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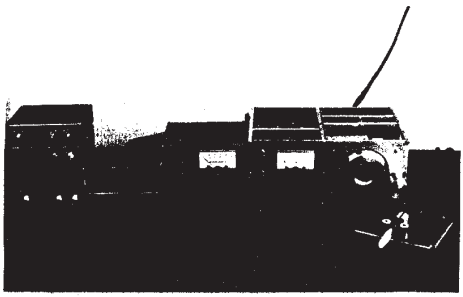
Devoted to Low Power Radio Communication

SPRAT

APRIL 1978 Issue 14



The new GM3OXX Set-up.
(see inside page)

Rev.G.C.Dobbs.Willowdene.Central Ave.Stapleford.Nottingham.

Tel:Nottingham 394790.

Editorial Notes:

Once again I write a SPRAT from a new QTH! I hope that last change for some time. I have moved to the west of the city of Nottingham. May I offer regrets for delay in mail etc. during the period of the move and settling in. The GPO are posting on my mail from the old QTH, so I hope that I have received all that has been posted.

The new QTH is in a valley (River Erewash) but what small amount of operation tried so far with a makeshift dipole seem to show it might not be a bad site. I have worked my first string of W's on SSB with 5 watts and C31 for the first time, so I'm hoping for better results when more adequate aerials go up.

The club continues to grow in numbers and I had so many people writing for details since the last issue that I ran out spare copies of SPRAT to send as samples, and as you will see, we welcome quite a lot of Stateside members this quarter.

May I remind members of the club getogethers on 80m on 3540 ± QRM on Sundays from 2pm clocktime. I hope to be with you again when I'm restored to 80m operating again.

This issue has one major article, to counter the many small ones in the last issue. I still welcome new material for the magazine technical, news or just adverts. I'm afraid to say that the club stock of back issues has completely dried up. However I hope that in future we may be able to produce a "best of SPRAT" publication - when funds allow this. It may be that we could sell this as a sort of "QRP Handbook".

Best of Luck on the H.F. Bands this 'season',

73 fer nw George G3RJV.

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FRONT COVER:

The new rig of George Burt, GM3OXX. Left to right: Transvertors for each band, Connected Transvertor, ATU and SWR Bridge, Transceiver (5.1 to 5.2 MHz) CW only, Keyer.

Yet another completely homebrewed rig from George. He sent me a log for one weeks work, with 2 watts to a dipole. Mixed bands, so I'll just quote the callsigns in the order worked: HC4JL, GD4AM, G4GFU, LU1DZ, KZ5TAN, CX5RV, PY4ZI, ZP5NW, PY5BZK, WD5FLJ, WA6YPO/SF, WB5TON, 4Z4TJ, ZL2TX, F6ESE, UK2FAM, JA5PL,PJ2CW VK3GA, DL8BL, PT7AW, K4PB.

This is just a list in order from Georges log from 28.2.78 to 5.3.78! One interesting point is that the ones underlined were worked on 10 metres - perhaps a good QRP band for us this year(?)

G-QRP-CLUB. MEMBERSHIP AND SUBSCRIPTION RENEWALS:

All subscription renewals (Please note annual fee is £2.00) to be sent to Alan Lake,G4DVW,7 Middleton Close, Nuthall,Nottingham.
Please mark cheques: G.C.Dobbs:Re QRP Club.
Subs due are notified by membership numbers between each issue of SPRAT.

SUBSCRIPTIONS OVERDUE: 155-177 and 233-232 (unless paid this year)

SUBSCRIPTIONS DUE: (before July) 91-120, 201-222, 272-292.

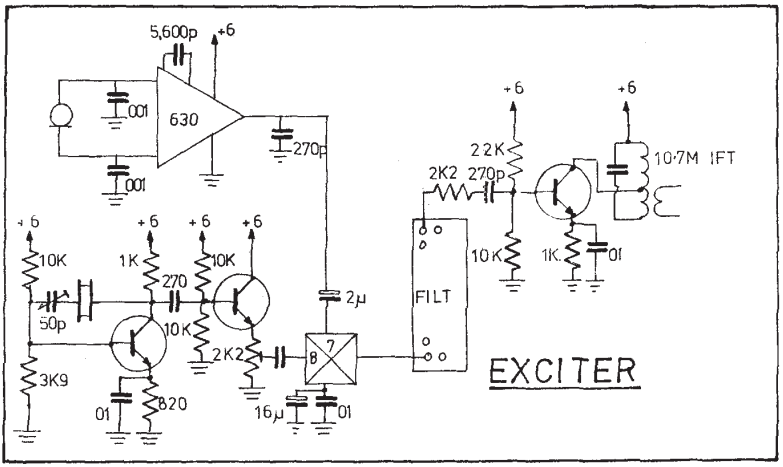
A CHEAP S.S.B. GENERATOR

Ian Keyser G3ROO

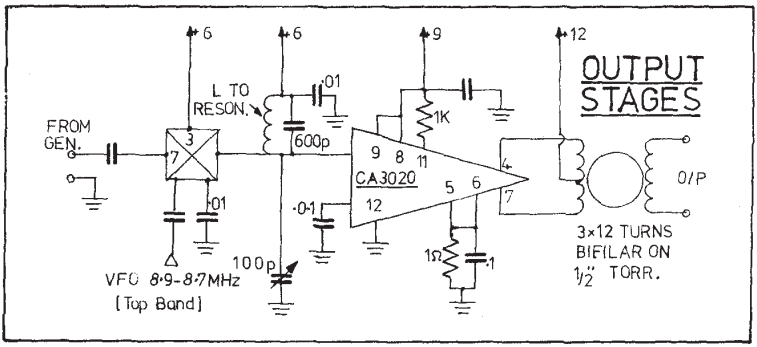
A small cheap generator was constructed using two of the many available 10.7MHz filters (Ambit) intended for FM use. The idea behind the project was not to build a rig but to prove that reasonable SSB could be produced, for this reason full constructional details are not given.

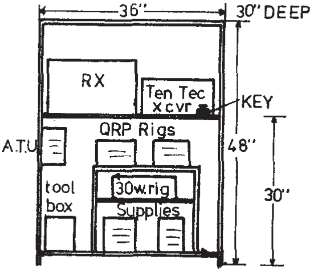
The filters used were 10.7± 3.75KHz units, one being pulled apart to use the crystals in the carrier oscillator. If a wobulator is available it would be wise to see which filter had the best slope for the generator itself.

The unit was tested for USB,however the carrier crystals could be switched to produce both sidebands. The crystals are set 20dB down the sides of the filter, and this, with the balanced modulator gave over 45dB of carrier suppresion. The output was 100mV into 300.



The unit was tested 'on air' by driving a SL641 with a low 'Q' tuned output which in turn drove a CA3020A to 1 watt on Top Band. Reports were all 'Good, clean but slightly toppy SSB'. Tests later proved that the audio was 3 dB down at 700Hz, but by sighting the crystal at 15dB down, the 3dB point came down to 500Hz. Using 'Birkett IC Specials' this makes a very cheap TX if you can raid friends junk boxes!





The SHACK IN A BOX

An Idea from Rock. W9SCH.

Some years ago I aquired an old "record Cabinet" for 78 rpm disk-collectors, at a Chicago department store for a bargain price. This was just as 78 rpm disks were being replaced. This cabinet has internal measurements of 16"x36"x 48" with a solid shelf 30" above floor level. This cabinet has become the "shack" at W9SCH; except for a loudspeaker and a few odd items, my entire ham gear is enclosed therein. This is a well built mahogany veneer cabinet with two sets of doors (one for upper and one for lower compartments) which, when closed, neatly obscure all of my sloppy ham junk, much to the delight of the XYL, keeps dust problems away, too.

The general setup of my "shack-in-the-box" is shown in the diagram. As you can see, there is enough room for considerable QRP-style gear, of course one can always use more room, but this suffices remarkably well. Furthermore it permits me to do my operating upstairs, in comfort and family tranquility, rather than being relegated to the cold and dismal basement. It is located in my so-called "study".

To increase the convenience and flexibility of the lower "transmitter" compartment, I provided a smaller internal set of shelves. This provides space for my "big rig" a 30w. 40-80m CW transmitter, and for at least one (sometimes two) QRP transmitters, as well as power supplies (one 12v. and one 300v. supply) and homemade VOM. Alongside the shelf assembly there is room for an antenna tuner, a toolbox and some miscellaneous but convenient indescribables (tuning lamps, extra phones, test gear etc.)

The upper compartment contains the reciver, a Ten-Tec PM-3 CW transceiver, the old hand key - every night is handkey night for me - and other operating sundries such as log, clock, calendar etc.

A number of switches enable the key to be switched onto any transmitter ad-libitum. A plug at the end of the power cable enables any rig here available to be hooked up rapidly.

There is no need for a fancy cabinet here; build yourself one from plywood, finish it neatly, and maybe Mama will let you move your gear up from the slimy basement and into upper floor civilization. It is worth a try anyway.

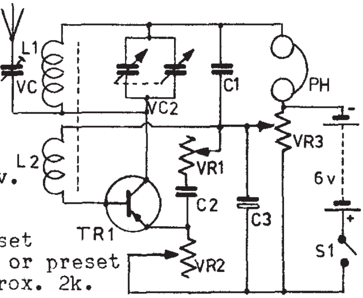
+ +

HW7or8 DIAL ILLUMINATION

By Peter Gent, G4DPY.

1) Remove all Knobs 2) Remove front panel with cursor.
3) Remove the white circular plastic dial - do not lose 8 BA screws!
4) Replace the front panel temporarily, and carefully mark the centre of the cursor dial line (I used an ordinary compass)
5) Remove the front panel again, and drill a small pilot hole through the aluminium front panel. This best done with a hand dril or slow power drill.
6) Enlarge the pilot hole to ¼" and then use successivly chassis hole cutters to produce a 3/8" then a 3/4" hole
7) Fit a suitable MES bulb holder to a convenient bolt so that a 12v bulb (2.2w) is centrally behing the hole in the panel.
8) Fit atoggle switch on the back panel, wiring to any convenient 12v point on the circuit board, and taking the supply to the bulb.
9) Refit the front panel and knobs.
10) It will be found that both dial and Relative Power meter are illuminated
12) Following the insallation of the light, the set seems 'alive' when switched on !

SR-1.5-4 Receiver



TR1 = OC170
VC1 = 50pF
C1 = .01uF
C2 = .005uF
C3 = 10uF 16v.
S1 = SPST
VR1 = 1K ww.
VR2 = 1M preset
VR3 = 10K ww or preset
Phones = approx. 2k.

L1 = 30t. 36 swg on ¼" slug tuned former.
L2 = 20 t. on centre of above, 36 swg seperated by sellotape.

FROM W.G. Jones member 350.

This little receiver, with its out of the ordinary circuit covers approx. 1.5 to 4 MHz, including 160 & 80m bands.

It performs very well on CW and as there are still a few AM operators on Top Band, it is also very useful for these.

It is sensitive when used with a good long wire or an 80m dipole, and can be built on two tagstrips in a small box.

Construction Notes:

After construction and before switching on power, turn VR1 very slighty up from the C2 end - set VR2 for maximum resistance and VR3 for about one quarter away from the positive end.

VR1 Controls the quench frequency.
VR2 Controls the level of feedback.
VR3 Controls the base bias.

Now switch on the reciver. Slowly turn up VR2 until the usual hiss of regeneration is heard. Connect the aerial to VC1 and if necessary adjust VR2.

Tune in a signal with VC2and adjust VR1 for the best volume and least hiss. Tune over the entire band, probably at some point it will either go into oscillation (howling) or the hissing will be lost. In either case adjust by setting VR3.

The reciever should then be able to provide good results on any signal with just the usual tuner adjustment and adjustment of VR1. VC1 is an aerial trimmer and should be set for the best reception of the signal.

All the usual features of a valve regenerative RX are well exhibited, in that there is a steady hiss in the phones which stops when a carried is tuned in, and there is a fair degree of interference rejection. Whilst the set does not compare with a superhet or direct conversion receiver, the performance is quite good and should appeal to the Top Band CW and SWL fan.

I make no claim for the authorship of this circuit since it was given to me by a friend some 12-15 years ago. But I have built several versions and they do work.

* *

MEMBERS ADVERTS:

Gwyn Williams (our datasheet provider) 120 Linnet Dr. Chelmsford. Essex, requires the following valves:
6J5GT, 6AU6, 6L6, 6146, GZ32, 6AQ5, 6BR5, 12AX7, 6L6G, VR150, OA2.
Gwyn would like to know price and number of valves available.

Alan Lake (our treasurer) 7 Middleton Cl. Nuthall, Nottingham says: "I am a keen collector of radio books, magazines and gear dating back to the days when "wireless" was all wires with never a printed circuit in sight! I would like to hear from anyone else with similar interests or gear to dispose of."

G3GGL - QTHR. has the following Xtals for exchange: HC6/U-1893,1865,14216 (several of each) 10XAJ- 7085 for any Topband,3540,14065 etc.

QRP NEWS

AWARD RULE DEFINITIONS:

The following definitions apply to the rules for Club Awards.

1. "Contact". A "contact" is defined as a complete QSO including all calls necessary to initially establish communication between the two stations. Making contact on QRO, the reducing power is not acceptable.

2. Power Output. Some overseas stations quote power output, not power input. For the purposes of Club Awards a power output not exceeding 3.3w. will be accepted as the equivalent of a dc power input not exceeding 5w.

- - - - - - - - -

DL AGCW SUMMER QRP CONTEST 1978.

1500 GMT 15 July until 1600 GMT 16 July. Rules unchanged.
Copies of the rules from G8PG - please send SAE.

* *

QRP IN HUNGARY:

In a recent QSO HA6KNP told G8PG that there was an 80m HA QRP Contest last November, which lasted a week. It was won by HA6KNP who worked 46 countries with 5w. There will be another contest this year, but for inter HA working only. QRP interst seems to be spreading in Eastern Europe as Moscow Radio recently reported on a UA 200 mW Contest.

- - - - - - - - - -

OPINION - <u>QRP and QRO</u> <u>Notes by GI3XZM</u>

We all have our own approach to QRP. To some its almost a religion while others just try it now and again, for a change. In the club we tend to regard QRP as operation below 5w. while the books define it thus: "QRP = Decrease Power".

An approach frequently mentioned and implicit in both the formal definition and the Amateur Licence is that of using just sufficient power to ensure satisfactory communication. Critics of QRP sometimes say, not unreasonably, that to expect a DX station to make repeated attempts to read one's call sign through heavy QRM is less than good manners. On the other hand excessive power is to risk causing "undue interference" to other "wireless telephony" (Licence 4.(1))

Not all rigs lend themselves to rapid or large power variations but at GI3XZM a 3 valve rig with a p.a. supply switched to give about 170v and 340v providing 5w/20w input (on 80m) proved much more useful and interesting than either "true" QRP or "QRO" rigs of 15-40w which had no instant qrp/qro. A number of members have had similar experience.

It is understandable and proper that the club should not accept the use of QRO as an aid to contest or award working, but for general use it is surely fair to say (and worth remembering) that:

i) It is more difficult to start QRP QSOs than continue them in QRM.

ii) On a quiet band using 4w instead of 50w. may just cost a couple of S points, but on a noisy and crowded band, even 1 S point can mean the difference between catching or not catching the other fellows ear. A beginner with 3w. can suffer dissappointment but with 20w, he can have a ball.

iii) The practice of switching power level, like any other experiments or tests, gives the other operator a more interesting QSO and

iv) it demonstrates vividly the needlessness of QRO.

There are undoubtly some expert operators who can do more with 2w than the writer can do with 20w. There are many more who either find the jump from their habitual 100w. to the club's 5w. psychologically impossible or tend to forget that their linears can be wound back. If it is fair to assume that these operators are more likely to QRP (ie reduce power to some extent) in consequence of a QSO of the type suggested here than they are following an encounter with a true QRP expert, then switching power is worth encouraging, since we all presumably agree that QRP operation is worth encouraging

JUBILEE 80 SSB/CW Transmitter By GM3XNE

CONSTRUCTION NOTES:
Construction done the form of 5 separate modules which facilitates assembly and testing.
Module 1. V.F.O.
Module 2. SSB Generator/Driver
Module 3. P.A.
Module 4. Tone Osc.
Module 5. Sidetone Amp.

All modules were built into a case (PVC covered steel with aluminium base/front/rear) Type RD5 from A.Marshall(London) - size 11"x7¾"x3½". Construction of each module can be done on single side copper clad-veroboard or plain vero (o.1" matrix) as prefered. Author used copper clad for all modules expect VFO (plain vero). In module 2. the screening enclosure (55/8"x4¼/4") is alsomade from copper clad board. Good screening is esstential in this module particularly with regard to carrier suppresion. With care in this,and layout shown plus xtal filter used it should be possible to achieve around 35-40dB of carrier suppression. In practice on air results are perfectly satisifactory.

Decoupling. It cannot be emphesisied enough for the need of good decoupling of all supply lines to each module, and the usual transistor decoupling practice should be followed - if in doubt add more.

All coils are on toroidal core and available from TMP Electronics.

V.F.O. Module 1. consists of a colpitts oscillator TR1 and buffer amps TR2 (both BC108C). DC supply is stablished at 10v. Construction was on plain vero with a screen (coppper clad) between oscillator and buffer. Miniature plate ceramics of 1-5% were used throughout. A small 36mm vernier 6:1 was fitted via an insulation shaft and coupler to the Jackson C804 capacitor. A grid dip meter and also the station RCVR (G/Cov) was used to trim VFO onto frequency giving a total swing of 5 to 5.5MHz. An external VFO source can also be used with this TX as available from the Trio TR310 RCVR, making transceiever operation possible. An extrenal VFO socket is mounted on the backpanel of the rig.

SSB Generator/Driver Module 2. Internal copper clad screens can be seen in the layoutsketch and extend above and below the main PCB. A small 'star' heatsink is fitted to the BC108C driver. FL1 is mounted tightly against non-copper clad screen side through two bolt holes. Also drill two holes to take the input and output pins of the filter,C4 & C5 are soldered directly onto the copper clad board. IC1 and IC2 are Signetics TAA661B in the 14 pin DIL, and also available in 10 pin TO-100 mounting, then designated as TAA661A - the plastic DIL were used in the prototype. DC supplies to this board are via 1000pF solder feedthru's mounted on the copper clad screen (copper inside). Testing the module is done in two stages - Firstly check with GDO (and RCVR) that the carrier osc is starting when power is applied. Secondly induct the output of the VFO module into the TX mixer using a short length of screened cable. Monitor output of L.P.F. for 3.5-4MHz with GDO (RCVR also useful) Check O/P at 14MHz, this should be well down on 80m output, with inverted sideband.

P.A. Module 3. This uses the well known RCA IC CA3020A which is capable of around 1200mW of output upto about 8MHz although designed as an IC for LF/Audio work. Howvere it is no stranger to QRP RF amps and has appeared in several designs. Layout of the module is as in the drawing. Attention to input and output layout is important, and Ferrite beads were used on the input-DC-earth as decoupling. R16 is to set the DC bias current for best linearity and in the design is set to 50mA. The CA3020A deleivered just over 1 watt PEP into a dummy load of 50 ohms and has had some surprisingly good results from northern GM (Inverness) and south into Hampshire into an inverted Vee with apex about 25ft above ground. The staisfaction derived from these QRP QSOs was tremendous and made the long effort (limited time) really worth hwile - surely this is 'Ham Radio' as it should be

Sidetone Amp Module 4. This module was again built using an IC for ease and convenience - in fact the constructor may have a small amp that would easily suit, as it is certainly not critical except for size.
Module 5. Sidetone/CW Oscillator. This was built on plain veroboard and layout is not critical. It is a conventional phase shift osc approx 1KHz. Experimentation with R28-29-30/C54-55-56 with give various frequencies. Terminals G,I,H are connected as in the circuit diagram. TR5 is a BC108. In view of the 2nd harmonic appearing at the filter passband, the tone freq was moved to approx 1.8KHz.
R.F. Output Indication This easy RF voltage 'sniffer' was employed for tune-up and RF output monitor. Pick up capacitor C64 is connected from RF O/P socket to diode circuitry via miniature coax cable. C64 can be varied according to the FSD of meter.

ACKNOWLEDGEMENTS:
Gschwindt - HA5WH (RadCom June 1974). G3VJN (RadCom,Tech Topics June '74) G3YOM-160m SSB Portable (radCom Oct '73). RCA Notes on ICs File No.339.

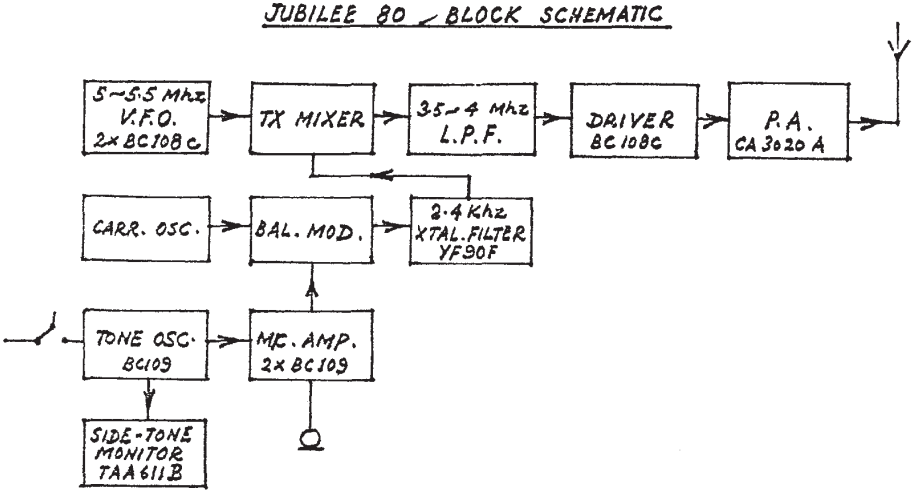
COMPONENTS LIST JUBLIEE 80

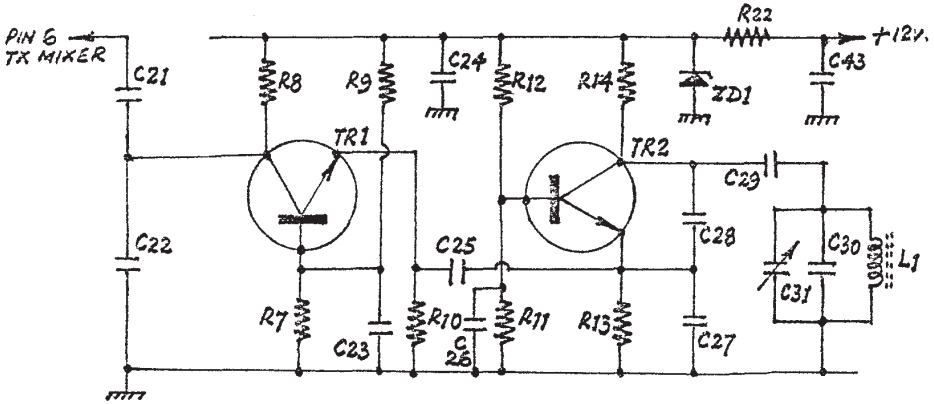
R1	1K	C1	68p	C35	100n
R2	1M(VR1)	C2	220p	C36	10n
R3	470	C3	120p	C37	10n
R4	330	C4	33p	C38	1u(15v)
R5	560	C5	33p	C39	1n (solder f/t)
R6	68	C6	3.3n	C40	1n dis cer
R7	8.2K	C7	47n	C41	as C39
R8	1.2K	C8	47n	C42	100n
R9	120K	C9	47n	C43	as C39
R10	1.5K	C10	3.3n	C44 & 45	ditto
R11	1.8K	C11	100u 15v	C46	1u(15v)
R12	6.8K	C12	22n	C47	" "
R13	2.7K	C13	47p	C48	" "
R14	4.7K	C14	47n	C49	1n dis cer
R15	150(1w)	C15	3.3n	C50	as C39
R16	2.2K(VR2/ww)	C16	47n	C51	4.7u(15v)
R17	33K	C17	47n	C52	10n
R18	15K	C18	47n	C53	270p
R19	47	C19	1u 15v	C54	20n{Adjust
R20	1K	C20	22n	C55	20n{for
R21	5K(VR4/log)	C21	100p	C56	20n{tone
R22	180	C22	100p	C57	100u(25v)
R23	6.8K	C23	22n	C58	100u(25v)
R24	15K	C24	100n	C59	250u(25v)
R25	33K	C25	33p	C60	100n
R26	390	C26	22n	C61	1n
R27	1K	C27	680p	C62	4747p
R28	4.7K{Adjust	C28	240p	C63	200p
R29	4.7K{for	C29	68p	C64	2p
R30	4.7K{tone O/P	C30	120p	C65	1n
R31	220	C31	8-50p(VC1)	VC1	8-50p Jackson C804
R32	2.2K	C32	180(2%)	VC2	365p min airspace
R33	33K	C33	270p(2%)	VC3	365p min airspace
R34	33	C34	10n	TC1	40p compression

X1 9001.5KHz Carrier Xtal, FL1 YF90F 9MHz,2.4KHz, D1 BY127, D2 oa91. ZD1 10v/400mW, ZD2 9.1v/400mW,

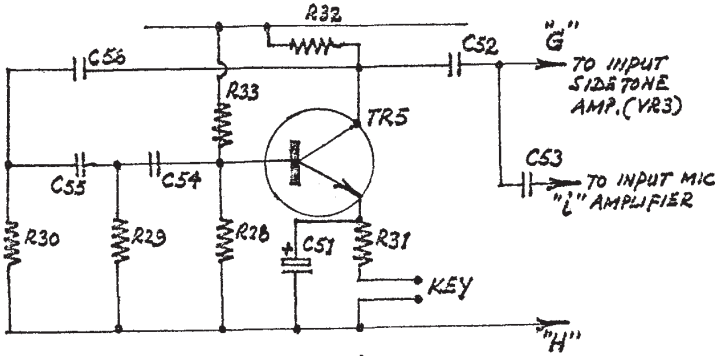
L1=T-50-2 Amidon Core,33t 26swg, L2=T-68-2 Core,45t 26swg, L3=T-50-2 Core,20t 30swg, L4=T-68-2 Core,P=45t 26swg,tapped 15t up from Cap.VC2, S=Link 11t 23swg PVC covered around primary, L5 T-68-2 as cct.

JUBILEE 80 — BLOCK SCHEMATIC

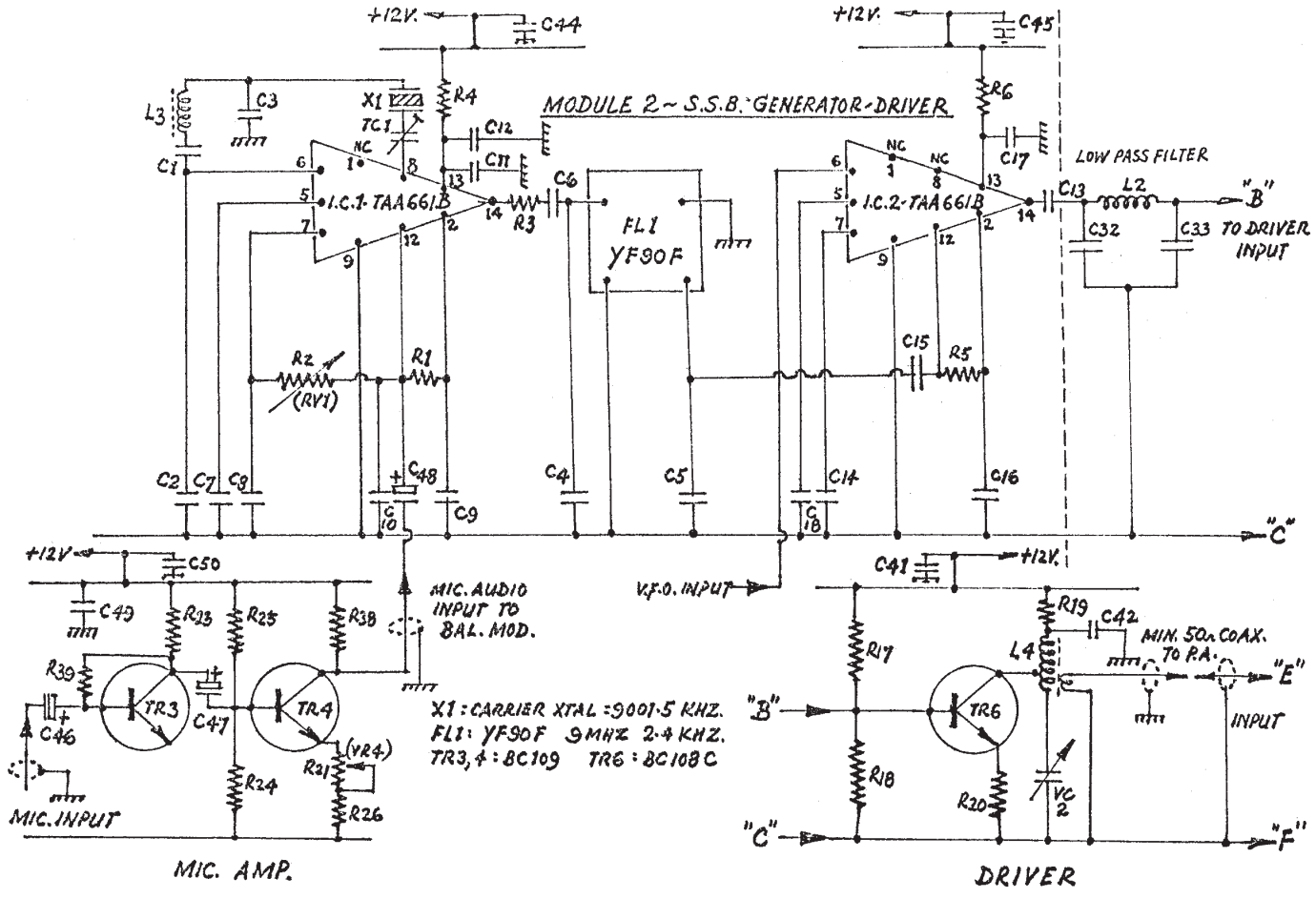




MODULE 1 — V.F.O. CIRCUIT



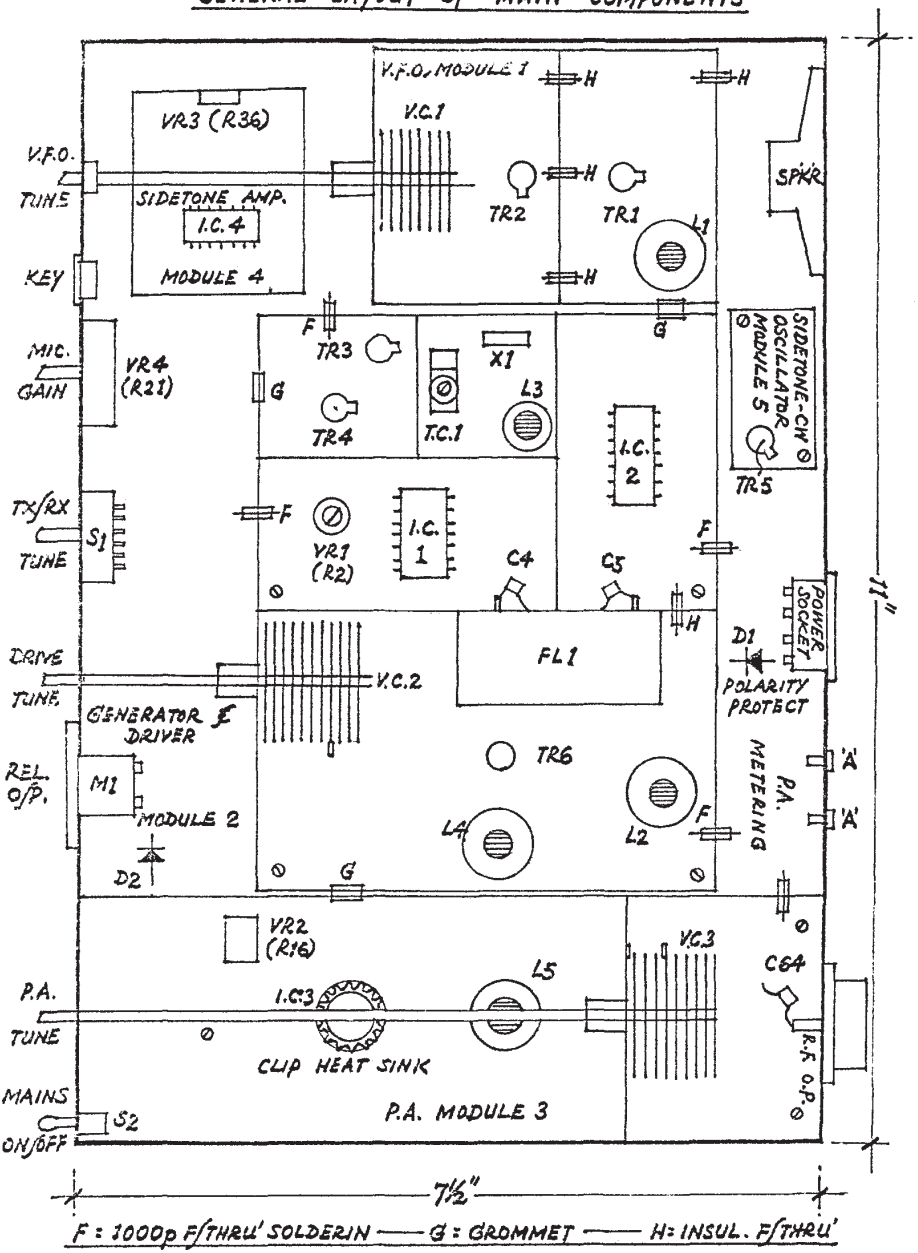
MODULE 5 — SIDETONE/C.W. OSC.


MODULE 2 ~ S.S.B. GENERATOR-DRIVER
+12V.
C44
C45
L3
C3
X1
TC1
R4
R6
C12
C11
C17
LOW PASS FILTER
C1
I.C.1 TAA661B
I.C.2 TAA661B
C6
FL1
YF90F
C13
L2
"B"
C32
C33
TO DRIVER INPUT
R2
(RV1)
R1
C15
R5
C2
C7
C8
C48
C9
C4
C5
C14
C16
"C"
+12V
C50
C49
R23
R25
R38
MIC. AUDIO INPUT TO BAL. MOD.
V.F.O. INPUT
C41
+12V.
R39
TR3
TR4
C47
C46
(VR4)
R21
R24
R26
MIC. INPUT
X1 : CARRIER XTAL : 9001·5 KHZ.
FL1 : YF90F 9MHZ 2·4 KHZ.
TR3,4 : BC109 TR6 : BC108C
R19
C42
MIN. 50Ω COAX. TO P.A.
"E"
INPUT
L4
R17
"B"
TR6
R18
R20
VC 2
"C"
"F"
MIC. AMP.
DRIVER

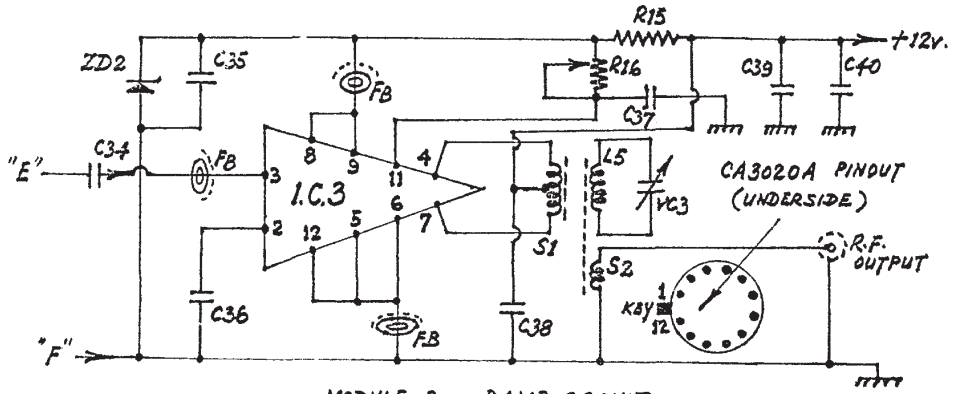
JUBILEE "80" C.W.~S.S.B.'er.

GM3XNE

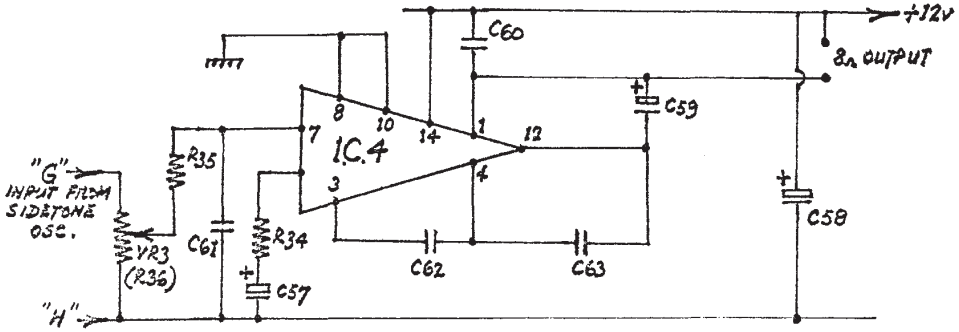
GENERAL LAYOUT OF MAIN COMPONENTS



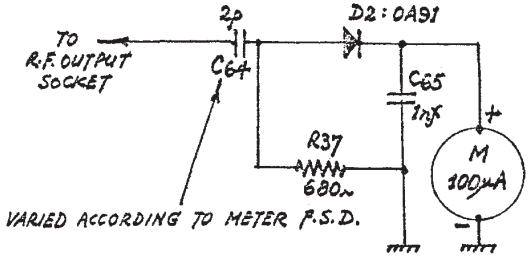
F = 1000p F/THRU' SOLDERIN —— G = GROMMET —— H = INSUL. F/THRU'



MODULE 3 – P.AMP. CIRCUIT

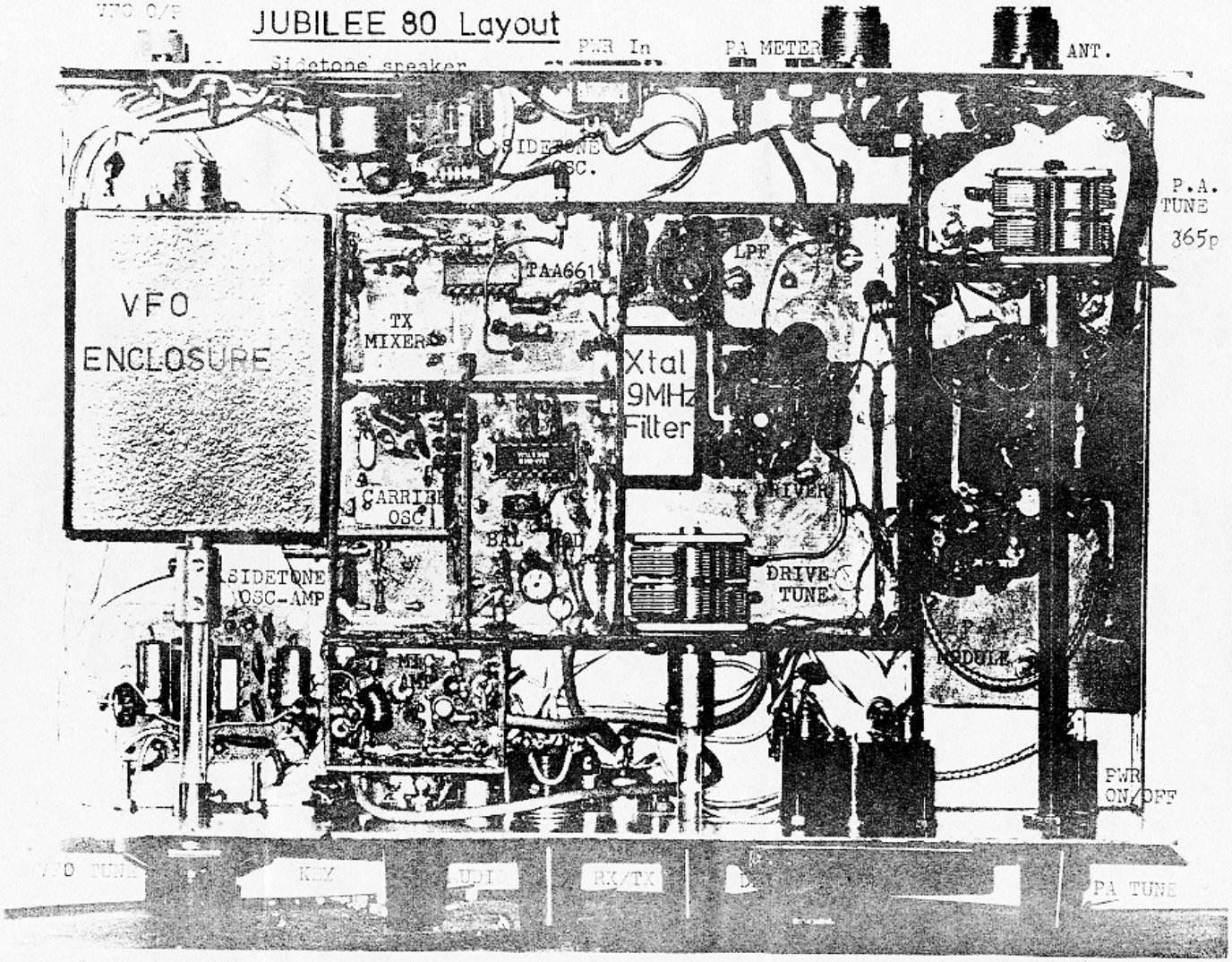


MODULE 4 – SIDETONE AMP. CIRCUIT



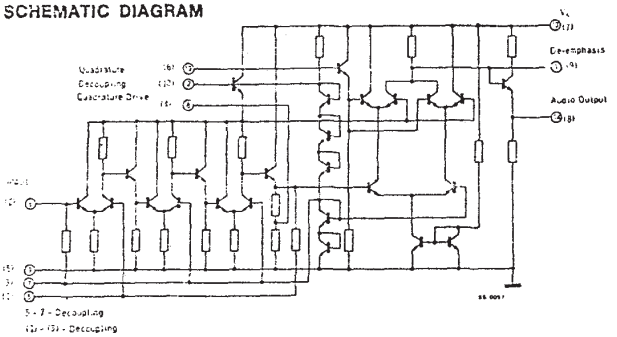
R.F. "SNIFFER" DETECTOR, FOR TUNE-UP & R.F. O/P MONITOR

JUBILEE 80. SSB 80m Transmitter by GM3XNE. Prototype Layout.



TAA661 SCHEMATIC, AND 14 DIL/TO100 PINOUT

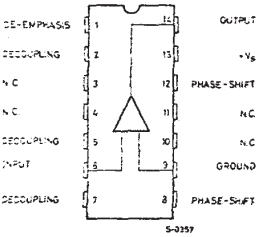
SCHEMATIC DIAGRAM



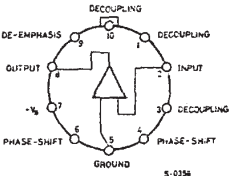
NOTE: the number in brackets refers to the TO-100 package.

CONNECTION DIAGRAMS (top views) ← TAA 661B

For TAA 661 BX2



For TAA 661 A55



TAA 661A ←

CLUB DATA SHEET SERVICE:
Requests to G3RJV, with S.A.E.(Large) for any of following:
Awards Scheme of the Club.
Tucker Tin MKI - Valve 80m QRP SSB TX.
Tucker Tin MKII - Simple solid state QRP SSB Transmitter.
Sideband Minituner - simple direct conversion RX.
4 Watt Wide Band Linear.
MFJ Filters - Circuit and operation of the popular audio filters.
HW7 Mods - W1CER article.
HW7 New Front End (QST)
HW7/8 ATU - SPRAT reprint.
G3IGU Transceiver - Simple 80m solid state rig SPRAT reprint.
MiniMite All Band QRP Transmitter (73 Mag)
SST1 - 40m QRP Transceiver (xtal controlled)
Ultramountaineer - Miniature QRP 40m Transceiver.
HW8 Mods - QST
HW8 Mods - CQ
G8EPE - Simple 2 metre TX.
(New sheets are in preparation - suitable articles from overseas mags etc are always welcome for addition to this club service)

CLUB MORSE TAPE COURSE: Mr. W.G. Jones, 24 Underhill Cres. Abergavenny Gwent. S. Wales. NP7 6DF, has kindly agreed to handle this service for Club SWLs and G8's. Please send TWO BLANK C90 cassettes and full name and address in BLOCK CAPITALS to address above for the course.

CLUB NOTES

SPRAT CORRECTION:

In the last issue, the ATU circuit by G3PLB, has some errors. The IN plug is shown shorted to earth,and S1C is wrong. The ANT should go to the moving contact,contacts 1and 3 should be connected together, then connected to the aerial end of L1, and contact 2 should be joined to contact 2 on S1B. (Thanks to G8PG for corrections)

Keith Coates, G3IGU, was featured in the local Doncaster evening paper where a picture of the G3IGU station appeared alongside the G2NJ Trophy - which Keith now holds.

MEMBERS ADS:

G4FCU (R.F.Restall, 418 Newport Rd. Middlesborough.TS5 4BT.) is looking for circuit information on the ex RAF receiver R.1224A. He will be pleased to photocopy any information and pay expenses.

~~FOR SALE: HW 8 - Factory aligned, 8 months old, £85. PSE WMIT. Will deliver to 100 miles of London. Tony Smith, G4FAI tel:01-807 3537.~~

FOR SALE; KW2000. for £70. GM3KNX. John McGregor, 54 Albion St. Coatbridge. Lanarkshire. ML5 3SE.

* *

G4BUE writes to say that he is disappointed about the recnt lack of QRP activity on 80m on Sunday afternoons. Members are reminded to look for one another around 3540 ± QRM from 2pm (clocktime) on Sunday afternoons. Chris also suggests perhaps we might try a weektime, say Wednesdays 2000 to 2200 (local time) on 3540. Although QRM will be greater, the time may be more convenient. Any takers?

ADVANCED WARNING:

ACTIVITY WEEKEND

All weekend AUGUST 19th - 20th 1978. (no major contests!) Any times during these two days. Highest open band for inter country working. Call CQ QRP. This is not a contest, just an activity weekend for inter-club QSOs. QRP International Frequencies to be used: 3540, (for local G work) 7040, 14065, 21040, 28040. Logs would be welcome to G3RJV or G8PG.

G2NJ TROPHY

This is the THIRD YEAR of the cycle in this award and the trophy plus a keepsake. This year the awrd is for THE PERSON WHO IS THOUGHT TO HAVE MADE THE BIGGEST CONTRIBUTION TO AMATEUR RADIO LOW POWER OPERATION IN THE PREVIOUS TWO YEARS. Nominations, by letter, to G8PG, by July 1st. It is hoped the winner can be announced in the Summer issue and the cup presented in the Autumn.

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TEN METRES: It looks good, for Spring time. A few more sunspots and it could be 'our band'. GM3OXX has achieved some good results already, see front inner page.

HEAVY FIST: G3RJV is looking for a reasonably priced, heavy duty morse key. Got a spare one? Please state type and price.

G-QRP-CLUB. NEW MEMBERS SINCE DECEMBER 1977.

352		Sven Lange Box 8, S-434 01 Kungsbacka, Sweden.	S.W.L.
353	GW8GLG	87 Pantyffynnon Rd. Ammanford, Dyfed. S.Wales. SA18 3HH.	SSB/VHF/UHF (name:David Thomas)
354	SMØ6259	Emil E. Tenlund. Grimstagat-70-S-16227, Vallingby, Sweden.	QRP SWL TRF RX.
355	W6SKQ	Robert E. Spidell 45020 Nth.Camolin Ave, Lancaster, California, 93534. U.S.A.	Active QRP operator
356	WD8AZF	Ray Ettinger 5579 Jimson Dr. Dimondale, Michigan,48821. U.S.A.	General QRP
357	SMØGKF	Rune I. Erikson Angermannagatan 117 Vallingby, Sweden.	Argonaut + dipoles
358		Harry Bradley 116 Earlsfield Road, London. S.W.18.	S.W.L.
359	W8JGK	George R. Leonard Route 2,Box 9, Delton, Michigan,49046. U.S.A.	Acive QRP operator
360	WD4NDG	Lyn Adams 20 Bainbridge Ave, Portsmouth, Virginia,23702. U.S.A.	Active QRP Operator
361	WB7QWA	Stewart G. Pickford, 4335 Burke N. Seattle, Washington,98103. U.S.A.	Active QRP Operator
362	GM8FJM	J.P.Harkin 12a Wallace House,Cumbernauld Seafar,Glasgow.	CW with HW8 GM4 sson
363		Alan Mumford Raitloan,Geddes, Nairn. Scotland.	SWL
364	GM3RKO (VS1LJ) (9M4LJ)	Norman "Nor" McIntosh 143 Waverley Dr. Glenrothes, Fife, KY6 2LZ	2w CW on 20/15/10 FM on 2m
365	K7BWE	David M.Christensen 190 Gary Way, North Salt Lake, ATAH. U.S.A.	Argonaut - Antennas
366	G3HQQ	William Lewis Ely 12 Ellis Ave, Worthing. West Sussex. BN13 3DY	HW8 - general QRP
367	?	Rev.John Wylam St.Silas Vicarage, 196 Heaton Park rd, Newcastle. NE6 5AP.	General QRP
368	G8KNA	Frank Stevens 60 Childsbridge Lane,Kemsing. Sevenoaks. Kent.	CW and HF
369	G4DBU	Jack Edwards 212 Garstang Rd. Fulwood, Preston. Lancs	80/160m SSB

G-QRP-C New Members Cont.

370	G3BVN	Leslie Percival Tucker 175 Eggbuckland Rd. Plymouth Devon PL3 6QB	CW on HF bands Homebrew transmitters
371	G4GRP	George W. Gardiner 3 Kendell Cl. Donnington. York. YO1 5PG	Home Construction
372	WB9KOT	Clyde E. Aspling 4970 Linden Road,Rockford, Illinois.61109.U.S.A.	Active QRP Operator
373	G4GDR	Adrian Heath 39 Barra Close,Highworth. Swindon. Wilts.	Active QRP Home Construction
374	DK2TK	Karl-Heinz Janotta Zur Schmiede 77, D-4790 Paderborn. Germany.	HW7. TRTX2+2-3w Homebrew
375	G8KMV	Trevor Tugwell 11 The Dell Stevenage.	VHF
376	G8KZV	Brian Anthony Noble 19 Ayrton Ave, Blackpool. Lancs.	Liner 2, HW7.
377		William Iball 53 Winstanley Rd. Billinge, Wigan. Lancs. WN5 7XE.	SWL
378	G3YNA	Alan Twine "Gillies",St.Helens Wood Rd. Hastings. Sussex.	Home Construction
379	WB9QPS	Robert E.Molle 624 Lawndale Dr. Greenwood. Indiana. 46142. U.S.A.	HW8 - Inverted Vee
380	WA9FPP/1	Ron Subka Driscoll Hill Rd. Francestown New Hampshire. 03043. U.S.A.	HW8 - 130ft e.f. would like skeds.
381	W8WCS	Delbert D. Stambach 76 N. Woodlawn Ave,Battle Creek, Michigan,49017.U.S.A.	General QRP
382	WD8BMQ	James H. Hartland 6451 Glenn Dr. Parma Ohio,44134.U.S.A.	HW8+2el ZL special
383	WB9FRU	Paul Haubner P.O. Box 23, Pana, Illinois,62557.U.S.A.	HW7 & HW8
384	G3WFV	Len Thewlis 35 Middlebeck Dr. Mapperley Plains, Arnold. Nottingham.	General QRP
385		Ray Wilson 34 Allerhope, Cramlington, Northumberland. NE23 6SU.	SWL
386	G4CCB	Anthony Brown 22 Poplar St. New Ollerton. Notts. NG22 9PY.	CW on HF Homebrew
387	G4FXI	Peter Overell 48 Bedgrove, Aylesbury. Bucks.	Homebrew 80m CW

G-QRP-C New Members Cont.

388	KØUBA	John E. Berglund 1347 Hewitt Ave,St.Paul, Minn. 55104. U.S.A.	CW/SSB WAS&DXCC
389	K8LJQ	Jess B. LeBow 355 Mower Rd. Pinckney, Michigan.48169. U.S.A.	General QRP
390	WD8NOY	Betty J. Hack 625 W.Barnes Ave, Lansing. Michigan,48910. U.S.A.	Argonaut - all aspects

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Resignation: Number 079, Earl Stacy,K7BD has retired and left the hobby

NEW CALLS:

240 John Hagne is now G4GOY.

NEW CALL and CHANGE OF QTH.

082 GM4GNB Charlie Claydon, 21 Bellfield Rd,North Kessock,Inverness.

NEW QTH

343 G3VBS T.Merills, Officers Mess,P.O.Box897,Muasker-Al-Murtafa'a Muscat. Sultanate of Oman.

298 M.Jones, 26 Tyn-Y-Celyn,Glan Conwy,Colwyn Bay,Gwynedd.LL28 5TL.

118 G4AEM Phil Ellis,96 Whitelands Ave,Chorleywood,Rickmansworth,Herts

306 R.G.Gorman,1 Bramble Cl.Macclesfield,Ches. SK10 3AX.

229 G3VTT Colin Turner,"Hurley"Weavering St.Maidstone.Kent.ME14 5JJ.