October 2015
Volume 69, Issue 7

The Cat's Whisker!

The Wanganui Amateur Radio Society Inc., Branch 48 NZART

www.zl2ja.org.nz

Club Officials 2015-2016

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Vice President:	Jeff Howe	ZL2THO
Secretary/Treasurer:	John Love	ZL2JEL
AREC:	Paul Greenwood	ZL2GRE
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	Ivan Horn	ZL2ATU
	John Love	ZL2JEL
	Paul Greenwood	ZL2GRE
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Net Controller, 690:	Ivan Horn	ZL2ATU
Financial Checker:	Leo Boyle	ZL2BGE
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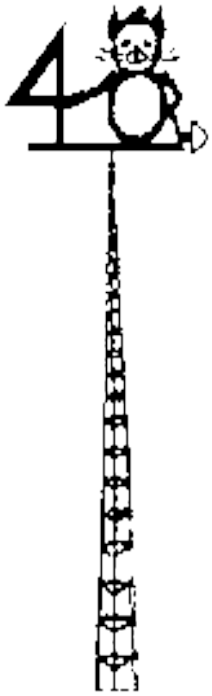
Webpage/Newsletter Editor:	Colin Wilson	ZL2WM
Branch e-Mail Address	branch48@zl2ja.org.nz	



The Next General Monthly Meeting will be held:

Monday 2nd November, 2015

at the Hunters and Stalkers Hall, Peat St.

At 7:30pm

Business: General.

All Very Welcome!

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

"Just the Cat's Whiskers"

President's Ramble October 2015

Well another month has flown by, and dare I say it by Christmas is just around the corner.

Maybe its time to put in a request to the fat man in the red suit for something new for the shack, of course only if you've been good.

I see that Icom is releasing a new Radio the IC7300 with direct sampling for the spectrum display, and it's has similar technology to the new SDR radios that are coming out.

Will have to keep an eye on this new radio, looks feature packed, do a search on Youtube for videos on this neat radio.

Icom is taking pre-orders for them as they have not yet been released, will be interesting to see some reviews down the track from new owners.

The HF bands are improving as we head into summer with 20 metres being open most evenings somewhere, 10 metres should hopefully soon be open most days to the USA or Australia and Europe at night.

I also see that a few weeks back there was a huge band opening on VHF and UHF between New Zealand and Australia, lasted 2 or 3 days, great to see some early Tropo on those bands and will be interesting to see how 6 metres will behave this summer.

So I encourage you all to have a go at HF Dx'ing this summer, maybe try QRP or the new Digi-modes for something new and an extra challenge.

I myself have put up a new 40 metre dipole only up 6 metres above ground and have found it to be working great, was working many stations around the world on the 19th of October on 40 metres JT65 on 7.076 MHz (USB) with only 1 watt output power, again it was amazing on how far my signal went on that band in the early evening/dusk time on this amazing mode.

On another note I would like to congratulate all members in the club who have been elected to an appointment of office, and we hope that 2016 will be a good year for us all.

I look forward to seeing you all at the next meeting in November.

73 from

Jason

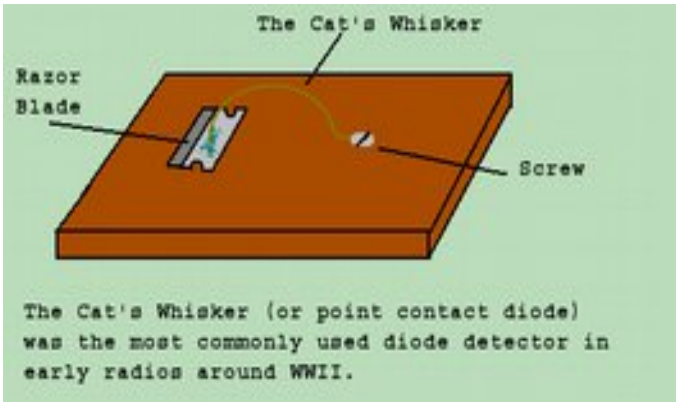
ZL2FT.

From the Editor

Hello Everyone,

I'd like to thank Stu Turner, WØSTU of *HamRadioSchool.com* for the use of their material in our newsletter. So much to choose from, can be hard to pick something! Hi.

On a sad note, condolences to Mike ZL2BNB on the passing of his sister.



The Cat's Whisker (or point contact diode) was the most commonly used diode detector in early radios around WWII.

Random Stuff

The Wellington VHF Group are assisting with sorting and cataloguing ZL2AMJs collection of amateur radio magazines.

Amateur Radio (WIA)

Ham Radio

Radio Communications and RSGB Bulletin (RSGB)

QEX and QST (ARRL)

73 Magazine

Please contact Doug ZL2TAR, if you are interested in any of these magazines from single issues to complete sets.

Email: doug.ingham@orcon.net.nz

A reminder to all members that Car Club require 3 operators each day of 21st/22nd November.

Also just another reminder that subs are now due for the 2015/16 year, I have received a good number from our AGM meeting and some from others that have paid via Internet Banking to our Westpac Account No 03 0791 0553620 00.

Please give your name and callsign as reference.

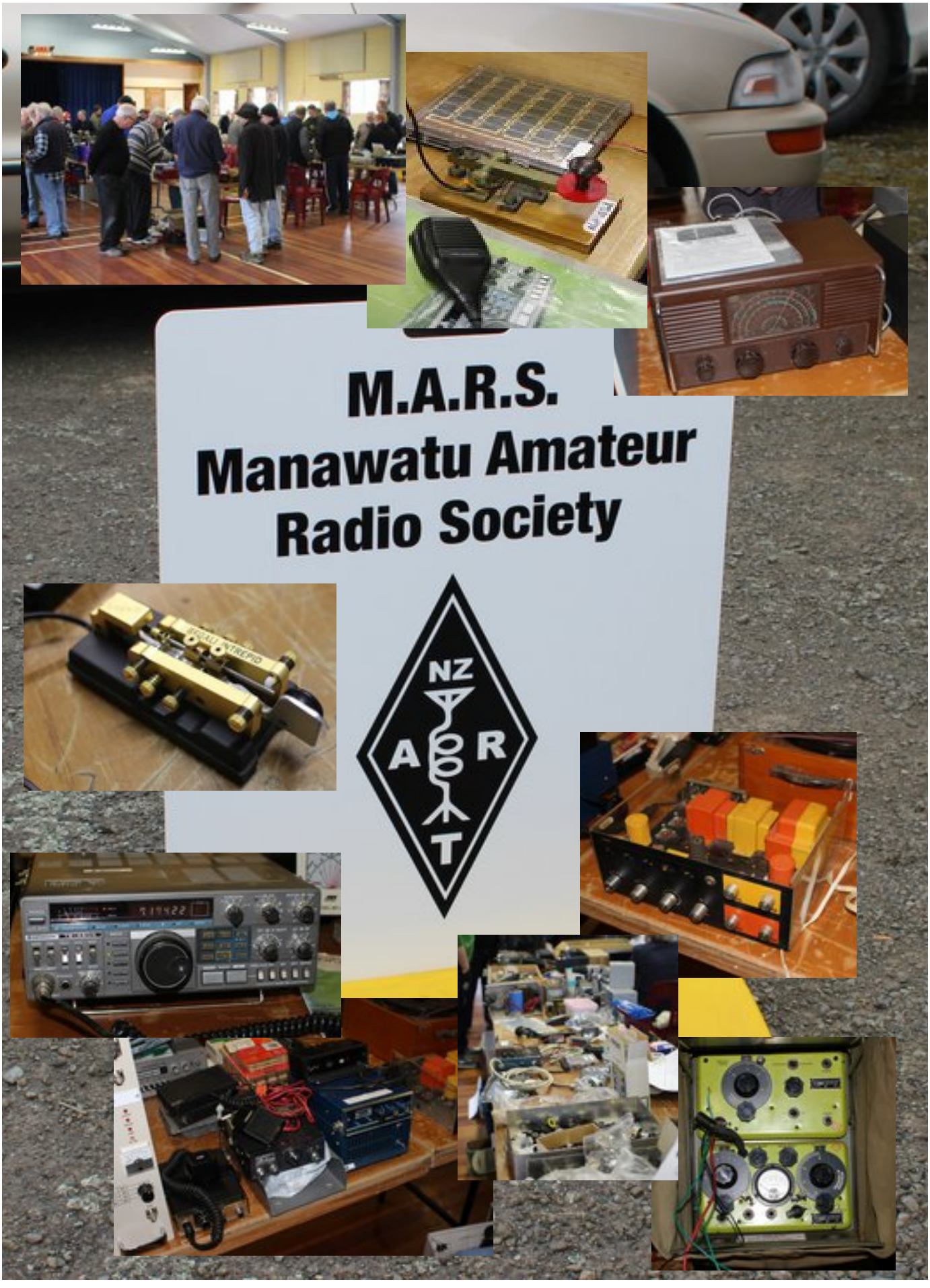
Subs are $15.00 reduced to $10.00 if paid by 31 December 2015.

Regards John ZL2JEL

From the rumour mill (thanks Ivan!)

- The bargain of the year has been witnessed by Graham ZL2AHR.
  A Kenwood microphone from Trade Me for $1.50
- Graham is calling for donations to assist with this expenditure.
- Rumour has it that Ivan ZL2ATU received DXCC for 150 Countries recently.
- Jeff ZL2THO has given up cutting lawns... he has QSY'd to a place with concrete Grass!
- Record for 690 net Checkins... apparently 12 stations were heard...whow.
- Paul Greenwood ZL2GRE received approval from XYL for an 80 metre antennae erection
  (who's the BOSS ??)

ZL2AHR seems happy with his purchase at the Manawatu Amatuer Radio Soc. table sale...


M.A.R.S.
Manawatu Amateur
Radio Society
NZ
A R
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Get Out of Mowing the Lawn (Gizmag)

Want an excuse to get out of mowing the lawns? Well if you do, put Saturday the 28th and Sunday the 29th November 2015 in your diary.

On that weekend, a special Activation event is going to be held for the World Wide Flora and Fauna program.

What is World Wide Flora and Fauna?

The program, abbreviated as WWFF (and known as VKFF in Australia) is an international amateur radio program, the purpose of which is to draw attention to the importance of protecting nature, flora and fauna, and to encourage the development of radio skills, especially in portable operations.

Quite simply, amateurs operate portable from designated parks and other amateurs make contact with these activators.

WWFF is a great way to escape the ever increasing noise floor at home, see the countryside, enjoy the great outdoors, and play radio.

If wallpaper is your thing, then a large variety of award certificates are on offer within the WWFF program.

So, remember, the special VKFF activation weekend will be held on Saturday the 28th and Sunday the 29th November, 2015.

Please note. If you do intend to activate a park on that weekend, please send an email to Paul VK5PAS vk5pas<at>wia.org.au

A spreadsheet is being maintained of all activations, which will assist in preventing double-up activations, and act as a reference point for activators and hunters.

More information on the World Wide Flora Fauna program can be located at www.wwffaustralia.com

Look forward to receiving an email from you.

Paul VK5PAS

the Australian co-ordinator for the World Wide Flora Fauna program.

Source;
http://www.southgatearc.org/news/2015/october/get_out_of_mowing_the_lawn.htm

Original Apple 1 Computer up for Grabs at Auction [gizmag.com]

Nick Lavars October 21, 2015

One of only 50 or so Apple I computers still in existence is up for grabs at an auction running over the next eight days. Online auctioneer Christie's has started the bidding at £240,000 (US$370,000) for the Apple 1 personal computer, which even comes accompanied by a original manual.

These early computers were sold without cases, power supplies, keyboards or monitors but the motherboards were ... Steve Wozniak and Steve Jobs began work on their Apple 1 computers in 1976 and would ... The model on offer comes with a rare first manual, as issued by Apple, which is ... The model on offer comes with a rare first manual, as issued by Apple, which is ...

Steve Wozniak and Steve Jobs began work on their Apple 1 computers in 1976 and would go on to build around 200 of the machines, which became the first personal computers to make it to market. These early computers were sold without cases, power supplies, keyboards or monitors but the motherboards were pre-assembled, which set them apart from the competition at the time.

The model on offer comes with a rare first manual, as issued by Apple, which is said to be in very good condition. The board has been mounted in a painted fibreglass case with keyboard and has been fitted with an original Apple cassette interface.

According to the condition report, the electronics have not been tested, but it claims that the machine could be brought up to working order again with the help of a certified engineer. It was last turned on in 2005. Seven Centuries of Science is expecting a winning bid of anywhere between £300,000 and £500,000 (US$463,000 and $770,000) for the computer.

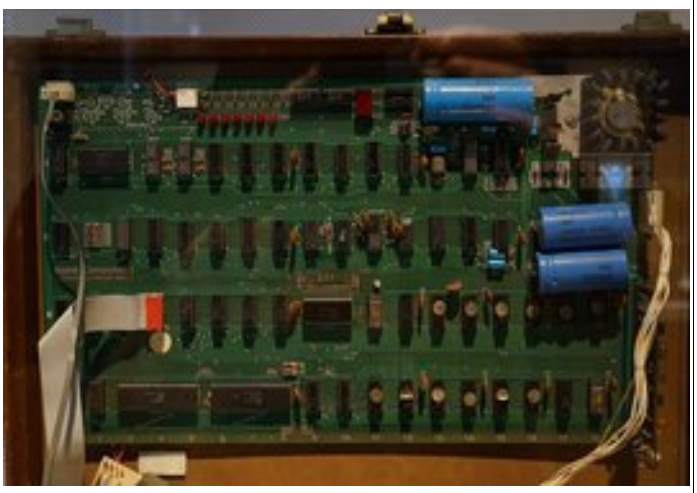
This is a lot of money by anyone's measure, but it won't be enough to make this relic the most expensive Apple computer ever sold. A 1976 Apple 1 motherboard that changed hands at Bonhams' History of Science auction last year holds that title, following a mammoth bid of US$905,000.

If you're an Apple devotee that happens to have some spare change lying around, you can try your luck via the source link below.

https://onlineonly.christies.com/s/seven-centuries-of-science/an-apple-1-personal-computer-apple-inc-18/20976

From Gizmag.

http://www.gizmag.com/apple-1-auction/39964/



Original 1976 Apple 1 Computer PCB From the Sydney Powerhouse Museum collection. ***Source***

Good SWR and Antenna Resonance by Bob Witte, KONR

Standing Wave Ratio (SWR) is an important concept that describes how good of a match exists between a transceiver and antenna system. Recall that a perfect match corresponds to an SWR of 1.0, with higher values indicating some degree of mismatch. (See this Question of the Week for more info on SWR.)

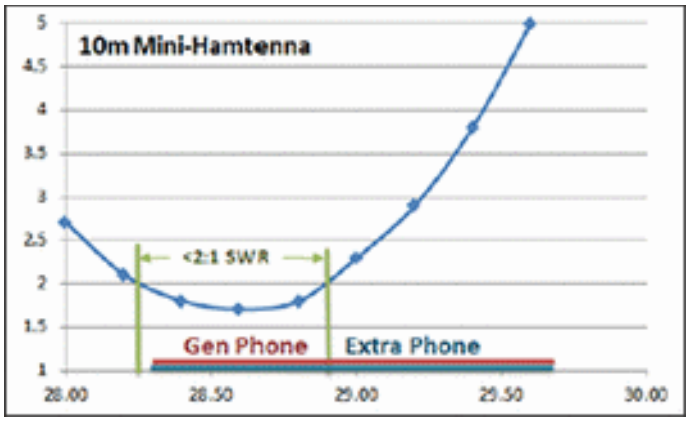
We often use the presence of low SWR as an indication that an antenna is tuned properly and that it is operating well. Sometimes you'll hear radio hams say something like "I know my antenna is resonant because the SWR is close to 1." Or they might say "a resonant antenna always has an SWR of 1" or "My antenna is radiating well because it has an SWR of 1." All of these statements are all a bit misleading, so let's take a look.

SWR is all about impedance match, telling us how well the antenna or antenna system is matched to the transmitter. Our ham radio transmitters generally have a 50 Ω output impedance so a 50 Ω antenna provides a good match and an SWR of 1. We also normally use 50 Ω transmission lines to maintain a constant impedance throughout the system. SWR does not tell us (directly) how well the antenna is working, it only indicates the impedance of the antenna.

Terminology

There are many definitions of resonance, depending on the particular application area. From a physics point of view, a good analogy is the swing as described **here**. The behaviour described is that a system may exhibit a very strong response when stimulated at or near a particular frequency, known as the resonant frequency. We often see this behaviour in antenna systems, when they produce a strong output at a particular frequency.

When an antenna is at resonance, its impedance is purely resistive. This means that the voltage and current are in phase at the antenna feed-point. See this **radio-electronics.com** article for more information.



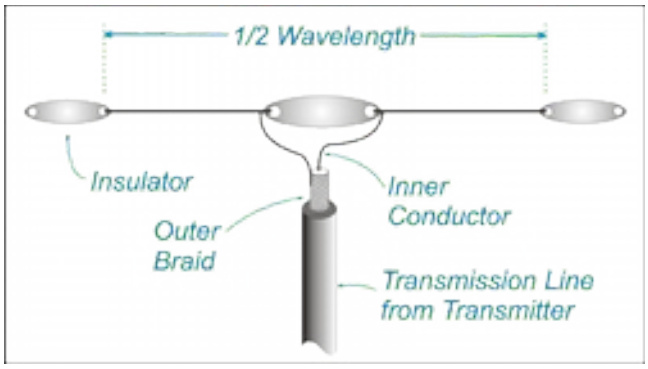
Most antennas exhibit a low SWR over a narrow range of frequencies.

Antenna efficiency is defined as the ratio of power actually radiated (in all directions) to the power absorbed by the antenna terminals. In other words, efficiency is how much of the power delivered to the antenna actually gets radiated, which is the purpose of an antenna. Some antennas are better than others for getting the RF energy radiated.

Dummy loads are used to test transmitters without radiating a signal.

Some Examples

Let's start with a simple example: a dummy load. A dummy load is basically a resistor that replaces the antenna so we can test transmitters without actually radiating a signal. For ham radio use, a dummy load will be a 50 Ω resistor, consistent with the fact that most ham radio systems operate in 50 ohms. A good dummy load provide excellent impedance match at all frequencies of interest and it is not resonant. I say its not resonant because the load looks like 50 Ω for all frequencies (within a specified range). Its antenna efficiency is zero, because it does not radiate any of the power. So here we have a great example of a low SWR but no resonance and no radiated power.



The half-wave dipole is a common ham radio HF antenna

Now let's look at the classic centre-fed half-wave dipole in free space. At the resonant frequency, the antenna has an impedance of 73 Ω, purely resistive. The SWR can be calculated by taking the ratio of the impedance to 50 ohms, giving SWR = 73/50 = 1.5. (By the way, for impedances less than 50 ohms, the SWR is calculated using SWR = 50/R.) Dipole antennas generally work well, so the antenna efficiency will be high and depends on the actual construction of the antenna. Note that the SWR is not equal to 1 at resonance, it is a bit higher. However, an SWR of 1.5 does represent a good match and is normally considered just fine.

Now let's take a look at an antenna that is no where near 50 Ω at resonance, the *half-wave folded dipole antenna*, described in this **article**. This antenna has an impedance of about 280 Ω at the resonant frequency. If we connect this antenna to a 50 Ω transmitter, the SWR is 280/50 = 5.6. So here is an example of a resonant antenna that has a high SWR. At the resonant frequency, this antenna will radiate efficiently but will present a difficult impedance to a 50 Ω transmitter. The impedance match is poor and we will struggle to deliver power from the transmitter into the antenna. While we might choose to accept this high SWR, a more practical approach is to add a matching network to produce a 50 Ω impedance.

Many of the antennas we use are designed to be close to 50 ohm (SWR = 1) when they are resonant. For this case, the SWR is a good indicator that the antenna is resonant, which is why most hams associate low SWR with resonance. Low SWR does not tell us anything about how well the antenna is working (antenna efficiency). A dummy load has excellent SWR but fails to radiate. Some antennas are like that, too.

73, Bob K0NR

Source; http://wp.me/p4wdj1-22S

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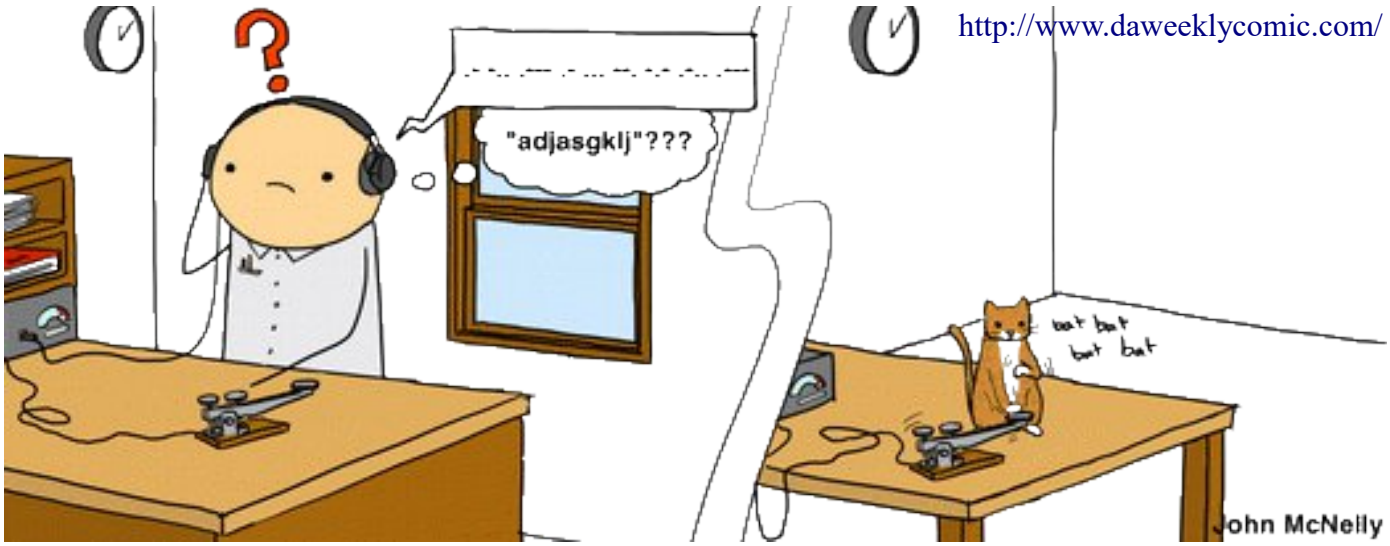

http://www.daweeklycomic.com/

The Back Info Page

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

Branch Address:

Branch 48 NZART
PO Box 7250
Wanganui 4541

Secretary:

John Love, ZL2JEL,
zl2jel@xtra.co.nz

Phone +64 6343-6769

Newsletter Editor Contact:

Colin Wilson, ZL2WM,
zl2wm@zl2ja.org.nz
Phone +64 6 3442414
Skype "Colin-ZL2WM"

Branch Repeaters:

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

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

Wanganui Examination Supervisors:

Morse:

Mike Newman ZL1BNB
30 Nikau Street
WANGANUI

Phone 06-344 6830
E-mail mnewman@clear.net.nz

Theory:

Paul Greenwood ZL2GRE
57 Nixon Street
WANGANUI

Phone: 06 343 6763
Cell: 027 817 1678

Ivan Horn ZL2ATU

E-mail: zl2atu@xtra.co.nz

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