. Their receivers were built from kitsets² that use a ferrite rod and have been reviewed as a low cost, excellent entry level receiver.

Brief history:

Post WWII, Amateur radio was widely promoted in the schools of Northern and Eastern Europe as a modern scientific and technical activity. ARDF as a sport originated in Northern Europe where the sport of orienteering was popular in its native Scandinavia. International championships were held in Europe in the 1960s and in the late 1970s until there was a need for more clearly defined and consistent rules for international competitions. This led to the formation of an ARDF working group by the International Amateur Radio Union (IARU).

The first ARDF event to use the new standardized rules was the 1980 World Championship held in Cetniewo, Poland, where competitors from eleven European and Asian countries participated. These rules have been revised and updated over the years, increasing the number of gender and age categories into which competitors are classified, as well as formalizing the start and finish line procedures. While some variations exist, these standardized rules have since been used worldwide for ARDF competitions, and the IARU has become the principal international organization promoting the sport. The IARU divides the world into three *regions* for administrative purposes (figure 3).



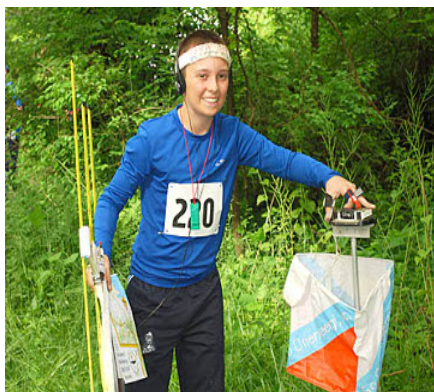
Last year Region III held its Championships near Melbourne, attended by 100 competitors. This year's 2012 World Championship is to be held in Serbia in September, where each country may send up to three competitors in each of eleven age categories, six for males and five for females, in accordance with the rules.

ARDF is a sport that now spans much of the globe. In UK one can attend an event every weekend within easy driving distance. In Melbourne an event is set every month.

Inter-Branch Competitions

Over these last two years, Auckland Branch has convened Inter-Branch Competitions. Other clubs have been heard to say that they are planning to take their turn. It is an opportunity to enjoy fellowship with like-minded Amateurs in this fun-filled sport. ARDF has a lot to offer - it is a challenging outdoor skill activity for everyone.

After participating there is much satisfaction to be had by sharing with others your experiences about how you found the transmitters, your route choices and your strategy. Making good decisions and always knowing where you are, and where you want to go, are important skills that ARDF teaches. It is addictive; just like after playing a round of golf, you say to yourself as you go home: "I shall do better next time."



Hunting for foxes in the forest is a great way to involve youth (figure 4) in a fun outdoor activity that involves the science and technology of Amateur Radio and an avenue for recruiting them into our hobby.

References

1. Auckland VHF Group, Box 10-138, Dominion Road, Auckland, 1030.
2. For a revue of this product visit <http://www.open-circuit.co.uk/pj80.php>
Order from Beijing Sinolyn Toyotechno Corporation ca_license@ybb.ne.jp



Coming Up

- Aug 16 AREC regional meeting at VHF Group, Hazel Street
- Aug 18 BBQ; General Meeting; Antennas; 2012L Amateur Station; Demonstration of torroids on coax;
- Aug 18/19 Scandinavian RTTY contest
- Aug 18/19 Radio classes at Branch 29, 400 East Coast Bays Road, North Shore
- Aug 25/26 International Lighthouse / Lightship Week end
- Aug 27 (Last Monday of the month) AREC message handling via home stations
- Sep 4 (First Tuesday of the month) Committee Meeting - Members welcome to attend
- Sep 10 Frequency Measuring contest.
- Sep 22 (3rd Saturday of the month) General Meeting at the Clubroom

Nets

- Aug 13 Mondays at 2000 hours — HF on 3.645 mHz
- Aug 14 Tuesdays at 1930 hours — Rusty CW on 3.525 mHz run by Branch 29
- Aug 16 Thursdays at 2000 hours — VHF on 145.775 mHz (Musick Point Repeater)

International Lighthouse/ Lightship Weekend

ILLW is a world-wide special event that has several thousand participants each year. In year 2000 there were over 400 stations in more than 40 countries operating from lighthouses, and many thousands more working them from their home QTH.

The event is held at the **end of August** each year.



HARAOA ZL9HR DXpedition

to Campbell Island (IOTA OC-037)

28th November to 9th December, 2012.

Things are moving quickly on preparations for the Hellenic Amateur Radio Association of Australia's ZL9HR DXpedition to Campbell Island (650 km or 400 miles south of New Zealand in the Southern Ocean).



Keen DX-ers who may be looking to get ZL9 on a particular band and mode to move towards a DXCC or other award, should go to the survey on the website at ZL9HR.com and vote for which bands and modes they would like to hear ZL9HR operating on!

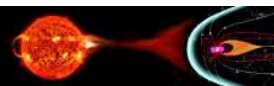
Please keep monitoring www.ZL9HR.com for all updates as the preparations keep progressing. The first of the sponsors are coming in but more of that in my next news update so

de Ed VK2ARE,

Australian Publicity Officer for ZL9HR and member of the Hellenic Amateur Radio Association of Australia



Radio and Space Weather Services



HAP Charts

Hourly Area Prediction (HAP) charts are designed for communications within a nominated area.

Each chart shows colours which represent the recommended HF frequencies for contacting the base or mobile within the area bounded by the chart for a particular day or hourly. Go to web page http://www.ips.gov.au/HF_Systems/1/1 then enter:

- The geographic zone, which is variable, is represented by a map showing latitude and longitude.
- Charts are in Universal Time (UT).
- Display

Daily HAP charts use the IPS world ionospheric (median) maps and can be for any place, time, or ionospheric support level. The daily HAP charts presented here are for the current UT day and were produced using the IPS daily forecast T index. You can produce your own HAP charts from our on line HF prediction tools.

Hourly HAP charts use the regional real time foF2 (vertical MUF) map and are restricted in area, and time to that of the real time map. The real time map should track ionospheric storms, this means that the real time maps may contain storm gradients (variations in vertical MUF with location) that are not present in the median ionospheric maps. The real time HAPs can be different to the daily HAPs for the same hour, as the underlying maps may be different, particularly when the ionosphere is disturbed.

Auckland
IPS Radio and Space Services (<http://www.ips.gov.au>)
Local Area Mobile Predictions (LAMP)
13 August, 2012

