

# 2KO TIMES

Next Meeting: Wednesday October 5, 7.30 PM

**Achung!** Pete ZL2AUB is showing the DVD 'Spies who lost the Battle of Britain'.

## From the laptop of the Secretary

Two visitors from the Quartz Hill Group, Wellington, (Bob ZL2AMI and Mike ZL1AGX) and one visitor from the Marton Branch attended our last committee meeting. The Quartz Hill Group were discussing moving their operation north out of Wellington. The Makara location they have occupied up until recently is now populated with Meridian wind turbines and now unusable as an HF station. To move and re-establish the station they need 'buy in' from other amateur clubs. Refer to Richie's article on page 5 in this newsletter.

### Table Sale

Enough tables have been sold so far, and cover the hall rental. Len and Janet are to run the kitchen this year, with help from Chester and Hugh. There will be a raffle at the Table Sale and tickets will be sold for \$2. Jaycar will turn up again this year and have donated some prizes.

### Change of Committee Meeting Night:

Richard ZL2KP proposed that we move our committee meeting night to the second Wednesday of the month so that any AREC members who wish to can attend various SAR training evenings, to learn a bit about what the other volunteers do, and get to know them. It is not mandatory to attend, but thought the 'intermingling' will benefit all volunteers. The change will take effect in October.

### Fox hunt equipment:

Stu ZL2SGA wants to get a set of transmitters/receivers going for the branch for VHF fox hunting. He needs a supply of receivers and transmitters. Max ZL2MAX has some FT206's which might be suitable.

Pete ZL2AUB will research and come up with some suggestions for building or buying some fox hunting gear, possibly based on kitsets, which could form a branch project.

### JOTA:

Richard ZL2KP has spoken to the regional commissioner and advised him that Feilding Branch will organize Jota this year, so don't call us, call them. Date is 15-16 October.

### Training:

Three more prospective members will attend the training sessions. Stu ZL2SGA will buy another four Woxun VHF/UHF HHs for the training project. The current students will sit the exam on 15 October.

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- President - Richie ZL2KP
- Secretary - Cheryl ZL2VCC
- AREC Section Leader - Len ZL2LI
- Editor - Hugh ZL2BFB

## Cont'd

Good luck to all. (Note: On P6 the exam date is given as 18th October. Please check the correct date if you are sitting—Ed.).

To provide cover when one of our existing examiners is away, John ZL2TG is to be nominated as an examiner.

## Activity Contest:

We usually run this in August/Sept. It was decided that we will run it during November for one week from 13–19<sup>th</sup> Len will organise this as he was the winner of last years contest. :-)

## Editorial

Hello All,

Over the past few days we heard on the news that Einstein possibly got it wrong when he calculated the speed of light to be  $300 \times 10^6$  m/s. This was considered to be the greatest theoretical speed that could be attained by rays, waves or particles. Well, we were told that physicists have recently fired neutrinos (small sub-atomic particles) 730 km through solid rock between Switzerland and Italy, and have calculated that the particles travelled faster than the speed of light, by shaving sixty nanoseconds off the time the journey should have taken over the measured distance of  $454 \pm 0.00013$  miles (730 km). These results are to be rechecked, but was Einstein wrong in his calculations? Well, it's too early to say yet, but probably Einstein didn't so much get it wrong but he may have omitted a few details.

When I studied physics 48 years ago we were told that light is comprised of both electromagnetic waves, and particles (photons). I expect that's why light won't pass through opaque matter such as a sheet of three ply, whereas radio waves will. Although I found the concept of electromagnetic waves such as radio waves reasonably easy to understand, the dual nature of light was a bit of a puzzle. Maybe Einstein thought the same and oversimplified things a bit. He apparently didn't know a lot about the sub-atomic particles that physicists have been discovering since he did his original work early last century such as neutrinos, but his work would have told him that these other phenomenon existed.

So what's all this got to do with ham radio? Well we know that when we wish to calculate the length of a resonant half-wave dipole we use the formula  $L$  (feet) =  $468/F$  (MHz) and it certainly works OK, possibly with a bit of trimming of the ends. This 'aerial length' formula is derived from the equation  $C = F \text{ Lambda}$  where  $C$  represents the speed of light ( $300 \times 10^6$  m/s),  $F$  the frequency in megahertz, and  $\text{lambda}$  the wavelength. (This expression is a variant of the speed = distance/time equation that the ancient Greeks and the pyramid builders would have known about and Heinrich Hertz would have adapted during the late 19th century). So continuing, the length of a half wave dipole in free space (in metres) is therefore  $L$  (metres) =  $150/F$  (MHz). Converting to feet:  $L$  (feet) =  $492/F$  (MHz). This is similar to the aforementioned  $L = 468/F$  formula, the difference (about 5%) being the so-called 'end effect' which arises from the slower speed an electromagnetic wave travels in an aerial wire compared with free space. This formula actually works when calculating resonant antenna length, so Einstein cannot have been too far wrong with his calculations. In the latest experiment, 60 nanoseconds was shaved off the predicted time it should have taken the neutrinos to travel the 730 mm using Einstein's value of  $C$ . I did the calculation last weekend during a lull in the rugby and found that the 60 nanosecond time difference over 730 km amounted to only 0.0025% faster than Einstein's value of  $C$ . Applying this 'correction' to a 130 ft length of a half-wave dipole cut for 3600 kHz would have increased the aerial length by less than 1 mm which is less than the reading error in the tape measure.

So I'm going to stay with Einstein's calculation of the speed of radio waves in free space being  $300 \times 10^6$  m/s.

Want to know more about these experiments? Have a look at "Websites of Interest" on P. 5 of this issue.

73, Hugh ZL2BFB

## President's Column - - From Richie ZL2KP



### Branch Activities

- Committee night has moved from the 3rd Wednesday of the month to the 2nd Wednesday. Since the local Search and Rescue group have their meeting on the 3rd Wednesday of the month this will allow committee members and others to attend. Contact Len our AREC section leader for details.
- Annual Table sale is upon us - see you there
- JOTA is this month on the 15 and 16 October 2011. The primary location for JOTA this year will be at the Grassmere Scout Camp which is at Menzies Ford on the Oroua River along the Feilding to Colyton Road. The Feilding team will be operating an overnight camp on HF and VHF so please come out and see the station and get on air and look for ZL2AMR.
- Branch Meeting details are elsewhere in this newsletter
- VHF Field Day is on the 3rd and 4th of December

The Beano this year is at the Awapuni Hotel on Friday the 9th of December.

### Outstanding Projects

- Rob ZL2RNN has an antenna he wants bought down, Pete has spied (scoped) out the task and requires a few able-bodied people to assist - it will not take long - 30 - 45 minutes maybe.

Barry discovered on a recent inspection of the club rooms that the antenna rotator for the beam does not turn.

This can be a Saturday or Sunday morning project in two parts, so let's arrange a morning to arrive at Rob's and drop his structure, then move on down to the club rooms and investigate the rotator. Dates: I am unavailable on the 8-9th - (leaving early Saturday for an overnight in Hawkes Bay), JOTA is the following Saturday and Sunday. However I am sure a work detail can be arranged without me. Pete suggests Sunday 9<sup>th</sup> October. Please contact Pete if you can help.

Also, if you have a project which is a little too big for you, please let club members know so that a detail (bunch of people) can be detached PDQ (Pretty Darn Quick).

As you can see, as a club there is much we get up to. However many of you are regularly conspicuous by your absence from club activities. For some the meeting is missed because the date slipped, or you live too far away, or the meetings are boring, or you have no transport etc, etc. As President I would love to know why we do not see some of you a little more often. What suggestions have you that could make a difference to your coming along to activities your club organises? Drop me a line, give me a ring, or let me know over the air.

Cheers for this month. See you at the table sale.

Richie ZL2KP / VK2IAX

**Richard Prior**

**President - Manawatu Amateur Radio Society**

## Last branch meeting

Last meeting was our talk from Brian Purdie, National AREC Training Officer. Brian gave an interesting talk about AREC and where it fits within the Emergency Services. He also described his role within AREC as a SAR volunteer of long-standing. Local branch members were encouraged to become more involved in AREC activities.

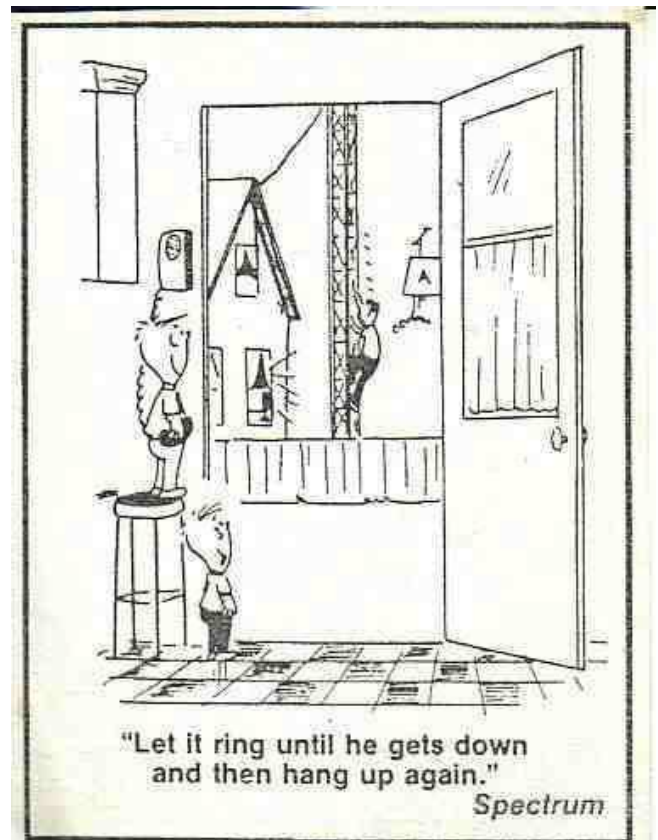
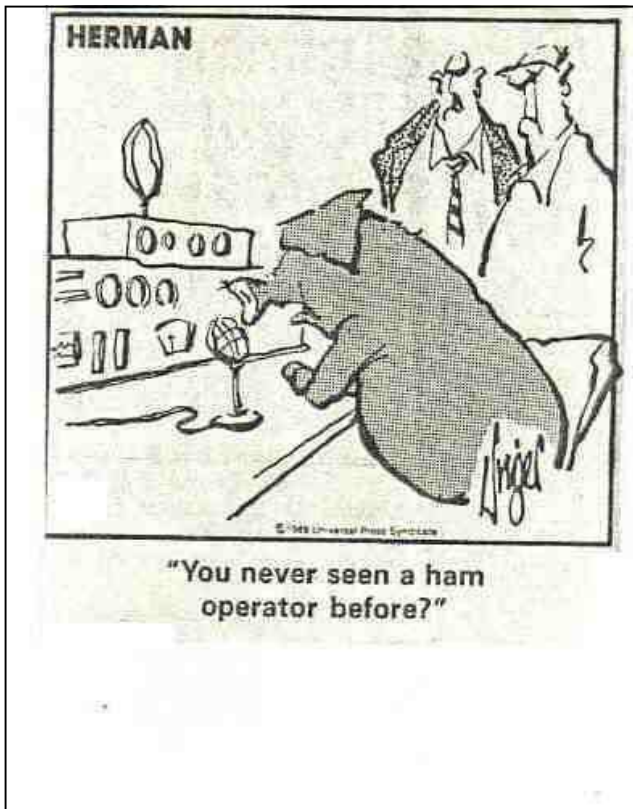
## Don't forget

### Kiwi Digital Modes Net Thursday Nights at 8:30 pm - 9:15 pm

This event is held each week.

**Location:** 3.635.00 LSB +/- QRM

This net is for the purpose of helping those who want to experiment and get in to using digital modes. The net is run on SSB phone and switches over to various digital modes as required by those who check in.



## Websites of interest

This month's websites of interest expand on the Editorial. To get more clued-up on modern physics, copy and paste these web addresses into your web browser and have a read.

[http://en.wikipedia.org/wiki/Albert\\_Einstein](http://en.wikipedia.org/wiki/Albert_Einstein)

[http://seattletimes.nwsourc.com/html/nationworld/2016302343\\_speedfolo24.html](http://seattletimes.nwsourc.com/html/nationworld/2016302343_speedfolo24.html)

<http://www.ps.uci.edu/~superk/neutrino.html>

[http://www.msnbc.msn.com/id/44629271/ns/technology\\_and\\_science-science/#.Tn2UJ9Tqo7o](http://www.msnbc.msn.com/id/44629271/ns/technology_and_science-science/#.Tn2UJ9Tqo7o)

## More from last Committee Meeting

### **Report on the Quartz Hill Users Group Presentation**

A presentation from the Quartz hill Users Group (QHUG) at the Manawatu Amateur Radio Society's committee meeting on Wednesday the 21st of September 2011 addressed representatives from the Marton and Feilding clubs. Presenting on behalf of QHUG were Bob ZL2AMI and Mike ZL1AXG.

QHUG is a group of hams who are interested in DX and contest operating using a high performance station equipped with excellent HF antenna systems at a location with a low ambient noise level. The group occupied the vacated Makara radio station for about nine years before the Meridian Energy wind farm was built at the site. They have retained much of their equipment and infrastructure.

QHUG is currently searching for a suitable location to re-establish the station on. The criteria is:

- Horizon very low - less than 5 degrees
- Low ambient electrical noise level on HF bands - most likely farm land
- Land area approx 1.3kms by 600m to allow for multiple V beams
- Located within two hours drive from Wellington
- A landlord sympathetic to the cause and willing to lease:
  - o sufficient ground space for poles and towers,
  - o space for a building (possibly an existing building) for housing and operating the equipment, and for living space for weekends or longer periods.
- Local hams who are interested in establishing a local DX station.

QHUG have approached the three clubs in the general area where there are possibilities for a desirable location. The plan is to establish a new DX group in the Manawatu–Rangitikei area that existing QHUG members would become part of. QHUG would then wind up once the station was established.

Because a desirable location is key to establishing a DX station QHUG have asked the three clubs in the area to identify possible locations.

There is much interest already in seeking out a location. If you know of somewhere suitable please let me know.

Richie.

### Exam notice

Hi all. We have four people sitting the Amateur Exam on the 18th October. If you have anyone ready to sit the exam they are very welcome to sit on 18<sup>th</sup> October. Please e-mail the examiners at [examiners@zl2ko.org.nz](mailto:examiners@zl2ko.org.nz) if you wish to come to participate because there are papers to print in advance. Next year there will be another class, so if you know of anyone interested please tell us.

-Training crew

Website :

If you have an article you want put on the website please e-mail me at [webmaster@zl2ko.org.nz](mailto:webmaster@zl2ko.org.nz) I am always looking for website content. Also, if you have feedback regarding the website please send it to me.

-cheers Stuart

Mark this coming event in your diary:

## Christmas Function

**When:** Friday 9 December

**Where:** House Bar, Awapuni Motor Inn, Pioneer Highway. Ample parking is available in front of the liquor next door on the town side.

**Time:** Doors open at 6 PM. Drinks at 6.30 PM, dinner at 7 PM.

**Cost (not including drinks):** \$35.00 per head for the two-course meal.

**Next afternoon meeting: Wednesday October 26 at 2 PM**  
Doors open 1.30 PM

Bryan, ZL2AFT, as you know was recently inducted into the NZ DX Hall of Fame. This afternoon he will talk about DXing and his ARRL award for Worked All Countries (WAC). He will also show a DVD about DXpedioning., and if time permits, a DVD about a Finnish amateur.

## ZL2KO Roster

OCT	2	ZL2BPX	OCT	9	ZL2LI
OCT	16	ZL2AUB	OCT	23	ZL2ADN
OCT	30	ZL2FE	NOV	5	TBA

de Pete ZL2AUB

## M.A.R.S

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## Upcoming Meetings

5th October 2011 - General Meeting  
12th October 2011 - Committee Meeting  
26th October 2011 - Afternoon Meeting

Sunday morning net is at 9am on 3.570 kHz LSB

### Netmasters

October 9<sup>th</sup>: Len ZL2LI. See page 6 of this issue for the latest roster.

## Branch 20 Contact Information

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