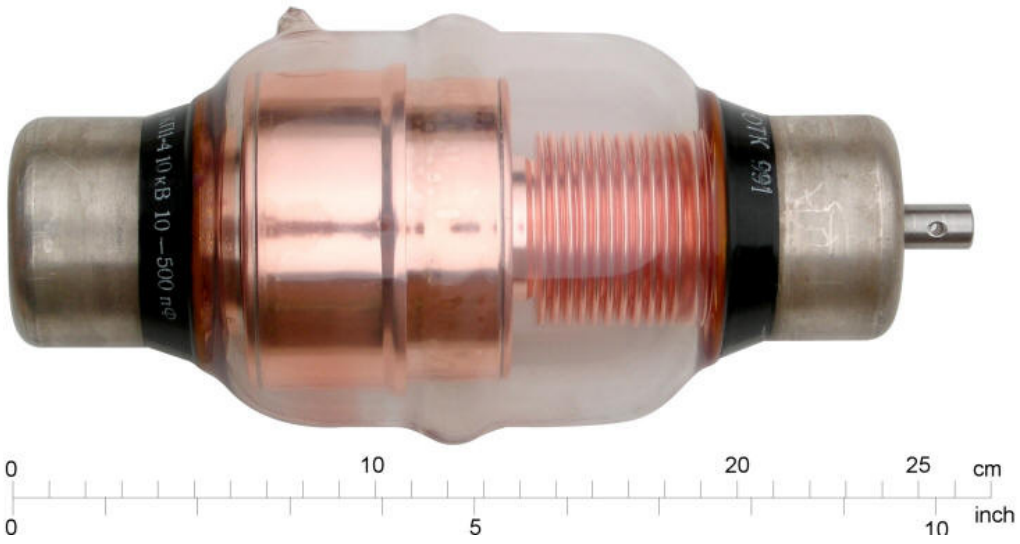
Ham Hum

August 2014

The official newsletter of
The Hamilton Amateur Radio Club (Inc.)
Branch 12 of NZART - ZL1UX
Active in Hamilton since 1923

Hamilton Amateur Radio Club Inc.
Serving the Hamilton Community for over 90 Years
ZL1UX



9th August : Market Day

Next Meeting (20 Aug) :

Magnetic Loop (Murray ZL1MGA)

Contact Details

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NZART Examiners:	ZL1IC, ZL1PK & ZL1TJA		

From the Editor

Hamilton Amateur Radio Club

MARKET DAY

Saturday August 9th, 2014

Waikato Table Tennis Stadium

Edgecumbe Street, Hamilton

Vendors from 8.00 am

Buyers from 10.00 am

Table space at $20 per metre pre-paid, $25 per metre on the day

All enquiries to:

Market Day,

Hamilton Amateur Radio Club,

PO Box 606, Hamilton

or

E-mail: harcmday@nzart.org.nz

Web: http://zl1ux.org.nz/market_day.html

Next Committee Meetings - 6th August & 3rd September

SB PROP ARL ARLP030
ARLP030 Propagation de K7RA

Last Thursday (July 17) had no sunspots at all, a sobering reminder of how weak this solar cycle is. We have to go way back to August 14, 2011 to find the last spotless day, and there was only one other day with no sunspots in 2011, on January 27.

On July 18 two new sunspot regions emerged, but the sunspot number was only 26. Two days later, on Sunday July 20 the sunspot number was just 17, and another new sunspot group emerged. On Tuesday two new sunspot regions appeared with a sunspot number of 40, and the next day, July 23, the sunspot number was 55 and another new one emerged.

Solar flux ranged from a low of 86.1 on July 19 to a high of 99.1 on July 23. Outside of those seven days, on July 24 the solar flux was 104, and the sunspot number remained at 55.

Average daily sunspot numbers from July 17 to 23 were only 25.9, down from 96.9 in the previous seven day period. Average daily solar flux dropped nearly 41 points to 90.3.

Predicted solar flux for the near term is 110, 115 and 125 on July 25 to 27, 140, 155 and 170 on July 28 to 30, then 185, 170, and 155 on July 31 through August 2, 150 on August 3 to 5, then 145, 140, 135 and 125 on August 6 to 9, 120, 115 and 110 on August 10 to 12, 105 on August 13 and 14, then dropping down to 85 on August 18, and rising to 150 on August 29.

Planetary A index was quiet over the past week, and is predicted at 8 on July 25 and 26, 5 on July 27 and 28, 12 and 10 on July 29 and 30, 5 on July 31 through August 4, 8 on August 5 and 6, 5 on August 7 to 9, 8 on August 10 and 11, then 5 on August 12 to 16, 8 on August 17 and 18, 5 on August 19 and 20, then 10 and 8 on August 21 and 22.

F.K. Janda, OK1HH says to expect mostly quiet geomagnetic conditions July 25 and 26, quiet to unsettled July 27, quiet July 28, quiet to unsettled July 29, quiet July 30 and 31, quiet to unsettled August 1, quiet on August 2, quiet to active August 3, quiet to unsettled August 4 to 7, quiet August 8, quiet to active August 9, active to disturbed August 10, quiet to active August 11, quiet August 12 to 15, mostly quiet August 16, quiet to unsettled August 17, mostly quiet August 18, quiet August 19, quiet to active August 20 and active to disturbed August 21.

Lots of comments this week asking where the sunspots have gone, such as this L.A. Times article, at http://www.latimes.com/science/sciencenow/la-sci-sn-the-sun-goes-eerily-quiet-20140718-story.html No sunspots? Sky and Telescope recom-

mends observing faculae: http://www.skyandtelescope.com/astronomy-news/observing-news/how-to-see-solar-faculae-072320143/ .

Thanks to W9WS and TI3/W7RI

Southgate Amateur Radio Club has a video with recordings of aurora communications on 2 meters in Europe ten years ago today, July 25, 2004. You can watch it at http://www.southgatearc.org/news/2014/july/sunspot_652_vhf_aurora_in_belgium.htm .

Ray Soifer, W2RS of Green Valley, Arizona continued comments from last week about six meter propagation:

"Chordal hop Es seems as plausible an explanation as any for my July 5 SSB QSO with EA8DBM, but there's a second chapter to this tale: my CW QSO the following day, at 1447Z. Two such openings on successive days? Maybe that's why it's the Magic Band: magicians don't reveal their tricks.

Most people who don't live out here (DM41) don't realize how rare transatlantic propagation is for us this far southwest in the absence of F2. In 5 years on the band from this QTH, I've heard (and worked) only two such stations beyond the Caribbean: CU2JT on June 24, 2010, and these two QSOs with Alex. I have worked 47 states (all but DE, AK and HI) on CW and/or SSB, but Europe doesn't come easy."

TI3/W7RI made some comments about propagation in Costa Rica:

"Here in the lower latitudes, we're seeing the expected downward trend in propagation due to the current sunspot lull. Propagation on 10 meters has been spotty at best - typical of what is normally seen at a solar minimum, and the daily 15 meter openings have been starting later in the morning, the mid-day break lasting longer, and the band closing earlier in the evening.

Even 20 meters has been rather spartan, and closing completely a few hours after sunset on some days - normally, it's open around the clock here. Not a huge surprise, given that the 304a index is the lowest I have seen it since the last solar minimum - and occasionally even lower than it was during much of that time.

Six meters hasn't seen a single opening from here in Costa Rica into the States in over a month, just the occasional, brief opening into the Leeward Islands from time to time, sometimes just after sunrise - probably Es. Europe, from here in Central America, remains a dream for this season, nothing so far. Usually, we've had several good openings by this part of the season, but not this year."

And Pete Corp, K2ARM also reported on 6 meters on July 23: "Propagation finally came through for my area in the Northeast. I worked 3 more countries plus more stations in other countries I have worked before. The 6 meter CW portion was all signals from Europe, great operators. It sure looked like F2 but it couldn't be has

to be E2."

On July 21 Pete wrote, "Tad, that was very good information on the cycles and the days with no sun spots and even though the HF bands are poor now and the SFI is only 89, 6 meters opened to Europe this morning and even I worked 2 new countries. It seems like E skip during the summer can happen most anytime and my records for the last 3 years show good openings every 5 or 6 days. Today I could copy 10 or more Europeans but could only work the two."

If you would like to make a comment or have a tip for our readers, email the author at, k7ra@arrl.net.

For more information concerning radio propagation, see the ARRL Technical Information Service web page at, http://arrl.org/propagation-of-rf-signals. For an explanation of the numbers used in this bulletin, see http://arrl.org/the-sun-the-earth-the-ionosphere. An archive of past propagation bulletins is at http://arrl.org/w1aw-bulletins-archive-propagation. More good information and tutorials on propagation are at http://k9la.us/.

Monthly propagation charts between four USA regions and twelve overseas locations are at http://arrl.org/propagation.

Sunspot numbers for July 17 through 23 were 0, 26, 27, 17, 16, 40, and 55, with a mean of 25.9. 10.7 cm flux was 88.6, 88.5, 86.1, 87.1, 90.1, 92.6, and 99.1, with a mean of 90.3. Estimated planetary A indices were 5, 3, 3, 3, 5, 5, and 6, with a mean of 4.3. Estimated mid-latitude A indices were 6, 4, 3, 4, 5, 6, and 7, with a mean of 5.

May the Force be with you

or maybe not if the computer thinks it's not needed right now...

(how changes to charging systems in modern vehicles affect us)

From the department of fixing things that are not broken, it seems that several vehicle manufactures now use special variable-output alternators that are under control of temperature and engine management systems. No longer will you be able to simply pop a bonnet and check for around 14V at the battery terminals with the engine running as a simple measure of charging system integrity.

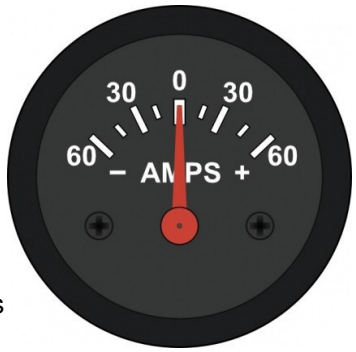
There are Temperature Compensating Alternators' that appear in new Falcon's, Hiluxes, Prado's and Klugers. These charge batteries to 14V when the engine is cold, but folds the output to around 13.4V when the engine has warmed up.

Additionally there are another range of alternators under direct microprocessor

control that will vary the output between 12.3V and 15V depending upon conditions (and internal whim) The Range Rovers, Nissan Navara's & Pathfinders, Pajero's Land Rovers and Mazda's now do this. The car computer will turn down the alternator charging if it thinks that the battery ought to be charged, or if the engine is idling, or if the driver is accelerating. I'm sure that drivers can really feel that 2% energy boost pushing them harder into the upholstery as they power away at the lights.

So what's the big deal and who really cares? There are a couple of important issues here. . In the past you could easily check the integrity of your charging system by placing a meter on the battery and run the engine. If around 14.0 to 14.2V was present, then it was highly likely that any engine starting difficulties were probably caused by battery deterioration or failure. Now with smart charging systems in control, you are going to have a harder time determining if it is because of a battery failure, an alternator failure, or key components are all intact but the car computer just doesn't like you and is sulking.

This has special significance for campers and Radio Amateurs as a lot of these people like to run a second vehicle battery. Many such installations used Voltage Sensitive Relays (VSR's) to link a second battery to the main battery when it sees the battery voltage is rising after a successful engine start. These will automatically disconnect when the engine is off so that a fridge etc won't flatten the battery used to start the car. With these new alternator systems and traditional battery linking technology, your second battery may not get a decent charge if it does not link to the primary battery when it should.



Additionally, there are current sensors in the negative battery terminal on many of these vehicles to allow the car computer knows how much energy is being drawn. Running auxiliary fridges and batteries may trigger engine faults and messages if the computer thinks the vehicle is drawing current when it shouldn't be.

So what is to be done with a car that conspires against your best efforts to maintain a measure of outdoor freedom? How do you fight a panel of automotive engineers that are made to stay up all night (eating take-out food) until they dream up a spurious function or facility to add to next year's model to help differentiate it from last years model? The answer is not much. There is little we can do to make vehicle manufacturers return to 'conventional' hardware.

At least we can be aware that these systems are now in play when diagnosing vehicle problems, otherwise conventional wisdom would conclude that low charging voltages are faults that need to be addressed immediately.

Like the old saying goes, being fore-warned is being for-armed and if we had four arms we'd all be better at soldering…

-Ian VK3BUF

COM-CENTRE's COMMUNICATOR de Richard, ZL1BOK

Winter - Warming up the Soul with Super Specials

Winter delayed its arrival, but when it came, it hit hard. Damaging winds, plenty of rain, snow and harsh temperatures - all of which making getting out to the shack that little less inviting.
A perfect time for us to lift your spirits and re-envigorate your enthusiasm for getting back on the bands.
Just have a look at the special prices we are able to offer on these top performing, proven and popular pre-owned items - great opportunity to up-grade at huge savings. Remember, these items are one-offs, so don't miss the opportunity to save, at the same time rekindle the cockles of your heart for our great hobby.

YAESU VL1000 - Now this is something very special A FULL KILOWATT SOLID STATE LINEAR AMP.
Fully automatic, including the Built in Auto Antenna Tuner, antenna switching, full protection.
This is the preferred Solid-State Linear amplifier used by most DXpeditioners, a true QRO amp that is reliable and being fully automatic, so very simple to use.
Keen on lifting your station's performance on HF, this is your answer - The problem - usually it exceeds the depth of our pockets, BUT look at this offer :
$5500 and it is yours Given the vendor originally paid over $12,000 - that is an exceptional offer !!

YAESU FT100D A preferred wide-band H/V/UHF mobile/base transceiver with full DSP.
Certainly my pick of this modern trend in transceivers both for its performance and ease of operation - the size of the LCD allows you to read it !! Sadly they have been discontinued, but given their popularity and ease of operation - once acquired they are rarely relinquished, so here's your opportunity :
Yaesu's FT100D c/w YSK100 remote kit - Yours for $795 - well less than 1/2 price of new model.

ICOM IC761 ***Prestige Fully-featured, self-contained base station, Auto ATU etc,etc -*** A complete HF station in the one box for the most discerning HF/DX operator. We have re-necogiated a special price with the vendor, now keen to sell - I believe it is a bargain, considering a current equivalent with same features would have you spending near $3K - This can be yours for $760 including the desk mic !

BHi NES10 DSP Extension Speaker The ultimate in Noise elimination - ask those who already own one !
Here's a steal - Normally $395 - Buy this one still in its original box $ 250.00

Innov-Energy 25amp Power supply - Essential item in any modern station - rugged, reliable ONLY $235

Scanners for Sticky-beakers - ***To ensure there is something for everyone !***
Sorry have nothing to offer pre-owned - but lets make your winter monitoring more enjoyable, and we all know what a busy time it becomes for those special services when the roads are wet and storms hit !
Yaesu VR120D - $375 or AoR AR-Mini $395 - There's $100 saved on a new hand-held receiver.

I trust these very special offers give you another chance to update your station equipment and help overcome the wintery woes ! Of course, I can not detail every stock item, but you know what we always have available in the latest range of modern transceivers, communication equipment, antennas and accessories.
It can be a little slower for us around this time of year, so if you looking to invest in your hobby, give us a call and you can be assured of securing our best possible pricings. With all the noises being made about our $NZ being too high, now could well be the right time before any meddle with interest rates that directly affect our exchange rates - then the price you and I need pay - particularly in an election year !!
Look forward to hearing from you and our negotiating to secure the lowest mutually acceptable prices -
Oh - reminder, if you are ringing, I am more readily available before 1PM any weekdays.
Happy Hamming, keep warm, 73

Richard - ZL1BOK for The Com-Centre Group
Email: comcent@radioinfo.co.nz

Phone: (09)-627-0084
400 Hillsborough Road, Auckland

Hamilton Amateur

Radio Club

MARKET DAY

Saturday

August 9th, 2014

Waikato Table Tennis

Stadium

Edgecumbe Street

Vendors from 8.00 am

Buyers from 10.00 am

Table space at $20 per metre pre-paid

$25 per metre on the day

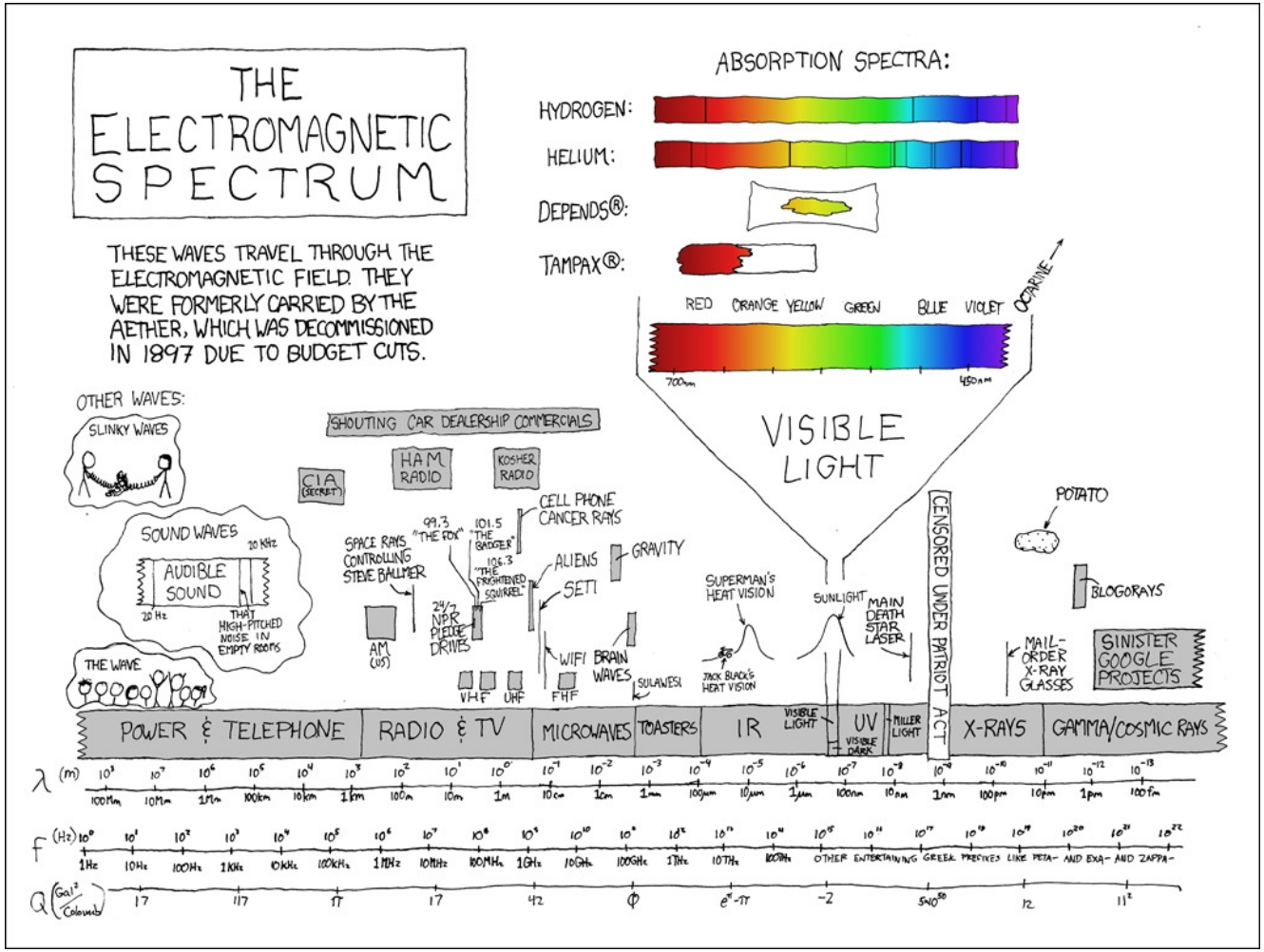
All enquiries to: Market Day,

Hamilton Amateur Radio Club,

PO Box 606, Hamilton

E-mail: harcmday@nzart.org.nz

Web: http://zl1ux.org.nz/market_day.html


THE ELECTROMAGNETIC SPECTRUM
THESE WAVES TRAVEL THROUGH THE ELECTROMAGNETIC FIELD. THEY WERE FORMERLY CARRIED BY THE AETHER, WHICH WAS DECOMMISSIONED IN 1897 DUE TO BUDGET CUTS.
ABSORPTION SPECTRA:
HYDROGEN:
HELIUM:
DEPENDS®:
TAMPAX®:
RED ORANGE YELLOW GREEN BLUE VIOLET
700nm
450nm
VISIBLE LIGHT
OTHER WAVES:
SLINKY WAVES
SOUND WAVES
20 KHz
AUDIBLE SOUND
20 Hz
THAT HIGH-PITCHED NOISE IN EMPTY ROOMS
THE WAVE
SHOUTING CAR DEALERSHIP COMMERCIALS
CIA (SECRET)
HAM RADIO
KOSHER RADIO
CELL PHONE CANCER RAYS
99.3 "THE FOX"
101.5 THE BADGER
106.3 "THE FRIGHTENED SQUIRREL"
SPACE RAYS CONTROLLING STEVE BALLMER
ALIENS
GRAVITY
SETI
24/7 NPR PLEDGE DRIVES
AM (US)
WIFI
BRAIN WAVES
SULAWESI
VHF
UHF
FHF
SUPERMAN'S HEAT VISION
JACK BLACK'S HEAT VISION
SUNLIGHT
MAIN DEATH STAR LASER
CENSORED UNDER PATRIOT ACT
POTATO
BLOGORAYS
MAIL-ORDER X-RAY GLASSES
SINISTER GOOGLE PROJECTS
POWER & TELEPHONE
RADIO & TV
MICROWAVES
TOASTERS
IR
VISIBLE LIGHT
UV
VISIBLE DARK
MILLER LIGHT
X-RAYS
GAMMA/COSMIC RAYS
λ (m)
f (Hz)
1Hz 10Hz 100Hz 1KHz 10KHz 100KHz 1MHz 10MHz 100MHz 1GHz 10GHz 100GHz 1THz 10THz 100THz
OTHER ENTERTAINING GREEK PREFIXES LIKE PETA- AND EXA- AND ZAPPA-
Q (Gal²/Coloumb)
17 117 17 17 42 Φ e^π-π -2 540^50 12 11²

Upcoming Happenings & Events

Date	*Happenings & Events*
2-3 August	**NZART Brass Monkey Contest**
4th August	HF Net, 3.575 MHz, 19:30
5th August	VHF Net, 146.525 MHz, 20:00
8th August	**NZART HQ-Infoline**
9th August	**Annual Hamilton Market Day**
11th August	HF Net, 3.575 MHz, 19:30
12th August	VHF Net, 146.525 MHz, 20:00
18th August	HF Net, 3.575 MHz, 19:30
19th August	VHF Net, 146.525 MHz, 20:00
22nd August	**NZART HQ-Infoline**
25th August	HF Net, 3.575 MHz, 19:30
26th August	VHF Net, 146.525 MHz, 20:00
31st August	**NZART Official Broadcast**

5th September—NZART HQ-Infoline

26th September—NZART HQ-Infoline

28th September—NZART Official Broadcast

4-5 October—NZART Microwave Contest

10th October—NZART HQ-Infoline

24th October—NZART HQ-Infoline

26th October—NZART Official Broadcast

2nd November—NZART Straight Key Night

6-7 December—NZART Field Day Contest

28 Feb/1 Mar 2015—NZART Jock White Memorial Field Days

30-31 May 2015—NZART AGM & Conference

For more information on any of the above please contact myself or any committee member.

AREC Event Operators Page

WRC Rally NZ/ Possum Bourne Rally	June 2015	Organiser : ZL1BNQ
Please contact the Section Leader with your team information and he will pass it on to Auckland.		

NZW SRA Bridge to Bridge Water-Ski Race	Nov 30—Dec 1 2014	Organiser : ZL2MGS

Position		Saturday Operator	Sunday Operator
Base			
Start Boat			
Rescue Boat			
X-Band			
A.	Ngaruawahia/Taupiri		
	Start/Finish at Point		
B.	Ngaruawahia Ramp		
C.	Ngaruawahia W/S		
D.	Horotiu		
E.	Pukete Ramp		
F.	Days Park		
G.	Fairfield Bridge		
H.	Malcolm St		
I.	Narows		
J.	Field Days		
K.	Between Pipe and F/Days		
L.	High Level Bridge		

Kairangi Hill Climb	September 2014	Organiser : ZL1IC

Position	Operator
Start	
1. First bend	
2. Intermediate bend	
3. Top of hill	
4. Paddock	
5. Hall corner	
6. Above hairpin	
Finish	

Colville Connection	February 2015	Organiser : ZL1PK

Position	Primary Operator	Secondary Operator	Other Operator
Base			
Stony Bay			
Fletcher Bay			
Hill 1			
Hill 2			
Fantail Bay			
Ridge/Waikawau			

For Details about and to help with these events, contact the person indicated as the organiser for the event. See Page 1 for their contact information.

Club Information

Contacts :-

Business Meeting:	1930 First Wednesday of each month except January 88 Seddon Road, Hamilton
General Meeting:	1930 Third Wednesday of each month (except Jan) 88 Seddon Road, Hamilton
Homepage:	http://www.zl1ux.org.nz
eMail:	branch.12@nzart.org.nz
HF Net:	3.575MHz LSB 1930 Mondays
VHF Net:	146.525MHz simplex 2000 Tuesdays
2m Repeater:	145.325MHz -600kHz split
STSP Repeaters:	146.675MHz -600kHz split 438.725MHz -5 MHz split
ATV Repeater:	Off air pending channel changes

Cover Photo: A 10-500 pF 10 kV vacuum variable capacitor. Potentially used on a magnetic loop aerial. http://www.nonstopsystems.com/radio/frank_radio_antenna_magloop.htm

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Hamilton 3240