

ISSUE No. 20

LO-KEY : THE JOURNAL OF THE CW OPERATORS QRP CLUB

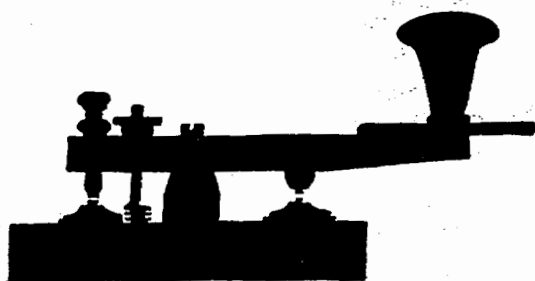
Promoting the Use of Low Power CW Mode Communication
and Home-Brewing in the Amateur Radio Service

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LO-KEY  
December 1988




Seasons Greetings



*WE DO MORE WITH LESS*

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# POSITIONS

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**EXECUTIVE COMMITTEE** - Administers Club policy for the benefit of members.

**ORGANISER**  
Max Brunger VK5OS (2) 3 Durham Ave. LOCKLEYS SA 5032 Australia  
Please send to Max membership enquiries, suggestions and comments and other mail concerning club business, except as specified otherwise on this page.

**TREASURER**  
Kevin Zietz VK5AKZ (43) 41 Tobruk Ave. ST MARYS SA 5042 Australia  
Please send to Kevin membership applications and subscriptions, other payments (except for kit-sets), requests for Club logo stickers, donations, other financial correspondence, changes of details such as address or call-sign.

**EDITOR OF LO-KEY**  
Don Callow VK5AIL (75) 5 Joyce St. GLENGOWRIE SA 5044 Australia  
Please send to Don contributions for Lo-Key and suggestions about this journal.

## OTHER KEY POSITIONS

**PUBLIC RELATIONS OFFICER**  
**AWARDS AND CONTESTS MANAGER**  
Ian Godsil VK3DID (112) P.O. Box 411 NORTH BALWYN Victoria 3104 Australia  
Ian handles the promotion of the Club, general liaison and communications with other Clubs and with editors of radio/electronics magazines.  
Also, please send award claims, scoreboard entries and contest logs to Ian.

**STATE CO-ORDINATORS** (Others are vacant - would YOU like to help ?)  
VK3: Lindsay La Pouppe VK3DXH (47) 1/31 Nelson St. BALACLAVA Vic 3183  
VK7: Rai Taylor VK7VV (3) 25 Twelfth Ave. WEST MOONAH Tasmania 7009  
Send to Rai requests and payment (with your details) for Club QSL cards.

**INFORMATION NET CONTROLLER**  
Max Brunger VK5OS (2). Identification is VK5OS. QRO SSB is used.  
CW stations may call BK de (call-sign) to have their presence acknowledged.  
You hear information about the Club and can take part in technical discussions.  
**MEMBERS AND VISITORS WILL BE WARMLY WELCOMED.**  
**FRIDAY NIGHTS FROM 1030Z NEAR 3620KHZ.**

**CW NET CONTROLLER**  
Ted Daniels VK2CWH/QRP (89). Call is CQ CW OPS/QRP de VK2CWH/QRP K  
QRP power is used i.e. no more than 5 Watts to UR antenna. Ted adjusts speed to suit the slowest operator in the Net and uses only simple abbreviations.  
**ALL WELCOME, PARTICULARLY THE INEXPERIENCED AND NOVICES.**  
**WEDNESDAY NIGHTS FROM 0900Z NEAR 3530KHZ.**  
Also ZL QRP activity Friday nights from 0800Z on 3530kHz.

**CLUB STATION VK5BCW**  
Based at the RICHMOND South Australia QTH of Len O'Donnell VK5ZF (1).

**KIT-SET ACTIVITY CO-ORDINATOR**  
Don Callow VK5AIL (75) 5 Joyce St. GLENGOWRIE SA 5044 Australia  
Send to Don orders (with payment) for kit-sets; technical queries & suggestions.

**PROJECTS OFFICER**  
Rod Green VK6KRG (28) 4 Rothsay St. FORRESTFIELD WA 6058 Australia  
Radio projects for Lo-Key and kit-sets.

**THE BOOKSHOP**  
Norm Lee VK5GI (139) 25 Ralston St. NORTH ADELAIDE SA 5006  
Magazine and book reviews; circulation of circuits and useful information about home-brewing.

## GENERAL INFORMATION

**QRP CALLING FREQUENCIES**  
1815kHz.....3530kHz.....7030kHz.....10106kHz.....14060kHz.....21060kHz.....28060kHz

**CLUB MEMBERSHIP SUBSCRIPTION**  
Due each January.....Australia \$A10.....New Zealand \$A12.....DX \$A14

**LO-KEY - THE CLUB JOURNAL**  
Published quarterly - March.....June.....September.....December.  
QRP & CW home-brewing, operating, SWling etc. **ARTICLES ALWAYS WELCOME.**

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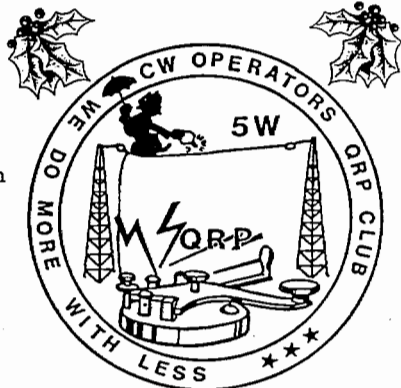
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## ORGANISER'S MESSAGE

By Max VK50S (2)

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*A Merry Christmas and Happy New Year to all Members from your Committee !*

Between the September and December issues of Lo-Key there has been a change in the administration of the Club.

Len VK5ZF (1) has relinquished his multitudinous tasks as President, Editor etc. and more recently Rai VK7VV (3) resigned as Secretary; and on your behalf we thank them for their efforts to found and maintain the CW OPERATORS QRP CLUB.

In the September issue Len proffered advice on the ideal Executive set-up, and may I quote: "I suggest that the VK5 members living in Adelaide form a committee of 7 or 5 as the case may be and run the affairs of the club under an Organiser".

What we have done is to retain the three person Executive for decisions on policy matters, under the leadership of an Organiser, and set up a Support Group within VK5 to share the main tasks of actually running the Club. Hence the new heading.

The support Group comprises Kevin VK5AKZ (43), Don VK5AIL (75), Norm VK5GI (139), Jack VK5ZF (118) and myself, Max VK50S (2) in the role of Organiser.

May we state that the Club logo and aims spell out our task: to further the cause of CW, to promote home-brewing, and to communicate at QRP power levels. And by all available means including the continued publication of Lo-Key we will encourage members to actively participate in Club affairs.

As has been so amply demonstrated in the past: The strength of this Club depends on your help in all its activities.

73. Max

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881207 253A PCB3

Lo-Key Dec. 1988



CW OPERATORS GRP CLUB  
MINUTES OF VKS MEETING

HELD AT THE HOME OF THE TREASURER MR. K. ZIETZ (43)  
ON SATURDAY 05 NOVEMBER 1988 AT 2.30 P.M.

PRESENT: Max BRUNGER (03), Don CALLOW (75), Jack BURKE (11B),  
Norm LEE (139), Kevin ZIETZ (43).

APLOGUES: Malcolm HASKARD (08), Eric CROCKER (100).

This meeting of local VKS members was called in response to the article in SEP188 Lo-Key by our IMMEDIATE PAST PRESIDENT and founder of this club. The purpose of the meeting is to see if a committee can be formed to run the club as the essential offices of the club were not filled at the recent elections.

For the club to continue we need at least two officers.

- 1 A LEADER: To coordinate the club.
- 2 An EDITOR: For Lo-Key - club communications considered vital to club's existence.

To avoid failings of the past we need to spread the work load - after some discussion on where the club is and where it was going, and possible alternatives the following nominations were received by the meeting.

- 1. Max BRUNGER was nominated to co-ordinate the club activity.
- 2. Don CALLOW was nominated as Editor of Lo-Key.

The above positions were subject to acceptance of the 2 remaining executive officers of the club. (ie. executive appointments in the absence of effective elections).

Discussion then occurred as to how to provide the necessary back-up to these officers. Several commitments were made and several leads to be followed-up.

It seemed that it was possible to produce a normal size Lo-Key for December. Further material would need to be contributed if future issues of Lo-Key were to be filled.

There was a need for a phone list for the adelaide group.

Max offered to write to Rai TAYLOR to inform him of the Adelaide meeting results and to seek his agreement to accept the above nominations.

Kevin offered to help Don with some metal work for the Kit Sets, and some typing for Lo-Key apart from the normal treasurer's duties, membership records/lists and mailing labels.

Jack offered help also for the kit sets. (Coil winding).

Norm offered assistance regards typing articles and producing some masters for Lo-Key and also offered to follow-up a lead towards the printing.

It was suggested that there be four meetings of the "working group" each year - this suggestion was favorably received.

The meeting was closed at 4.30 P.M.

K. ZIETZ.  
CONVENOR/TREASURER.



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# EXECUTIVE COMMITTEE

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For the information of Members, the Executive Committee now comprises:

ORGANISER.....Max VK5OS (2)  
TREASURER.....Kevin VK5AKZ (43)  
EDITOR OF LO-KEY..Don VK5AIL (75)

See page 2 for details of the key positions in the Club, including the Executive Committee and the Members running the main Club activities. To a large extent, the Organiser's position combines the responsibilities of the previous President and Secretary positions, formerly occupied by Len VK5ZF (1) and Rai VK7VV (3), respectively. In view of the importance of the position of Editor of Lo-Key, it was decided to make this an Executive position *ex officio*. Both Len and Rai had previously occupied this position.

Having a Committee of three makes it easier for the Executive to operate effectively and make decisions on administering Club policy and managing the Club's activities. We now have a significant advantage in that all three can readily communicate or meet together if required, as all live in the same city.

There will be two important tasks to be undertaken by the Executive, apart from the normal running of the Club:

- \* Review the division of responsibilities between its three Members, taking into account the skills and experience of those concerned;
- \* Set up the Club's systems to make it easier to transfer control to another group after a period of time, if the Membership subsequently desires this.

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**CLUB INFO. NET**  THE CLUB INFO. NET IS ON AIR EVERY  
By Max VK5OS (2) FRIDAY NIGHT FROM 1030Z AT 3620KHZ

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The Net operates for about 1 hour, but members often stay on longer. If there is QRM we go down towards 3610KHz.

THE CALL-SIGN USED IS THAT OF MAX **VK5OS** who is Net Controller.  
THE MODE USED IS SSB PHONE and power can be QRP or QRO.

There is usually some new information for Members each week, but mainly we rag-chew and discuss technical queries or points of interest. Several Members come up most weeks and you are invited to join in as often as you like - once a month or once a year is fine - and you will be warmly welcomed into the group. We are on 80 metres to give Novice members the opportunity to call in.

Some Members have CW gear, but no SSB, and indicate they are listening 'on the side' by sending their call-sign using CW. For two or three, the Net is virtually their only use of the phone mode. Also, one or two of our SWL Members often tune into the Net.

A questionnaire about the SSB Information Net is enclosed with your renewal slip. Please indicate your preferences, so we can see if another time (or more than one time and frequency) is more suitable for Members. The aim is to give as many Members as possible the chance to take part in the Nets, if they wish.

73. Max

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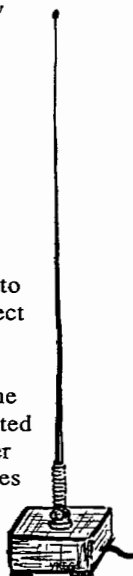
881206 253A PGE5

An Effective yet Appealing, Efficient yet Compact, Tiny  
Little Pocket-Sized Antenna Which Really Works  
(Oh,...yes, and its cheap, too)

by  
Norm VK5GI

AN ACTIVE ANTENNA ARTICLE

If you are like me, then you invariably mix QRPing with SWLing. And why not, there is little to surpass an evening spent listening to the Vienna Philharmonic - from Vienna, or the English soccer direct from Anfield (my home town team!!) This project describes an active antenna the design of which I claim no credit. It is an ETI project which has been given very little publicity. Indeed, over the last few years, the number of active antenna articles can be counted on the fingers of one hand - QST of December 1979, 73 for October 1982 and ETI Special Projects number 9 for 1984 are the only ones that I can find. This field of endeavour has been left almost untouched.



An active antenna is a receiving antenna which presents to the receiver a constant impedance. It usually has a "remote head" (see fig 1) consisting of an RF amplifier and impedance matching circuit. This remote head (fig 1) can be put up a mast, or on the roof or any high position. It is connected via 75 ohm coax to a switching unit / power source. (this is shown in figure 2) This is where we box clever. The coax not only feeds the signals down to the receiver, it also feeds power up to the remote head..This unit (the switching unit/power source) in turn is connected to the antenna input on your receiver

An active antenna can cost many thousands of dollars and consist of hundreds of transistors and ICs, to prevent cross modulation (like 5AN in the middle of the 80 metre band!!) and to protect its nether regions from being fried by stray RF from local transmitters. This is not such a circuit! It has but two transistors and no such protection. Cross modulation is not a problem above 80 metres and the parasitic oscillation supressor resistor R4 has blown a couple of times on my unit, taking the FET with it!. Murphy's second law states that the \$1-20 FET will blow *before* the 45 cent PNP transistor, thus protecting it!

As can be seen, the circuit has only two stages - the amplifier and the impedance matching circuit. The antenna is coupled via C1, (which also takes care of any 50 Hz hum on the antenna.) the previously mentioned R4 through to Q1. A 2N5486 may be substituted - these are sold by Dick Smith Electronics.. Q2 provides a very low output impedance, but R9 brings this up to match the 75 ohm coax cable linking the remote head with the switching

unit/power source. The circuit for the switching unit/power source is shown in Fig.2 and is mounted in a little jiffy box which sits atop the receiver. RFC2 prevents RF from getting into the power source and C6 stops DC from playing old Harry with the first few stages of your You Beaut R5000. RFC1 and R11 do a similar job in the remote head.

The antenna itself on my model is a two metre length of bailing wire (where would this country be with out the stuff?) soldered into a PL259, and the centre of the SO239 on the remote head box is connected to C1 on the printed circuit board. 75 ohm cable is also used to link the switching unit to the coax socket on my R1000.

I used a random wire antenna as a comparison with the active antenna, because this is what most SWLs will be using. Mine is about 60 foot of 25 gauge wire at about 25 feet. The active antenna remote head was hooked over a nail in a beam in the 'shack', directly under a tin roof. The Random wire displayed severe static and 'hash' when tuned to 15.360 MHz (the BBC World Service) This QRN disappeared completely on the active antenna. No differences were noted in loudness, selectivity or sensitivity.

Some time after, I fixed up my Traeger TM2 on 160 metres. Neither the R1000 nor the active antenna were on at the time, but stray RF blew R4 and took out Q1, and this is with only 25 watts from the TM2. I now disconnect the PL259 from the remote head when not using the active antenna, just as a precaution. The problem may be cured by the use of a relay through SW1 to ground the antenna when it is switched off, but lets face it, a 47 ohm resistor and an FET are cheaper than a relay! Watch out for signs of R4 being barbequed on the PCB!

For those with limited space, apartment dwellers or those suffering under antenna restrictions, this little ETI project is just the job. Give it a go, it cost around \$10 and is a lot of fun. The PCB can be obtained from Force Electronics in Adelaide, the semiconductors from Dick Smith and the rest from the junk-box.

I would like to acknowledge the publishers of ETI for their permission to reproduce the circuit, which first appeared in ETI Top Projects Volume 4. Norm. Lee VK5GI.

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### DEADLINES FOR LO-KEY ARTICLES

By Don VK5AIL (75) - EDITOR

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We aim to post your copy of Lo-Key by the 15th (or following weekend) of the month of March, June, September and December. I can accept routine entries for regular features up to the 1st of those months.

For other entries, you can help by sending your articles or drafts, notes etc. to me by the 20th of the previous month. Give me more time if the article is large or cannot be printed 'as is'. If you're late, there is always next issue - but it's best to SEND IT NOW !

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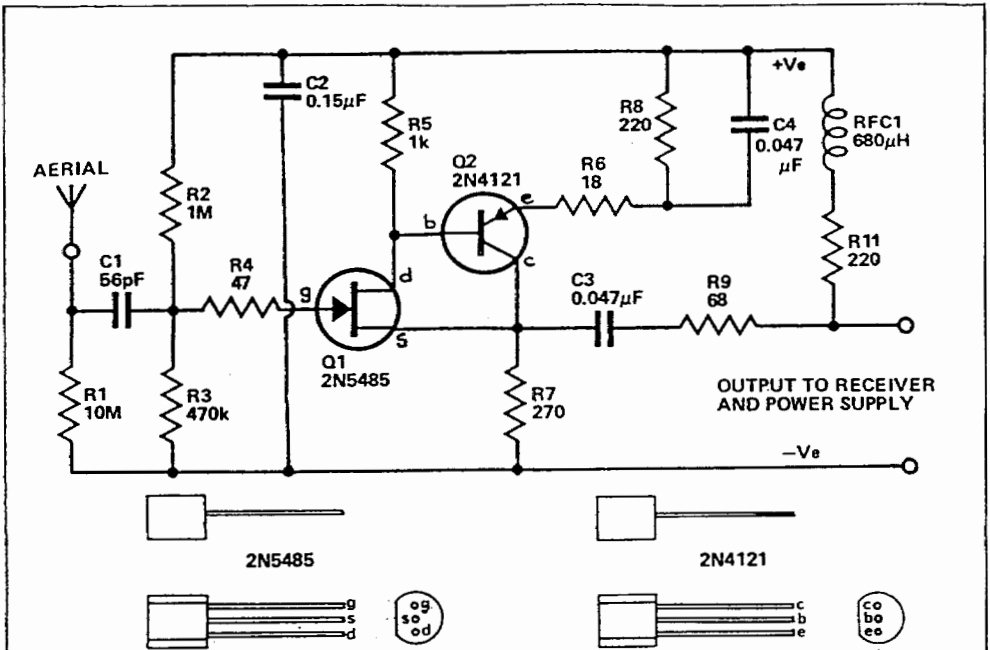


Fig. 1. Circuit diagram of the SWL version (0.5 to 30 MHz).

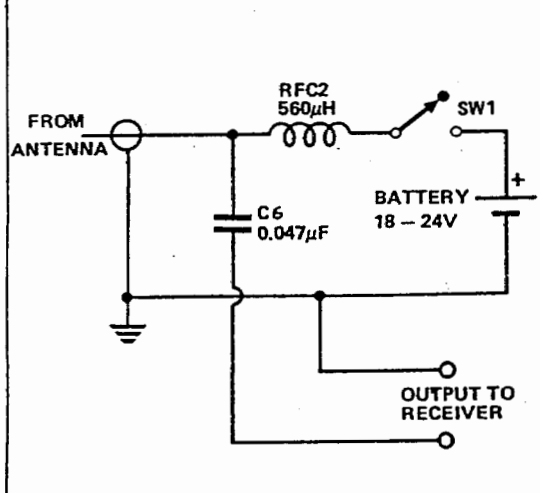


Fig. 2. Circuit for combining supply volts and antenna signal onto the coaxial feeder cable. Used with SWL version where long feeder cable is required.

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### STATE CO-ORDINATORS

As you can see on page 2, we need more State Co-ordinators - for example, in VK2, VK4 and VK6.

**WHY DON'T YOU VOLUNTEER - YOU WILL ENJOY IT !**

There are no strict rules for what you have to do - in fact you can make them up yourself (or decide to have none).

The idea is that the S.C.'s will collect some information about 'who is doing what, when....' in their States and let the Editor have a note about it. Anything more you do is a bonus for our Members !

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BB1204 253A PCB8



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# CLUBTIVITIES

By Don VK5AIL (75)

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## WELCOME TO NEW MEMBERS !

#####

One of the most enjoyable CLUBACTIVITIES is to greet newcomers. We are all pleased to welcome the following new Members - and we hope you enjoy being in this Club and find it worthwhile.

| NUMBER | CALL   | NAME    |
|--------|--------|---------|
| 52     | P29IL  | Ian     |
| 143    | VK3ZF  | George  |
| 144    | VK2EPD | Peter   |
| 145    | SWL    | Brian   |
| 146    | VK2MPW | Peter   |
| 147    | VK6XC  | Ben     |
| 148    | VK2LW  | Les     |
| 149    | VK3BIE | Douglas |



As far as membership is concerned, our motto could be rewritten as -

## WE DO EVEN MORE (for you) WITH MORE (members) !!

#####

**MNI TNX** to Mrs. Zietz and daughters for hospitality on the afternoon the VK5 Support Group was formed - particularly as the meeting went on for an hour longer than expected. The refreshments were greatly appreciated. And thanks Kevin VK5AKZ (43) for inviting us to 'your place'.

#####

**HELP !** IF ANYONE OUT THERE has an INDEX OF LO-KEY, even if it only includes some of the items, or perhaps an index that doesn't cover all of the issues, I WOULD LIKE TO KNOW ABOUT IT ! I aim to print an index in a future issue of Lo-Key. Otherwise, valuable past information will be 'lost' to you, if you don't know it exists. So if you have a reasonable index please send me a copy. At the least it will be a start.

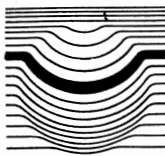
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## PROJECTS OFFICER

This position has been vacant since Rod Green VK6KRG (28) had to give it up due to work commitments, shifting house etc. Rod has advised that things have now settled down a little and he is able to take on the job again. He has been producing at least one homebrew prototype and will, I hope, be sharing the details with us in future issues of Lo-Key. We will look forward to this, Rod.

=====

081202 253A PG29



## CALIBRATOR STRIPPED FOR ACTION

by

Max VK5OS

There are many circuits which tempt me in the home-brew field but most seem to incorporate components which are unobtainable and for which I am unable to find a suitable substitute - mostly from lack of experience, or both.

However, in Amateur Radio, October edition 1987, there appeared a crystal oscillator circuit (see fig 1) as presented by Drew Diamond VK3XU (49) written as usual I feel, with bumlbers like me in mind. It met all the requirements, especially the availability of parts, so I went to it with a will!. The PCB laboriously fashioned (remember, I said I was a bumbler!) and with parts procured from the local WIA Equipment Supplies Committee and other places I do not intend to publicise, the circuit was built, fired up - and it worked! With a Drew Diamond circuit what else could you expect? Flushed with success I offered to build another one for Reg VK3BPG (7) and I am pleased to relate that he has expressed complete satisfaction.

So, you say, where do we come in? Well, the PCB was not difficult but your average do-it-yourself amateur may not have facilities for spraying and baking emulsion and if his/her XYL/OM (note the lack of sexist expression) objects as strenuously as my XYL does to Ferric Chloride in the area, then etching is a real problem. And so we come to Figure 2. With a piece of veroboard 34 holes wide by 25 holes long at 0.01 inch centres we can create a board without etching. The points to watch are :

- (1) The diagram shows the copper side so that the tracks are shown dotted (and the round holes are shown as dotted squares, but blame that on Don VK5AIL's computer, from whence came the layout paper)
- (2) The black dots are where the tracks are cut with a sharp drill as per A.R.R.L.
- (3) The heavy lines are links and can be plain copper wire as they are installed on the component side (the I.C.s sit on top of links in some places.).
- (4) U1, the 74LS04 oscillator is installed in the top left hand corner of the board, and then proceed across to the right hand side - go down to the next line of the I.Cs, put U 4 in the bottom right corner and U5 to the left.

(5) C8 coupling capacitor, switch (bells, whistles or lights, whatever you care to add) are mounted on the front of whichever box you choose.

(6) I had a small 5V regulated 650 mA supply which is built into a case : the overall dimensions are three and seven eighth inches (10 cm) by six inches (15.3 cm) by two and a half inches (6.3 cms), sprayed black and labelled with white rub-ons.

The output is via a BNC socket and the shielding is such that without a lead my TS 520S only shows an S3 strength on 80mx when set to 500KHz - which suits me fine : rock crushing signal generators are not my scene.

Now, the scale around the edges is to assist in cutting at the right places in the tracks - the numbers are printed faintly so you can over-write to match the numbers on the tape you put on the board.

Finally, I am sure you will interpret that the numbers in a circle represent capacitors, resistor R2 is plainly identified, and the big black blob near it is R1. Thats it. Hope you try your hand, and again thanks to Drew for outlining such a handy piece of home brew. ●

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### SOURCES OF PARTS FOR HOMEBREWING

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We regret to advise that the efforts of VK5ZF (1) Len to rally the membership for a concerted drive at the electronics retailers to stock suitable parts for home-brewing have been to no avail.

Len received 11 letters of support, from a total of 94 eligible VK members, and quite rightly decided that the ratio would not impress the retailers.

I believe Len intends to thank those members in his own way.

So this initiative of Len's will not be proceeded with by the Club.

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881203 Z53A PGE11

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### THE EDITOR'S EAR

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Many Members have made suggestions to improve the Club or indicated support for activities, but only a few can be mentioned in Lo-Key. However, if we are doing something along the lines you suggested, it's more than likely that YOUR suggestion helped the change along.

Peter VK6BWI (66) has sent in quite a few ideas - some we are already doing, some we probably won't do (for good reasons), but ALL WILL BE CONSIDERED. So do not hesitate to give the Executive your ideas. They will go into the melting pot with all the others and our Club will gradually evolve to reflect changes in what YOU want.

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881205 Z53A PGE11R

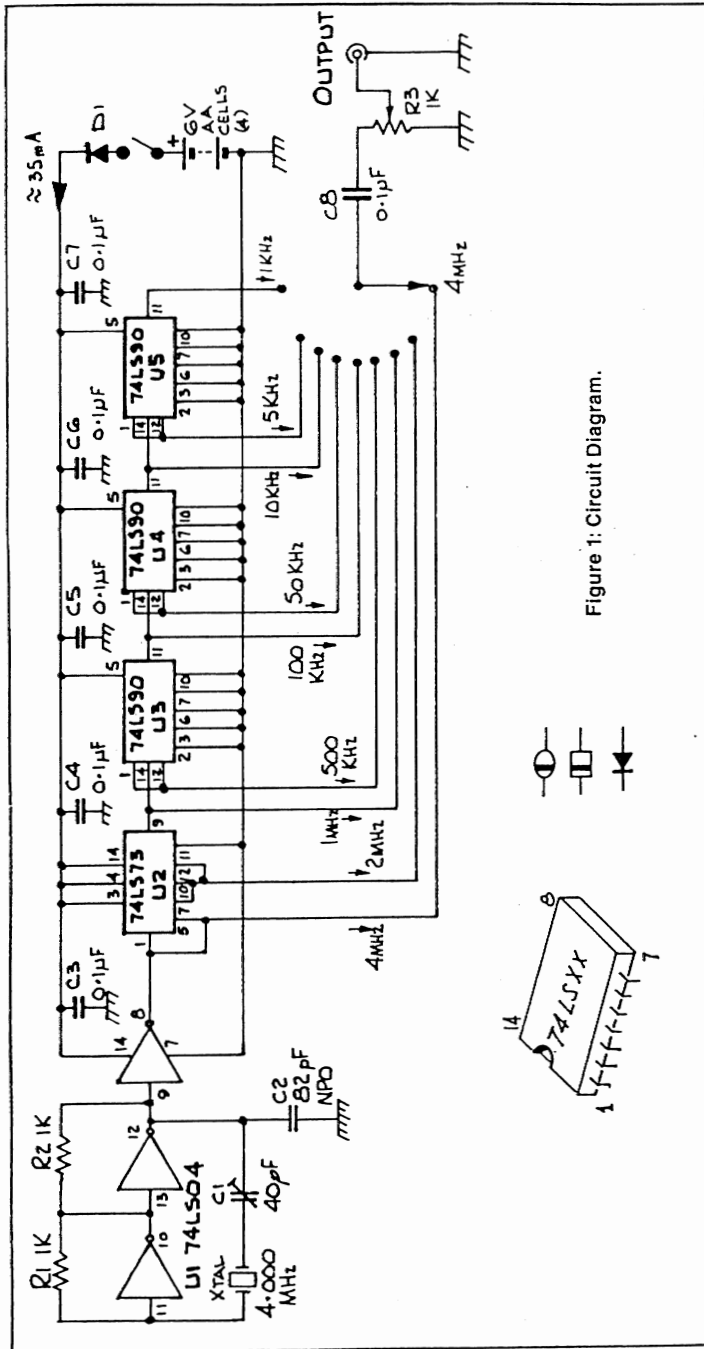
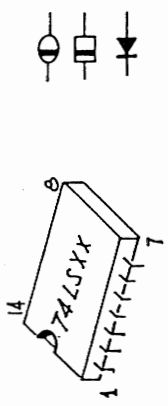
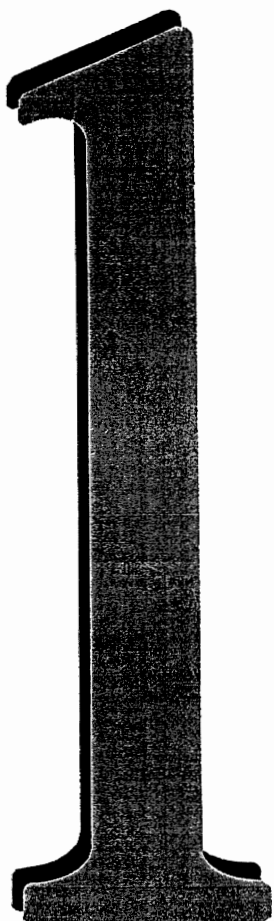


Figure 1: Circuit Diagram.



CW  
QRP  
HOMEBREWING  
is  
NUMBER



FOR FUN

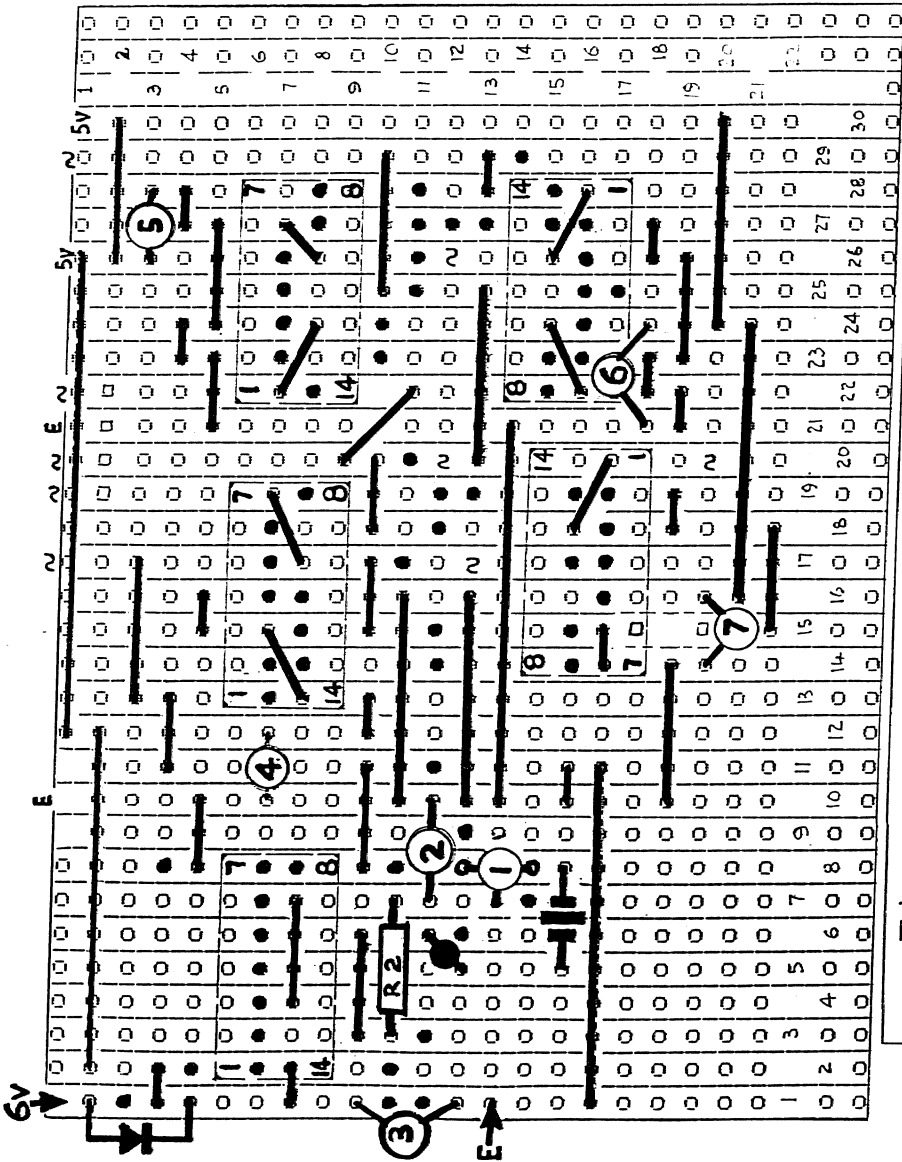


Figure 2: STRIP-BOARD LAYOUT  
 COPPER side is shown. Components and links are on other side.  
 N is a point at which output frequency wiring should be connected.

| NBR | CALL            | NAME       | SURNAME      | ADDRESS                                                               |
|-----|-----------------|------------|--------------|-----------------------------------------------------------------------|
| 48  |                 | Stuart     | BEAN         | 9 Sussex Street, GLENORCHY TAS 7010                                   |
| 90  |                 | Ray        | ROSE         | MS. 103 MT.Kynoch TOOWOOMBA QLD. 4350                                 |
| 100 | (SDC<br>628)    | Eric       | CROCKER      | BOX 158 P.O., PARA HILLS S.A. 5096                                    |
| 96  | G3RJY           | Rev.George | DOBBS        | 498 Manchester Road, ROCHDALE LANGS<br>OL11 3HE ENGLAND               |
| 46  | G4ZHI           | Bryn       | HOWELL-PRYCE | 19 Underhill, MOULSFORD, WALLINGFORD,<br>OXON OX10 9JH UNITED KINGDOM |
| 50  | G8PG/G<br>W8PG  | Gus        | TAYLOR       | 37 Pickerville Road, GREASBY<br>MERSEYSIDE,L49 3ND ENGLAND            |
| 115 | GW4IZJ          | Pat        | RENNICK      | 41 Church Rd., FONTNEWYDD, CWMBRAN<br>GWENT NP44 1AT. WALES U.K.      |
| 74  | K7DAP           | Alan       | MacALEVY     | E660 Pickering Drive, SHELTON<br>WASHINGTON 98584 U.S.A.              |
| 78  | KV7X            | Jay        | STURDIVANT   | P.O. BOX 3027 BELLINGHAM WASHINGTON<br>98227 U.S.A.                   |
| 107 | KZ1L            | Andrew     | MORRISON     | 2 Joan Street, PEPPERELL MA 01463 U.S.A.                              |
| 120 | LUSEIE          | Marcelo    | FRANCO       | CC11 TEMPERLEY (1834) BUENOSAIRES<br>ARGENTINA                        |
| 136 | N1DWA           | Cliff      | WHEELER      | 215 Granite St., ROCKPORT M.A. 01966<br>U.S.A.                        |
| 137 | N4PC            | Paul       | CARR         | Route 5 Box 212 JACKSONVILLE ALABAMA<br>36265 U.S.A.                  |
| 129 | NR1A            | Doug       | STIVISON     | 45 Norman Rd., UPPER MONTCLAIR, NEW<br>JERSEY 07043 U.S.A.            |
| 71  | NW6F/<br>XE210F | Bob        | JACOBS       | APDO 73, MULEGE BAJA CFA. SUR<br>MEXICO                               |
| 52  | P29IL           | Ian        | LESLIE       | P.O. Box 175, GOROKA, EASTERN<br>HIGHLANDS PROVINCE, PAPUA NEW GUINEA |
| 132 | PA3ELD          | Jan        | VISSER       | Wethow Der In't Veldstraat 28 1107BJ<br>AMSTERDAM HOLLAND             |
| 145 | SWL             | Brian      | COOPER       | 128 Queen St., PETERBOROUGH S.A. 5422                                 |
| 79  | SWL/ZL          | Mark       | DONALDSON    | P.O. Box 899 PAPAURA NEW ZEALAND                                      |
| 72  | VE6AAD          | Bob        | ROLLHEISER   | BOX 2609, PEACE RIVER, ALBERTA.<br>T0H2X0 CANADA                      |
| 121 | VK2AGC          | Gary       | COTTLE       | 22 Johnston Rd., BASS HILL N.S.W. 2197                                |
| 5   | VK2AKE          | Jim        | EDWARDS      | P.O. Box 385 BOWRAL N.S.W. 2576                                       |
| 32  | VK2BBX          | Bill       | BALOGH       | 23 Bathurst St., LIVERPOOL N.S.W. 2170                                |
| 22  | VK2BVH          | Brian      | HALPIN       | 5 Carramer Cres., MIRANDA N.S.W. 2228                                 |
| 102 | VK2CSA          | Warren     | MARRIOTT     | 9 Darkwater St., GLADSTONE N.S.W. 2440                                |
| 89  | VK2CWH          | Ted        | DANIELS      | Wombat Hole Bylong Rd., RYISTONE.<br>N.S.W. 2849                      |
| 95  | VK2DMV          | Paul       | IRELAND      | 109 Victoria Street, COFFS HARBOUR<br>N.S.W. 2450                     |
| 127 | VK2DQR          | Ron        | BANNERMAN    | 1 Thomas Hennessy Cr., WEST KEMPSEY<br>N.S.W. 2440                    |
| 124 | VK2DRL          | Bob        | JOHNSON      | 19 Britannia Rd., CASTLE HILL N.S.W. 2154                             |
| 77  | VK2EFF          | Frank      | FILBY        | 366 The Esplanade, SPEERS POINT 2284                                  |
| 144 | VK2EPD          | Peter      | CANNON       | "BINALONG" FORBES N.S.W. 2871                                         |
| 126 | VK2ERA          | Rob        | ABEL         | 18 Campbell St., GLEBE N.S.W. 2037                                    |
| 56  | VK2ESR          | Stephen    | RAPLEY       | 20 Albion Ave., PADDINGTON N.S.W. 2021                                |
| 35  | VK2EXD          | Col        | McDOUGALL    | "WOODLANDS" COOLAMON N.S.W. 2701                                      |
| 133 | VK2FEI          | Greville   | KNIGHT       | C/O H.M.A.S. PLATYPUS MILSONS POINT<br>N.S.W. 2061                    |
| 23  | VK2FJ           | Nev.       | SHAW         | 16 Hynes Place, CAMDEN EAST N.S.W. 2570                               |
| 73  | VK2FJF          | Phil       | THOMPSON     | LOT 23 Rifle Range Rd., DUBBO N.S.W.<br>2830                          |

| NBR | CALL   | NAME              | SURNAME     | ADDRESS                                                |
|-----|--------|-------------------|-------------|--------------------------------------------------------|
| 128 | VK2FNF | Jim               | MCNEILL     | 15 Pacific St., ANGOURIE VIA YAMBA<br>N.S.W. 2464      |
| 81  | VK2FNJ | Jose              | SIQUEIRA    | 63 Tanbark Circuit, WERRINGTON DOWNS<br>N.S.W. 2750    |
| 109 | VK2KEZ | Dennis            | GOODLAND    | P.O. BOX 158, NOWRA N.S.W. 2541                        |
| 148 | VK2LW  | Les               | GABORIT     | 347 MacQuarie Rd., SPRINGWOOD N.S.W. 2777              |
| 146 | VK2MPW | Peter             | WESTERMAN   | 31 Pacific View Dve., HALLIDAYS POINT<br>N.S.W. 2430   |
| 41  | VK2QB  | Leo               | PINKEVITCH  | 20 Cathrine St., KOTARA SOUTH N.S.W. 2289              |
| 30  | VK2VBO | Brian             | O'BRIEN     | 14 Belgrave St., NEUTRAL BAY. N.S.W. 2089              |
| 140 | VK2VJD | John              | DUNN        | P.O. Box 69 SPRINGWOOD N.S.W. 2777                     |
| 142 | VK2WAS | Bill              | SHORT       | 129 Simkin Cres., KODRINGAL WAGGA<br>WAGGA N.S.W. 2650 |
| 131 | VK2YA  | Rex               | BLACK       | 562 Koorringal Rd., WAGGA WAGGA N.S.W.<br>2650         |
| 116 | VK2ZDW | David             | WHEELER     | 50 Bridge Rd., GLEBE N.S.W. 2037                       |
| 85  | VK3ADX | Merv              | QUINN       | 104 Lane Street, BALLARAT VIC. 3350                    |
| 125 | VK3ANP | David             | WARING      | Banksdale Rd., HANSONVILLE VIC. 3675                   |
| 111 | VK3BBI | Bob               | LUKES       | 22 Dorothy Street, EAST BURWOOD VIC.<br>3151           |
| 105 | VK3BDU | Robert            | TYMMS       | 9 Flinders St., MITCHAM VIC 3132                       |
| 82  | VK3BGH | Graeme            | HARRIS      | 9 Loma St., RINGWOOD EAST VIC 3135                     |
| 149 | VK3BIE | Douglas           | PEARCE      | 22 Scott St., KEW VIC. 3101                            |
| 97  | VK3BMC | John              | CARWARDINE  | 36 Barcelona Street, BOX HILL VIC. 3128                |
| 99  | VK3BNH | Murray            | YOUNG       | 69 Kangaroo Grounds Rd., WARRANDYTE<br>VIC. 3113       |
| 7   | VK3BPG | Reg               | BEDFORD     | 45 Milne St., CRIB POINT VIC. 3919                     |
| 13  | VK3BXA | Eric              | ERVINE      | P.O. THODNA VIC 3726                                   |
| 114 | VK3BYA | Derek             | MC NIEL     | 17 Manning Rd., MALVERN EAST VIC 3145                  |
| 33  | VK3BZB | John F.           | ELLIOTT     | 1 Colin St., ROSEBUD WEST VIC. 3940                    |
| 76  | VK3CBO | Rod               | ADAMS       | C/O POST OFFICE, KIEWA VIC. 3691                       |
| 138 | VK3CFI | Maggie            | IAQUINTO    | P.O. Box 285 COLAC VIC. 3250                           |
| 19  | VK3CGE | Neil              | EMENY       | 1 Beaumont Crt., MONTROSE VIC. 3765                    |
| 84  | VK3CIG | Dick              | McINTOSH    | 8/141 Standish St., MYRTLEFORD VIC. 3737               |
| 4   | VK3CQ  | Gilbert           | GRIFFITH    | 7 Church St., BRIGHT VIC. 3741                         |
| 134 | VK3CQK | Ralph             | ROBERTSON   | P.O. BOX 23 KYABRAM VIC 3620                           |
| 123 | VK3CUC | Ken               | SHIELDS     | 47 Sullivan St., INGLEWOOD VIC. 3517                   |
| 12  | VK3CVF | John A.           | ELLIOTT     | 8 Queen St., ROSEDALE VIC. 3847                        |
| 112 | VK3DID | Ian               | GODSIL      | P.O. BOX 411, NORTH BALWYN VIC. 3104                   |
| 110 | VK3DJI | Joe               | LESLIE      | 79 Mitchell Street, BENTLEIGH VIC. 3204                |
| 47  | VK3DXH | Lindsay           | LaPOUPLE    | 1/31 Nelson St., BALACLAVA. VIC. 3183                  |
| 141 | VK3EHH | Harold            | HARDY       | 1 White Parade, CHURCHILL VIC. 3842                    |
| 122 | VK3HG  | Trevor            | STARRIT     | "JENALAN" RMB 2340 TATURA VIC. 3616                    |
| 108 | VK3JQ  | Liz               | RANDALL     | P.O. BOX 378, RINGWOOD VIC. 3134                       |
| 93  | VK3KRL | Simon             | ANDERSON    | 24 Leonard St., BELMONT GEELONG VIC 3216               |
| 135 | VK3NCW | Ken               | WILLIAMS    | 36 McCulloch Ave., SEAFORD VIC 3198                    |
| 59  | VK3VBR | Barry             | RIDGEWAY    | BOX 116 BEECHWORTH VIC. 3747                           |
| 63  | VK3VZW | Clarence          | FEATHERSTON | 62 Orana Drive, WATSONIA VIC 3087                      |
| 49  | VK3XU  | Drew              | DIAMOND     | Lot 2 Catters Rd., WONGA PARK. VIC. 3136               |
| 143 | VK3ZF  | George            | COVENTRY    | Happy Hollow Drive, PLENTY VIC. 3090                   |
| 94  | VK4ATZ | Ted               | WALTON      | 273 Bayview St., HOLLYWELL QLD. 4216                   |
| 45  | VK4BIL | Bill              | RAHMANN     | 28 Fontayne Street, ASPLEY QLD. 4034                   |
| 44  | VK4BSD | Stan              | DEAN        | 380 St. Vincents Rd., NUDGEE QLD. 4014                 |
| 130 | VK4EV  | Ron               | EVERINGHAM  | 30 Hunter St., EVERTON PARK QLD. 4053                  |
| 104 | VK4LKF | Kerry             | FIELDING    | 22 Ellis St., LAWNTON QLD. 4501                        |
| 113 | VK4MUQ | Stanley<br>(Bill) | MARTIN      | 92 Clarke St., GARBUTT, TOWNSVILLE<br>QLD. 4814        |

2 DEC 1988

## CW OPERATORS QRP CLUB - MEMBERSHIP LIST - Page 3

2 DEC 1988

| NBR | CALL          | NAME      | SURNAME     | ADDRESS                                                   |
|-----|---------------|-----------|-------------|-----------------------------------------------------------|
| 27  | VK4NFE        | Bob       | NEVILLE     | 124 Roscommon Road, BOONDALL QLD. 4034                    |
| 15  | VK4RE         | Roy       | HILDRED     | P.O. Box 387 TOOWOOMBA QLD. 4350                          |
| 14  | VK4SF         | Jack      | FORD        | 222 Warwick Rd., CHURCHILL IPSWICH QLD. 4305              |
| 21  | VK4VJT        | Donald    | STIELER     | 6 Image Flat Rd., NAMBOUR QLD. 4560                       |
| 58  | VK5AGP        | G.        | PHILLIS     | 413 The Terrace, PORT PIRIE. S.A. 5540                    |
| 75  | VK5AIL        | Don       | CALLOW      | 5 JOYCE St., GLENGOWRIE S.A. 5044                         |
| 43  | VK5AKZ        | Kevin     | ZIETZ       | 41 Tobruk Ave., ST MARYS S.A. 5042                        |
| 8   | VK5BA         | Malcolm   | HASKARD     | Bassnet Rd., ONE TREE HILL S.A. 5114                      |
| 57  | VK5BJF        | Jeff      | WALLACE     | Box 344, CLARE. S.A. 5453                                 |
| 118 | VK5FZ         | Jack      | BURKE       | 25 La Perouse Ave., FLINDERS PARK S.A. 5025               |
| 139 | VK5GI         | Norm      | LEE         | 25 Ralston St., NORTH ADELAIDE 5006                       |
| 2   | VK5OS         | Max       | BRUNGER     | 3 Durham Ave., LOCKLEYS S.A. 5032                         |
| 1   | VK5ZF         | Len       | O'DONNELL   | 33 Lucas St., RICHMOND S.A. 5033                          |
| 54  | VK6ATM        | Terry     | MAITLAND    | P.O. Box 88, WYALKATCHEM. W.A. 6485                       |
| 66  | VK6BWI        | Peter     | PARKER      | C/O P.O. WITCHCLIFFE. W.A. 6286                           |
| 10  | VK6CP         | Larry     | RICE        | P.O. Box 46 GUILDFORD W.A. 6055                           |
| 25  | VK6KC         | Keith     | WILLIAMS    | 47 Bailey Rd., LESMURDIE W.A. 6076                        |
| 80  | VK6KHZ        | P.        | SCALES      | 19D/49 Herdsman Pde., WEMBLEY W.A. 6014                   |
| 28  | VK6KRG        | Rod       | GREEN       | 4 Rothsay St., FORRESTFIELD W.A. 6058                     |
| 103 | VK6MX         | Warren    | MEAD        | 37 Buckanan Way, PADBURY W.A. 6025                        |
| 61  | VK6SA         | REV.      | SUTER       | BOX 261 MANDURAH W.A. 6210                                |
| 147 | VK6XC         | Ben       | KOH         | 13 Sovereign Plce., FORRESTFIELD W.A. 6058                |
| 42  | VK6ZH         | Milan     | UDALL       | 11 Torwood Drive, GOOSEBERRY HILL W.A. 6076               |
| 87  | VK7BS         | Brian     | SAMPSON     | 31 Joynton Ave., LENAHA VALE. TAS. 7008                   |
| 88  | VK7CS         | Alexander | SZOPKO      | 25 Beach Rd., LEGANA TAS. 7251                            |
| 117 | VK7DT         | David     | TRIFFET     | 15 Ashnourne Gr., SPRINGFIELD TAS.                        |
| 26  | VK7FN         | Neil      | FITZPATRICK | 16 Iron Cliff Road, PENGUIN TAS. 7316                     |
| 91  | VK7IJ/B       | Jan       | SMITH       | P.O. Box 4756, DARWIN 5794                                |
| 40  | VK7JK         | John      | ROGERS      | 1 Darville Crt., BLACKMANS BAY TAS. 7152                  |
| 38  | VK7KBA        | Arthur    | BLACKWELL   | "KELLIE" ELDERSLIE TAS 7030                               |
| 37  | VK7NRE        | Bob       | EDWARDS     | 205 Davey St., HOBART TAS 7000                            |
| 86  | VK7RS         | Barry     | RISELY      | 14 Moirunnard Rd., LINDISFARNE. TAS. 7015                 |
| 3   | VK7VV         | Rai       | TAYLOR      | 25 Twelfth Ave., WEST MOONAH TAS 7009                     |
| 69  | VK7ZD         | Graham    | RANFT       | 315 Black Snake Lane, GRANTON TAS. 7030                   |
| 9   | W3TS          | Mike      | MICHAEL     | P.O. Box 593, CHURCH LANE HALIFAX, P.A. 17032 U.S.A.      |
| 31  | W5QJM         | Fred      | BONAVITA    | P.O. Box 12072, Capitol Station AUSTIN TEXAS 78711 U.S.A. |
| 67  | W6SKQ         | Bob       | SPIDELL     | 45020 N. Camolin Ave., LANCASTER CALIFORNIA 93534 U.S.A.  |
| 18  | WA2YMW        | Bill      | BREARE      | P.O. Box 867, HICKSVILLE N.Y. 11802 U.S.A.                |
| 106 | WB0NQM        | Richard   | LUCAS       | 1906 Edgelea Rd., LAWRENCE KANSAS 66046 U.S.A.            |
| 101 | WBBZW         | Wayne     | WATSON      | 706 Torrence, SPRINGFIELD, OHIO 45503 U.S.A.              |
| 51  | WIA L20944 C. |           | POPE        | 17 Goode St., DUBBO N.S.W. 2830                           |
| 34  | ZL1ATW        | Matt      | MEENAGH     | 223 TE Tomo St., TE AWAMUTĀ NEW ZEALAND                   |
| 29  | ZL1BYY        | George    | CARTWRIGHT  | 6 Haycock Ave., MT. ROSKILL AUCKLAND NEW ZEALAND          |
| 119 | ZL3QW         | Owen      | BETTERIDGE  | 8 Chambers St., NAPIER NEW ZEALAND                        |

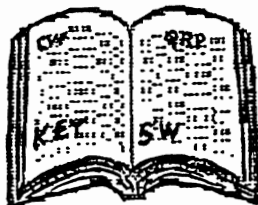
**LOOK**

If YOUR details are incomplete, please let us have the corrections when you renew your membership. If you are D. on our records it would be nice to know you as Dave, Don or Deborah, as the case may be.





THE BOOKSHOP  
BY  
NORM LEE VK5GI



MAGAZINES

The good news and the bad news. The good news is that after much nagging the State Library of South Australia is at last renewing its subscription to QST following a balls-up of monumental proportions when their subscription was inadvertently cancelled. The bad news is that there really hasn't been much in the way of QRP and home-brew type articles in the amateur press over the last few months. However, there are exceptions and the June issue of CQ is worth a look. Dave Ingram and Ade Weiss both have columns in that issue, Dave extolling the virtues of 30 metre QRP work on a 250 milliwatt rig and Ade has the circuit of the "Twofer" built mainly from Tandy parts on a experimenters PCB also from Tandy.

Dave's rig is built on perf board and stuffed inside a cigarette lighter! It is powered by a Radio Shack 12 volt electronic lighter battery and uses the HC18 type subminiature crystal. There is also a mod for this rig, using the similar principle used in the G-club's "Foxy" transceiver of a few years back. I built myself a Foxy but had very indifferent results from it, mainly because I kept on blowing the bejassus out of the final. I finally tracked the problem down to the trimmer, but was never nimble enough to screw the darn thing in (or out!) before there was a nasty smell and the smoke came out! Ade Weiss's Twofer looks like it will put out just under 5 watts and uses a FET (MPF 102) through to a 2N2222 and a 2SC799. I've started construction, so watch this space. In this issue also is an advert for Daves new book, 'Golden Classics of Yesteryear' which is a gem of a book. Its full of olde tyme riggs running 6L6's and valves of which I have never heard. He is full of enthusiasm and I can vouch that he really does write in these exuberent terms, as I have been corresponding with him for a few years now! This issue of CQ is worth digging out of your library or stealing from a friend! You may have noticed in the 'Amateur Radio' magazine for October that the Pounding Brass column praised the CW QRP clubs efforts in the kit project, saying that it was the best kit manual they had seen in a long time, All praise to Don Callow et al for getting us this beaut bit of publicity where we really need it, and to Gilbert Grffith VK3CQ (4) for his efforts in promoting CW and QRP.

BOOKS


In the not too distant future I hope to persuade the committee to stock a few books of interest to the QRPer and the homebrewer (well, the two go together, don't they!) I'm going to try and stock 'The Joy of QRP' - the

classic by Ade Weiss, the 'QRP Note Book' by Doug DeMaw and it may be possible to get hold of the last few copies of the 'Milliwatt' before it went bellyup. It all depends on your support, and any suggestions for titles (no, I mean apart from "Emanuelle takes up QRPing") will be welcome and I will do my best to stock it.

The Boomerang Circuit Book

It seems, by the way, that the Travelling Circuit Book has gone kaputt, but I'm digging out a few (very few) circuits of my own and starting a new one. So, anyone with a few precious circuits, please photocopy them and if you can let me have them, I may include them in this new Homebrewer's haven (aint Macs wonderful?). When I've got enough to justify the postage, I'll start sending the book on its rounds to anyone that wants to see it. Instructions will be in the circuit book, but basically, weight is of paramount importance, because you pay the postage to the next person on the list. When it leaves your hands, it shouldn't weigh more than 500 grams - postage is \$1-65 intrastate and \$2-10 interstate. Above 500 grams, the postage increases dramatically! If you are on the list, please be patient - if not and you would like to be on the list, then drop me a line. Simple as that. As I say, though, I'll have to start collecting a few articles together to justify the postage!

In Closing.....

Well, thats about it from me for this month, I hope to be able to let you know what articles of interest there have been in QST, CQ, Practical Wireless, Amateur Radio, ARA and a few others each month. Once again, if you think that there is something that I might miss, then drop me a line - I'd be glad to hear from you  73's, Norm VK5GI

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BOOMERANG CIRCUIT BOOK CIRCULATION LIST In QTH postcode order
=====

Table with 2 columns: Name and QTH/postcode. Lists names like Stephen, Frank, Col, Liz, Bob, Joe, Merv, John, Stan, Bob, Ron, Jack, Roy, Kerry, Max, Don, Eric Crocker, Ian, Peter, Rai with their respective QTH and postcodes.

A NOTE TO THOSE ON THIS LIST:
If you were on the list for the Travelling Circuit Book No.2 you are automatically on the list for the new B.C.B.

Please let Norm VK5GI (139) know if you do NOT wish to stay on the list. Norm's QTH is on Page 2.

=====

# KIT-SET    ACTIVITY    CENTRE

Quality    Reliability    Price

Don Callow VK5AIL (75) 5 Joyce St. Glengowrie 5044 South Aust. (08) 295 8112

=====

## KIT-SETS AVAILABLE

The Club currently has two kit-sets available for paid-up members:

- \*\* The Club Communicator, a CW QRP transmitter for the 80m band; and
- \*\* A Sensitive SWR Meter, with 5W dummy load.

We also try to keep a range of spare parts for the kits, particularly those items difficult to obtain from normal sources, and sometimes have other useful items which we advertise in Lo-Key.

Orders and payment should be sent to me at the address shown.

Please make out the cheque to CW OPERATORS QRP CLUB.

Include your name and address for sending of the parcel. Also, I need to know your call-sign, membership number (if you have received one) and your *first* name.

If you are ordering the Club Communicator tell me whether you want the Full Kit-Set or name which modules you want.

## SENSITIVE SWR METER KIT-SET, WITH QRP DUMMY LOAD

To assist members who are setting up stations for QRP operation we offer a short-form kit-set for building a sensitive SWR meter, which can also be calibrated to give QRP power readings, plus the parts for a very compact 5W dummy load.

The design and construction of this SWR meter is the subject of an article in *LO-KEY* No. 19 September 1988. The original article was written by Drew Diamond VK3XU (49) and appeared in the Wireless Institute of Australia journal *AMATEUR RADIO* in April 1983, having originally appeared in the *VK CW QRP Club Bulletin*.

The meter is particularly sensitive, unlike many meters designed for higher power, which hardly move the needle when QRP powers are used.

It can be left in-line during QSO's - normally set so that the reverse reading can be monitored. It has a sensitivity control for use when higher power causes the needle to exceed full scale deflection.

Parts are also supplied for building a 5W dummy load in a PL259 coaxial plug, similar to that described in the *ARRL HANDBOOK* (chapter on Test Equipment).

An instruction manual is included. The only significant items not supplied in this short-form kit-set are the main case and the 50uA meter.

This is an ideal first project for a beginner.

The price is \$A 24.00, including postage within Australia.

Also, I have a small quantity of lamp type QRP dummy loads and am including these with the first few kits ordered - so you may be lucky !

[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
[ ] There are three kinds of people: [ ]  
[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]  
[ ] Those who MAKE it happen; [ ]  
[ ] Those who WATCH it happen; [ ]  
[ ] And those who WONDER WHY it happened. [ ]  
[ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

881207 253A PGE208

## 500uA EDGE METERS

We have a few 500uA movement edge meters for sale. These are a little larger and have better graduations than the usual type seen around. They are Kyoritsu model EW-40 (DC). They need a 14mm x 42mm cut-out in the panel, which gives an indication of the size of the analogue display.

They are available to Members at \$A 6.00, including postage within Australia.

## CLUB COMMUNICATOR KIT-SET

The Club Communicator is an 80m band QRP CW transmitter, recommended power output 4W. About two dozen have been sold in little over a year. The strengths of this kit are its simplicity and the good quality of the kit-set - including a manual which has been the subject of much favourable comment. The rig works well too !!

The Full Kit-Set comprises four modules and a set of parts for the assembly into your case. The modules are -

VFO Variable Frequency Oscillator 7.0 - 7.4MHz range, adjustable by you.

BDT Buffer, Divide-by-two, Timer Output is 3.5 - 3.7MHz.

PA Power Amplifier Recommended output is 4W.

QSK Keying Board Does T/R switching between transmit and receive modes.

You can buy the Full Kit-Set or individual modules.

The original concept and design was by Rod Green VK6KRG (28). Information about the early version appeared in *Lo-Key* #14 June 1987 (p. 21) and *Amateur Radio* March 1988. Our kit-set includes some new PCBs and a new, comprehensive instruction manual, written with beginners in mind.

This kit-set will suit those who wish to learn more about radio AND it will suit the more experienced who wish to experiment with the modules, develop them or use them in other rigs.

Standard prices, including postage within Australia, are:

\$A 77.00 for Full Kit-Set

\$A 18.00 for VFO Module

\$A 31.00 for PA Module

\$A 13.00 for BDT Module

\$A 16.00 for QSK Module



These prices apply until 31st March 1989, after which you should look in *Lo-Key* for current prices.

Each module is supplied as a PCB plus the parts to be mounted on that board or which are part of that circuit. An appropriate instruction manual is supplied to suit each order.

The PCB size is about 52 x 52mm (2" x 2"), except for the PA which is about 78 x 78 (3" x 3").

No cases are supplied as this would increase both the cost of the kit and the postage, so you can choose your own or use the sizes we recommend in the manual.

I set up the kits in small batches. If your order is received when a batch is nearly ready you will get the parcel in a week or two, but if you just miss a batch it will take 4 weeks or more.

If you have queries, contact me on the Friday night Club Net (SSB) or telephone or write or catch me on 80m (CW/QRP). I will also try to help with technical queries you may have when building the rig.

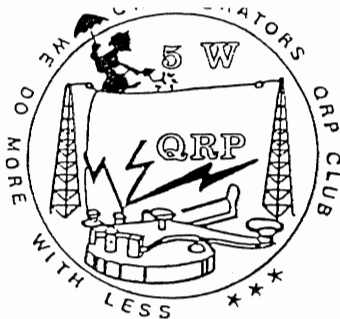
73s Don VK5AIL (75) 15 December 1988

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881205 253A PGE20

# CLUB TIVITIES

By Don VK5AIL (75)



## CLUB LOGO STICKERS

SPECIAL REQUEST  
from Rob VK2ERA (126)

There are still some of these available.  
You can cut then peel them from the storage sheet  
- they are adhesive-backed.

The logo sticker design is reproduced above, full size. It can be used on envelopes, letters, QSL cards, parcels etc.

Once our present stocks have gone it is unlikely we will get more at the same price. So it may be 'back to square one' regarding stickers when we run out.

YOU CAN ORDER THEM FROM KEVIN VK5AKZ (43), our Treasurer (QTH on page 2). The price within Australia is \$A 3.00 for 4 sheets each with 24 stickers. VK members may send the equivalent value in postage stamps. DX members should send \$A 3.00 for stickers and packaging, plus the cost of postage of a packet weighing 230g (8 ozs). The size of a sheet is 210mm x 200mm.

## CLUB QSL CARDS

These are definitely a collector's item - mine is extremely rare since I became involved with kit-sets and club journals ! The prices are:

| NUMBER | PRICE + POSTAGE                                        |
|--------|--------------------------------------------------------|
| 250    | .....\$32 + \$4 postage (This is the minimum quantity) |
| 500    | .....\$54 + \$6 "                                      |
| 750    | .....\$78 + \$8 "                                      |
| 1000   | .....\$100 + \$10 "                                    |

Below is a sample layout of a card, reduced from the standard size 140MM x 85mm or 5-1/2" x 3-1/4". You can readily pick out the variable information which can be customised for your station. They are available in several colours.  
PLEASE CONTACT RAI VK7VV (3) FOR FURTHER DETAILS (QTH on page 2).



# AUSTRALIA VK5AIL/QRP

OPERATOR: DON CALLOW  
Q.T.H.: 5 Joyce Street  
GLENGOWRIE, SA 5044

CONFIRMING QSO WITH

| CALL SIGN | DAY | MONTH | YEAR | TIME (GMT) | FREQ MHz | MODE | R | S | T |
|-----------|-----|-------|------|------------|----------|------|---|---|---|
|           |     |       |      |            |          |      |   |   |   |

EQUIPMENT:..... POWER OUTPUT:.....  
ANTENNA:..... PLSE QSL  TNX QSL

"WE DO MORE WITH LESS"  
CW OPS, QRP CLUB MEMBER 75

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## AWARDS AND CONTESTS

By Don VK5AIL (75)

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### AWARDS AND CONTESTS MANAGER

Our new Awards and Contests Manager is **Ian Godsil VK3DID (112)**, who is also the Club's Public Relations Officer, as announced in the September Lo-Key.

Please send all entries and claims for Scrambles, Awards, DX and VK Scoreboards etc. and other related correspondence to Ian (QTH on page 2). He will arrange to send winners their certificates and will send information for publishing in Lo-Key. He will need your sheets/claims without delay - remember he has to think about Lo-Key deadlines: 20 February, 20 May, 20 August and 20 November.

We will try to schedule Scrambles so you can see the results quickly in Lo-Key.

### OLD CERTIFICATES

Those of you who earned certificates in the last year or so will know that our performance in sending out certificates can only improve.

This is being fixed - and will also give Ian VK3DID a fresh start. You will receive the certificate we owe you early in the New Year. We apologise now if anyone gets a second copy of the same certificate. Better two than none !

### BLANK CONTEST AND SCOREBOARD LOG SHEETS

There are three sheets:  
UNIVERSAL CONTEST LOG SHEET for Scrambles and contests.  
DX SCOREBOARD LOG SHEET and VK SCOREBOARD LOG SHEET

Members are encouraged to send in their claims/entries on these sheets, as they make it a quick and easy job. See June Lo-Key for VK and DX Scoreboard rules.

These are now available from the Treasurer, Kevin VK5AKZ (43), QTH on page 2, for the price of postage. VK Members should enclose a 39-cent stamp with the request. Please nominate how many of each type you want, totalling 8 (as this is the number we can fit in an envelope).

The sheets can be used for entries or, better still, used as masters for photocopying.

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## CLUB DX SCOREBOARD - 1 Aug '88 to 31 July '89

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Rai VK7VV (3)....424 points (14MHz band)  
Ian VK8CW (91)....420 points (14MHz band)  
Len VK5BCW (1).....97 points (21MHz band)

QSP: Rai is about to send another log.

And maybe there is a regular VK7 & VK8 sked organised with a DX station ?!

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### SCRAMBLES

Two were held, both on 80m - Tuesday 18 October and Tuesday 22 November. Conditions were noisy on both nights, with very poor propagation on the second night.

**SCRAMBLE WINNER**  
18 October 1988

**David VK3ANP/QRP (125)**

It was a fine effort, using 1.5 Watts. CONGRATULATIONS !

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881206 254A P23

# CLUB COMMUNICATOR CORNER

FIRSTLY **THANKS** to Jack VK5FZ (118) and Kevin VK5AKZ (43) for your help in preparing the next batch of kit-sets. We are making good progress on these. Jack is doing some of the slower 'fiddly bits', freeing more of my time for Editor's duties. This is a great help. I've given Max VK5OS (2) a holiday from the onerous task of PCB manufacture - at least until 1989 ! **Thanks** also to Reg VK3BPG (7) and Jeff VK5BJF (57) for gifts of beehive capacitors which will be put to good use i.e. go to experimenters.

SECONDLY As there are quite a few Club Communicators around now, it would interest other builders if we could find out about YOUR experiences in construction. I have heard from a few Members by letter and on the Club Info. Net, but maybe you have made some successful modifications or hold the record for DX with this rig, but don't know it !

How about putting pen to paper ?

NOW for the technical side of things....



## VARIABLE INDUCTOR FOR USE IN A PERMEABILITY TUNED VFO

Several designs for variable inductors have been featured in *Lo-Key* over the years, including one by Rai VK7VV (3) in September 1987. Matt ZL1ATW (34) has also sent details of a method he uses.

The Club Communicator VFO uses a variable inductor, comprising a permeability tuned coil, to control the frequency. This set-up is cheaper and smaller than most air-dielectric tuning capacitors. The construction of the permeability tuned coil is shown in the sketch below. This one is used in a circuit which can be adjusted to tune from below 7MHz to above 7.4MHz (see circuit diagram in *Lo-Key* No. 14 June 1987 and *Amateur Radio* March 1988). The frequency is halved before passing to the PA of this 80m Tx.

The original version was produced by Rod VK6KRG (28) and the Type B version featured here has had further development of construction details, inspired by some suggestions from Len VK5ZF (1).

The coil dimensions could be increased for lower frequencies and/or other circuit changes made. Also, the diameter of the threaded slug relative to the coil diameter could be reduced to give finer tuning. But that's another story - and maybe YOU will write it ?

For now, let's look at the construction. The sketch is taken from the kit-set manual and is fairly self explanatory.

At the lowest frequency in the range, the threaded brass tuning slug is more or less clear of the end of the coil wire. At the highest frequency the end of the screw will be right through to the other end of the coil.

Brass reduces the inductance of the coil and therefore screwing the slug further in raises the resonant frequency of the VFO. Iron or ferrite would have the opposite effect, of course.

If you want a fine, low geared tuning rate at the CW end of the band, this can be set up without too much trouble. See TYPICAL TUNING RATE chart for one of my efforts in setting up a coil assembly.



Threaded brass stock is available in various BSW sizes - 1/8", 5/32", 3/16" etc. A 50mm length of 5/32" BSW is used in this design.

The shaft material is 1/4" PVC, but watch out for oversize stock. It is threaded internally to allow the slug to screw in and give an adjustable length. The bush is from a stripped down pot, and must suit the 1/4" shaft.

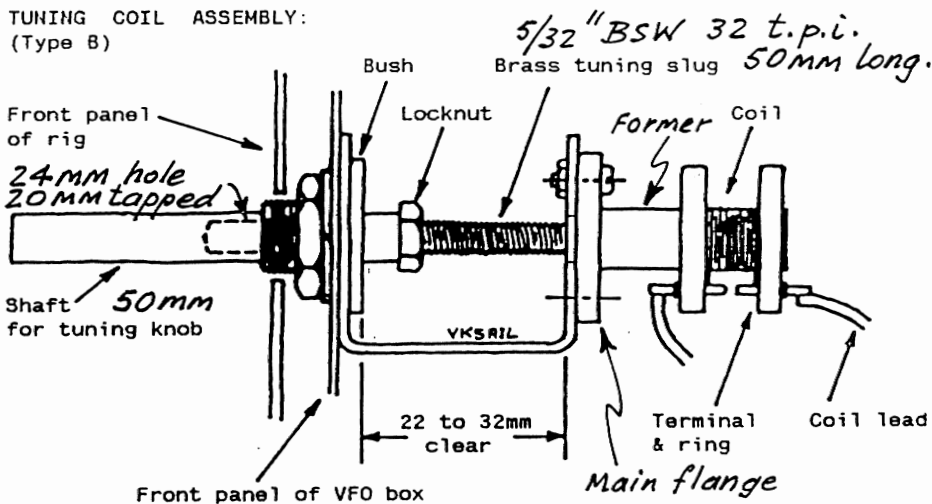
The coil former is 8mm diam. x 27mm long. I use Acetal, a rather expensive material which is not suitable for adhesives, but can be easily cut and tapped. Any dielectric/insulator plastic that you can cut a thread in would be alright. You need to drill the tapping hole right on centre. I set the former rod up in a drill-press chuck and bore it after carefully positioning a drill bit in the vise. Remember that there must be minimal slop in the thread. One-third the length of the former, at the coil end, will have to be drilled at the outside diameter of the slug, because small taps only work over about 20mm length.

There are about 23 turns of 0.25mm (33SWG or 30 B&S) enamelled wire used in the coil itself. Allow 7mm for the coil length between terminal rings.

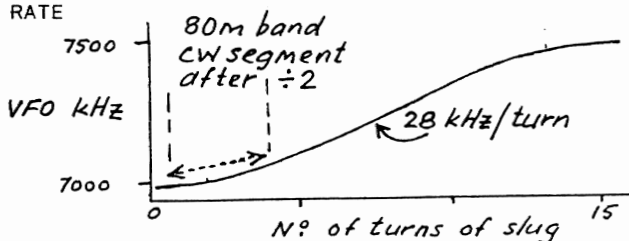
The main flange of the coil former is a 3/4" red fibre tap washer and the terminal rings are 1/2" size washers. Fibre washers are becoming difficult to find. The holes are opened out to give a press fit on the former. Remember, no glue on Acetal, although Araldite may work O.K. if cleaning is scrupulous. The terminals are PCB pins, nominal diameter 1mm, to which rigid coil leads of about 1.5mm diameter are connected.

Well, good luck - Let me know how you get on. 73s **Don** VK5AIL (75)

TUNING COIL ASSEMBLY:  
(Type B)



TYPICAL TUNING RATE



881206 Z53A PGE24



# CAN HELP

From time to time members contact the Club for help - or to offer help - so I have included some of the requests here. Finding **THAT LAST COMPONENT** for the piece of home-brew equipment you are building - or want to build - can be really frustrating. Many of us don't have the confidence to substitute even simple small-signal transistors for the exact one specified.

Perhaps U CAN HELP with one of these queries. If you can, contact the person direct or, where the answer may be of use to other Members, let the the Editor know and it may appear in Lo-Key. Names and postal addresses are published in Lo-Key periodically.

Of course I'm lucky - I get the chance to try to help in THIS issue, without waiting three months to see anything in print, so have included some 'QRM/ED' - QRM from the Editor.

1. **VK2PNJ (81) Jose** is looking for a 2N5401 transistor for a keyer he is building. Do you know a source of supply ? If not, can you nominate a substitute, quoting the comparative specs. ?

QRM/ED: My Transistor Book says plenty of firms make this high voltage Si PNP low power transistor e.g. Motorola, National Semiconductor & Texas Instruments. It is listed in the Rod Irving 1988 catalogue p.61, so maybe a VK3 could help.

2. **VK2DRL (124) Bob** is looking for a source of IRF510 transistors.

QRM/ED: This is a HEXFET (MOSFET, low power). It was mentioned in a power amp featured in VK3XU (49) Drew's Novice Notes column in Amateur Radio October 1988 p6 so there is probably a source in VK3. An early version of the PA circuit for the Club Communicator showed an IRF511, which is in the Tandy 1988/89 catalogue p.105 - but what a difference adding '1' to the number can make ! International Rectifier is the maker and I will stick my neck out here, because the only difference in the brief specification is VDS Drain Source Voltage 60V for IRF511 and 100V for IRF510. ID Continuous Drain Current is the same, as is PD Max. Power Dissipation, 20W. *You be the judge !*

3. **VK4NFE (27) Bob** is looking for condensers for an ATU; also for T20A6, 2SB206 x 2, 2SB212 x 2 and 2N4280 x 2.

QRM/ED: This is a hard one. Air-spaced BC capacitors are available second-hand, so it depends on you finding the individuals or S/H dealer in this type of gear. I admit I initially searched in a valve catalogue for the 2SB's. *We live and learn.* Shindengen Electric of Japan make them Bob and you're closer than we are in VK5 ! The 2N4280 is a Germanium PNP high power transistor. Motorola is one of several makers. Someone HELP, please !

881206 253A PGR26



## From the Editor's Desk...

by Don VK5AIL (75)

Well, here I am at rather short notice, the newly appointed Editor (the third, I think) of our Club journal Lo-Key. No nominations were received for the vacant position and it became necessary to do something in a hurry.

Editorial Policy is quite simple: It is to support the aims of the Club for the benefit of our members. Carrying it out may not be easy - as I am sure the two previous Editors - Len VK5ZF (1) and Rai VK7VV (3) - would say.

The efforts of Len and Rai have led to Lo-Key being highly regarded by its readers. My aim is to eventually improve this journal further.



It seems that there are several balancing acts involved here:-

\* Content - between technical items, Club radio activities, other Club business (administration) and 'social' matters.

\* Technical level - between simple, basic technical articles which assume only limited knowledge and home-brewing experience and the more advanced articles, which not all (maybe only a few ?) Members are able to understand and put to practical use.

\* And of course between cost, quality and quantity.

To a large extent I will depend on the more experienced of our Members for advanced articles. We will also occasionally use reprints from other publications where we have appropriate arrangements for reproduction - but the real test of our technical competence and excellence will be in the work our own members produce. This may be original work, development of other work or review and experimentation with existing circuits and equipment.

I welcome letters from you with input for Lo-Key and positive suggestions. They will ALL be considered for use. Negative comments, complaints and criticism UNLESS SUPPORTED WITH GOOD IDEAS AND HELPFUL SUGGESTIONS will get what they deserve. Club policy matters will of course be referred to the Executive Committee.

**THANKYOU** to those who have helped with the content and production of this issue. Perhaps you have not provided much input before, so I hope that seeing the result in print inspires some more ideas for future issues !

In closing, some of my most satisfying experiences have come about by chance or by events not of my own choosing. Has the same sort of thing happened to you ?

SEASONS GREETINGS



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# INTERESTED IN JOINING US ?

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**IF YOU ARE A NON-MEMBER, THEN THIS PAGE IS FOR YOU !**

This copy of our Club Journal has been sent to you to give you an appreciation of the scope of activities of the **CW OPERATORS QRP CLUB**. We are saying to Amateurs that you can enjoy your hobby just as much as at present - in fact more - without having to spend thousands of dollars.

In each issue of **Lo-Key** we try to include as many technical articles as possible on all types of QRP equipment and encourage our members to make their own gear. Many articles are written with the inexperienced builder in mind - as are the instructions with the Club's kit-sets.

The reason why we promote the use of CW mode is to show support for a skill that has been part of Amateur Radio since its inception - and we are proud of it. Our Club is possibly the only Radio Club in Australia that actively supports CW exclusively.

Using low power and homebrewing our own equipment gives QRPers a great feeling of achievement and satisfaction. It certainly gives us a direction and purpose in holding an Amateur Licence and enjoying our hobby.

Would you like to join us in putting the **AMATEUR** back into Amateur Radio ?  
Would you like to use more of the Amateur skills you have acquired ?  
Would you like to become enthusiastic about your hobby again ?

If so, fill in the application form (or a copy of it) and mail it to our Treasurer at the address shown on the form.

*A receipt will be sent with your next issue of Lo-Key.*

C u t            a l o n g            t h i s            l i n e

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## CW OPERATORS QRP CLUB

Please post this application to:

Promoting the Use of Low Power  
CW Mode Communication  
and Home-Brewing  
in the Amateur Radio Service

Kevin Zietz VK5AKZ (43)  
41 Tobruk Ave.  
St. Marys SA 5042  
AUSTRALIA

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I would like to apply for Membership of the **CW Operators QRP Club**.

With this application I enclose \$A10 for VK Amateurs, \$A12 for ZL Amateurs, \$A14 for DX Amateurs, which is the annual membership fee.

(please print)

FIRST NAME & CALL SIGN .....

INITIALS & SURNAME .....

ADDRESS .....

.....

.....



DEC 1988