



Bulletin issued by the Northern
Branches of the Wireless Institute
of Australia, Tasmanian Division

July 1977
Vol.7 No.3

P.O. Box 1010
Launceston
Tas. 7250

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MEETINGS

July 8th	Northern Branch, S.E.S. rooms, Charles St.	8 p.m.
July 12th	North West Branch, Lakins Hall Ulverstone.	8 p.m.

A.O.C.P. CLASSES

July 11th	Transmitting Systems	Kings Meadows
July 18th	Modulation Systems, A.M.	High School
July 25th	" " S.S.B.	Block B, room 35
Aug. 1st	" " F.M.	
Aug. 8th	Interference	

Y.R.C.S. CLASSES

YRCS classes are held every Tuesday (during school terms)
from 4 p.m. to 5.30 p.m. at
Kings Meadows High School, Block B, room 33.

CONTESTS

July 9/10	IARU Radiosport Championship
July 9/10	RAST SEANET WW DX CW Contest
Aug. 13/14	REMEMBRANCE DAY CONTEST
Aug. 13/14	ATHOL JOHNSON MEMORIAL CONTEST

July 20th	Deadline for the August issue of QRM
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Minutes of the Northern Branch June meeting at SES rooms

The meeting was opened by the chairman VK7HE. 22 members and 2 visitors were present.

Apologies were received from VK7ZWW, VK7KW and VK7LZ.

The minutes of the May meeting were circulated and confirmed.

Outward mail was discussed but not confirmed. Inward correspondence was confirmed.

The treasurer reported Sales \$231, Income \$48, Expenses \$29, Purchases \$1058 and a total bank balance of \$758.

The lecture officer advised that for the July meeting a movie would be shown entitled "Day the world went mad" and for the August meeting a lecture by John VK7NJD "Buying a used car"

The broadcast officer offered congratulations to all those who passed the recent Novice exam, including John Doolan VK7NJD and Mark Nightingale VK7NAM.

The federal officer discussed some aspects of the recently legalised CB radio.

General Business; after some discussion it was decided to reintroduce "a silver coin" contribution towards the cost of tea and biscuits.

The Jaycees "Careers Night" was discussed, this is to be held at the end of August.

The Launceston LT club have requested a lecture on the Novice license. Reg VK7KK is making arrangements for this.

A letter from the Division on "policy guidelines for equipment store operation" was discussed, a reply is to be dispatched.

A discussion was held on the \$2.50 subs.

The matter of silent keys was raised and the difficulties in ascertaining who had passed away. The only ones that can be confirmed apart from personal notification by friends, are those actual members of the W.I.A.

A junk sale is to be held shortly at the QTH of Ed VK7HE.

There being no further discussion the meeting closed with a lecture by Mr Bill Rowe of the Dept. of Meteorology about Temperature Inversions.

Congratulations to Daniel VK7DA and Tony VK7TP for making their call signs a little lighter by dropping the Z, they are now able to move about more freely. For anyone interested in doing the same, the Monday evening AOCF classes held at Kings Meadows High School are preceded by a half hour of Morse code and there are always the 80 metre C.W. sessions every night on 3.550 MHz.

HF and DX notes by Col VK7LZ.

These notes are of necessity very limited due to my being restricted to daylight listening times and lack of information from other DX'ers, however undoubtedly the story of the month is the DXpedition by a group of Americans to Palmyra Island and Market Reef. Both are accepted as "Countries" for DXCC although by all accounts the latter is a low tide country only. Operation was on all bands 3.5 to 28 MHz however most of the operations were in either the American phone bands or where VK's and ZL's were competing against the W's for contacts, consequently during my listening times very few VK's and ZL's were QSO'ed. Call signs used were, for Palmyra KP6AL and for Market Reef KP6BD. VK7BC was very fortunate to QSO KP6BD on 7 MHz C.W. before the rat-pack got to him, congratulations Frank.

In my opinion conditions were generally down on May, although no listening was done here on 3.5 MHz, VK7HL advised that W's and VE's were being QSO'ed by VK's on SSB working split frequency, KP6BD was heard working W's and ZL's on 3.795 MHz. VK's could do with a small band segment here.

7 MHz, my only listening here was between 0600 and 0800Z and nothing even remotely interesting was heard.

14 MHz had its moments, W stations were coming in practically all day local time with the odd goody occasionally bobbing up. Europeans come through some evenings long path but cannot be relied on, South Americans have been practically non existent but Central America produces some of their rarer countries if you listen from 0230 Z. Strangely enough the African Continent has been the most prolific producer of countries heard but working them is an entirely different proposition.

A look at stations copied is possibly the best method of analyzing the month on the air.

3.5 MHz. W's, VE's, JA's, KP6AL, KP6BD.

7 MHz. only KP6AL, KP6BD, JA's, W's all on C.W.

14 MHz. EUROPE, DL8NC, EA3ADW, EA5ZU, EA7ZR, EA6BG (Balearic Island), F6DCQ, F8US, G's and GE's (the special Jubilee call sign), IØLLZ, IØRKK, IØTBA, IL7KUT, LX1AJ, LZ1KTD, OH2TM, OHØNJ (Aaland Island), ON6MN, ON7FF, OX3EA, SV1IO, SP3DOI, UA3QAO, UA6LAV, UF6FE, UF5OAK, UF6VAG, UP2NV, UQ2GW, YU1BCD.

ASIA, EP2RL, JA's, JY25HH, UK9AAN, UK9CAE, UA9FU,

NORTH AMERICA, CO2HZ, HI8GAR, KZ5KB, TG9TV, VE2AQS/TG9, TI2CF, VE's, VP1DK, VP5SL, VP9IF, W's, XF3B, ZF1AK, ZF1MA, 6Y5EI, 6Y5MC.

SOUTH AMERICA, OA4AX, PJ2FR.

ANTARCTICA, KC4AAA, VKØCC, VP8NN, ZL5AC.

OCEANIA, A35WL, A35DG, FK8KAA, KH6's, KP6AL, KP6BD, VK9ZM, VR3AK, VR4DX, 5W1BD.

DX notes continued.

AFRICA, EA8LS, EA8FF, EL3A, TT8TM, TU2GA, TU2GH, ZS1J, ZS2OM, ZS2PZ, ZS2ND, ZS2ER, ZS4PB, ZS5JY, ZS5NV, ZS6AK, ZS6ABO, ZS6AND, ZS6KD, ZS6MG, ZS6IW, ZS6DJ, ZS3BL (South West Africa), 5U7AG, 7X4MD, 9J2BO, 9J2GJ.

21 MHz, EA7ZR, JA's, KP6BD, W's, ZL5AL.

28 MHz W's.

This list of predicted sunspot numbers for 1977 supplied by Bill VK7AK may encourage non-active DX'ers to become active again.

May 18.4 , June 19.7 , July 21.7 , Aug. 24.1 , Sept. 27.2 , Oct. 30.8 , Nov. 33.9 , Dec. 36.0 .

QTH INFORMATION:

KC4AAA C/o W6MAB, 2305 Panorama Dr. La Crescenta, Cal. 91214

CO2HZ P.O. Box 1 Havana, Cuba.

6Y5EI Box 1, Meadow Bridge, St. Andrew, Jamaica.

EP2RL P.O. Box 496, Teheran, Iran.

A35DG P.O. Box 147, Nukualofa, Western Samoa.

VP5SL PMB 1, Grand Turk, Turks and Caicos Islands, Central America.

5W1BD via WA5OCN

TT8TM via WB5OOE

VKØCC via VK2BCC

KP6BD via K9ECE

73 Col VK7LZ

VHF notes by Joe VK7JG.

As predicted, 6 metres opened but not for long. Early in the month ZL TV on 50.75 sound carrier was very strong, on several occasions pictures were watchable in colour with QSB. On checking the band from 50 MHz up no other signals were heard.

During the weekend of the VK2 field day, several short bursts of audio were heard and I did hear a VK2 exchanging a report but no stations were worked.

At long last on the 12th June ChØ from Brisbane was watchable, I went down stairs and gave a short call on 52.050 and immediately Rod VK4ZRQ replied with a 5/9 report, Allan VK4ZRF was also worked about 10 minutes later. It was a short opening lasting about 10 minutes.

The following day Albert VK2ZFB, who now also holds an "N" call, was worked by John VK7JV and myself, signals were steady but very weak. Phil VK2YDY in Moree was also worked. This opening was even shorter than the previous day it lasted about 10 minutes. The next day John VK7JV worked Phil VK2YDY but again signals were very weak and the signal faded out after 2 minutes. Nothing has been heard since. Dont forget the Athol Johnson contest held in conjunction with the R.D. contest, rules appear elsewhere in this issue.

73 Joe VK7JG

ATHOL JOHNSON MEMORIAL CONTEST

The Athol Johnson Memorial contest will be run in conjunction with the R.D. contest on the 13th and 14th of August 1977.

Object, To promote VHF activity in VK7

Rules;

- 1) There is only one section, transmitting open.
- 2) The contest is open to all members of the W.I.A.
- 3) Cross mode contacts are allowed but not cross band.
- 4) Repeaters are allowed.
- 5) A scoring contact may be made every 2 hours.
- 6) Entrants must operate within the terms of their license.

Cyphers; Before points may be claimed for a contact, a 5 figure serial number must be exchanged.

Scoring: An FM contact counts as one (1) point.
Any other mode counts as two (2) points

Entries must show, date and time in GMT, band, callsign of stations contacted, number sent, number received, score claimed. In addition a front sheet showing the following information; name, callsign, address, score claimed (total).

Declaration; I hereby certify that I have operated in accordance with the rules and spirit of the contest.
signed date

All logs to be sent to the,

VHF Officer

P.O. Box 1311

Launceston 7250

not later than 20th September 1977.

Enhanced meteor shower activity for the Southern Hemisphere. This information was taken from the "International Geophysical Calender for 1977" and supplied to us by Allan Downie VK4ZRF.

May 4, 5.

June 8, 9, 10, 11, 12, 23, 24.

July 28, 29, 30, 31.

August 1, 2.

October 20, 21, 22.

November 16, 17.

December 4, 5, 13, 14,

reprint from "Break-In" the NZART journal.

Hidetsugu Yagi, the man who did pioneering work on antennas in the early 1920s, died in January in Japan. He was 89. Besides the antenna that bears his name, Yagi did the first work in UHF. In 1926 he had equipment working on 2.5 GHz.

reprint from "Vicom News"

88 and 73. The numerals 88 and 73 have been a tradition in communications language for almost 120 years. The older of the two, 73, appeared in 1853 meaning "my love to you". In 1857, the first official definition made it a fraternal greeting between operators. Two years later, 1859, Western Union in the USA made "73" a part of their "92 code" to indicate accept my compliments. The final change came in 1895 when "73" meant "best regards" for the telegraph and later for radio operators.

"88" never received the formality of an official listing until it was adopted as one of the amateur abbreviations. It had been one of the telegraph operators traditional terms since well before the turn of the century. During the first world war 88 was used, although unofficially. At the close of world war 1, "88" achieved official status as a part of amateur radio terminology, "love and kisses". Amateur radio certainly aint what it used to be !

CHANGE IN EXAMINATION DATE.

The customary November Novice Licence examination has been put forward to, Tuesday 25th October, 1977. Applications must be made to the office of the Superintendent Regulatory and Licensing Section, Knopwood House, 38 Montpelier Retreat, Battery Point, Tasmania, 7000. Closing date for applications is Friday 16th September 1977. Late applications may not be accepted.

WANTED

WANTED

WANTED

WANTED

WANTED

50 foot telescoping tower, Hills or similar.

2- transistor car radios, Kevin Henricks VK7ZAH

Ringo Ranger ARX2, (2 metre Ringo) Daniel Apted VK7DA

455 KHz mechanical filter, price and condition to

Bill Carter VK7AK

A shack clearing auction will be held at the QTH of Ed Bovis VK7ED on the 16th of July starting at 10.30 a.m.
Ed lives in McEwans Rd Legana, to make it easier for you to find it (and to stop the excuse "I didn't know where he lived") here is a map.



FOR SALE

FOR SALE

FOR SALE

FOR SALE

FOR SALE

As a result of the request, by Joe VK7JG, for 2 metre equipment, we have the following offers.

2 - 1674's, one in going order fitted with xtals for repeater 8 and ch 40 . Price negotiable, contact Graeme VK7ZGG

IGL, 1 watt output fitted with xtals for repeater 8 and Ch 40 \$85.00 contact Don Brooks VK7DB

2 - ex Army H.F. wireless sets with accessories, type W.S.62 \$50.00 for the pair or \$30.00 each.
P.E. Stott, 18 Highfield Crescent, Ulverstone

FT101B all band transceiver, complete with C.W. filter and spare finals, also an optional G3LLL R.F. speech clipper.
What offer ? see Bill Carter VK7AK

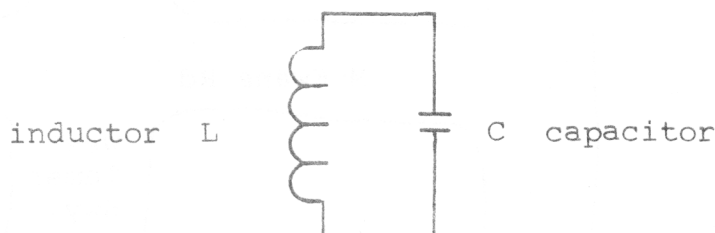
Philips PM2513 digital multimeter, as new condition \$180.00
Jim Oliver VK7JO, C/o J.B.L. Electronics, Charles St.

ROLL YOUR OWN. by Trevor VK7TB.

How often have you come across a circuit and the values of inductance have been quoted in so many μH or used a coil Miller No3816 etc. This situation often occurs in modern circuits and can tend to discourage one from building that particular project because of the unavailability of such components. WHY NOT ROLL YOUR OWN, its simple.

To find the value of inductance of an RF coil (μH variety) all you need is a grid dip oscillator of resonable calibration (it is not essential that it be highly accurate) and a small range of (preferably 5%) ceramic capacitors.

Step 1; solder a capacitor across your unknown inductor (parallel resonate it).



Step 2; move the grid dip oscillator into close proximity of the inductor and find the resonant frequency of the LC combination (this is noted by the dip on the grid dip oscillator).

Step 3; note the frequency of the dip and the value of the resonating capacitor.

Step 4; calculate the value of inductance L from the formula below.

$$f = \frac{1}{2\pi\sqrt{LC}}$$

f = frequency in Hertz

π = 3.142 (constant)

$$\therefore f^2 = \frac{1}{2^2\pi^2LC}$$

L = inductance in Henries

C = capacitance in Farads

$$\therefore L = \frac{1}{2^2\pi^2f^2C}$$

One important thing to remember when calculating your inductance from this formula is that the units L , C and f must be transformed to their original units e.g.

6 μH = $6 \times 10^{-6}\text{H}$ or 0.000006 Henry

3 MHz = $3 \times 10^6\text{Hz}$ or 3000000 Hertz

50 pF = 50×10^{-12} or 0.000000000050 Farad

Lets take an example, your grid dipper showed a distinct dip at 3.0MHz and your coil had a 100pF (100 $\mu\mu\text{F}$) capacitor across it. Therefore,

$$f = 3.0 \times 10^6 \text{ Hz} \quad (10^6 \text{ is 1 million})$$

$$C = 100 \times 10^{-12} \text{ F} \quad (10^{-12} \text{ is 12 decimal places to the left})$$

Using the transformed formula
$$L = \frac{1}{2^2 \pi^2 f^2 C}$$

$$L \text{ (Henries)} = \frac{1}{\underbrace{4}_{2^2} \times \underbrace{(3.142 \times 3.142)}_{\pi^2} \times \underbrace{(3.0 \times 10^6 \times 3.0 \times 10^6)}_{f^2} \times \underbrace{(100 \times 10^{-12})}_C}$$

Some points to remember, when multiplying always add the indices
e.g. $10^6 \times 10^6 = 10^{12}$ $\therefore 10^6 \times 10^6 \times 10^{-12}$ cancel out

The equation now looks like,

$$L \text{ (Henries)} = \frac{1}{4 \times (3.142 \times 3.142) \times (3 \times 3) \times (100)}$$

Now multiply out the bottom line.

$$L = \frac{1}{35539.79}$$

It can be seen that if you divide 35539.79 into 1.0 your answer will be a small fraction of a Henry (0.00002813) radio circuits use small values of inductance, hence μH (1 million $\mu\text{H} = 1 \text{ Henry}$)

By multiplying the top line by 10^6 your answer will be in μH .

$$L \text{ } \mu\text{H} = \frac{1}{35539.79} \quad L = 28.13 \text{ } \mu\text{H}$$

Conclusion, if a 100pF capacitor is placed across a 28.13 μH inductor it will resonate at 3.0 MHz.

As the inductor becomes smaller (therefore to be used at a higher frequency) a greater inaccuracy will develop (due to distributed C of the coil etc.). However it is usually close enough to get you within slug tuning range.

A value of capacitance can be approximated by this method also.

$$C = \frac{1}{2^2 \pi^2 f^2 L}$$

It is often handy to know the values of L's you have on hand. Estimating the value by the sniff method is often hopelessly inaccurate.

If you use a different value of C the dip will occur at a different frequency, however this will still give you the same value of inductance. Inductance is a physical component and its value does change with changes of C or f.

If a high ratio of L and C is selected a higher Q value will result giving a sharper (more narrow) dip on the grid dip oscillator. Under these conditions your calculated L will be closer to the actual L. This is the reason for the selection of ceramic capacitors. WHY CERAMIC ? I hope to answer that in another article.

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