February 2015
Volume 69, Issue 2

The Cat's Whisker!

The Wanganui Amateur Radio Society Inc., Branch 48 NZART

www.zl2ja.org.nz

Club Officials 2014-2015

Position	Name	Callsign
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Secretary:	John Love	ZL2JEL
Treasurer:	Jeff Howe	ZL2THO
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	Ivan Horn	ZL2ATU
	Mike Newman	ZL1BNB
	Colin Wilson	ZL2WM
Contact Person	**Jason Wallace**	**ZL2FT**
Checker:	Leo Boyle	ZL2BGE
Newsletter Editor:	Colin Wilson	ZL2WM
Awards Custodian:	Ivan Horn	ZL2ATU
Webmaster:	Colin Wilson	ZL2WM

The Next General Monthly Meeting will be held:

Monday 2nd March, 2015

at the Hunters and Stalkers Hall, Peat St.

At 7:30pm

Business: General.

At the Conclusion of the meeting there will be a 15 minute video from Chris, ZL2LO

All Very Welcome!

Don't Forget to Bring Along Your Outgoing QSL Cards to the Meeting!

"Just the Cat's Whiskers"

This Month, Raspberry Pie,... er, 3.14159, Pi... Whatever!

Sauce: Raspberry Jam, http://commons.wikimedia.org/wiki/File:Raspberry_pie.jpg

From the Newsletter Editor

Hello and Welcome to my second Newsletter.

Now that I've got the format and layout style sorted, the main issue now is content. Thanks to those that have supplied stuff and/or pointers. Etc.

So once again, please, pretty please, with a cherry on top, articles for the Newsletter!

Don't forget that the **Jock White Memorial Field Day Contest** is being held over the weekend of 28th February and 1st March (Just before our Monday meeeting night on the 2nd)

The **Manawatu Amateur Radio Society is** having a "What's Happening in Digital Radio in the Lower North Island?" night, Richard Harkett, ZL2FY, will give a talk on D-Star, Digital Voice and anything else going on with Digital Radio.

That's 7pm on Wednesday 4th March 2015 at the M.A.R.S Clubrooms, Totara Rd, Palmerston North.

You will note the item on the Wanganui Award has been expanded some what from what had appeared in Break-In, following on from discussions at the February Meeting.

Ivan asks that ***"All Club members who use the National System and VHF repeaters are requested to announce themselves and give out points for the Wanganui Award."***

Some Award trivia for you, the first Wanganui award issued to Ivan Horn, ZL2ATU and that was dated 5th July 1982.

Ivan also applied for the award again 80 Metres CW, this one was dated 16th July 1984.
History can be quite interesting eh !!!!

Colin ZL2WM

There is Pi on Your Windows *by Bruce Simpson*

A surprising percentage of the people I know have a Raspberry Pi.

These delightful little single-board computers have been in the market for several years now and, when they were released, represented a pretty impressive leap forward in the "bang per buck" performance of such SBCs (single board computers).

Before the RP, it was probably the Arduino that held the crown of most affordable, most widely supported SBC but the RP sure was a game-changer that put far more power into the hands of the great unwashed.

Since it's release, the RP has been put to all sorts of uses ranging from just a thing to tinker around with, through a great starting point for building small customised systems, through novelties such as mini arcade games to full-blown home media centres.

Well now the RP fans have something to celebrate -- they've made the Pi even bigger and faster, even though it's still the same size.

http://commons.wikimedia.org/wiki/File:Raspberry_Pi_B%2B_top.jpg

RAM is up to a whole gigabyte and the old single-core processor has been replaced with a quad core one that is clocked at 900MHz instead of the more leisurely 700MHz of its predecessor.

The multi-core processor should make many of the more interactive applications far more responsive which is a good thing because, as anyone who's tried it already knows, running GUI-based software on the Pi can be a bit trying at times.

Microsoft have announced that there'll be a version of Windows 10 available for the new RP and there are already RP2 ports of linux available for use.

The coolest thing about the new Raspberry Pi 2 is the price. It's exactly the same as the earlier version... just US$35.

Of course this will probably be a bitter blow for those who have recently forked out cash for the B+ model of the RP because if they'd only waited a few short months, they'd have gotten a whole lot more bang for their buck. But hey, at just $35, why not just buy a RP2 as well?

I shall be ordering one of these and hoping that the writers of Kodi will be releasing a version designed to take full advantage of the extra power and memory now on tap.

Chances are that we'll also see a whole lot of new applications for the RP2 coming out of the woodwork over coming months as developers suddenly find a new enthusiasm for this device, now that they're not battling the limitations of the original versions.

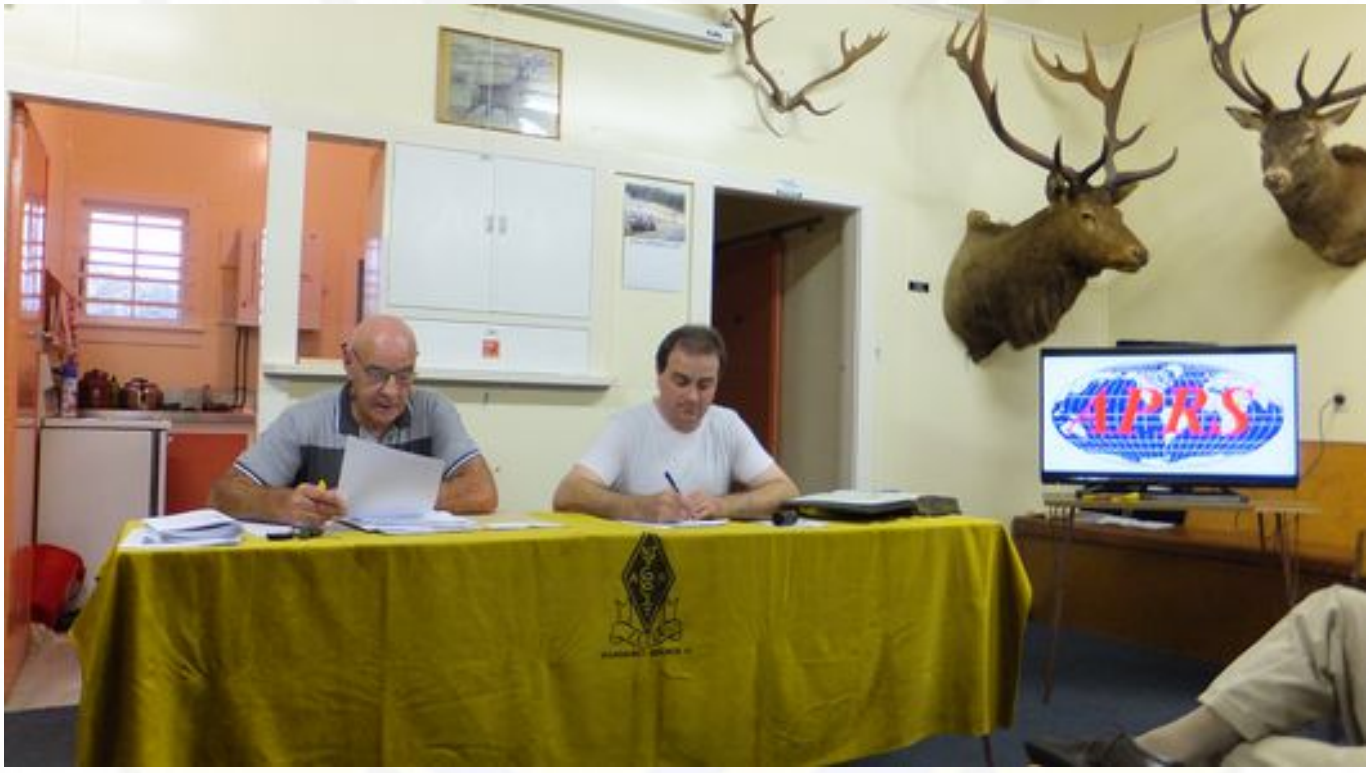
Will Windows 10 be a big-thing for the RP2?

Right now I don't think so but, if the new 3D technology that MS is pushing with Win10 takes off then I could see quite a bit of development taking place based on the RP2 platform -- with a view to creating small, portable solutions based on this pairing.

How many readers will be buying an RP2 and what will you be using it for if you do?

Source: http://aardvark.co.nz/daily/2015/0203.shtml

Welcome to our most recent new member Paul Greenwood ZL2GRE with Jason ZL2FT President.
Picture Credit: Rusty ZL2AXN [DSCF4476c]



February Branch meeting showing off it's posh new flat screen for the first time. (A worthy display attribute for branch meetings; for all digital modes etc) *Picture Credit: Rusty ZL2AXN [DSCF4473]*

(Right) Graham's (ZL2AHR) "Mother of all portable pole base mounts" for fieldays; our centre antenna pole isn't going anywhere! hi!

Picture Credit: Rusty ZL2AXN [DSCF4474]

Fill'er up Mike [ZL2WM 2014_DSCF1699]

SK Barry Stewart ZL2RR, (Left) multi office holder, Branch 48 Wanganui, taken 3 March 2014

Picture Credit: Rusty ZL2AXN [DSCF9016]

Buy Sale Swap

For Sale;
A folded dipole for 2 metres, / 70cm.

Includes coaxial balun, and 0.5 metre mounting pole with U clamp.
The 70cm dipole is sleeve coupled to the folded dipole.

Commercially made by RF Industries, NZ.
In new condition. $25.
ZL2AN ph 06 844 0109

Wanted;
I'm looking for a handheld scanner or a desk top scanner and antenna VHF/UHF
It can't be too tall as I need to mount to my car.

Uniden Preferred
Jason Priston.
jasonpriston@icloud.com
02 25825 321 or 06 561 400

Wanted;
1. Drake Tuner MN7.
2. Drake microphone Model 7077.
Bob ZL2AAQ
Tel. 06 345 9033.

Field Day 2014 Panoramra [Credit Colin ZL2WM 2014_DSCF1724-DSCF1730]

FCC 'Paperless' Amateur Radio License Policy Now in Effect (Southgate News)

Starting February 17, the FCC no longer routinely issues paper license documents to Amateur Radio applicants and licensees.

The Commission maintains that the official Amateur Radio license authorization is the electronic record that exists in its Universal Licensing System (ULS), although the FCC had routinely continued to print and mail hard copy licenses until this week.

In mid-December, the FCC adopted final procedures to provide access to official electronic authorizations, as it had proposed in WT Docket 14-161 as part of its "process reform" initiatives. Under the new procedures, licensees will access their current official authorization ("Active" status only) via the ULS License Manager.

The FCC will continue to provide paper license documents to all licensees who notify the Commission that they prefer to receive one.

Licensees will also be able to print out an official authorization - as well as an unofficial "reference copy" - from the ULS License Manager.

"We find this electronic process will improve efficiency by simplifying access to official authorizations in ULS, shortening the time period between grant of an application and access to the official authorization, and reducing regulatory costs," the FCC Wireless Telecommunications Bureau (WTB) said.

According to the WTB, the new procedures will save at least $304,000 a year, including staff expenses.

ARRL

Source: http://www.southgatearc.org/news/2015/february/fcc_paperless_amateur_radio_license_policy_now_in_effect.htm

Amateur Radio Payloads Share Ride Into Space with Soil Moisture Monitoring Satellite

Four NASA Educational Launch of Nanosatellites (ELaNA-X) CubeSats carrying Amateur Radio payloads launched successfully January 31 from California's Vandenberg Air Force Base.

The primary payload for the Delta II launcher was the Soil Moisture Active Passive (SMAP) satellite. SMAP's onboard radar will share Amateur Radio spectrum at 1.26 GHz. Amateur Radio is secondary on the 23 centimeter band, which covers 1240 to 1300 MHz.

"This is a good example of a compatible sharing partner," ARRL CEO David Sumner, K1ZZ, observed. "Any interference to amateur communication in the band will be brief as the satellite passes overhead."

SMAP and the four CubeSats all deployed successfully. The research CubeSats, launched on behalf of universities, will downlink their telemetry on the 70 centimeter band. The CubeSats and their downlink frequencies (modes) are:

Firebird II FU3 437.405 MHz (19k2 FSK)

Firebird I FU4 437.230 MHz (19k2 FSK)

GRIFEX 437.485 MHz (9k6 FSK)

ExoCube (CP-10) 437.270 MHz (9k6 FSK)

The GRIFEX satellite is a University of Michigan project, in cooperation with JPL, while ExoCube (CP-10) is a space weather satellite developed by the California Polytechnic State University-San Luis Obispo and the University of Wisconsin in partnership with NASA, and sponsored by the National Science Foundation.

The FIREBIRD program is a collaborative CubeSat space weather mission of two CubeSats designed and developed by Montana State University, the University of New Hampshire, The Aerospace Corporation, and Los Alamos National Laboratories - the FIREBIRD consortium. The FIREBIRD mission also is funded by the NSF.

SMAP carries a "synthetic aperture radar." The L band (1.26 GHz) radar is designed to measure backscatter off the Earth's surface.

The amount of backscatter returned to the radar changes with the amount of moisture in the soil. RF pulses at this frequency are less affected by weather or by a moderate vegetation cover.

The satellite is at approximately 425 miles up in a near-polar, sun-synchronous orbit. SMAP also includes a radiometer operating at

1.41 GHz to measure naturally occurring RF energy given off by Earth's surface.

Source: http://www.southgatearc.org/news/2015/february/amateur_radio_payloads_share_ride_into_space.htm

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LightSail-1 Launch Announced (Southgate News)

The first of The Planetary Society's two LightSail spacecraft will ride to space aboard an Atlas V rocket in May 2015

The mission is a shakedown cruise designed to test out the CubeSat's critical systems. The LightSail-1 entry on the IARU Satellite Frequency Coordination Panel status page lists a 9k6 GMSK AX25 amateur radio payload on 437.325 MHz.

In 2016, the second LightSail spacecraft will piggyback into orbit aboard the first operational flight of SpaceX's new Falcon Heavy rocket for a full-fledged solar sailing demonstration.

This video about the project features Bill Nye as well as Justin Foley KI6EPH and Alex Diaz KJ6KSF.

Source: http://www.southgatearc.org/news/2015/january/lightsail_1_launch_announced.htm

5-Year-Old Passes Ham Radio Exam (Southgate News)

9 News TV reports on Colton Ragdale KE0CRD who passed the amateur radio exam at the age of 5
Colton got 93% of the questions in the Technician exam correct, an impressive score. The USA Technician exam is broadly equivalent to the UK Foundation although it doesn't have any practical assessments. A Tech licence permits the holder to run 200 watts output on four HF bands and 1,500 watts on the VHF, UHF and Microwave bands. Techs can operate Maritime Mobile, build their own equipment and run repeaters.

Colton's parents Debra K0KAI and Zeke K0XK are both radio hams and it was seeing his parents using radios and talking to one another that made him want to become involved. So he took the FCC test and passed.

Source: http://southgatearc.org/news/2015/january/5_year_old_passes_ham_radio_exam.htm

Source: http://www.daweeklycomic.com/

Frequency Guidelines for Remotely Piloted Aircraft Systems/Drones

The Radio Spectrum Management (RSM) has published guidelines on frequencies that may be used for drones

Remotely piloted aircraft systems (RPAS) must use the right radio frequencies, so they don't cause harmful interference to vital radio systems such as air traffic control, cellular phones, or emergency services.

People who use the wrong frequencies for their RPAS can be prosecuted under the Radiocommunications Act 1989 and the Radiocommunications Regulations 2001.

The most commonly used frequencies that are legal for RPAS in New Zealand are 433 MHz or 2.4 GHz for remote control, along with 5.8 GHz for video and audio links. RPAS can use any of the frequencies in the General User Radio Licence for Short Range Devices and the General User Radio Licence for Aeronautical Control.

These are the only frequencies that RPAS are permitted to use in New Zealand.

RPAS must also comply with the licence conditions set out in the General User Licences and the Radiocommuncations (Radio Standards) Notice 2010.

Because most RPAS equipment is developed offshore, it often exceeds the frequency and power limits required in New Zealand, and so it is illegal to possess or use here.

If you intend to buy an RPAS, ask the supplier for evidence of compliance with New Zealand requirements. This will be shown on the product by a supplier code number (SCN) or R-NZ label.

Source: http://www.rsm.govt.nz/consumers/remotely-piloted-aircraft-systems-drones

Raspberry Pi 2 is 'Camera Shy'

The latest version of Raspberry Pi's credit-card-sized budget computer was found to be vulnerable to flashes of light, particularly the light from xenon camera flashes and green and red laser pointers.

The symptom was the Raspberry Pi 2 spontaneously rebooting or turning off when these lights were flashed at the chip.

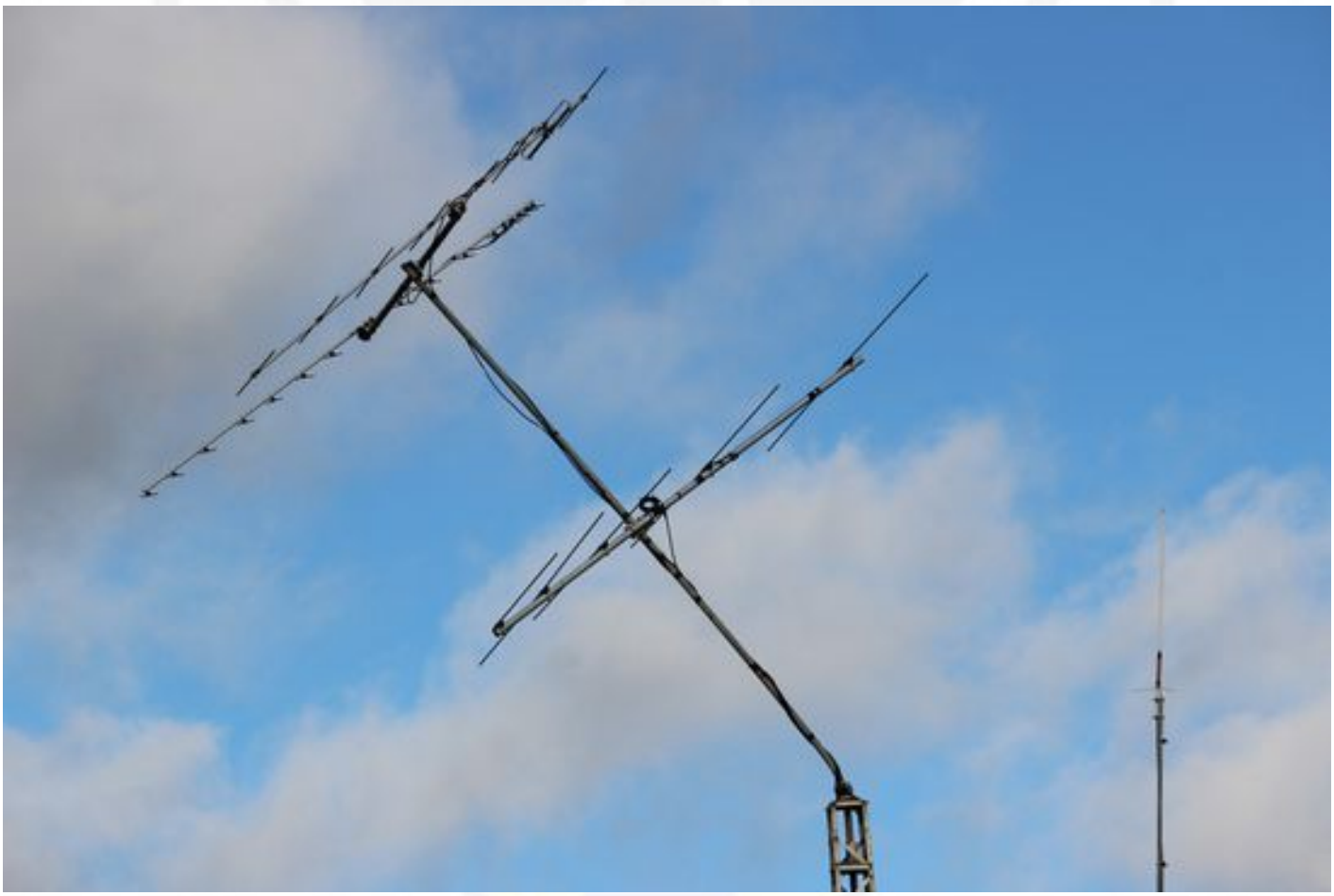
Initially, some users and commenters suspected that the electromagnetic pulse from the xenon flash tube was causing the problem by interfering with the computer's digital circuitry, but this was ruled out by tests where the light was either blocked by a card or aimed at the other side of the Raspberry Pi 2, both of which did not cause a problem.

Light being the sole culprit, instead of EMP, was further confirmed by the laser pointer tests, where it was also found that less opaque covering was needed to shield against the laser pointers than to shield against the xenon flashes.

Unofficial workarounds include covering U16 with opaque material (such as electrical tape lacquer, poster mounting compound, or even balled-up bread), putting the Raspberry Pi 2 in a case, and avoiding taking photos of the top side of the board with a xenon flash.

This issue was not caught before the release of the Raspberry Pi 2 because while commercial electronic devices are routinely subjected to tests of susceptibility to radio interference, it is not standard or common practice to test their susceptibility to optical interference.

Source; http://en.wikipedia.org/wiki/Raspberry_Pi



Taken while "out and about" [Colin ZL2WM 2015_IMG_3645]

Enforced by Radar (What-if xkcd.com)

I've occasionally seen "radar enforced" on speed limit signs, and I can't help but ask: How intense would radio waves have to be to stop a car from going over the speed limit, and what would happen if this were attempted?
—joausc

Radio waves exert force on things.

Not a lot of force. The average cell phone transmitter exerts about a billionth of a newton of pressure on its surroundings. That means that it would take several trillion cell phones to collectively levitate a snowflake; the pressure from one phone wouldn't even measurably slow it down.

If the phone did put out enough energy to levitate a snowflake by radiation pressure, the power flowing through the snowflake (a few kilowatts) would quickly cause the snowflake to become a raindrop, which would quickly become water vapor, which would quickly become the least of your problems.

The fate of the snowflake hints at what kinds of problems our car will encounter.

If you want to slow down a one-ton car by radiation pressure, your radar gun would need to deliver about two trillion joules worth of radiation—the energy of a small nuclear weapon. The radar gun would need to emit even more energy than that, since not all of the radiation will be absorbed (or reflected) by the car.

Your radar gun would also vaporize the car. This is a problem, in one sense, but it's also a solution. Even if most of the energy is reflected, the portion that was absorbed would convert the materials in the car into gas or plasma. The expanding cloud would exert a lot more pressure on the car than the radiation itself. This is convenient—it means that we wouldn't need nearly as much energy to stop the car as we would using radiation pressure alone.

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There are even simpler ways to slow down a car with radiation. For example, you could aim a radiation beam at the tires and melt them, or use the electromagnetic radiation to knock out the car's electrical systems. Or just use a laser pointer to blind the driver and hope they reflexively slow down. Of course, you don't need any of those things. If your goal is to slow down the car—rather than to catch speeders—your radar gun doesn't need any power. You can just stand by the side of the road next to a police car holding a fake radar gun.

In the end, a radar gun capable of slowing cars through radiation pressure would be roughly equivalent to a nuclear weapon, and using nuclear strikes in response to traffic violations is probably overkill. It would work, in the literal sense, but it would also destroy the offender, car, police officer, road, and all other traffic for miles around.

Of course, maybe using the apocalyptic radar gun wouldn't be necessary; just the threat of a nuclear strike against drivers would probably deter speeding.

Come to think of it, maybe that's what those other signs you sometimes see are hinting at.

Source: http://what-if.xkcd.com/87/

Nelson Man Fined for Illegal Radio Dog Tracking Devices

28/1/2015

A Nelson man has been fined $2,250 for using illegal dog tracking equipment, court costs and 70 hours community work for illegal hunting.

Dean Burke had pleaded guilty in the Nelson District Court of using unlicensed radiocommunications equipment and hunting unlawfully, after being found hunting in Pearse Valley, south of Motueka, on August 5 2014.

Compliance Manager for MBIE's Radio Spectrum Management group, said dog-tracking equipment from the United States often used the 151-154 MHz range, which is the wrong radio frequency for New Zealand.

The illegal equipment was can interfere with other licensed services, Brennan said.

"Radiotelephone services are used by people travelling and working in rural areas, for operational and safety communications, so any interference is a significant safety risk," he said.

"MBIE actively pursues offenders and can prosecute people under the Radiocommunications Act 1989 and the Radiocommunications Regulations 2001 for supplying or using illegal equipment."

Don't Forget: Field Day this Weekend, February 29th – March 1st !

Cee-Que, Cee-Que, Zulu Lima Two Juliet Alpha, Cee-Que Contest, Cee-Que Contest... *[ZL2AXN DSC00376r]*

2014 Field Day, ZL2AXN, ZL2ATU, ZL2AHR, ZL2JEL ZL2FO, ZL2LO, & ZL2FT *[Zl2AXN DSCF8980_srt]*

Have a Laugh, Although You May Have Seen Some Before. (Thanks Ivan ZL2ATU)

Sign over a Gynecologist's Office:
"Dr. Jones, at your cervix."

In a Podiatrist's office:
"Time wounds all heels."

On a Septic Tank Truck:
Yesterday's Meals on Wheels

At an Optometrist's Office:
"If you don't see what you're looking for, you've come to the right place."

On a Plumber's truck:
"We repair what your husband fixed."

On another Plumber's truck:
"Don't sleep with a drip. Call your plumber."

At a Tire Shop in Milwaukee :
"Invite us to your next blowout."

On an Electrician's truck:
"Let us remove your shorts."

In a Non-smoking Area:
"If we see smoke, we will assume you are on fire and take appropriate action."

On a Maternity Room door:
"Push. Push. Push."

At a Car Dealership:
"The best way to get back on your feet -miss a car payment."

Outside a Muffler Shop:
"No appointment necessary. We hear you coming."

In a Veterinarian's waiting room:
"Be back in 5 minutes. Sit! Stay!"

At the Electric Company
"We would be delighted if you send in your payment.
However, if you don't, you will be."

In a Restaurant window:
"Don't stand there and be hungry;
come on in and get fed up."

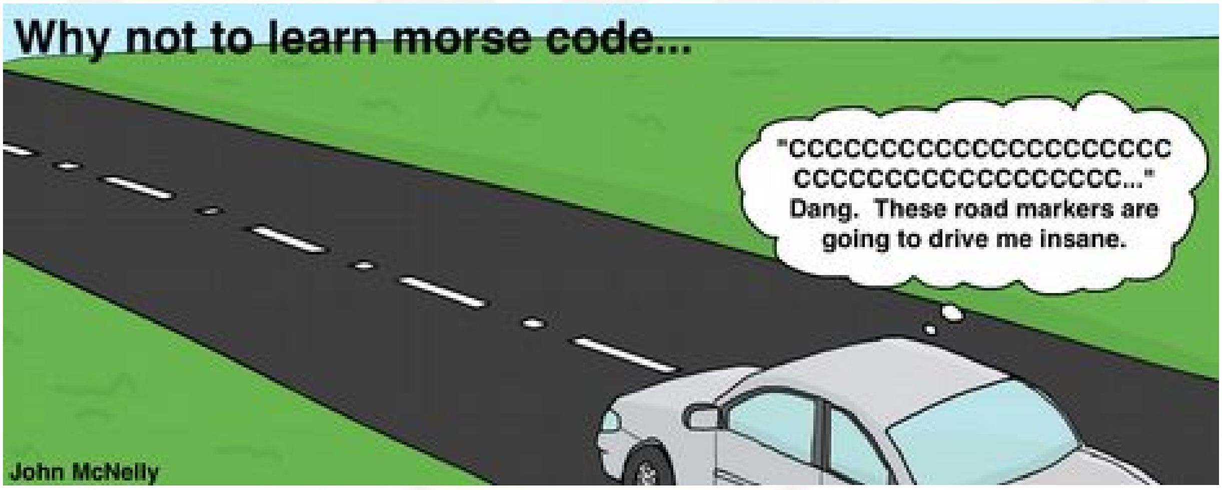
In the front yard of a Funeral Home:
"Drive carefully. We'll wait."

At a Propane Filling Station:
"Thank heaven for little grills."

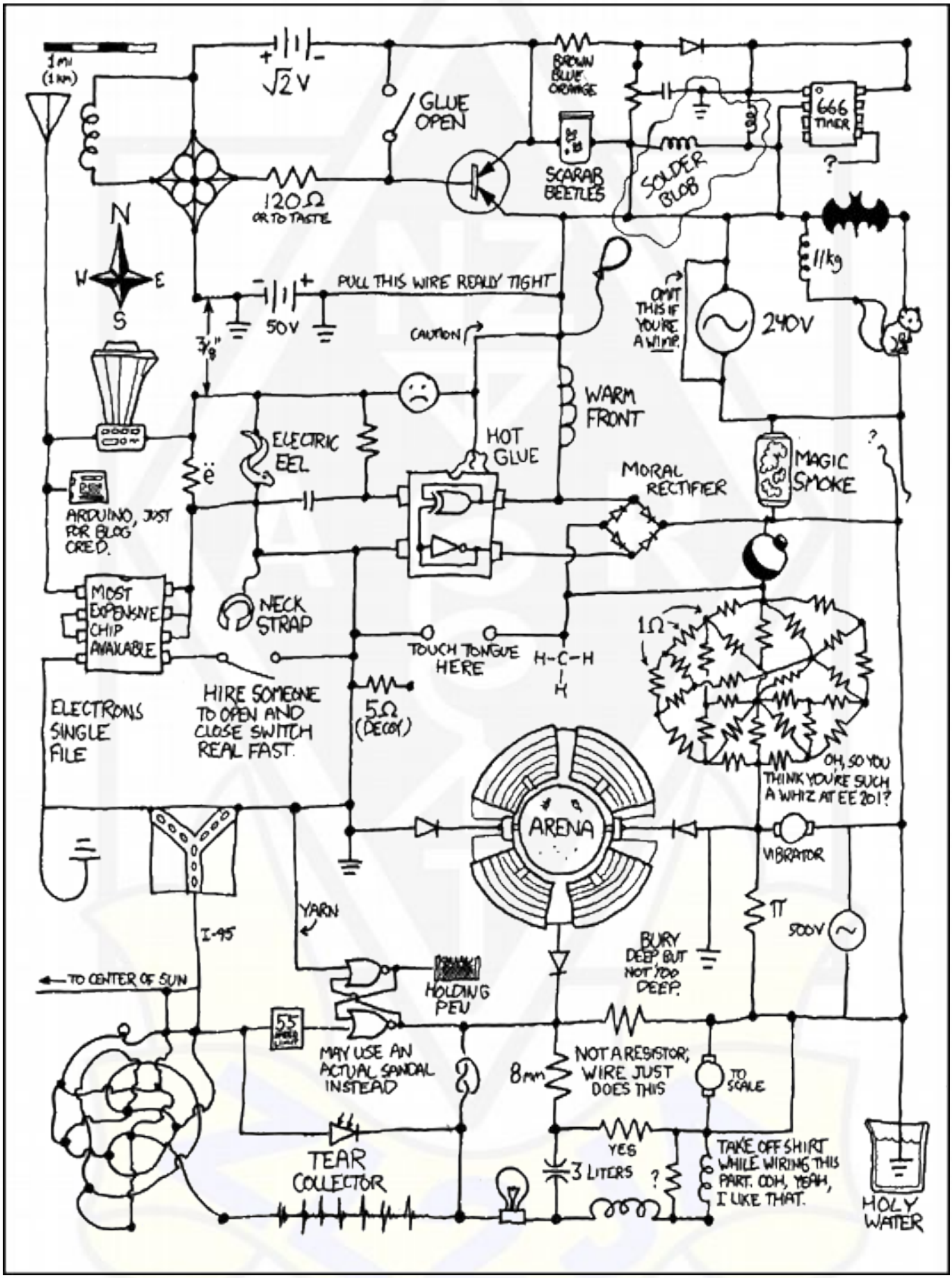
And don't forget the sign at a
CHICAGO RADIATOR SHOP:
"Best place in town to take a leak."

And the best one for last............
Sign on the back of another Septic Tank Truck:
"Caution - This Truck is full of Political Promises"

"Do not regret growing older.
It is a privilege denied to many."



Source: http://www.daweeklycomic.com/



Source: http://xkcd.com/730/

The Branch 48 Wanganui Award

Wanganui has just celebrated the 100th birthday of the Dublin Street Bridge so, it seems fitting to have a promotion of the Wanganui Award which depicts the Old Town Bridge which was replaced in 1970 and is situated only a few kilometres downstream from the Dublin Street Bridge.

The sketch on the Award is by the late Gerald Weeks, a well admired artist and sculptor from Wanganui.

The award measures 220mm x 190mm and is printed in full gloss.

Qualification is very easy, only 8 points required and the Club Call Sign of ZL2JA counts as two points, as does contact with any Wanganui YL. Contact with ZL2JA is not compulsory. Any mode or any band including repeaters and the National System, with contacts dating from 1st January 1982 from permanent residents of Wanganui. (May be portable)

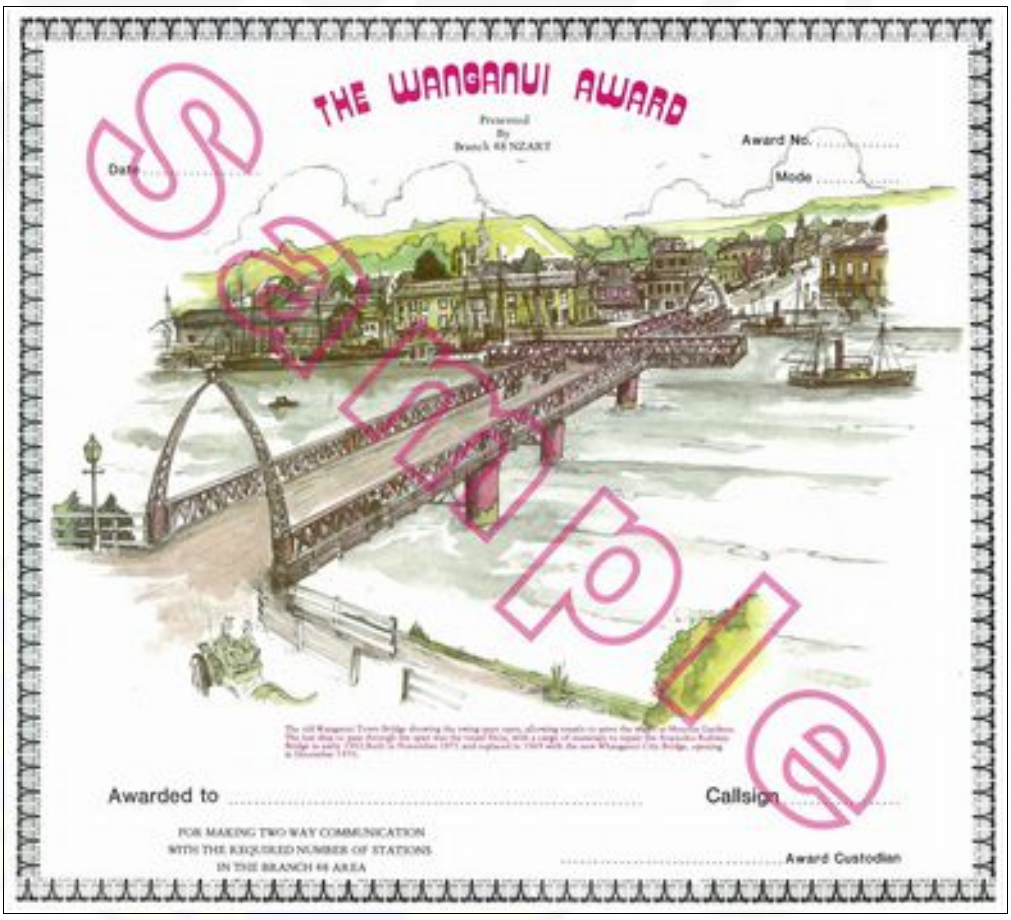
Branch 48 will be monitoring the Awards net on 3.677MHz for two weeks commencing Tuesday 3rd March 2015.

Several Wanganui stations are active on the Old Timers Club net on 3.870MHz on Monday evenings at 8.30pm.

Anyone is welcome to announce themselves and join in and make contacts with Wanganui stations after the net.

Applications for the Wanganui Award can be made by submitting Log evidence to Ivan Horn. Award Custodian, P.O.Box 7250, Wanganui. A fee of $5.00 is applicable.

Ivan Horn
Award Custodian



"The old Wanganui Town Bridge showing the swing span open, allowing vessels to serve the wharf at Moutoa Gardens. The last ship to pass through the span was the vessel Huia, with a cargo of material to repair the Aramoho Railway Bridge in early 1902. Built in November 1871 and replaced in 1969 with the new Wanganui City Bridge, opening in December 1970."

The Back Info Page

(Links are "clickable" in the PDF version)

The Internet:

The ZL2JA Webpage:
http://zl2ja.org.nz/

The ZL2JA Photo Gallery:
http://zl2ja.org.nz/photos/

Listen to the New Zealand National System (Live-ish):
http://zl2ja.org.nz/listen/

The Wanganui Award:
http://zl2ja.org.nz/award/

ZL2JA on Youtube:
http://www.youtube.com/user/ZL2JA

NZART (NZ's National AR Organising Body):
http://nzart.org.nz

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"Wanganui 690"
Output 146.900MHz, In -600kHz

"Wanganui National System 9875"
Output 439.875MHz, In -5Mhz

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Theory:
TBA

Morse:

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30 Nikau Street
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