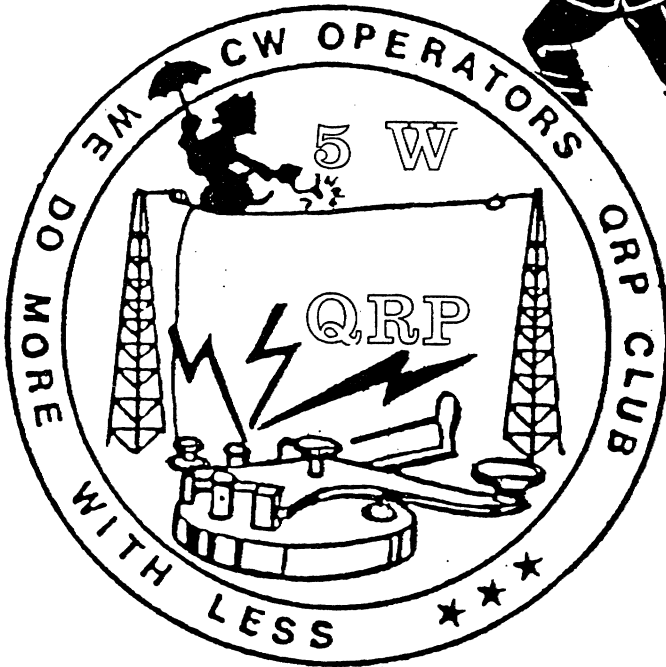


# LO-KEY

## NEWS BULLETIN



PUBLISHED QUATERLY

"WE DO MORE WITH LESS"

RAI TAYLOR 25 TWELFTH AVE WEST MOONAH TASMANIA 7009

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Rai Taylor as above

EDITOR Rai Taylor as above

## PUBLIC RELATIONS

Len O'Donnell as above

Club information net. ssb. qro. 3675. 1030z  
Club call sign VK5BCW. Controller MAX VK5OS.

CW. Activity. Wednesdays 0930z. 3535mhz  
Controller Brian VK2BVH.

ZL QRP CW ACTIVITY FRIDAYS 0800z 3530mhz

Club DX net Saturdays and Sundays 0630z  
14060mhz Controller Rai VK7VV

LO-KEY PUBLISHED MARCH-JUNE-SEPTEMBER-DECEMBER  
ANNUAL MEMBERSHIP FEES INCLUDING LO-KEY  
VK \$A10 ZL \$A12 DX \$A14

IRC'S NOT ACCEPTABLE.

MONEY ORDERS/CHEQUES PAYABLE TO THE CW.OPS QRP CLUB



**Christmas-**  
**God's Gift**

**JESUS**



May the Joy of the First Christmas  
be yours.



★ ★ ★ ★ ★ ★ ★ ★

# BITS AND PIECES

From.... VK5ZF (1)

I take this opportunity of wishing all members of our club a very joyful and happy Christmas, and a prosperous New Year. To commence this quarters club chit-chat I will start with....

## THE TRAVELLING CIRCUIT BOOK

Book number 1, has completed two different circuits of club members, and arrived back to me in good order and condition. I thank all members who received the book for taking such good care of the contents. From the information label attached to the front cover three things that could improve the service to members emerge....(1) Members on the mailing list must notify me of any change of address, so as to avoid any lengthy delays in the next person on the list, receiving the book. (2) Members must fill in arrival and departure information. this means ALL members, not just some. (3) 14 days is the MAXIMUM period that the book must be kept by any one member. This also applies to All members, and not some. I have received some very nice comments from members who were on the lists about the T. C. Book idea, and so far have not received any criticism, which is great. Now you members who were on lists No.'s 1 and 2, for book No. 1 are not automatically placed on the list for the new Book No. 2. I can not do that. If you want to receive book No. 2, (which is all different circuits and QRP information), then you are going to have to re-submit your name to be put on the mailing list. It is as simple as that, and all up to you.

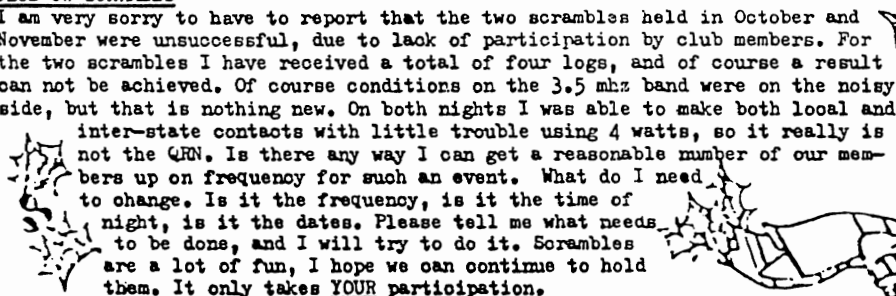
Book number 2 This new book containing different material, has now been completed, but would you believe that I have been unable to send it out, because of lack of support from our members. My request in the last issue of Lo-Key to get your name on the mailing list for book No.2, had very little response, and I STILL NEED some further eight or nine names before I have the MINIMUM number of names on the list to send the book on its way. To those members who have indicated to me that they require to receive book No. 2 I say thank you, and please be a little patient for a little longer, while I try to get sufficient response to get the project off the ground. I am sorry but this will have to be my last request to you, on behalf of this project. I can only arrive at the conclusion that there is no further interest by the majority of members, in a Travelling Circuit Book, and it would be best for me to stop promoting the idea of sharing our QRP information, and SHELVE the project.

In conclusion please bear with me while I briefly explain to our newer members, that the travelling circuit book consists of QRP circuits and information taken from different sources, collected in one folder. This information is then circulated between members on a mailing list. Your only cost is the postage to the next member on the list, and amounts to \$1.90 approx. There are some 90 A4 size sheets printed both sides to give 180 pages of QRP information to each member receiving the book. Of course there are certain basic rules mentioned earlier to be observed, to make the project work. Any further information you may like can be had from writing a note to me:

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## CLUB CW SCRAMBLES

I am very sorry to have to report that the two scrambles held in October and November were unsuccessful, due to lack of participation by club members. For the two scrambles I have received a total of four logs, and of course a result can not be achieved. Of course conditions on the 3.5 mhz band were on the noisy side, but that is nothing new. On both nights I was able to make both local and inter-state contacts with little trouble using 4 watts, so it really is not the QRN. Is there any way I can get a reasonable number of our members up on frequency for such an event. What do I need to change. Is it the frequency, is it the time of night, is it the dates. Please tell me what needs to be done, and I will try to do it. Scrambles are a lot of fun, I hope we can continue to hold them. It only takes YOUR participation.



BITS AND PIECES (Cont.)

OLD POT BUSHES

In the previous issue of Lo-Key, through this column, I appealed on behalf of the Kit-set Activity center for old pot bushes. These were needed as shaft guides, for the tuning shaft of the VFO coils, for the Club Communicator Kit-set Project. The response from the members was great, and I would like to thank the following members for donations of old pot bushes.

- (66)....Peter.....VK6NNN
- (111)...Bob.....VK3BBI
- (57)....Jeff.....VK5BJF
- (28)....Rod.....VK6KRG
- (102)..Warren.....VK2CSA
- (5)....Jim.....VK2AKE
- (26)....Neil.....VK7FN

Don VK5ALL the Kit-set Activity Controller, tells me that he now has an adequate stock of these bushes for immediate needs, but he would like you to continue to save them, for further kit-set projects in the future. If I have overlooked anybody's name I do apologise, and I thank them also.

\*\*\*\*\*

NEW MEMBERS

It gives me great pleasure to welcome the following new members to our club....

- ( 4)....Gilbert.....VK3CQ
- (113)....Bill.....VK4MUQ
- (114)....Derek.....VK3BYO
- (115)....Pat.....GW4IZJ
- (116)....David.....VK2ZDW
- (117)....David.....VK7DT

I know that all members join with me in this welcome, and will be looking forward to a QRP contact with our new members shortly. The full addresses of these new QRPers may be found in the club membership list, elsewhere in this issue of Lo-Key.

While I am on the subject of membership, may I just say that we did not anywhere near our target of 200 members for 1987. Never mind we tried our best, and that is all we can do. Actually our net membership gain was (23) in 1987. At the end of 1986 we had (85), and we now have (108) members at the end of 1987. Yes we did gain (23) new members, and regretfully we did lose a few members along the way.

I will not be making any extravagant claims for membership for 1988, but I can tell you that I will be quietly striving for new members. Reading through Gus' letter, that I have included elsewhere in this issue, has set me thinking of more ways I can push the QRP/CW/Home-brewing "barrow" quietly, with a view to obtaining new members along the way. At the moment we are struggling, but it is not going to be that way for ever. Of that fact I am sure.

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LOAN RIG

Our Club Projects Officer Rod VK6KRG has kindly loaned the Club a very nicely home-brewed 3.5mhz transmitter, to be used for club purposes, so long as the club remains in existence. I sincerely thank Rod on behalf of the Committee for his generous gesture. To get maximum use from this little transmitter, it will be used for two purposes. (1) It will be used as a loan transmitter to any Club member who needs the use of a 3.5 mhz transistorized transmitter, for a short period of time. Full details can be obtained from me VK5ZF (1). (2) When it is not out on loan to a member it will be the official club station VK5BCW CW transmitter on 3.5mhz. In this capacity it will be used in all club activities, wherever possible. Thank you again Rod, and I can assure you that it will be put to good use immediately.

\*\*\*\*\*

PROMOTE QRP AND CW AS WELL AS  
HOME-BREWING

BITS AND PIECES (Cont.)

GEAR BUILDING CONTEST

In the last issue of Lo-Key I did mention a suggestion by Malcolm VK5BA (8), that we hold a Simple Transceiver building contest during 1988.

Unfortunately I have only received one letter of

support for this idea. It seems a pity that such a suggestion does not merit far more support. Many members on numerous occasions have told me how happy they are to "Home-brew" their equipment, and here is an opportunity to show off what you have built, or what you can build in the next 12 months, and only one member is interested. I am not going to tell you his name, but I am going to tell you that he is the YOUNGEST member we have got. I would have thought that with the Club Communicator Kit-set again available we would have had stacks of entries.

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VK8CW

Now there is a call sign to make you wonder what I am on about, well I shall not keep you in the dark any longer. VK8CW is none other than our own Ian VK7IJ, who is now living in Darwin. At last the CW Operators QRP Club can now boast that we have a VK8 on our membership list. I am hoping to make the QRP trip up to Darwin on 14 mhz, before I am much older, and so complete my worked all VK States QRP award. I would suggest that you listen out for Ian around 14060 when conditions allow it. By the next issue of Lo-Key (March) I hope to have a lot more details of Ian's operating times and frequencies.

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MYSTERY PHOTO

I wonder if any of our members can recognise the very handsome gent in the picture. One of my spies for this column sent it to me. A very helpful clue for you, is that you will find his name in the membership list on the last three pages of this issue of Lo-Key. With the help from this clue, the field has been narrowed right down to 107, seeing as we now have 108 members. If you have no idea, and can not stand the suspense any longer, please read the last item in this column. (which is upside down.) How about sending me a photo of yourself and your shack. We would no longer have to visualize the face behind the call sign.



\*\*\*\*\*

QRPING DOWN UNDER

My efforts to produce a VK flavoured QRP Handbook have temporarily stopped. The reason is that Rai is about to produce a volume of the best of Lo-Key, but I will not elaborate on that, because he naturally will want to tell you about it himself. In the meantime I will change direction with the mass of material I am collecting, and have some time to experiment with some of the circuits. In the long run the delay will probably cause it to become a much better publication.

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VK3CQ

You will have noticed this call sign, in the list of new members earlier in this column. The reason I draw your attention to Gilbert, is that he also writes the "Pounding Brass" column for the WIA magazine Amateur Radio. Gilbert of course is plugging the CW mode through his column, so we as QRP'ers need to support him all the way, as CW is also our chosen mode of transmission. Please send Gilbert any information that might help him to write his column.

By helping Gilbert you are helping yourself as CW QRPERS and the CLUB as well.

REPRINT ARTICLES

During this last quarter I have received several letters from DX and VK members, expressing a certain amount of frustration at reading technical articles in Lo-Key, that are reprints from the

other QRP clubs. I can understand this as these members are probably members of the other QRP clubs, as well as our own club. May I point out the practice of publishing reprints from other QRP magazines is common among all QRP clubs. If we do not publish these reprints in Lo-Key, however are our members going to catch up with these articles from the other QRP magazines. I am afraid that it is a fact of life, and part of the price of belonging to more than one QRP club. My approach to easing the situation, will be to consult with Rod to see if we can come up with at least one original article for each issue of Lo-Key. I do not know what our Technical Projects officer can come up with, so I am making NO promises, but I will sure discuss it with him.

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VK3 BBQ.

Remember the suggestion from Lindsay VK3DXH (47), the VK3 State Co-ordinator, to hold a BBQ for Club members in the Melbourne area. It was mentioned in the last issue of Lo-Key. Lindsay has asked me to remind you again as the Christmas holiday period draws closer. If you would like to meet other club members in the Melbourne area, now is the time to contact VK3DXH with your thoughts on the place, time and date. Chat to him on the air, write to him, ring him, it does not matter which way you contact him, but **DO IT NOW.**

\*\*\*\*\*

COPIER FUND

The saga of the Copier Fund is fast coming to a conclusion at long last, as it is time to move on this problem. The total has reached \$624, and I sincerely thank all the members who have made a donation to the copier fund, as it was an extremely good effort. For my part I am finding it impossible to continue my contribution to club management, including my input to Lo-Key, with the facilities I have at my disposal at present. Add to this that it is more than time for Rai to be given a rest from printing Lo-Key. It is time that Lo-Key is printed on our own copier from here in Adelaide. So with these points uppermost in my mind I will be looking to obtaining our own Club copier, very shortly indeed. I am hoping that with Kevins assistance (he knows a little about copiers) we will be able to find what we are looking for. Here is the final list of all donations.....

CO01.... ( 1)....VK5ZF....\$20:00	CO18.... ( 5)....VK2AKE....\$10:00
CO02.... ( 93)....VK3KRL....\$05:00	CO19.... ( 82)....VK3BDH....\$10:00
CO03.... ( 54)....VK6ATM....\$15:00	CO20.... ( 35)....VK2EXD....\$10:00
CO04.... ( 44)....VK4BSD....\$10:00	CO21.... ( 11)....VK4BML....\$10:00
CO05.... ( 95)....VK2DMV....\$15:00	CO22.... ( 41)....VK2QB....\$02:00
CO06.... ( 12)....VK3CVF....\$10:00	CO23.... ( 9)....W3TS.....\$07:74
CO07.... ( 83)....WB6MTR....\$14:77	CO24.... ( 80)....VK6KHZ....\$20:00
CO08.... ( 20)....VK4UG....\$05:00	CO25.... ( ?)....ANON.....\$05:00
CO09.... ( 1)....VK5ZF....\$10:00	CO26.... ( 78)....KV7X.....\$08:91
CO10.... ( 43)....VK5AKZ....\$02:00	CO27.... ( 1)....VK5ZF....\$20:00
CO11.... ( 30)....VK2BVO....\$05:00	CO28.... ( 47)....VK3DXH....\$10:00
CO12.... ( 68)....WB2OUQ....\$01:47	CO29.... ( 93)....VK3KRL....\$05:00
CO13.... ( 3)....VK7VV....\$40:60	CO30.... ( 14)....VK4SF....\$10:00
CO14.... ( 95)....VK2DMV....\$10:00	CO31.... ( 6)....K6NDJ....\$16:33
CO15.... ( 76)....VK3CBO....\$10:00	CO32.... ( 7)....VK3BPG....\$01:10
CO16.... ( 78)....KV7X.....\$15:48	CO33.... ( 43)....VK5AKZ....\$28:28
CO17.... ( 18)....WA2YMW....\$35:72	CO34.... ( 15)....VK4RE....\$10:00
	CO35.... ( 36)....VK7JE....\$15:00
	CO36.... ( 2)....VK5OS....\$20:00
	CO37.... ( 94)....VK4ATZ....\$10:00
	CO38.... ( ?)....ANON. H/B.\$43:36

Cont. next page

BITS AND PIECES Cont.

COPIER FUND Cont.

CO39....( 55)....VK4FAL....\$10:00	CO44....( 72)....VE6AAO....\$00:89
CO40....( 26)....VK7FN....\$03:95	CO46....( 66)....VK6NNN....\$00:06
CO41....( 99)....VK3PKV....\$10:00	CO48....( 46)....G4ZHI....\$02:00
CO42....(102)....VK2CSA....\$10:00	CO50....( 7)....VK3BPG....\$10:00
CO43....( 74)....K7DAP....\$04:99	CO51....( 5)....VK2AKE....\$01:05
CO45....( 57)....VK5BJF....\$30:00	CO52....(26)....VK7FN....\$00:58
CO47....( 91)....VK8CW....\$02:63	CO54....( 1)....VK5ZF....\$20:00
CO49....(102)....VK2CSA....\$20:00	
CO53....(108)....VK3PSG....\$00:63	

TOTAL = \$624:54

As you can see we did not quite make our target of \$700, but we did try hard and came fairly close to it. Maybe I can tell you that we have our own copier by the time the March issue of Lo-Key is ready for issue. Once again A BIG THANK YOU TO ALL MEMBERS WHO DONATED TO THE FUND.

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KIT-SET ACTIVITY CENTER

Now I am not going to steel any of Don VK5AIL's thunder, and say any thing about the "Club Communicator", but I am going to blow Don's trumpet about himself and his helpers. Don now has the Printed Circuit Kid, (Max VK5OS) working over-time, and of course Rod VK6KRG is his man on VFO production. Together they make a very fine team, and you will be able to see the results of their labours elsewhere in this issue of Lo-Key. I have been given my DCN (don't come monday) already. They reckon I am too old, slow, and doddery, so it is back to the valves for me. Seriously though I would just like to thank Don and his crew for the enormous amount of work they have put into this kit-set project. The organising ability of Don has to be seen, to be believed. I have seen it, and I still do not believe it. I think I can say on behalf of the Club, thank you very much fellers, and congradulations on the success of your great efforts.

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G8PG Gus Taylor (50)

Before I finish these notes I would just like to pay a tribute to Gus, and thank him for the time and trouble he took in writing the letter about the G QRP club, which I am sharing with the membership, elsewhere in this issue. Gus would be one of the most dedicated QRPers that I have heard of. His record speaks for its self, and the G club growth and expansion is due to a good deal of his effort. If the Queen gave out Knighthoods for QRP activity, Gus would probably be known as Sir QRP. Thanks also for the QTH of the JA QRP contact.

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ALL OUR VK MEMBERS JOIN WITH ME I AM SURE, AT THIS TIME OF THE YEAR TO WISH

OUR DX MEMBERS

A MERRY CHRISTMAS

AND

A HAPPY NEW YEAR

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Well I wonder if you did guess who the character was in the photo. My guy suggested me, that he could be wanted by Interpol, but I dont think so. Of course it is none other than our own Editor Hal VK7AA. The picture came from Sprat, the magazine of the G QRP club. It was taken at the shack of Rev. George Dobbs G3RJ, when Hal was visiting England recently.

\*\*\*\*\*  
MSTERY PHOTO



A LETTER FROM GUS TAYLOR G8PG on QRPing in Europe with the G QRP CLUB.

Now for your request for information about QRP on the other side of the fence. The following may be of interest.

As an expression of the growing discontent with high power, black box operation, the G QRP Club was formed at the beginning of 1975, by the Rev. G.C. Dobbs G3RJV. George besides being a Church of England Priest, is well qualified in Radio and Electronics. The first issue of the Club journal Sprat, went to a membership of 20. Current circulation is approximately 4,000 in over 60 countries. From the start the Club adopted a very liberal policy. The one requirement was an interest in QRP, irrespective of what mode was used, or whether the equipment was Home-brew or commercial. Interestingly, this produced a situation where (a) about 75% of the members operate wholly or mainly on CW, by their own choice, and (b) one often finds the expensive black box relegated to the role of receiver, while contacts are made on the tiny Home-brew QRP rig.

As far as operating activity was concerned, the policy was (a) not to have nets, but to encourage activity period for one-to-one QRP working, and (b) not to initiate yet more contests, but to support existing contests such as AGDL CW twice yearly QRP contest. While membership was building up, there were regular weekend activity periods on 3.5, 7, 14mhz, which helped to keep members in touch and encourage activity. As membership grew and grew, these were overtaken by events, and it is now rare to tune around 3560 (or 7030 if skip is right), without hearing UK QRP stations in contact with each other. Contacts with Europe on the higher bands are also common, and DX when conditions are right. Dozens of members also fight it out with QRO pile-ups in normal DX operation. Nowadays the Club also runs four major activity events each year, namely the Winter Sports over the Christmas - New Year period, the OK / G QRP tests in Feb., the Summer Ramble covering the week of International QRP day (17 th. June), and the remote locations week in October, designed to encourage operation from remote areas of GM, GI, GW, GJ, GU, and EI. These events produce a very high level of activity, and trophies and certificates are awarded for the best logs. Activity is further encouraged by a comprehensive Awards programme covering working other members, QRP two-way working QRP DX working, and QRP WAC. Those who have worked at least 60 members, 75 DXCC countries, and 20 countries on two-way QRP are admitted to the Worshipful Company of QRP Masters. Power limits for awards are 3 watts out on CW or 10 watts PEP on SSB.

The Club runs its own stand at the RSGB National Convention, the Scottish Amateur Convention, the RSGB HF Convention and similar events. The stand is usually the only one displaying a comprehensive range of Home-brew equipment, and it attracts much attention, it also recruits many members. This year the Club had its own stand at the famous Dayton USA Hamvention. It was next to the QRP ARCI stand, thus providing a major focus on International QRP. On the international front G QRP Club was instrumental in founding the World QRP Federation, a world organisation of QRP clubs, and is a founder member of the European CW Association, which fosters CW activity in Europe. As part of its contribution to EUCW, it offers the CW novice award to any station contacting 50 other stations on CW, during the first 12 months of holding a licence, several hundred have been issued.

On the home construction front, Sprat is now internationally recognised for the range and quality of its Home-brew projects, featuring articles from designers in the UK, Europe, USA, etc. The Club can also provide a team to run home construction forums at major events. They have done so both in the UK and the USA. In service to members, apart from those already outlined, kits and other Home-brew items are available, Morse training tapes from 1 to 20 WPM are available. Hundreds have been sold, and a great deal of advice is offered to members on operating, technical and antenna matters. The Club also provides lecturers on QRP, Home-brewing, Antennas, and Propagation to visit ordinary Radio Clubs in the UK.

Having been a Club Official since its formation, I can only say that although it has been a great deal of hard work, it has been a most rewarding experience. The enthusiasm of other officials and of the membership has been amazing, and it has been an incredible experience to see organised QRP in the UK grow from a small body of dedicated enthusiasts to a massive, respected body, whose opinion is now listened to with respect, in some very high places. It has been a long hard road, but with enthusiasm and dedication it can be done. The writer has been G QRP Club Communications Manager since the formation of the Club. Hope this is of use Len, 73's

GUS (50) G QRP C 004

Gus's letter shows us what has been done in the UK, and we can do the same, if we try.

VK5ZF (1)

# [ONE OFF] PC BOARDS

"One-off" P.C. Boards are not difficult, provided that the circuit is not too complex. I find it much more satisfying than using Vero Board, though I agree it may take a little longer. So what? Considering that the object of the exercise is to produce a home-brew piece of equipment that you may use.

My technique is suitable for producing "one-off" small circuit boards. Most home brewers shy away from this side of home-brewing by using commercially made Verotype of material. This is all very good and helpful, particularly when you are experimenting etc. But nevertheless, I consider my hobby of amateur radio as a means of relaxation and I see no need to hurry or waste time either. Rather to use my relaxation time wisely. Let's face facts. We all have that immense pleasure from doing something well, to look upon the finished product with pride. If other people just happen to describe your efforts in glowing terms, then that's just a bonus. The main objective is to satisfy your own creative talent at your own personal level. With a correct approach, a modicum of discipline, your level of satisfaction will grow. Let me describe the basic steps I used to produce the VFO Board.

Step 1: Have all the components at hand.

Step 2: Lay out a sheet of paper about one foot square.

Step 3: Place the circuit diagram above the paper sheet.

Step 4: Pick up the transistor and orientate its leads to comply with the circuit configuration. Now with a pin penetrate the paper and fit the transistor leads into the pinholes. Now as closely as possible, follow the circuit diagram and position the rest of the components, working your way through the circuit diagram. If you have problems keeping the components in the paper, you can lay the paper on a piece of cardboard or similar material until complete.

Step 5: Satisfy yourself that all the components are correctly in position. Allow sufficient room between them. Keep the layout symmetrical. When you are quite satisfied, use a pencil and outline the components on top of the paper. This naturally will give you a component layout for later.

Step 6: Turn the paper over. Again using a pencil, draw the intersecting lines between the component leads to comply with the circuit diagram.

Step 7: Remove the components and with a fine pen follow the outline of the component layout on top of the paper. This is invaluable when the time comes to load the finished P.C. Board. You may of course indicate the component value or designation at the same time.

Step 8: Turn the paper over to show the pencilled outline of the actual circuit diagram. Now carefully highlight the pencil lines with a fine pen. I prefer to use heavy wide tracks between the components and attempt to leave as much copper on the board as is practical.

Step 9: If you have access to a photocopier, you can photocopy the original and, if you want, double the size of the copy to make the

drawing of the tracks a little easier.

Step 9A: The blank P.C. board should be cleaned and polished uniformly with fine steel wool before proceeding.

Step 10: Place the original drawing of the circuit board over a suitable piece of blank P.C. board, insert a piece of carbon paper and tape the lot securely together. Now using a fine punch or sharp-ended screwdriver, as a marking tool, punch the P.C. board to correspond with the component holes. With a pencil, trace round the circuit tracks. Remove the carbon paper and your circuit drawing. The P.C. board should now show a clear outline of the circuit track and well defined punch marks for the component leads.

Step 11: Drill the component lead holes with a suitable size drill.

Step 12: With a PCB marking pen - if you are rich - or one of the Pilot Fineliners, ink in the circuit tracks and all copper areas that you want to retain. I have found that by drilling the component holes first, you can draw the tracks more accurately around the holes rather than trying to drill the holes where you think they should be. This final drawing of the tracks is for me the fun part. How you fill the copper tracks and the shapes, curves, squares, teardrops or whatever, is entirely up to you. You can also ink in key points such as +ve, earth, VFO out, IF in, your callsign, date or any other information. By inking it will be permanently etched on the board.

Step 13: Now let nature take its course. The etchant acid you use is a matter of choice. Strict cleanliness is advised. Use exactly as prescribed, and you will have no problems. Depending on the board size, I try to use glass jars with screwdown lids to keep spillage to a minimum. It also makes it easier to agitate the mixture and to inspect the progress.

Step 14: When the board is finally etched, it is once again thoroughly cleaned using methylated spirit or petrol to remove all traces of ink. Particularly round the component holes. Again I give this board a final polish with steel wool and then tin all the exposed copper with solder. A careful use of a hobbyist propane torch will speed up the tinning process.

Step 15: By using the component overlay you made previously (and I am sure you are glad you did), load the board with the components. You will find it easier to mount the flatter components first, such as resistors, diodes etc., leaving the larger components until last. Don't bend the leads too close to the end of the components. If you laid out the components correctly in the first stages, you will have little to worry about.

When completed and working, you will be proud to be the creator of such beauty, (Beauty is in the eye of the beholder), even if it doesn't work, it will take pride of place in your junk box!

RAI VK7VV

# CW OPERATORS QRP CLUB

Promoting the Use of Low Power Morse Code Communication  
and Home-Brewing in the Amateur Radio Service

KIT-SET    ACTIVITY    CENTRE

Quality    Reliability    Price

## CLUB COMMUNICATOR, KIT-SET

by Don UK5AIL (75)

The Club Communicator is now available in kit-set form to members of the CW Operators QRP Club. Here are some questions you may have - and my answers:

### Question 1: WHAT IS IT ?

Answer: The Club Communicator is an 80m band QRP CW transmitter, maximum power up to 5W. The Full Kit-Set comprises four modules and a set of miscellaneous components. The modules are -

UFO 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  
Output is up to 5W maximum.

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

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

There is a detailed review in  
Lo-Key No. 14 June 1987, page 21,  
although there have been minor  
changes since then.

### Question 2: WHO CAN BUY IT ?

Answer: Any paid-up Club Member interested in home-brewing. It will suit beginners who wish to learn about radio AND it will suit the more experienced who wish to experiment with the modules, develop them or use them in other rigs.

### Question 3: HOW MUCH DOES IT COST ?

Answer: Standard Prices are:

\$A 75.00	for Full Kit-Set
\$A 17.00	for UFO Module
\$A 12.00	for BDT Module
\$A 30.00	for PA Module
\$A 15.00	for QSK Module

Each of these prices includes  
postage within Australia.

I will try to hold these prices  
until 31st March 1988.  
Orders/money received later will  
be subject to any change in  
prices.

C4

# CLUB COMMUNICATOR KIT-SET (Continued)

Question 4: WHAT DO I ACTUALLY GET ?

Answer: 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 will be supplied with each order.

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

No case is supplied as this would increase both the cost of the kit and the postage, so you can pick your own or use the size we recommend.

Question 5: HOW DO I ORDER IT ?

Answer: Send your order, saying whether you want the complete kit OR naming which modules you want, to me (Don UKSAIL) at the address shown below. Cheques should be made out to CH. OPERATORS QRP CLUB. Please include the right amount and your address for sending the parcel.

Question 6: WHEN WILL I GET IT ?

Answer: The aim is to send your kit-set to you within 4 weeks of receiving your order (including money). FIRST IN - FIRST SERVED, so if the initial batch is gone before you place your order there may be delivery delay while we get more components.

Kit-Set Activity:

Don Callow UKSAIL (75)

5 Joyce St.  
Glensourie 5044  
SOUTH AUSTRALIA

Telephone (08) 295 8112 (home)

Question 7: WHAT IF I HAVE A QUESTION YOU HAVEN'T THOUGHT OF ?

Answer: Contact me on the Friday night Club Net or telephone me or write. I will handle technical questions, but will have to refer the trickier ones to Rod UK6KRG who designed the original rig.

LAST, BUT NOT LEAST:

THANKS to Rod UK6KRG (28) for your great effort in bringing the Club Communicator to a stage suitable for developing and promoting in kit-set form as a Club activity. Also, for supplying the coil assemblies and responding to my technical queries.

THANKS to Rev UK6SA (61) who helped Rod to produce the original version of the manual. Although it has been re-written many of the original words are still there.

THANKS to Max UK5DS (2) for making the PCB's and helping with prototype building and testing.

THANKS to all the other members who made donations of parts.

Original concept/design:

Rod Green UK6KRG (28)  
Club Projects Officer

72 Yelverton St. South  
Donnybrook 6239  
WESTERN AUSTRALIA

73s

*Don*  
UKSAIL (75)  
18 Dec 1987

R6

R7

R5

## 14MHZ MOSFET CW RX

I came across a hand full of dual gate mosfets in a grab bag offered in one of our well known local stores D.S.E. as you may well know these Field Effect Transistors have almost identical performance as the earlier valves had.

By using cheap 27mhz xtals it is possible to build a rather good narrow band filter cheaply, use the same xtal frequency for the filter and BFO, I used three chan I xtals 27.015mhz fundamental frequency 9.005mhz.

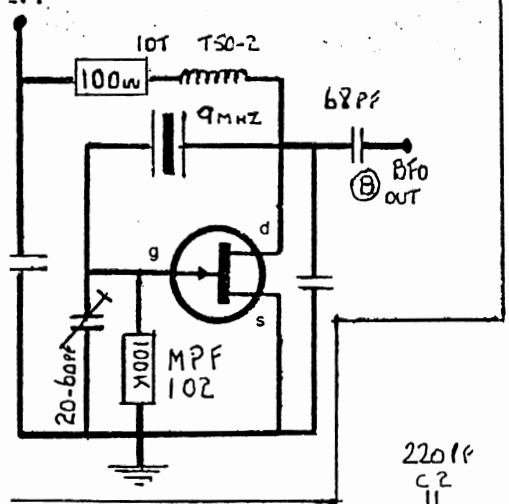
Printed circuit board, and parts overlay have been included to help should you wish to repeat my version. I will not go into great detail the circuits are not unusual, and can be found in varies forms in the Solid State Design For Amateurs Book, highly recommended if you are interested in experimenting.

With a bandpass of aproximately 1200hz you will find that it performs surprisingly well on CW but much to narrow for SSB, but as the RX is ment for CW it is of no concern to me. An active audio filter follows the audio pre amp, this cicuit is well and tried and is a direct lift from the Tassie Devel rig.

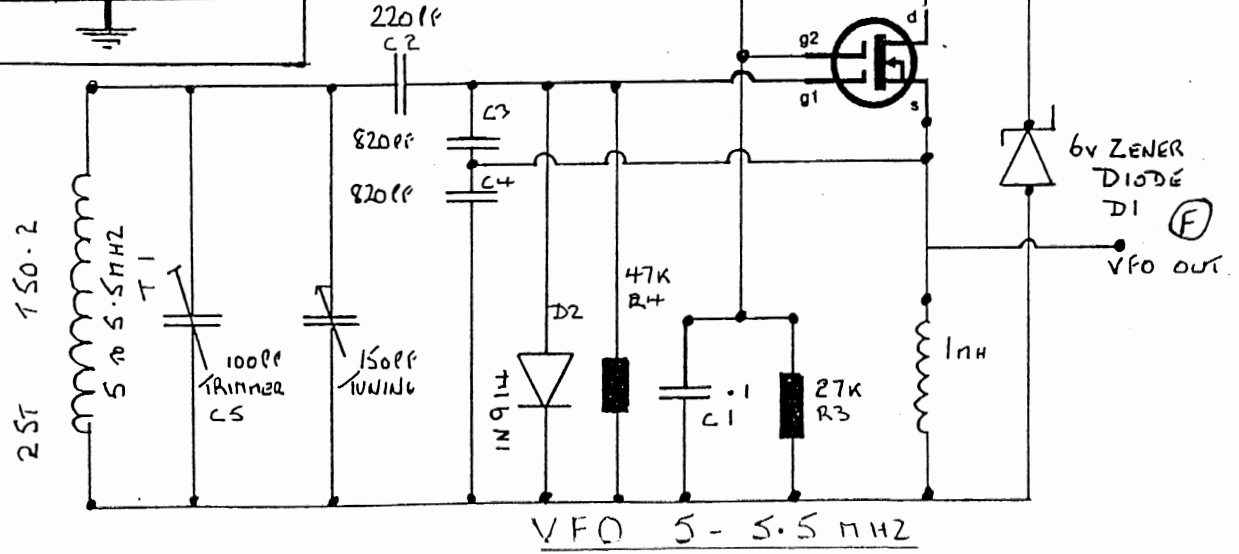
I have left the choice of the audio output to you, many circuits are available. The RF and Mixer stages are tuned to 14 mhz in this design, but if the stages are tuned to 3.5mhz the VFO and IF combination will tune 3.5mhz band ok.

Rai VK7VV

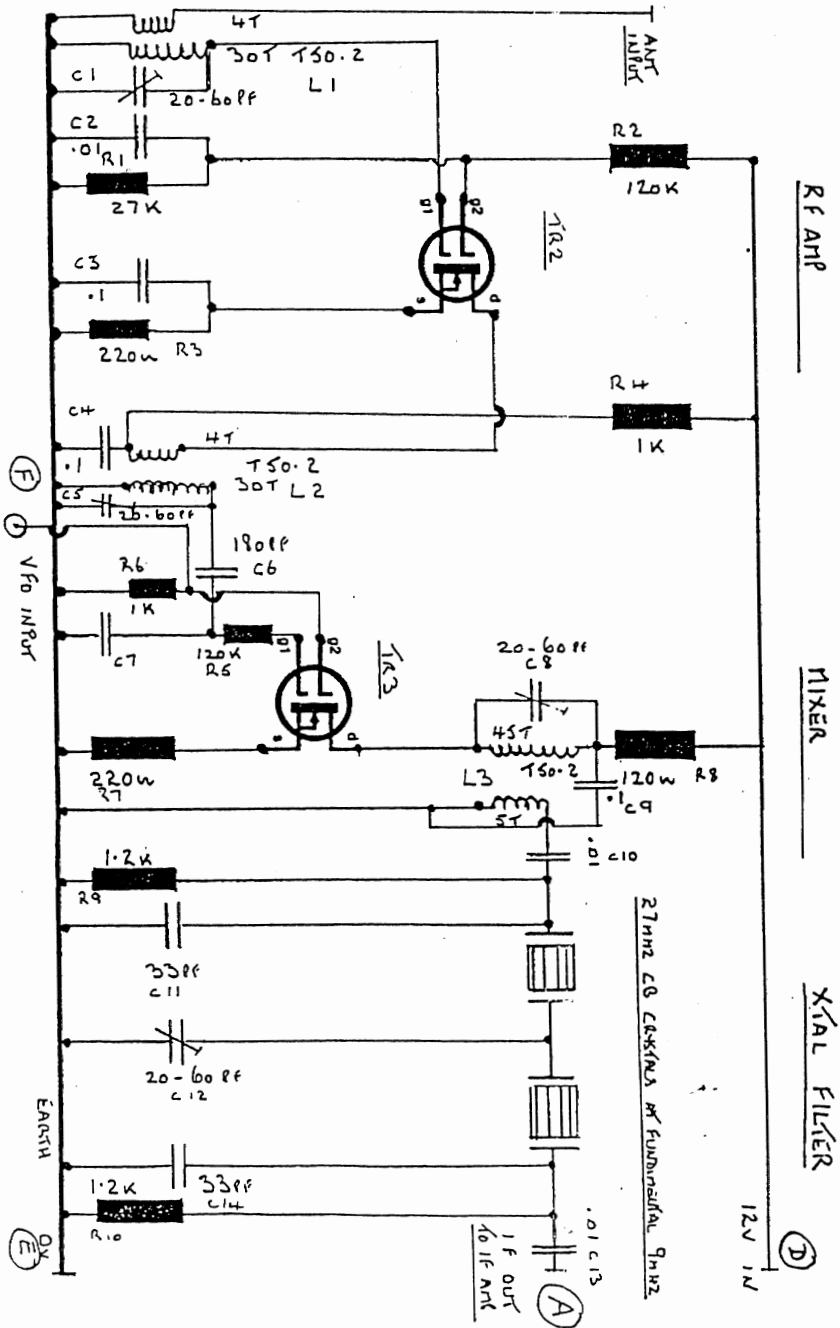
BFO 9 MHz



C1	.1
C2	220pf
C3.4.	820pf
C5	100pf
R1	270ohm
R2.3.	27k
R4	47k
D1	6v zener
D2	In914
TRI	40673

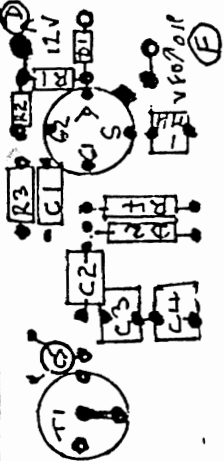
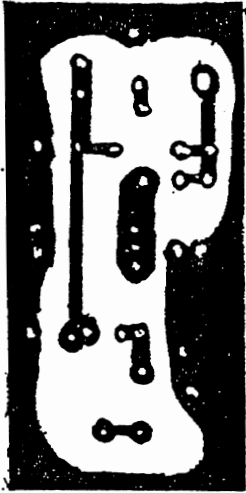


VFO 5 - 5.5 MHz



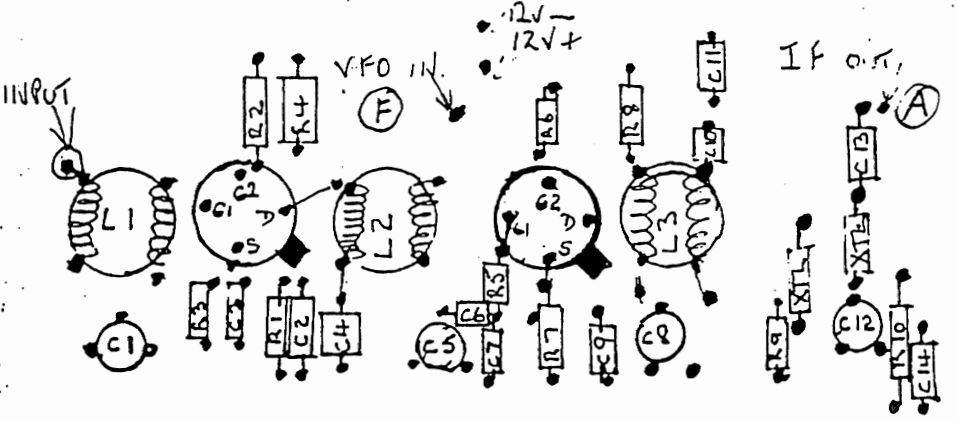
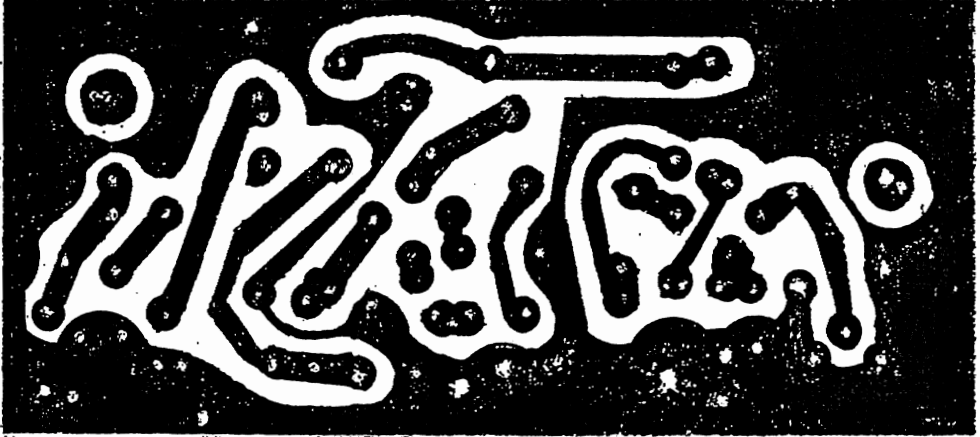


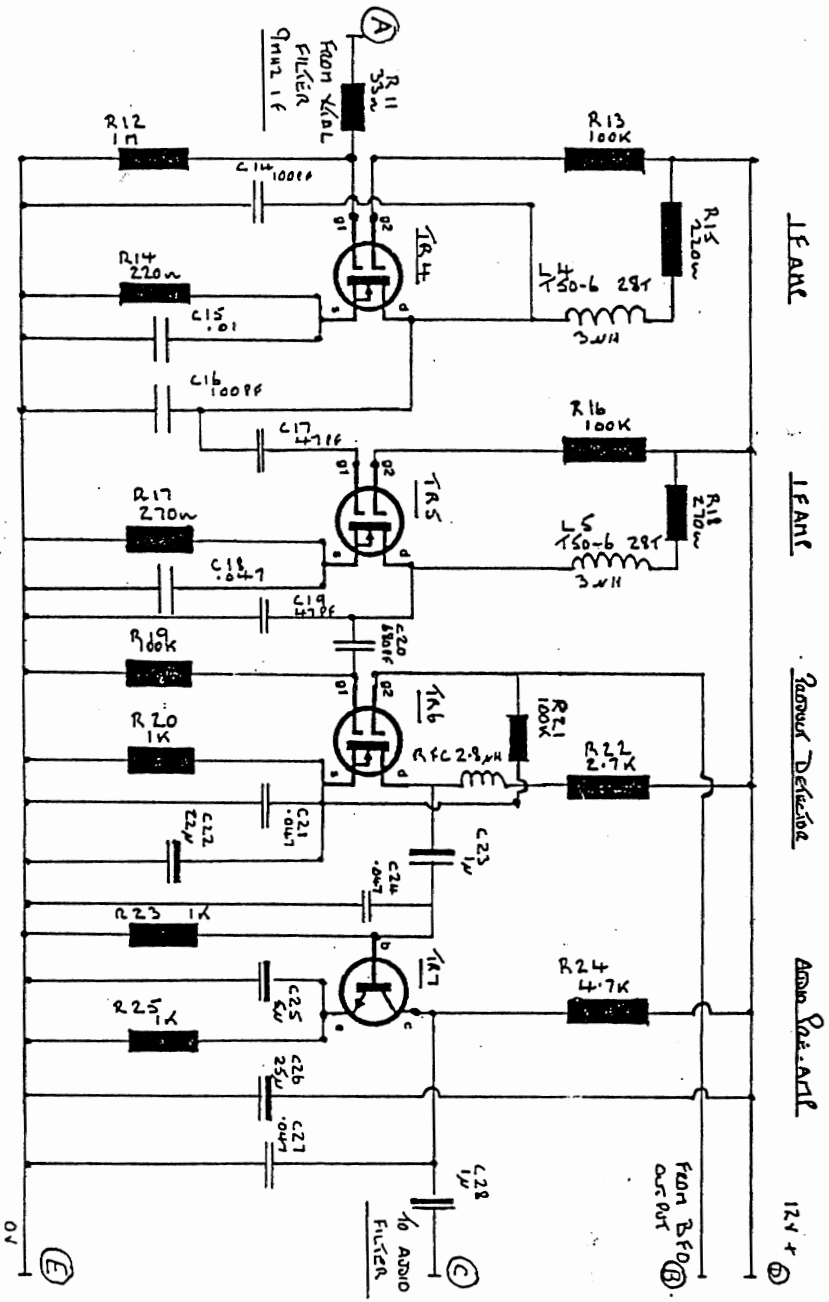
VFO

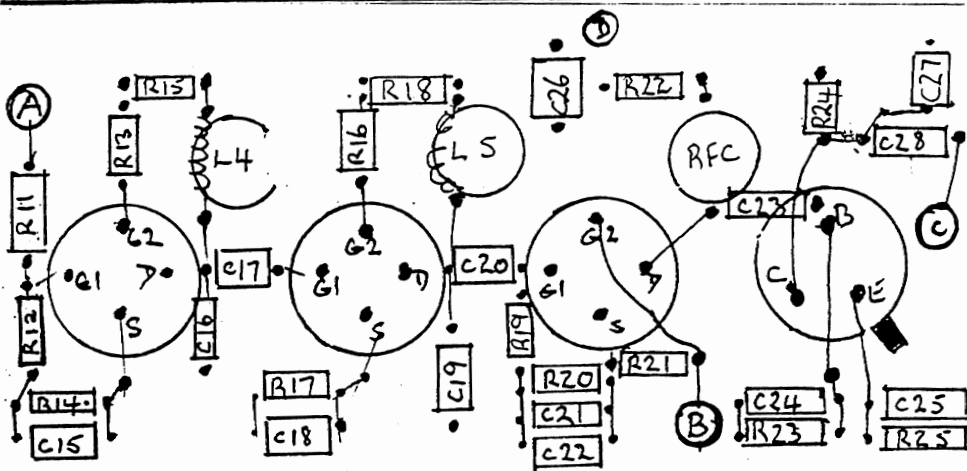
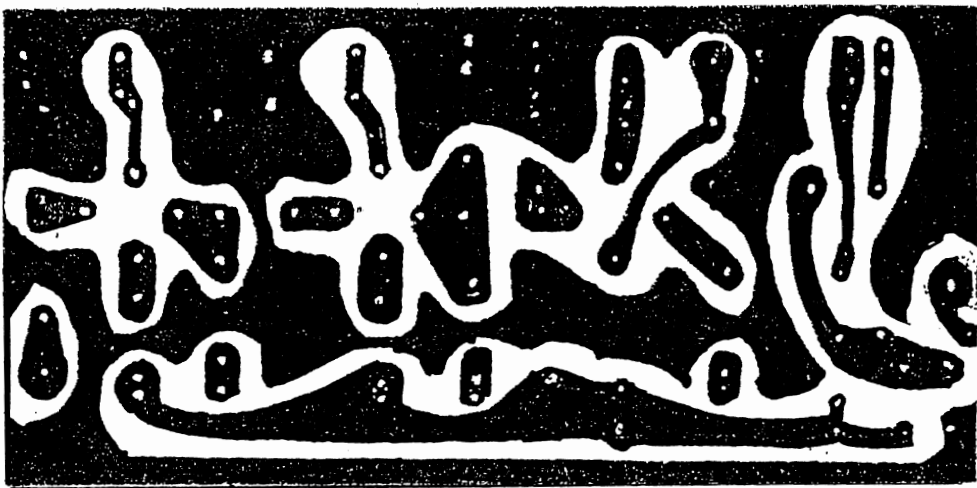


BOARD 2 RF AMP/MIXER/XTAL ET

- C1.5.8.I2. 20-60pf
- C2.10.I3 .01
- C3.4.7.9. .1
- C6 I80pf
- C11.I4. 33pf
- R1 27k
- R2.5 I20k
- R3.7. 220ohm
- R4.6. 1k
- R8 I20ohm
- R9.I0 I.2k
- TR3.4. 40673
- 2X27M XTALS about (9m)





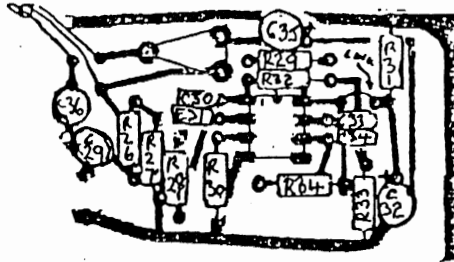
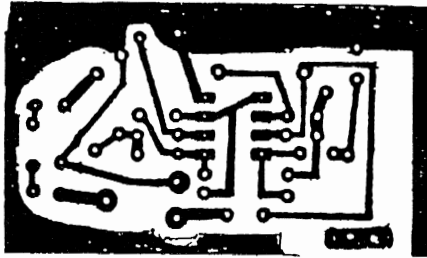


BOARD 3 IF AMP/PROD DET/AUDIO PREAMP

R11	33ohm	R22	2.7k	C21	.047
R12	1m	R23	1k	C22	.01
R13	100k	R24	4.7k	C23	1uf
R14	220ohm	R25	1k	C24	.047
R15	220ohm	C14	100pf	C25	5uf
R16	100k	C15	.01	C26	25uf
R17	270ohm	C16	100pf	C27	.047
R18	270ohm	C17	47pf	C28	1uf
R19	100k	C18	.047	TR4.5.6	40673
R20	1k	C19	47pf	TR7	RCT08
R21	100k	C20	680pf		

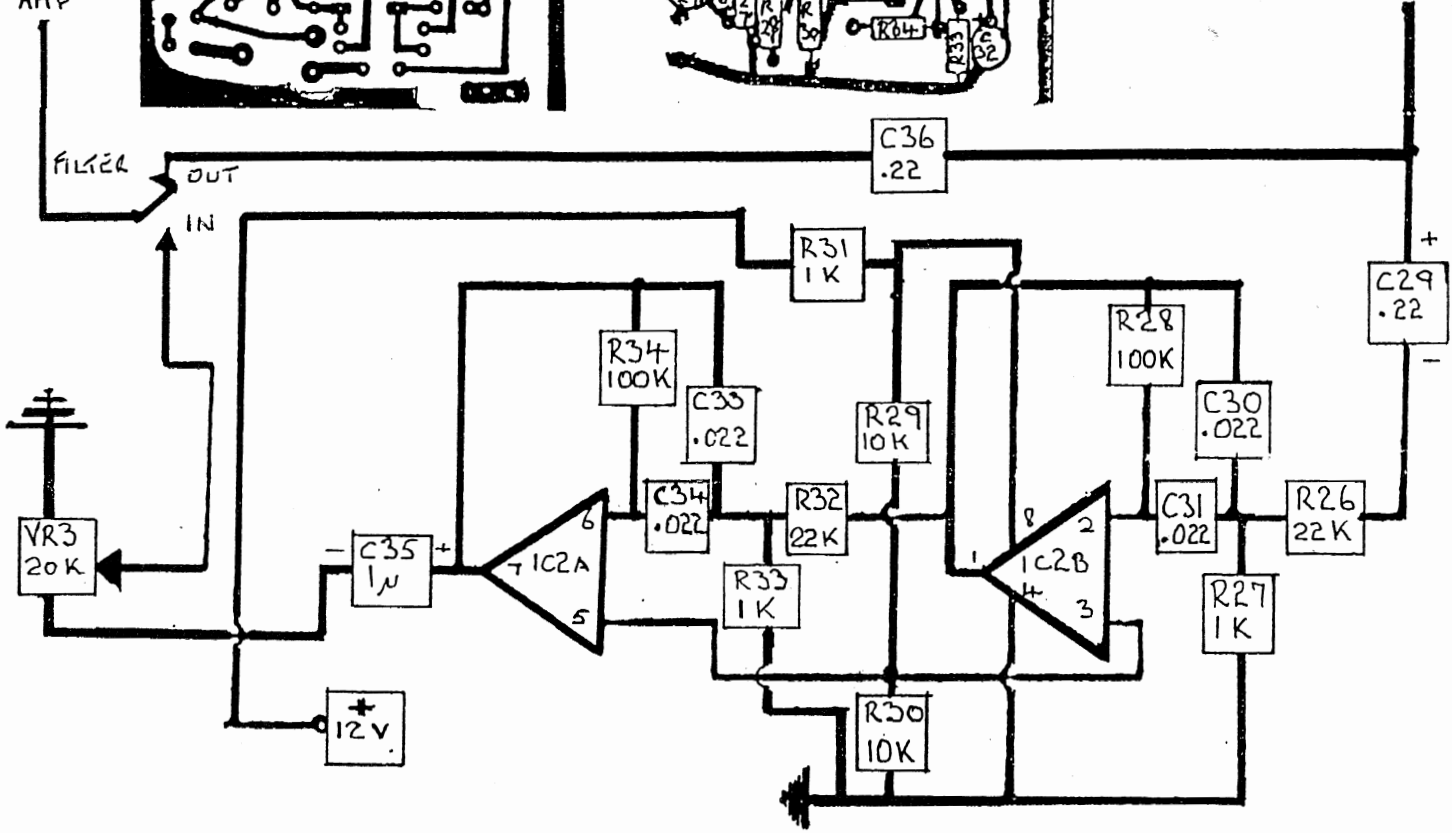
# AUDIO FILTER

To AUDIO  
AMP



To C  
AUDIO PRE-AMP

20



+  
C29  
.22  
-

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48		Stuart	BEAN	9 Sussex Street, GLENORCAY TAS 7010
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50	G8PG/ GW8PG	Gus	TAYLOR	37 Pickerville Road, GREASBY MERSEYSIDE, L49 3ND ENGLAND
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70	WA1JVY	Mark	PEREIRA	4633 Acushnet Ave., NEW BEDFORD MASSACHUSETTS 02745 U.S.A.
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77	VK2EFF	Frank	FILBY	366 The Esplanade, SPEERS POINT 2284
78	KV7X	Jay	STURDIVANT	P.O. BOX 3027 BELLINGHAM WASHINGTON 98227 U.S.A.
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83	WB6MTR	Winfred	FRANKS	1001 Sylmar Space 107 CLOVIS, C.A. 93612 U.S.A.
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92	VK2MMW	I.	WAITE	2 Finch Street, BINGAR N.S.W. 2404
93	VK3KRL	Simon	ANDERSON	24 Leonard St., BELMONT GEELONG VIC 3216
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96	G3RJV	Rev. George	DOBBS	498 Manchester Road, ROCHDALE LANGS OL11 3HE ENGLAND (St. Aidan's Vicarage)
97	VK3BMC	John	CARWARDINE	3 Heidleberg Drive, WODONGA VIC. 3690
99	VK3PKV	Murray	YOUNG	69 Kangaroo Grounds Rd., WARRANDYTE VIC. 3113
100	(SDC 628)	Eric	CROCKER	5 Valda St., PARA HILLS S.A. 5096
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102	VK2CSA	Warren	MARRIOTT	9 Darkwater St., GLADSTONE N.S.W. 2440
103	VK6MX	Warren	MEAD	37 BUCHANAN WAY PADBURY W.A. 6025
104	VK4LKF	Kerry	FIELDING	22 Ellis St., LAWNTON QLD. 4501
105	VK3BDU	Robert	TYMMS	9 Flinders St., MITCHAM VIC 3132
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112	VK3DID	Ian	GODSIL	25 Monaco St., PARKDALE VIC 3194
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117	VK7DT	David	TRIFFET	15 Ashnourne Gr., SPRINGFIELD TAS.

The above are Financial Members as at 10/12/87 payments received after 10/12/87 have not been included.  
Please notify any errors or omissions to the Treasurer.

## Satellite picks up whispers from space

CANBERRA. — Billions of kilometres away from Earth, the Voyager 2 spacecraft is silently gliding through deep space, on its way to an encounter with the planet Neptune.

When it arrives in 1989 its signals will have to travel more than 4.5 billion kilometres to reach Earth at strengths of a billion-billionth of a watt, but they will still be picked up, analysed and recorded.

thanks to a new 70-metre wide satellite tracking dish near Canberra.

The signals will be so weak it would take 24 million years to gather enough power from them to run a five-watt lightbulb for only one five-thousandth of a second.

The Canberra Deep Space Communications Complex at Tidbinbilla now joins stations in California and Spain as part of a worldwide receiving dish

for the faint signals.

The Minister for Science, Mr Barry Jones, officially opened the new dish yesterday.

The original dish was 64 metres wide, and the increase in size makes the complex 50 per cent more sensitive — allowing it to receive the Voyager signals.

An Australian company, Electric Power Transmissions, of Sydney, carried out the extension, using 560

tonnes of steel to tolerances of 0.6 millimetres.

The complex is funded by the United States space agency NASA, and operated by AWA for the Department of Industry, Technology and Commerce.

Tidbinbilla has played an important role in tracking NASA's satellites and deep space probes.

Its remote location allows the complex to pick up signals with little outside interference.

REPRINT 'MERCURY' 17.11.87