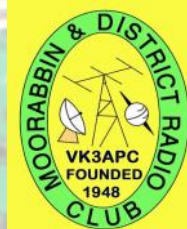


APC NEWS

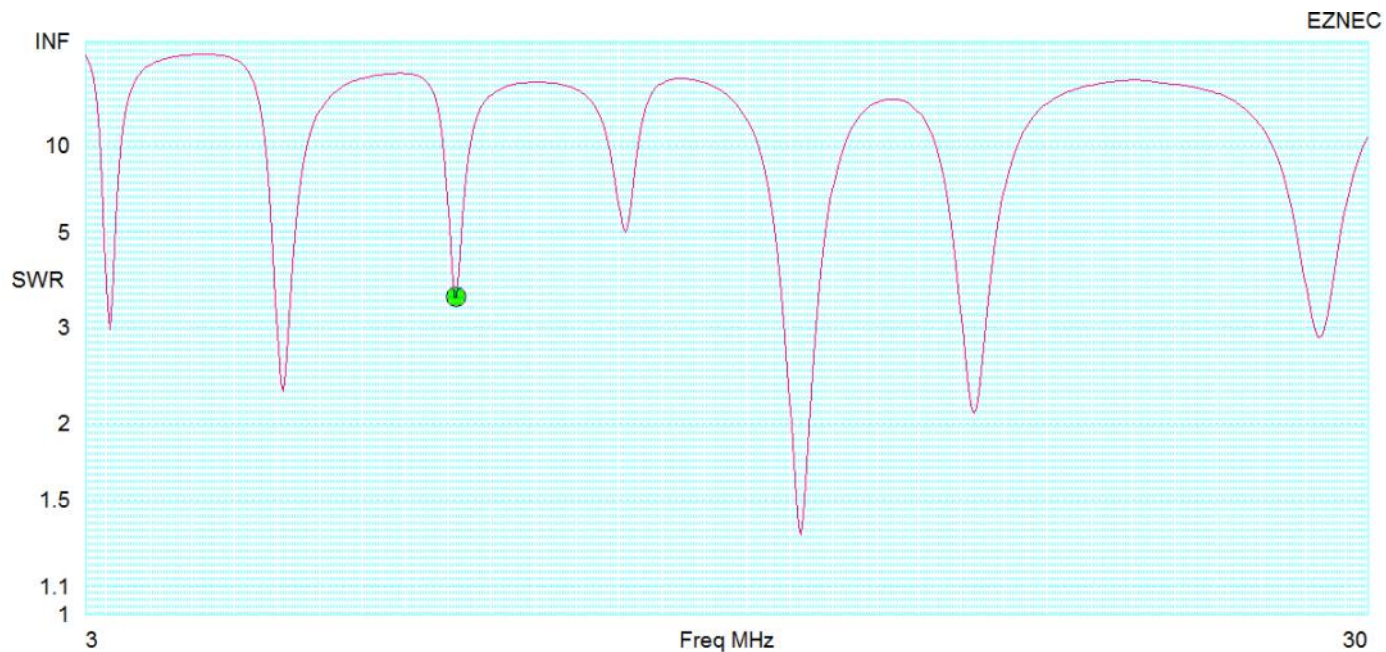


In this issue:

Meeting Reports
A Member Built it
QSL Card Service
Activity reports
Club Info.
Forthcoming Events

Left. A DSB Transceiver built by Ian VK3XI. See article on page 12.



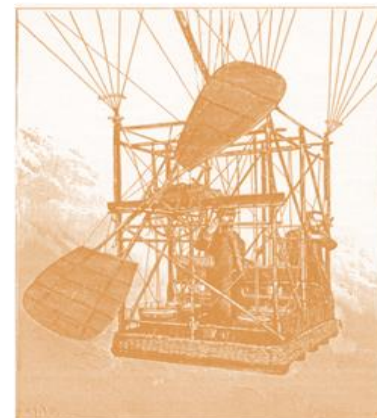


SWR plot for an OCFD with 20% offset feed. When used with a 9:4 transformer most ATU's will provide a good match for the resonances near or on 80, 40, 30, 20, 17, 15, and 10 m bands. See report on November Club Meeting. The cursor is just above the 30 m band.

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BUILT SOMETHING?

BEEN SOMEWHERE?

DONE SOMETHING

INTERESTING?

Tell the Editor. He needs material for the next issue of APC News. Please include pictures too.

Email: vk3apc@wia.org.au

THE EDITORS DESK - Ron VK3AFW



I can barely believe it is almost Christmas. This has been one of the shortest years, or so it seems.. The “Silly Season” is upon us and festivities and food seem to be the order of the day. I would love a politics free Christmas period.

Today's concern is about hand held radios. One well known politician says the pirate or embryo terrorist plaguing the air bands is to be combatted, not by catching him and using the existing laws but by bringing in new legislation to make it harder to own a hand held radio. (It's not even a case of shutting the stable door after the horse has bolted.) When they had more staff the ACMA would have nabbed this pest weeks ago.

Sadly bringing in new laws just makes life harder for the honest citizen. It grabs the headlines and makes the lawmakers feel they have at last done something of value. Bah, Humbug I say. Allow the ACMA to do it's job by giving it some more resources.

If you do see something suspicious, use your phone to take a photo, get a vehicle registration and call 000. If that fails contact ASIO. They at least understand where this could go if not stomped on hard.

Members input for the magazine is always sought. It might just be a photo or a few words. We can turn rough notes into prose!

THE EDITORS DESK - cont'd

This issue was looking pretty thin until Ian VK3XI came to the rescue. Many thanks Ian.

I'd like to wish you and your nearest the very best Christmas and New Years period.. I look forward to meeting up with many of you at the Christmas party.

73
Ron,
VK3AFW



CLUB EQUIPMENT

We are unable to locate the Club's Fluke DMM.

Can you help?

One of the members placed it in a cupboard in the garage a few weeks ago and now it cannot be found. If you have borrowed it please let us know. And return it ASAP.

A small collection of hand tools and a little solder have been put into two plastic boxes which will be located in the transmitter room. They are not for loan but for use at the Club for minor repairs, etc. and supplement the screw driver collection already there..

Please replace all tools in their assigned places after use.

The Club's antenna analyser is out of calibration and this will be seen to before the New Year. When it is operational again it can be borrowed for a couple of weeks at a time but you need to have permission.

OCTOBER MEETING

HAND CARRIED QRP ANTENNAS

Peter Parker, VK3YE, well known QRP exponent, gave an excellent talk on antennas one could carry and use successfully with QRP. As usual Peter brought along a selection of home brew antennas and accessories. This was one of our better talks for the year.

Peter is also the author of several books and many YouTube clips—just search for VK3YE.



OCTOBER MEETING cont'd



One of Peter's multiband wire antennas in transport mode. If the bands are closed, add a hook and some bait and see what's biting.

OCTOBER MEETING cont'd



A pocket portable L match for the antenna on the other page.

OCTOBER MEETING cont'd

If you have three of the old brass cable clips in your shed all you need is a piece of wood and you can make a handy portable paddle.



JOTA 2016

The Club participation event was very successful with groups of Cubs, leaders and parents attending.. The Club rooms were open for both the Saturday and Sunday with a number of Club members entertaining and educating the Cubs.

The hidden transmitter hunts were popular with the parents as well as the Cubs.

Another popular activity on Sunday was pulling apart some old electronic equipment to reveal a wonderland of shiny bits.

Every Cub had an opportunity to talk to someone on the air. We did not manage to get further afield than NSW, Victoria and Tasmania but it was still a great experience for the Cubs.



JOTA 2016 cont'd



These were the
Cubs and leader
who visited on Sun-
day.

AN M&DRC MEMBER BUILT IT

By Ian Keenan VK3XI



AN M&DRC MEMBER BUILT ITcont'd

Ian Keenan VK3XI writes - I am always on the look out for a new project to keep me busy in the shack.

Months ago I saw a review of the MDT device in "Amateur Radio" magazine and decided to build one !

SPECIFICATION

The transceiver size is 130 X 100 X 50mm.

The receiver is a direct conversion type which is much simpler in operation and complexity than a superhet.

Receive current is about 50ma.

Sensitivity 0.4uV for 10dB SN

TX DC current is about 250ma at maximum power output.

The Double Sideband transmitter output is 1.5W - 2w output.

See picture of the completed transceiver on the previous page.

AN M&DRC MEMBER BUILT ITcont'd

The VFO for the unit is 7.2 MHz ceramic resonator. The tuning pot. on the front panel controls the DC voltage across a varicap diode which shifts the frequency of the ceramic resonator. Up to about 60 kHz of frequency shift can be made. By changing the internal link you achieve and upper and lower coverage of about 120 KHz.

The VFO is not quite as stable as the now normal PLL VFO, but is surprisingly good. I find it stays pretty well on frequency once a signal is resolved.

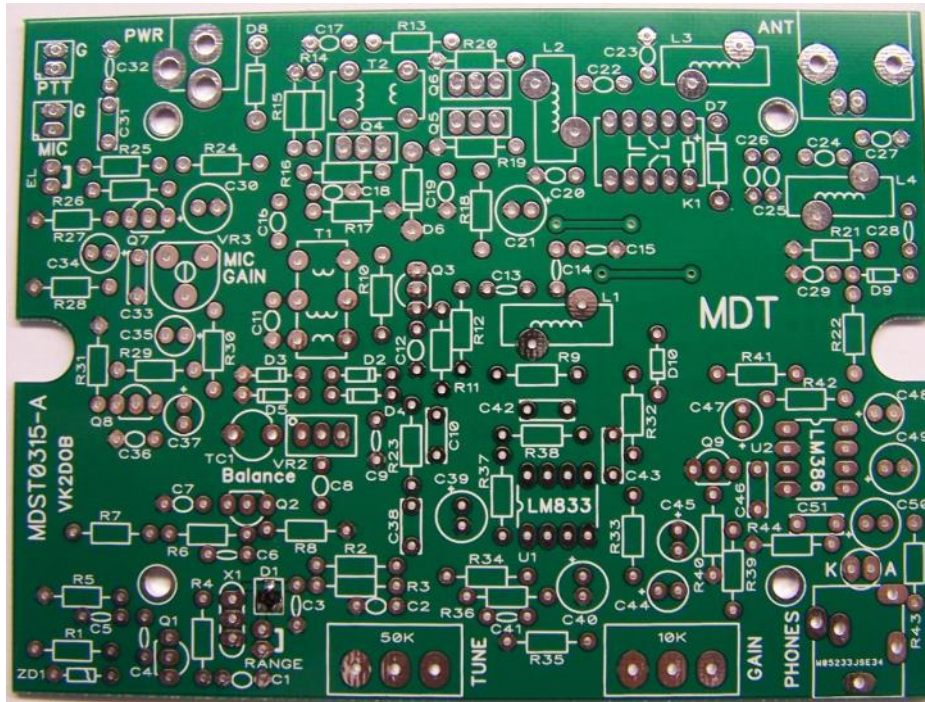
So I ordered the kit and in a couple of days it arrived. All the components were supplied, case, knobs, etc even down to the enamelled wire for winding the toroids. All parts come in small resealable plastic bags.

CONSTRUCTION

The kit takes about a day or so to build. I am usually careful with assembly of any kit. It should not be rushed and must be approached in a methodical way. A bit of extra care taken in the construction phase will mean a working unit upon power on. Otherwise time can be spent trying to find a silly mistake!

AN M&DRC MEMBER BUILT ITcont'd

An MDT construction manual/directions are available from the supplier off the net.



Left MDT circuit board
before component
placement

AN M&DRC MEMBER BUILT ITcont'd



Left The populated board. Ready to test.

AN M&DRC MEMBER BUILT ITcont'd



Left Front Panel
view.

AN M&DRC MEMBER BUILT ITcont'd

Note the small switch near the microphone socket. This is a standard mod used by users of this transceiver. It is connected to the link in side the radio. In my case with the switch down coverage is from about 7.050 to 7.110MHz. With the switch up 7.105 to approximately 7.150MHz.

OPERATION

Once construction is finished., and checked, the unit is powered up and immediately you should hear the receiver spring into life when an antenna is connected. The transmitter requires the carrier to be nulled out. The transceiver is connected to a dummy load and using a sensitive RF indicator (I used a CRO connected across the 50 ohm test load). Trimpot VR2 and trimmer TC1 are adjusted for minimum RF out put. This should be done with the microphone gain set to minimum. There was some minor interaction between the two but I found this to be an easy process to achieve.

I set the internal microphone gain VR3 to about 3/4 of its travel. No distortion or over driving seems evident. And the TX LED on the front panel responds well to voice peaks.

The transceiver is double side band. You will find at first it takes a bit of care in tuning. But users have found that tuning down and onto the high side of the wanted station will work first time. It is easy to get used to.

AN M&DRC MEMBER BUILT ITcont'd

SOME MODS ?

1. The MDT was originally designed for head phones only. The audio power amplifier is an LM386 and is therefore capable of driving a small speaker. I shorted R43 and rewired the head phone jack so as to support a speaker when phones are not in use (handy in the shack). A small speaker will fit nicely into the top cover (refer top picture).

2. As previously mentioned the addition of a small switch to increase the band coverage is very helpful. This is connected to the range connection on the main board for the varicap diodes.

3. Due to the simplicity of the receiver there is no AGC and this works pretty well. Although one evening I was listening with head phones and the presence of large loud static crashes did seem a bit painful. It is not always possible to anticipate when to crank down the RX gain. I added a crash limiter in the form of some back to back diodes across the audio gain pot VR4. It doesn't seem to mutilate the RX audio for normal to high level stations on the band. Hopefully this will preserve my ears on bad QRN nights? I did not consider back to back diodes across the RX antenna as I wanted to avoid any possible high level RF intermod. issues. *(If the lightning is strong enough to cause the diodes at the antenna to conduct you shouldn't be in the shack! Ed)*

AN M&DRC MEMBER BUILT ITcont'd

AVAILABILITY

Kits are available from WWW.OZQRP.COM. Cost is very reasonable at around \$80. This includes every thing except the microphone.

Why not give it a go ?

73,

Ian Keenan

VK3XI

NOVEMBER MEETING

EZNEC DEMO

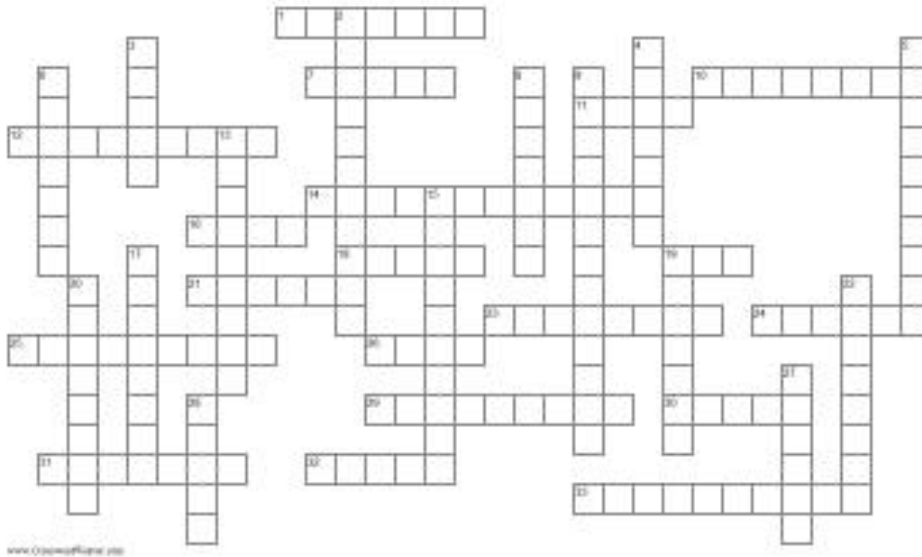
Ron VK3AFW returned to the podium and gave a demonstration of the computer program EZNEC.

It, like most similar programs is based on an original Fortran program written in the 1970's for the US Department of Defence. It features an intuitive set of screens that allow the user to design his own antenna then observe the VSWR and radiation pattern.

Ron ran simulations for the attendees of their favourite antennas. These included Tony VK3CAT's 25 m doublet, Lee VK3GK's 20 % off set OCFD (see inside front cover for the SWR plot) and Derek VK3XY's version of the W3EDP multiband wire.

This program is available free off the Web and was at one time promoted by the ARRL. The free version is fully functional. Be warned, playing with this program is addictive.

CHRISTMAS CROSSWORD



www.CrosswordCompiler.com

The clues are on the next two pages. You may want to print this page and the next two and then work on it before Christmas Lunch. The solution is at the end of this issue on page 33

Created using Crossword Weaver.

CHRISTMAS CROSSWORD Clues

ACROSS

- 1 Light white metal for batteries, used in soothing medication
- 7 The original multifunction electronic device or a water control
- 10 Impress intelligence on a signal or increase the richness of your voice
- 11 Aerial support, good for flags too.
- 12 Transmission parameter, replaced wavelength.
- 14 A problem with some batteries, also an antenna characteristic.
- 16 The assembly used for professional equipment, associated with ruin.
- 18 Original signaling code
- 19 Old government telecom agency, Leon was a telegrapher with them.
- 21 Basic aerial element, sounds like made of two posts.
- 23 Fragile element of early vacuum tubes, made by spiders.
- 24 Unlicensed transmitter, possibly a rogue sailor.
- 25 Caused by chemicals, old batteries often responsible
- 26 Old fashioned keyboard mode.
- 29 A current carrier or a ticket collector
- 30 The original valve, also early solid state device.
- 31 Power source, collection of army field pieces.
- 32 Flexible conductor or US telegram
- 33 Reflective medium or sounds like smoothing a globe

CHRISTMAS CROSSWORD Clues

DOWN

- 2 A passive ratio device, kids toy.
- 3 Used for matching, abbreviation of its function.
- 5 A beat note
- 6 Used wireless to compete with cable telegraphs, sounds like misspelt pasta.
- 8 Luigi was an electrical phenomena investigator, disliked by frogs.
- 9 The property of most linear circuits, restate at length what you just said.
- 13 Virtually Lossless circuit component, charged but not guilty
- 15 Causes power loss. Alien Invaders say it is futile.
- 17 What an antenna should be, what a traffic bridge should not be.
- 19 Type of vacuum tube, two better than the triode.
- 20 Type of connector, sounds like the end.
- 22 Electroacoustic transducer, for private listening.
- 27 US name for transmission line, sounds like something you put out for the birds.
- 28 Cycles per second, sounds painful.

INWARDS AND OUTWARDS QSL SERVICE

By Denis VK3BGS

The Moorabbin & District Radio Club Inc (MDRC) is a distribution point for INWARDS QSL cards from the WIA inwards QSL bureau.

To use this service you must be a member of the Wireless Institute of Australia (WIA) or Amateur Radio Victoria (ARV) and registered with ARV and have MDRC as your collection point. Inward QSL cards arrive approximately every 90 days from ARV.

Cards are sorted into call sign groups and then placed in the Inwards QSL drawer for collection from members of the service.

I would appreciate that those using this service please collect your cards at least one or twice a year at least.

There are unfortunately some cards that are never collected and will eventually be returned to the WIA as UNCOLLECTED cards after being in our system for over one year.

INWARDS AND OUTWARDS QSL SERVICE Cont'd

The club **WILL NOT** forward uncollected cards.

For those that are registered to use the INWARDS QSL service the club will forward OUTWARDS cards at or about the same time as cards arrive, however you must be a member of the WIA so that your cards can be processed by the OUTWARDS bureau.

Cards **MUST BE** be marked and sorted as per the PREFERRED PREFIX list available from www.wia.org.au

As QSL Office I receive a list of registered users of the QSL service, so if you are not on this list your cards WILL NOT be forwarded to the OUTWARDS bureau for distribution.

All enquiries about this service should be sent to me at vk3bgs@gmail.com

Denis Babore
VK3BGS
QSL Officer

LIKE TO JOIN US AT THE M&DRC?

**Annual Membership Fees are due 1st July.
Prorata payment for new members in first year**

Schedule of Fees (Annual)	Amount
Joining Fee	Nil
Annual Membership Fee, standard	\$45.00
Student, Retiree, Pensioner Annual Membership Fee	\$40.00
Family Membership Fee	\$60.00
Honorary and Life Members Membership Fee	Nil

Send your application with cheque[†] to:

The Secretary M&DRC
Box 58,
Highett,
Victoria
Australia 3190.

PAYING SUBSCRIPTIONS

Paying by computer.

Go to **Internet Banking** on your computer and select the account from which you want to make the funds transfer. Do not select a Credit Card Account. In the "Transfer Money" screen enter the following.

- 1 In the ACCOUNT NAME box to which the funds are to be transferred, enter MOORABBIN AND DISTRICT RADIO CLUB INC
- 2 In the BSB box enter the number 033-385
- 3 In the ACCOUNT NUMBER box enter the number 77-4955
- 4 In the TRANSACTION DETAILS or ACCOUNT DESCRIPTION box enter your name or Callsign in uppercase.
- 5 Email the treasurer to advise of your payment.

Paying by cash over the counter at the bank

Go to a **Westpac bank** and fill out a deposit slip as below. Take this plus the necessary cash to the teller.

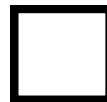
- 1 In the FOR CREDIT OF box enter MOORABBIN AND DISTRICT RADIO CLUB INC
- 2 In the BSB box enter the number 033-385
- 3 In the ACCOUNT NUMBER box enter the number 77-4955
- 4 In the TRANSACTION DETAILS or ACCOUNT DESCRIPTION box enter your name or Callsign in uppercase.
- 5 Collect the receipt and email the treasurer to confirm payment.

M&DRC MEETINGS, ACTIVITIES AND SPEAKER SCHEDULE

MONTH	DATE	SPEAKER	DATE	ACTIVITY
November	Friday 11 th	Computer Simulation of Aer- ials Ron VK3AFW	Saturday 26th	Informal meeting. Room and garage clean up and natter
December	Friday 9 th	Christmas Party	Saturday 24th	Christmas Eve. No meeting
January 2017		No Meeting	Saturday 27th	Informal meeting. Room and garage clean up and natter



there or



TRADE DISCOUNTS

FOR CLUB MEMBERS at ALTRONICS and JAYCAR.

Moorabbin and District Radio Club Inc. members can now buy over the counter at Trade prices from both **Altronics** and **Jaycar**. When making a purchase ask for Trade Discount and for **Altronics** quote the Club's Trade account number **32323** and your **call sign** or for **Jaycar** quote **FK000921**. **This is NOT a charge account so you use your money.**

Note: Minimum purchase of \$20 may apply.

Check out these companies at their websites.



<http://www.altronics.com.au>



**Get your Club photo ID
discount card NOW**

<http://www.jaycar.com.au>

CLUB NETS

VHF net.

Wednesdays: **146.550 MHz FM**
Starts at 20:00 (local)

HF net

Wednesdays: **3.566 MHz (\pm QRM) LSB.**
Starts at 20:30 (local).

Note: this is in recess but do feel free to come on and call.

Drive Time net

Week days: **146.550 MHz FM**
Starts at about 16:40 (local)

Please drop in and join the Nets and catch up on the latest happenings around the Club.



D- STAR repeaters are now operational.

For more information about D-STAR go to the Club's web page
www.mdrc.org.au
click on the link to Susan VK3ANZ's Newbies Guide to Using D-STAR

CLUB MEETINGS

Formal Meeting.
*Second Friday night of the
month, 8:00 PM and*

Informal Meeting.
*Fourth Saturday morning of the
month 10:00 AM*

**Check the web site and the
weekly Club nets for the latest
doings.**



COFFEE GROUP.

**Every Tuesday morning -
10:00 AM to 11 AM.**

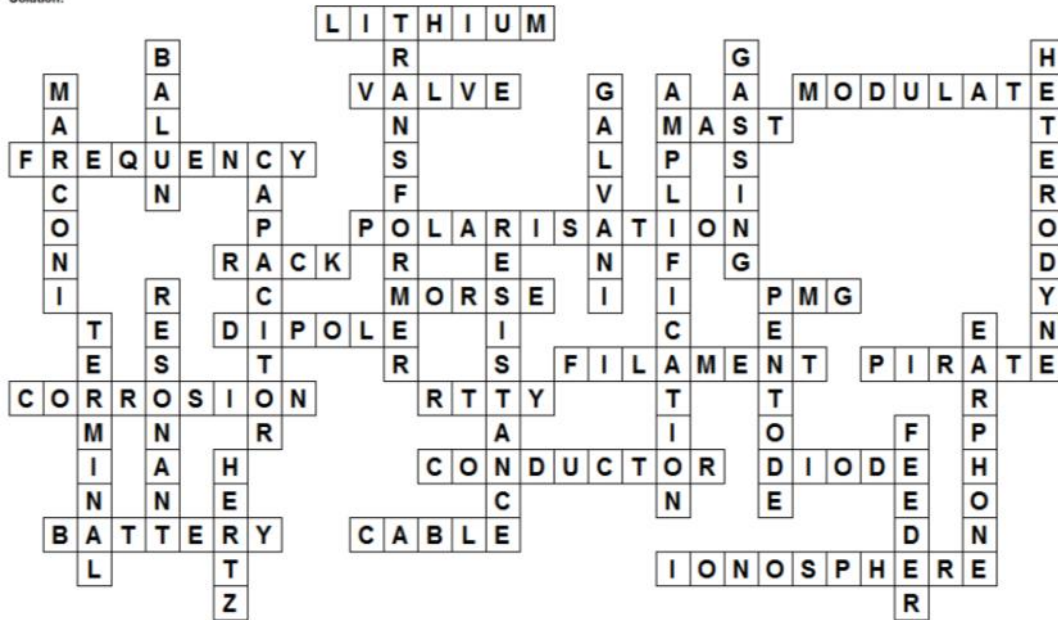
Retired? Come along, swap
yarns, bits of gear and info or
get helpful advice all with a bis-
cuit and a cuppa.

**Visitors are always
welcome.**

**Free disposal items for
financial members at most
meetings**

CHRISTMAS CROSSWORD Solution

Solution:



COMMITTEE MEMBERS AND OFFICE BEARERS

President:	VACANT	
Vice President:	Lee VK3GK	
Secretary:	Ken VK3KIM	millisk@hotmail.com
Treasurer:	Brian VK3MCD	bmcderm@tpg.com.au
Committee members:	Gerard VK3GER	
	Graeme VK3GL	
	Mike VK3FRTM	
Combined Clubs Reps:	Ian VK3IFM and Ken VK3KIM	
Publicity Officer	Various	
Repeaters	Graeme VK3GL	
Webmaster:	Cohen VK3HCL	
Museum Officer	Colin VK3UDC	
Speaker schedule	Gerard VK3GER & Ron VK3AFW	
Education and Training	Graeme VK3GL	
Station Officer:	Tony VK3CAT	
QSL Cards	Denis VK3BGS	
Librarian:	Ben VK3FBCN	
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Assistant Editor:	Cohen VK3HCL	