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REV. G.C.DOBBS [G3RJV] 131A. MANSFIELD ROAD, NOTTINGHAM

Devoted to Low Power Radio Communication

SPRAT

Number Ten. Eleven
SUMMER 1977.

Active Filter - GM3OXX
A Watt Plus on 160m + Whip.
QRP Power Supply - G8IB
A.T.U. - G4BCY
C.C.W. - G3PMW.
CLUB NEWS
QRP NEWS
.....etc

S.P.R.A.T. Journal of G-QRP-CLUB SUMMER 1977

Rev.G.C.Dobbs[G3RJV] 131a.Mansfield Rd. NOTTINGHAM.[411546]

CHAIRMAN:

Dr. G.J. Bennett (G3DNF)
52 Whinmoor Crescent,
LEEDS. LS14 1EW.

TEST & CONTEST MANAGER:

Mr. A.D. Taylor (G8PG/GW8PG)
37 Pickerill Road, Greasby,
WIRRAL. Merseyside. L49 3ND.

EDITORIAL:

Well, at last the summer issue of SPRAT has appeared! I know that for some time several members have been wondering if they had been 'struck off'. We even had a rash of overdue subs paid ! As you will see from above, the reason is a change in QTH for G3RJV. From the first week of July, my address has been as above.

The result was that SPRAT, which usually comes out at the end of July is about a month late, being completed, after I found the typewriter in the pile, with a paint brush in the other hand. I am now just about settled in in the new QTH, but still have to make a log entry from the new QTH. I hope this will be solved by the time you have received this copy.

Another factor has been the build up of club mail during moving and the posting on of mail etc. I hope that this is all clear by now. May I say to new members that I do usually proccess membership and letters quite quickly, but 'business as usual' from now on.

I have been to one or two amateur radio events in the summer and was pleased to meet a couple of members at the Woburn Rally and some more at the Derby Rally. The Leicester Exhibition comes up quite soon, and elsewhere in this issue, you will find my ideas for a small meeting of members on the Saturday. Tom Darn, the organiser, with Les Hellier, tells me that this is now the second biggest amateur radio event in Europe, so for those who have not been, its not an event to miss.

May I wish every one the best of the summer, what is left, on the HF bands. All too soon we will be tunimg up on 160m and 80m for the autumn and winter. I look forward to working as many of you as possible from the new QTH.

Many I thank Alan Lake, for his help with collation on this this issue. The collation and stapling etc. are rather tedious jobs and Alan was kind enough to help with this issue. I hope the next issue will be ready for Early October, then back in cycle, with just after Christmas for the winter issue.

73 fer nw - hpe cu QRP

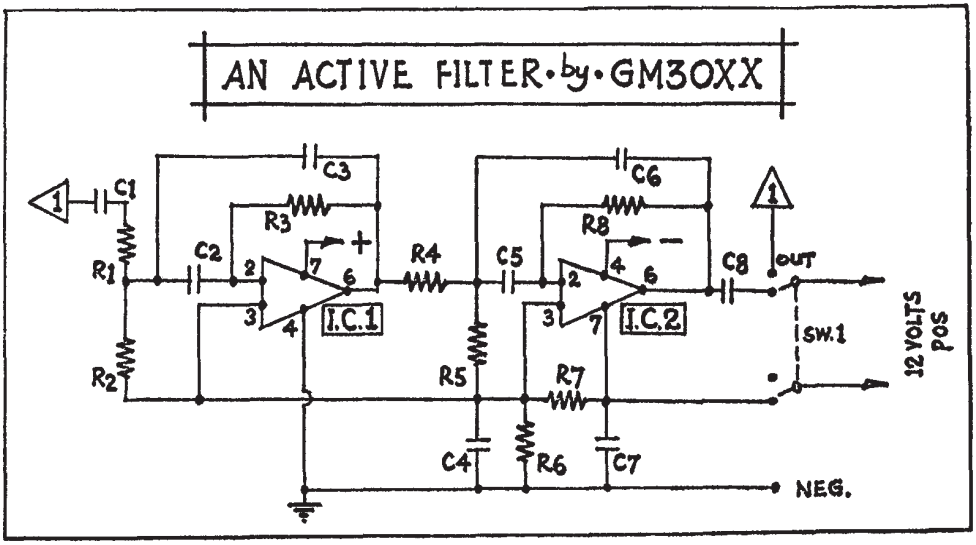
G3RJV.

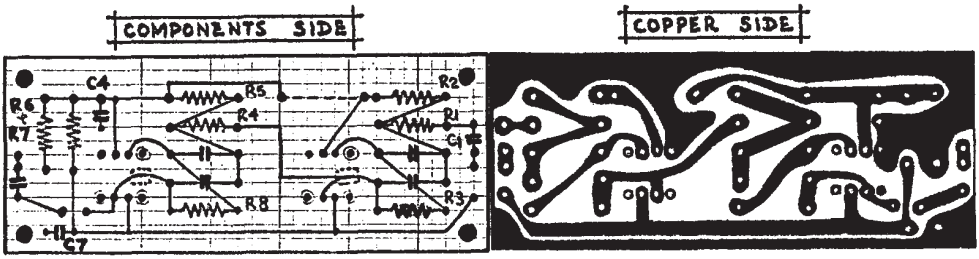
SUBSCRIPTIONS:

The present rate is £1.50 a year (or local currency equivalent) please send to ALAN LAKE, G4DVW, 7 MIDDLETON CLOSE, NUTHALL. NOTTINGHAM. CHEQUES HEADED: G.C.Dobbs:RE QRP CLUB.

MEMBERSHIP DETAILS AND GENERAL CORRESPONDENCE

To G3RJV as per new QTH above.





This simple layout can be used as the selective stages in a diect conversion receiver or an an add-on unit to improve the audio selectivity of any RX. When used with an existing RX, take care to keep the input level low otherwise the effect of the filter will be lost.

Cut out PCB template and stick to board, centre punch all holes and remove template and drill IC socket holes with a 64 drill, this makes it easy to use a dalo pen on IC holes. Drill component holes with a 60 drill and mounting holes to suit 4 or 6 BA screws.

Now using IC holes, mark out board with dalo pen, etch and fit components.

For best results in this circuit R1,R2,R3, R4, R5, R8, C2, C3, C5, and C6 should all be ± 1% the .001 caps where bpught from RS or Doram and are 2% and when checked in an RC bridge no significant difference could be found. The resistors were all ± 1%

If you cant find suitable components, please send them(at least half doz. of each type) and I will match them into pairs as best as possible - Please include return postage - Hi (GM3OXX).

PLEASE ADD. ACTIVE FILTER BY GM3OXX COMPONENTS:
R1&4= 680K, R2&5= 24K, R3&8= 1.3M, R6&7= 27K, C1&8= .01u, IC1&2= 741
C2,3,5,&6= .001u, Poly, C4= 10u 10v tant, C7= 100u 16v tant.

TROPHY NEWS

THE G2NJ TROPHY 1977.

The award this year is to be given for the best contribution to SPRAT over the last 3 years. The voting resulted in a tie - the two winners being G3IGU and DJ1ZB.

G3IGU for the G3IGU 80m TRANSCIEVER - this has perhaps been to most popular practical item in terms of actual construction amongst the members. Many members have built this simple but effective little rig, and found it very useful

DJ1ZB for the overall excellence of his articles for SPRAT. I can only add that Ho Jo sends me articles of a high technical order, written in perfect English - what any magazine editorwould dream about ! I only hope he keeps them coming our way.

It has therefore been decided between Gordon, Gus and RJV that a couple of plaques be given to each of the two winners. It may be that Keith G3IGU will wish to receive the trophy, but posting a silver cup to Germany would be risky and expensive. Therefore, for this year, the plaque idea seemed the best to adopt.

So our congrats to both, and long may their pens flow for the benefit of members.

+ +

ARE YOU ONE OF THE SILENT MAJORITY ? by G8PG.

If so, let us hear you on QRP CW on 17/18 Sept, our next Club ACTIVITY WEEKEND. If you have not taken part before, you can be sure that a lot of members will want to work YOU. Activity will be spread over the whole weekend, but we suggest particular attention to 14065 at 1100 - 1200 gmt and 1600 - 1700 on both days, to give the EU members a chance to work us in the UK. But please remember ACTIVITY WEEKEND means getting on the air and being heard.
OTHER MEMBERS CAN ONLY HEAR YOU IF YOU TX IS SWITCHED ON !!

ACTIVITY WEEKEND - ANY BAND _ QRP FREQUENCIES : 3540, 7040, 14065 etc. ANY TIMES - CALL CQ QRP - NOT A CONTEST, JUST FOR FUN, BUT REPORTS ARE WELCOME TO G8PG or G3RJV.

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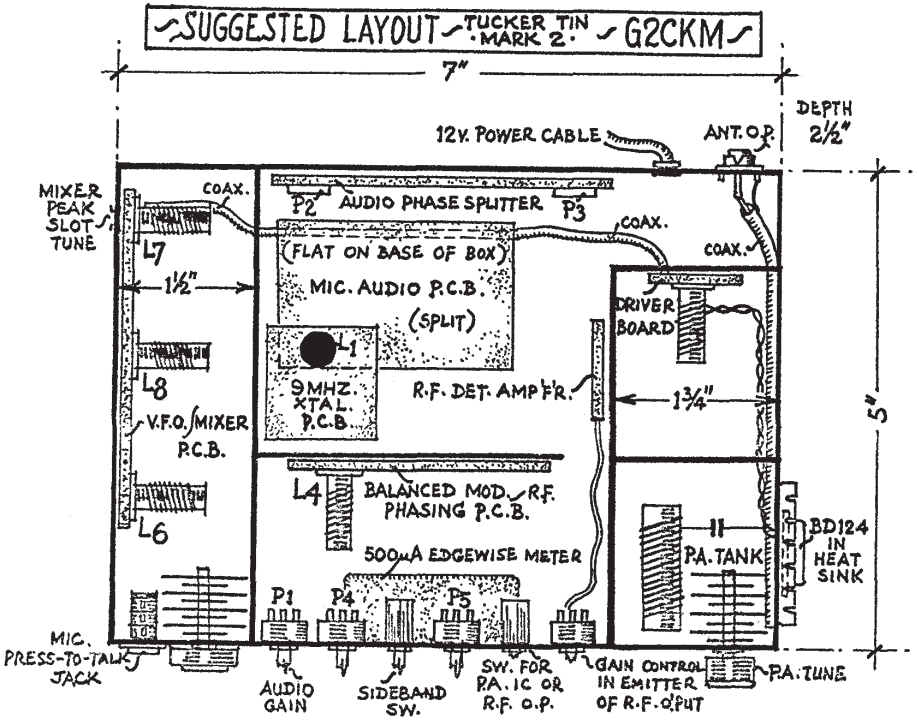
AWARD NEWS:

New awards since ane last issue are:-
QRP COUNTRIES AWARD: 50 Countries endorsement, OE1SBA (all SSB)
WORKED G-QRP-C (Basic Award): G3KPT, G4CQK, GM3OXX.
TWO WAY QRP AWARD: (Basic) GM3OXX, DJ1ZB.
Well done all - especially to George, GM3OXX, the only member to have achieved all three club awards.

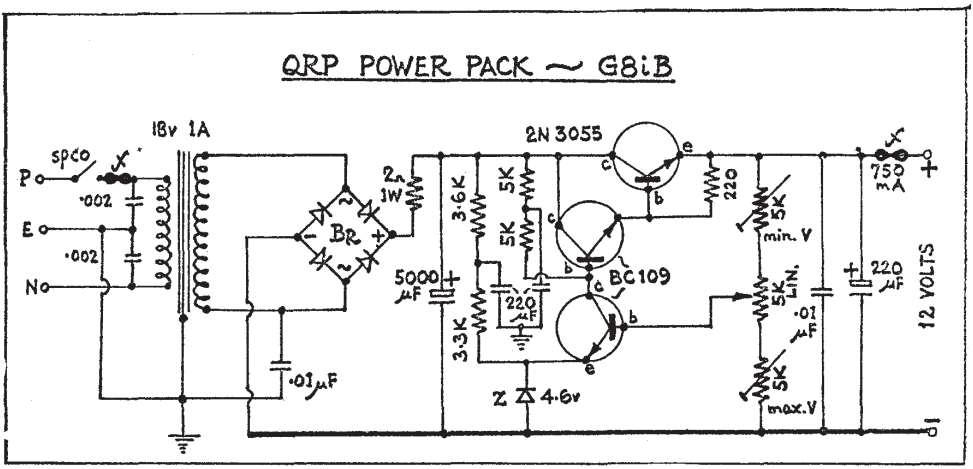
DL AGCW WINTER 77 CONTEST:

Won by OK1DKW (26400) but with member G4BUE second (19336) and G3DNF sixth (12528). Congratulations to all. There was a record entry and this is becoming a major contest. G activity appeared to be down, but good scores were made. EU activity was high with rarer ones like LX appearing and being worked from the UK. The dates for the next winter contest are yet to appear.

Let us hope the club makes a good showing in the next contest.



A suggested layout for this popular rig (data sheet available) by Miles, G2CKM, with added PA.



Ajust 5K for 12v. Bottom pot may not be required. (modified RCA cct)

COHERENT C.W. By John Stockley (G3FMW)

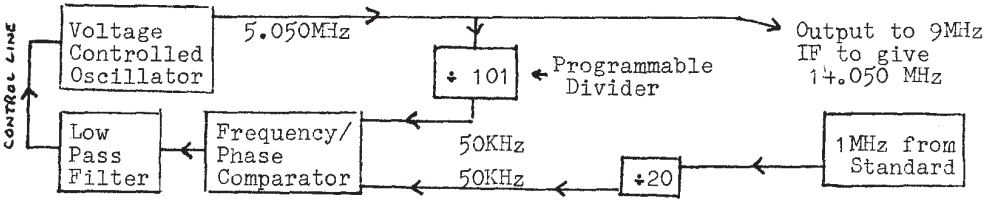
As mentioned in a previous article, one of the requirements of a ccw station is that the local oscillator should be within 2-3 Hz of the designated frequency. The way of achieving this is to use a PHASE LOCKED LOOP controlled by the station frequency standard. There are variations of approach, so a short review will be given.

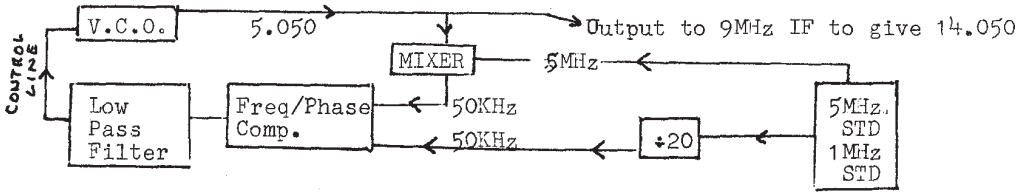
Phase locking of an oscillator is a system by which the frequency is 'held' by a stable reference frequency. To allow the oscillator frequency to be controlled electronically the circuit should contain an element such as a Variable Capacitance Diode and the combination is called a Voltage Controlled Oscillator (V.C.O.).

The output from the oscillator is split and part is reduced in frequency by division or mixing to the lower frequency where it, and and a 'reference frequency' derived from the standard are applied to a 'Frequency/Phase" Comparator. This device compares the two signals and gives an output voltage realted to the frequency/phase difference or 'error'. The error volatge controls the variable capacitance diode to alter the oscillator frequency thereby virtually eliminating the 'error'.

As can be seen from the diagram the circuit connections form a closed loop, hence the name. If the natural frequency of the oscillator is close to the correct frequency the loop 'takes control' and over a range of settings, the oscillator can only produce the exact locked frequency,as any tendency to change in the value of the varicap. There is a tendency for the frequency reference to appear on the VCO control line and to produce Frequency Modulation of the oscillator. To reduce this effect a 'low pass filter' is inserted in the control line.

SYSTEM USING DIVIDER





NOTE: The example shown is an easy example to follow but is not recommended as the frequency is itself is a multiple of the 50KHz reference and the screening required to prevent this leaking into the receiver is difficult to achieve. At the moment the HF freqs used are 14.049 or 14.051 to achieve this, but it involves a further mixing or division and ending within 1KHz reference frequency.

In the Divider system, 74192 or similar 'programmable divider' may be used, and in the mixer system a 7474 ($\frac{1}{2}$ of) acts as a digital mixer. The simplest comparator is a 7486 ($\frac{1}{4}$ of) EXCLUSIVE OR function but specialised units are available in the TTL range in the Motorala MC4044 and the CMOS 4046 or 14046 which has the additioanl advantage of virtually suppressing the reference freq.

CCW Cont:

The VCO can be a contentional oscillator with an additional Varicap added, or again a voltage controlled multivobrator type MC 4024 is available from Motorola. There are also complete Phase Lock IC's which incorporate the necessary functions - examples being the Signetics 560/1/2 range.

The above description is that of 'synthesising' a single frequency and as long as the frequency of operation is known and adhered to this is satisfactory. If tuning to different channels is required however, the programmable dividers must be able to be easily changed for which switches are available and we now have a 'Frequency Synthesiser' which for example could cover 5.0 - 5.5 MHz. This is an example of an exenpensive approach but if the station has a 9 MHz IF this would be a useful accessory.

Decoupling:

To avaoid coupling problems it is essential to thoroughly decouple the various sections, especially the digital and analogue sections. This is normally done by the small three terminal regulars now available. Screening is also important to avoid spurious responses.

Use of Synthesiser:

By using the 9 MHz system such as the Plessey SL600 design using IC's a station is simplified. On receive the audio beat note must be exactly 1KHz to drive the digital filter so the insertion/carrier oscillators must also be phase locked to the station standard to give exactly 9.000MHz and either 9.001 or 8.999MHz.

To allow development of sending and receiving sides, I opted to split the sections instead of utilising the board as a transceiver but this is a personal approach and any transceiver can be used if required. However as QRP operation is envisaged it is probably easier to start from scratch and although simple receivers such as a direct conversion were initially used for ccw experiments, this seems to have been superseded by superhet types with greater attention being made to producing the best possible preformance in terms of cross modulation, noise, se;ectivity etc. before placing the audio into the audio filter. Using the superhet principle also relieves the problems of screens mentioned above.

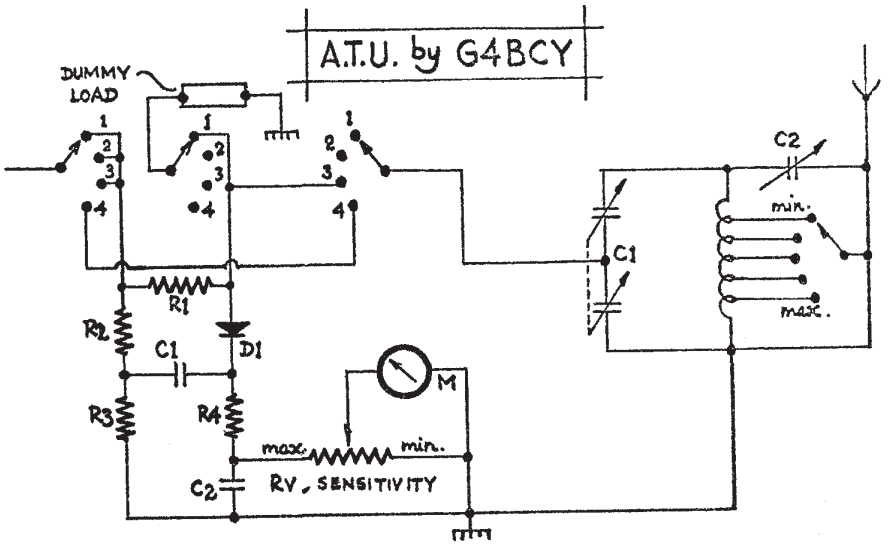
A practical system using TTL or CMOS will be described in a future article. 73 John.

* *

One name which seems to come up whenever QRPp is mentioned in the States is Brice Anderson (W9PNE), so I am very pleased to see Brice as a member of the club.His record reads like this:-

INPUT:Watts	CONTINENTS:	STATES:	COUNTRIES:
5	WAC	WAS	72
5 (160m)	2	49	8
MILLIWATS:			
500	WAC	WAS	35
250	5	46	15
150	2	34	4
100	2	33	4
50	1	16	2
25	1	2	1
OUTPUT, MILLIWATTS:			
280	WAC	WAS	36
200	WAC	48	32
100	5	42	11
50	1	33	3

Brice was licensed in 1931, his father was an OT in spark days and his son is K9DCF/WB5OWL and he has never run QRO! WELCOME to the G-QRP-C.



ATU (ARRL Handbook 1973)

C1 - 140 + 140pF (In practice 250+250 was used) C2 - 200pF
L(for 80m) 36 turns 20 swg on T-130-2 Toroid, tapped according to switch available - 20 taps proved satisfactory.
For other HF bands above 3.8MHz put a second inductance in parallel with that shown : 44 turns, 24 swg on T-68-2 toroid.

RESISTANCE BRIDGE = QST Oct. 1973.

R1-R3 - 50 ohm 2W (non-inductive) R4 - 1K ½w, RV - 10K Lin Pot.
c1-C2 - 0.0047uF D1 - OA86 M - 1mA FSD.
Dummy Load Resistors to give 50 ohm - Max. power to bridge 5w.

OPERATING PROCEDURE:

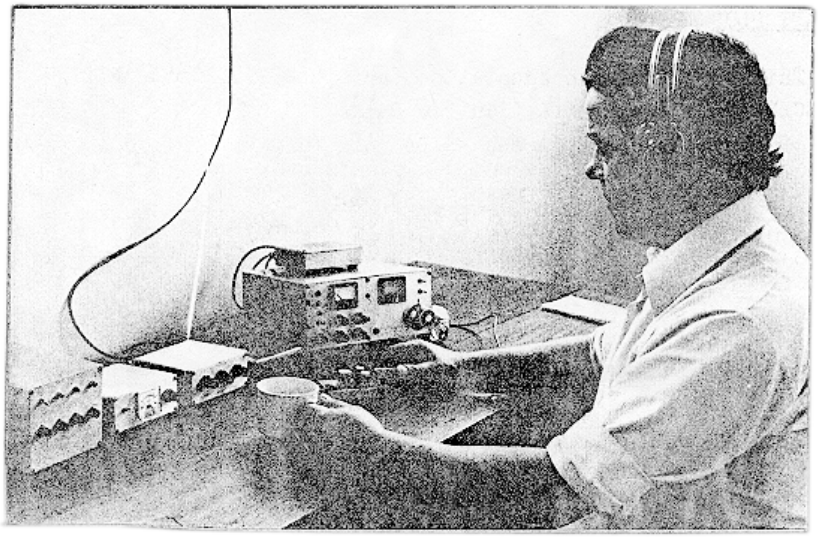
Function Switch:
Pos.1. = Dummy Load.
Pos.2. ± Set Sensistivity.
Pos.3. = Tune ATU.
Pos.4. = Operate.

Function switch to 1, sensistivity to MIN, ATU capacitor to MAX. Inductance MIN. Use position 1 to tune the TX, then switch to position 2 and with key down, adjust RV to obtain FSD. Switch to position 3 and adjust ATU C1 and C2 to give min reading on M. Increase L in steps, adjusting capacitors at each step to obtain zero (or near as possible) reading on M. At zero TX working into correct impedance. Switch to position 4 to operate to avoid losses in the bridge.

* *

JOHN SPINKS (242) "Wanted - any type 160m crystals for first rig. Can swap for the following good HC6U types: 3554, 7019 & 14065 or cash.

GEORGE (G3RJV) would like to swap 7010 xtals for other C.W band types



The above picture shows George (GM3OXX) with his completely home brew station. It reads left to right:
Power Pack, SWR Bridge, 6 Band ATU, EL Bug and Paddle, Transceiver based on DL6HA circuit, on top is the 80m transvertor - then cup of tea and GM3OXX!

George has also supplied visual proof of his WAC - below - and still continues to amaze me by writing to ask for the direct QTH of prefixes I have never heard of, less heard, and even less dreamed of working.

What about his three el. quad or beam, you might ask - Well George does it all with a dipole (although he admits to a good site).

Without making George blush, it would be fair to say that his station and results show the sort of combination of technical ability and operating skill that ought to make QRP operation the backbone of our hobby

A WATT PLUS ON 160M

This circuit is an adaptation from TRANSISTORISED AMATEUR RADIO PROJECTS by C. Caringella (Foulsham Sams)

L1 is 48 turns of 22 swg on 1½" dia former. L2 is 6 turns of 22swg close wound over the end of L1 as shown.

The transistors used were the original RCA 40315, but more readily available types such as the BFY51 or 2n3053 could be tried, but may require adjustment of biasing etc.

Some of the capacitor values have been changed from the original book circuit. The buffer base was found to require 1,000pF so that the oscillator should remain active and that enough drive is available.

The PA Capacitor is shown as 103pF because a type available from J. Birkett (500+500+17+17 pF) was used.

If the tank coil is wound as shown little trouble should be had in correct coupling. Tuning was done with a field strength meter placed adjacent to the radiating element so that max. RF output could be achieved.

If 160m crystals are required, I would suggest a SAE to S. May of Curchgate Leicester asking for required frequencies.

The PA transistor used a push on heat sink. No key click filter was used. Two PP1 batteries in series provided an adequate source of power for the transmitter, and although there is no current drawn in the key up position, it is advisable to place an off switch in the power line.

I built the oscillator/buffer in a aluminium mini box. This was attached underneath an upbent aluminium panel holding the variable capacitors, coil and PA transistor - the latter on a three way tag strip.

The transmitter was used with a compact version of the 'RSGB' Transistor 4 superhet and a 6' 6" loaded whip

WHIP.

This portable 160m whip is made in two sections; telescopic aerial and top coil wound on ¾" former sitting on and datached from a 5/8" rod on wgich is wound the long lower coil. It is extended and closed until resonance is found with a field strength meter.

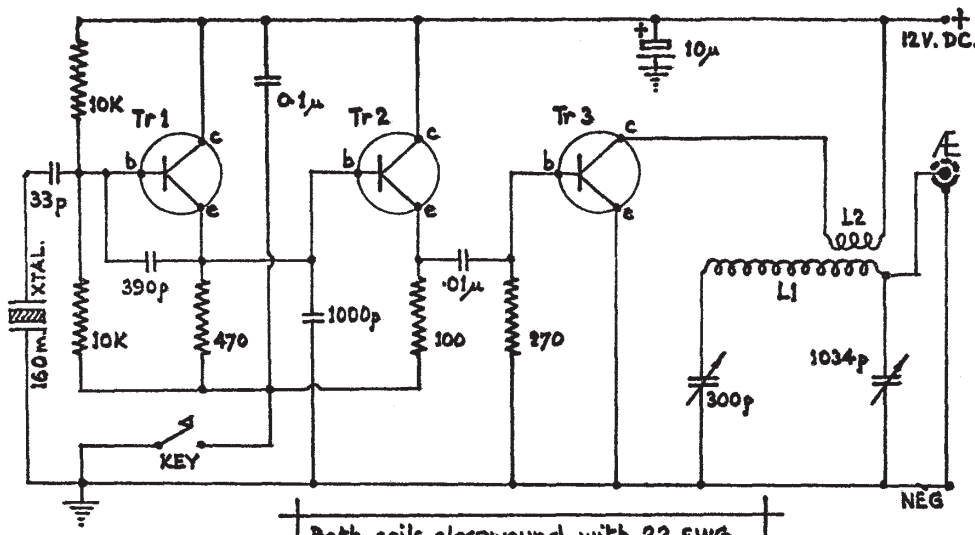
The whip was loaded against an earth spike pushed into moist soil, the resonance does vary from site to site and according to the moisture of the soil

* *

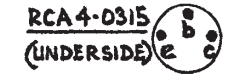
CLUB MAIL:

I regret any back log in my mail due to moving etc. in the last few weeks. Some idea of the volume of the mail can be gauged by the fact that in 2½ weeks of backlog the letters outstanding totalled 34 ! May I request that in order to cut expenses, if members want a reply or datasheet, they send a stamp. Most people do that now, but a gentle reminder may help. If no reply is required, please also indicate. Please dont take this to mean that I dont want to hear from members - letters are always welsome and I like to keep in touch with as many members as possible with new etc. for SPRAT, also to pass onto Paul at the Short Wave Mag. ALSO - ANY NEW ARTICLES - HINTS - IDEAS ? The file is running low and I'm sure there must be some good stuff happening in the QRP world that we can share.

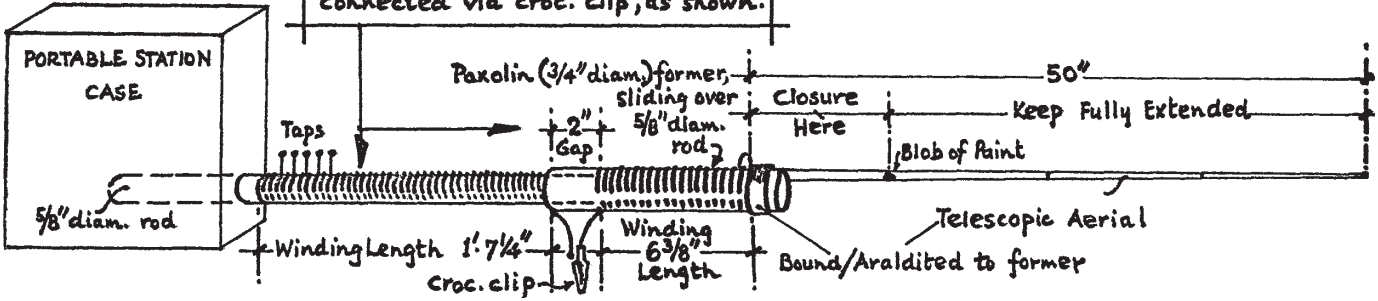
"A WATT PLUS ON 160"



NOTES
L1.. 48T, 22 SWG., CLOSE-WOUND ON 1½" DIA. FORMER.
L2.. 6T, 22 SWG., CLOSE-WOUND OVER END OF L1.
Tr 1,2,3 .. RCA 40315 OR BFY 50,51,52 (SEE TEXT) Tr3 FITTED WITH RIBBED, PUSH-ON, TO5 HEAT SINK.
P.A. LOADING CAP. 1034p, (USING 500+500+17+17p. CAP)
D.C. SUPPLY IS 2 NO. PP1 IN SERIES (FIT SWITCH)



Both coils closewound with 22 SWG enamelled wire, coated with clear varnish. Gap between coils ~ 2", connected via croc. clip, as shown.



QRR NEWS

ACTIVITY WEEKENDS : 30 April/ 1 May and 14/15 May.

Conditions were poor on both of these weekends. A number of stations were active during the EU weekend, but the only international QSO reported was G8PG to DJ1ZB (30 April, 14065 at 1643 gmt).

There was considerable GI/GM/G activity on 14/15 May, although conditions were very poor. All reported contacts were on 80m the more active members working 7 or 8 stations. Our thanks to members who reported. LET US HOPE FOR MORE ACTIVITY IN THE NEXT WEEKEND.

VE7SFU - ex KL7HLC wrote to tell me of his recent building of an HW8 and enclosed QST mods for QSK and RIT. Very soon he hopesto use his QRP into a new beam at the Simon Fraser Universsity on 1200 ft Burnaby Mountain.Jim also hope to be going on CCW soon. At present he uses an 'invisible' long wire from his apartment window

WHAT IS QRO ? WHAT IS QRP?

G4BUE has raised an issue which has since been discussed by Gordon and gus about the use of QRO to aid QRP QSO's. Sometimes it is useful to contact a station on QRO then try on QRP - but does this count? Naturally it does become a QRP QSO, but we comsider for the purposes of awards that the complete QSO should be with QRP.

AN IDEA

Chris (G4BUE) suggests that we might run a QRP Ladder which could begin with 25 countries worked and go upwards. If you like the idea send your latest (confirmed) list to Gus, G8PG (sorry Gus - I've not told you about this one !) If enough members reply a list could be printed in SPRAT.

LEICESTER EXHIBITION 1977.

I hope that we can have an informal meeting again this year. I suggest Saturday in the tea room at 5 pm - Carry a SPRAT or wear a clear call sign badge. This just for a chat etc. but I hope that a fair number of members might be present.

I will be at the show EVERY DAY ! I am helping with a stand this year and am quite excited about the chance of taking part in what is now rated as the second biggest event in Europe. I will be on STAND 19 most times at most days - so look me up, you might even spend some money with me !

MEET THE MEMBER Ray Moore G4CEJ.

Ray is 31, married with 3 boys. He was apprenticed with M.O.D. in electronics. After that he had a spell in TV servicing and on into the Electronic Calibration Lab. in Barrow in Furness shipyard. At present he is a Contacting Technician at a local Drug Factory. Ray runs 3 watts inot a BD123 on 7023 and is looking for QSO's. Local QTH is Grange over Sands. (I remember the beach from a few years ago after a short Lakeland holiday - Ray)

MEMBERS ADS:

G2BON requires an expensive gen coverage receiver - like BC342 or BC348 - also a Codar T28 and any xtals for 1.8 to 14 MHz bands.

G4FZS (Searchlight Workshop, Newhaven) a disabled member requires inexpensive HF band gear to get going on the HF bands.

CLUB NOTES

Odds and Ends from Members:

THE TUCKER TIN MK.II

Elsewhere in this issue you will find a layout for this popular rig (data sheet still available for an SAE) by Miles G2CKM. Miles wrote to pass on a few tips for Tucker Tin bulders. You might recall his handsome features adorning a photo in a recent RAD COMM !

Miles has: 1) Split the pre amp audio phase splitter PCB into two parts at the line through R9-C9 on the PCB (ie at gain control)

2) Followi g the mixer Q9 fed with coax from the collector to a BFY52 driver running at 300mW from 12v - this collector coil is link coupled to:

3) Linear P.A. which is a BD124 at the moment, with series tuned circuit in PA and a 4 turn link on the cold end of the 'tank' coil, wound on ferrite. This link feeds directly to an 80m dipole. A.T.U. will follow!

4) The layout is totally changed - see diagram - the whole rig goes onto a box 5"x7"x2½".

Since it now goes on 12v at 100mA, Miles has christened it 'The Mini-mono Watt'.

++++++++++++

ULLMAR - SM4DXL

writes to tell us about his QRP work. He runs a DSB/CW 80m home brew rig which runs from 1.5 to 2.5 watts. The antenna is an inverted vee dipole, centre 10m above ground. Since July 1966, Ullmar has had 1,300 QSO's, the best DX being UK9AAN, with UK4, U35, LZ, YU, OE I2, GI, and OY all on 80m CW - DSB includes JA1, UQ2, SP, OK DM, and G. Ullmar, a 42 year old school teacher becomes are first SM member.

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DUG WOODFORD - G8IB

Writes to comment in his power supply for the HW7 - elsewhere in his issue. With the rig into 130' end fed his best DX has been PY2CJW, with W's and VE. Dug has also complete a Tucker tin MKII, with his first SSB contact being G3WMX, some 200 miles. He also says this rig is good on CW. He has worked SM on CW with the Tucker Tin. His advice about QRP is 'keep at it' - thats about the best I can think of too.

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DATA SHEETS:

The data sheet service is still available to members. For a SAE sheets which contain reprints of overseas magazine QRP articles, some past SPRAT circuits etc. are sent off ASAP. Sill Available:
TUCKER TIN MKII (QRP SSB RIG) TUCKER TIN MKi (Same with valves)
PCB LAYOUT FOR MK II. ACTIVE FILTERS by K8EEG. HW7 MODS (various)
THE G3IGU 80m CW TRANSCIEVER. FOUR WATT WIDE BAND LINEAR AMOLIFIER.

New Data Sheets:
VEST POCKET QRP & MICROMITTER (2 very simple 1 transistor TX's)
THE MINIMITE ALLBAND QRP RIG
THE TUNA TIN 2 (a 2 watt xtal cont. 40m rig in a tuna tin can!)
THE HERRING AID FIVE (40m direct conversion RX to match the above)

I am most grateful for members who send me material for data sheets and for Gwyn G4FKH, who prepares them for our use. Our thanks to Skip WB8OWM for the latest.

ADVERTS:

263 Mansfield Road, Nottingham.

ITEMS FOR THE QRP FAN:-

REED RELAYS (Ideal for keyers etc.) 12-18v, 1.8K coil. Encapsulated. Max power 5w (50v at 200mA) opearte and release time approx. 1ms. Single Pole Make @ 25p A few Single Pole Change over @ 30p

12 VOLT RELAYS (Ideal for rig control) D.P.CO. 430 ohm coil. contacts rated at 2 amps. 25p.

MAIN RELAYS (Heavy duty - new in plastic cases - 3 pole change over. Contacts at 7A 240v, with test button. 75p.

REGULATOR I.C. LM309K (5v @ 1.2A) for the TTL fan, but can be used at higher voltages with the ground above earth. TO3 base. 95p

HEAT SINKS TO3 (for above etc.) 'cabbage' type. 20p.

McMURDO PLUGS AND SOCKETS. 8 pin, 17 pin,27 pin 25p a pair.

WAFER SWITCHES. 1 pole 9 way, for that ATU: 20p.

EDGE CONNECTORS. 0.1" veroboard spacing. 32 way. 15p.

Postage 20p flat rate. See you at Leicester Stand 19 with a full range of special lines - cases, variable caps, a bargain 12v 1A PSU unit, etc. A SAE brings you a list.

- -

J. BIRKETT *Radio Component Suppliers*

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100 MULLARD C 280 CAPACITORS. Assorted for 57p
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BCX 37 1 AMP 40 VOLT PNP TRANSISTORS 80 MHz at 10p each
RCA 40410 PNP 3 WATT 90 VOLT 100 MHz TRANSISTORS at 18p each
20 ASSORTED FT 241A CRYSTALS 96th Harmonic between 71 to 98 MHz at £1·10
SUB-MINIATURE 2 POLE 4 WAY ROTARY SWITCHES at 22p each
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10 MULTI-TURN TRIM POTS. Assorted values for 60p
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X BAND GUNN DIODES with data at £1·65
X BAND DETECTOR DIODES like SIM 2 at 15p, 1N 23 at 25p
10·7 MHz BLOCK CRYSTAL FILTERS. B.W. ± 7½ kHz at £3·50
10·7 MHz BLOCK CRYSTAL FILTERS. B.W. ± 6 kHz at £4.
VHF TRANSISTORS. BFY 90 at 50p, 2N 918 at 25p
FET TRANSISTORS LIKE 2N 3819 at 20p, 6 for 75p
VHF DUAL GATE MOS FET LIKE 40673 at 33p, 4 for £1·10
SN 7400 TTL I.C. at 6 for 50p
STANDARD CO-AX PLUGS at 15p, **CO-AX SOCKETS** at 15p
MINIATURE BNC PLUGS at 25p each

REGULATORS. Ua723 at 50p, LM 309K at £1·10, MC 7812CP at £1·12
2·5 GHz DUAL TRANSISTORS in 8 Lead I.C. Untested with data 4 for 57p
TEXAS 800 MHz FET's. BF 256 at 25p each
BFS 21 MATCHED PAIR N CHANNEL FET at 60p
VHF POWER. Unmarked Good 2N 3375 at £1, 2N 3866 at 3 for 75p, 2N 3553 at 3 for £1·10
COMMUNICATION SERIES OF I.C's. Untested with data consisting of 3 x R.F., 1 x I.F., 2 x AGC, 2 x VOGAD, 1 x Mike, 2 x Double Balanced Modulator, 1 x Mixer. The 12 I.C's for £3
TANTALUM BEAD CAPACITORS. ·1uf 35v.w., ·15uf 35v.w., ·33uf 35v.w., 1uf 35v.w., 2·2uf 35v.w., 3·3uf 16v.w., 4·7uf 10v.w., 4·7uf 35v.w., 5uf 25v.w., 6·8uf 25v.w., 6·8u 35v.w., 10uf 25v.w., 15uf 20v.w., 20uf 6v.w., 22uf 16v.w., 33uf 25v.w., 47uf 6v.w. All at 9p each
TO39 5 WATT NPN DARLINGTON TRANSISTOR at 30p each
20 ASSORTED BRANDED 250mW ZENERS for 60p
TEXAS R.F. TRANSISTORS. 2G 106 20 for 57p
1000uf 40v.w. ELECTROLYTICS. Size 1¼ x 1" at 3 for 35p
30 ASSORTED 10XAJ CRYSTALS. Between 5100 to 7900 MHz or £1·10
LARGE ·2" LED. Red at 15p, Green at 15p, Yellow at 18p
CERAMIC TRIMMERS. 3·5 to 10pf, 2·5 to 6 p, 2f to 8pf, 4·7 to 20pf, 0 to 30pf. All 10p each
SILICON SOLAR CELLS. 0·5 volt 5mA at 35p each
10·7 MHz CERAMIC FILTERS at 27p
465 kHz LP 1175 TYPE FILTERS with circuit at 55p
BF 117 100 VOLT NPN 600mW TRANSISTOR. 10p, 6 for 50p
MULLARD SEMI AIRSPACED TRIMMERS. 20pf, 60pf. Both 8p each
DIVIDE BY 2 300 MHz COUNTERS with data at 80p
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500yd. REEL OF PVC CABLE. 14 Strands ·0048 for £3
50 AC 128 TRANSISTORS. Branded but untested for 57p
50 BY 100 TYPE DIODES. Untested for 57p

VHF TUNER UNIT WITH CONVERSION
DETAILS FOR AIRCRAFT BAND or 2 METRES at £3
28 kHz Wire Ended CRYSTALS at 50p

HIGH POWER X BAND GUNN DIODES
Pulsed 750mW Plus C.W. 300mW
Price £8·95 each

BYX 38-300 SILICON DIODES
300 PIV 6 Amp at 15p each
6 GHz NPN LOW NOISE Stripline Transistors with data at £3 each

G-QRP-CLUB. CHANGES IN MEMBERS QTH:

001	G3RJV.	131a Mansfield Road, Nottingham. Tel: Nottm 411546. (Daytime try Tel: Nott. 411984.if not as above)
059	G4DEP	52 Cedar Grove, Yeovil Somerset. BA21 3JS.
070	G8AAL	41 Aintree Close, Wolverley Park, Kidderminster. Worcs.
113	G4CFW	12 Longfield Drive, West Parley, Ferndown. Dorset.
119	G4ENK	16 Cottage Close, Ribblers Lane, Southdene, Kirkby, Merseyside.
159	GM4EFR	42 Sweyn Road, Thurso. KW14 7NW.
185	G4ETJ	5 North Town Close, North Town Road, Maidenhead. Berks.
223	G3WME	73 Tewkesbury Road, Longford. Gloucester.
231	G4BUE	58 Dale Ave, HASSOCKS. West Sussex, BN6 8LS.
265		20 Fowley Close. Shoreham by Sea, Sussex. BN4 5HE.

May I remind members that a change of QTH notification ought to include - Both callsign and membership number. It is also useful to quote membership number in all mail on club matters.

Best wishes to all members in new QTH s- and welcome to the "paintbrush - didn't know I had so much stuff - where can the rig go and what antennas can I get up here' brigade!

+ +

SUBSCRPTIONS:

Although I am attempting to notify members of their impending due subs with a rubber stamp on SPRAT, it is helpful if individuals can recall their own dues. The system used is to divide the subs due into periods between issues of SPRAT. The system works roughly as:-

AFTER WINTER ISSUE: 0-90 , 178-200 , 254-272
AFTER SPRING ISSUE: 91-120, 201-222 , 272-292
AFTER SUMMER ISSUE: 121-154 , 223 -232
AFTER AUTUMN ISSUE: 155-177 , 233-253

There are a few outstanding subs due, at the moment the club is being easy about this, but we will have to tighten up soon. Postage and SPRAT costs have rocketed in the last year!

PLEASE ALL SUBS TO:
ALAN LAKE, G4DVW, 7 MIDDLETON CLOSE, NUTHALL, NOTTINGHAM.

Alan and I remain in constant touch so messages are simple to pass on, but subs to Alan and other matters to G3RJV makes our task simpler.

* *

OTHER MATTERS:

AWARDS - Please address all award claims to Gus, G8PG, and please remember to send return postage for certificates.

ARTICLES FOR SPRAT - As I say elsewhere the file is now a bit thin, so keep the ideas coming, however simple or complex. No need to be an author a circuit and notes or just general hints are all useful

LABELS _ Once again thanks to Connie Wade for her valuable help with the address labels for SPRAT.

GET THE MESSAGE OVER - QRP is growing, but could grow more. So what about a talk to your local club. I keep a file of background material for such talks - a few facts, ideas, QRP achievements, some photos etc. This file can be borrowed at any time by members. We are on to a good thing, so lets spread it around a little ! I find a lot of respect in the amateur world for people who use low power and for CW users, not to mention amazement at people who use home built equipment.

G-QRP-CLUB. NEW MEMBERS SINCE LAST ISSUE OF SPRAT:

272	G4FZS	Maurice Bulmer. Shearlight Workshop Newhaven Sussex.	New Call.
273	G4FCU	Raymond Fleming Restall 418 Newport Rd. Middlesbrough, Cleveland. TS5 4BT.	Homebrew TX 160/80 2 to 8 w.
274	G3SVO	Edwin Dudley Wills 53 Maldon Rd. Great Baddow, Essex. CM2 7DN.	General QRP
275	G30A	Harold G. Cottis 19 Kingswood Chase, Leigh on Sea, Essex. SS9 3BB.	160/80m QRP
276	SM4DXL	Ullmar Qvick Geijersholms skola, S-683 00 Hagfors Sweden.	see this issue
277	DJ5QK	Otto A. Wiesner. Feudenheimer Str.14, D-69 Heidelberg 1 Germany.	
278	G4EKH	Hugh Carson. 31 Nursery Rd. Nether Poppleton. York. YO2 6NN.	AT5 KW2000A
279	G4EPW	Les. H. Golding. 24 Lancaster Dr. Primrose Hill Lydney. Glos. GL15 5SL.	HW7 & dipoles.
281	G4DQP	Vincent A. Lewis 32 Colne Rd. Trawden. Colne. Lancs. BB8 8NX.	General QRP
282	?	William Eastman. 201 Kellogg St. Nashville. Mich. 49073. U.S.A.	
283		R.C.M. Burgoyne 22 Robinson Cres. Lerwick. Northern Ireland.	SWL
284	G3DMC	A.J.Birkinshaw. 219 Teagues Cres. Telford. TF2 6RA.	QRP CW on 80m
285	?	Steve Turner 28A Patrick Rd. West Bridgford. Nottingham.	Home Const.
286	G8VN	Harold Turner 31 Auckland Close, Mickleover, Derby. DE3 5LH.	2m(2w) 70cm(5w) HF bands QRP
287	G4FAI	Anthony Smith 28 Lambs Terr. Edmonton. London. N9 9UG.	80m 3w homebrew
288	GM4HAM	Edinburgh & District A.R.S. 35 Prestonfield Ave, Edingburgh. EH16 5EG.	Club QRP Activities
289	G3ZEE	George Hood. 18 Gillway, Selsy. Sussex. PO20 0EX.	CW cont & working
290		John Hague 1 Chaloners Rd. Dringhouses, York. YO2 2TW.	SWL with RAE aged 14.
291	G4FZO	William A. Cash. 10 Alyth Rd. Bournemouth, Dorset. BH3 7DF.	
292	G4CKG	Ron Price 4 Cawood Court, Mayo Rd. Sherwood Rise, Nottingham. NG5 1BL.	General QRP

Welcome to all new members - some have yet ro recieve a full members list which will be reprinted shortly.