



SPRAT

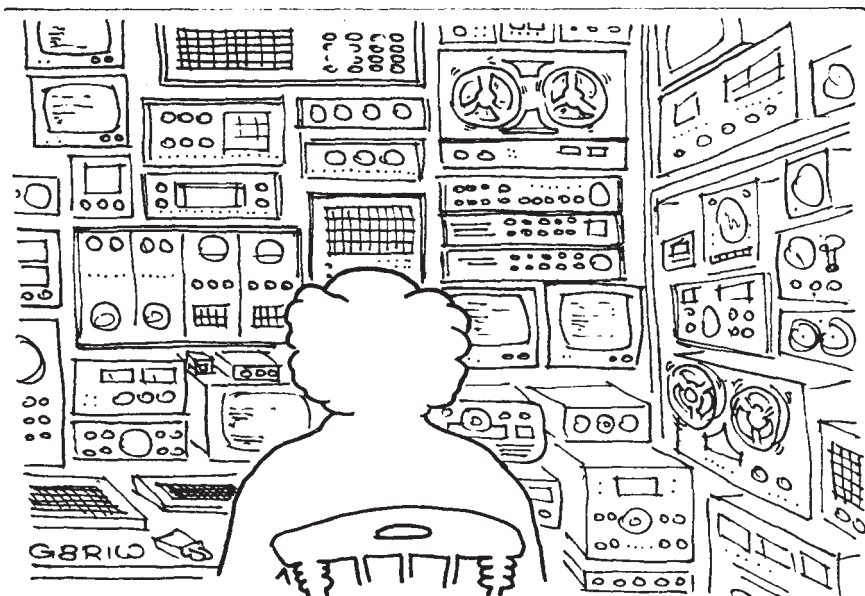
THE JOURNAL OF THE G-QRP CLUB

DEVOTED TO LOW-POWER COMMUNICATION

ISSUE NR. 60

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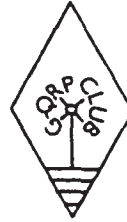
AUTUMN 1989



I believe in the 'KISS' approach to design, these days things are far more complex than they really need to be

THE LCK TRANSCEIVER * THE PIPPIN TRANSMITTER * THE ROCKLOOP
STABLE HW9 VFO * LINER TWO ON CW * IC735 MODS * G4VAM TX
COMMUNICATIONS FORUM * SSB NEWS * 70 MHZ TRANSCEIVER
PHOTO REPORTS : G4BUE PARTY and G QRP CLUB IN TEXAS

JOURNAL OF THE G QRP CLUB



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Rev. George Dobbs G3RJV

*St. Aidan's Vicarage,
498 Manchester Rd
ROCHDALE,
Lancs,
OL11 3HE.
Rochdale (0706) 31812*

Dear Member,

As the days grow shorter, many of you will be thinking of plugging in the soldering iron and beginning the winter projects. This issue contains the LCK Transceiver, about as simple a superhet transceiver as possible, using the NE602. It also contains another Loop Antenna, part of a small series of such antennas that are to appear in SPRAT. The next issue will contain the White Rose Receiver, and exciting project with a tunable IF and series of converters for all bands from 160m to 2m including 4m and 6m.

One unfortunate slip on my part caused fruitless excitement to at least one member. The mockup picture of the new Argonaut 535 still had the small legend "Shown Actual Size" which I had forgotten to remove. SPRAT is prepared at twice size and reduced in the printing process - the 535 is twice the size of the drawing in the last issue. In the same way PCBs are prepared twice size for reduction to about correct size but this depends up the space that is available and the amount of reduction applied by the printer.

I hope to see many of you at the QRP Mini-Convention in October and have outlined in this issue, two major radio events that will take place next year. The G QRP Club does try to attend the major radio functions each year but because of labour and organisation required by a far flung club, it is not really possible for us to offer stands at local rallies and many functions.

An advanced warning about the winter sports : book your time for this major event and be active on the calling frequencies from December 26th to New Year's Day.

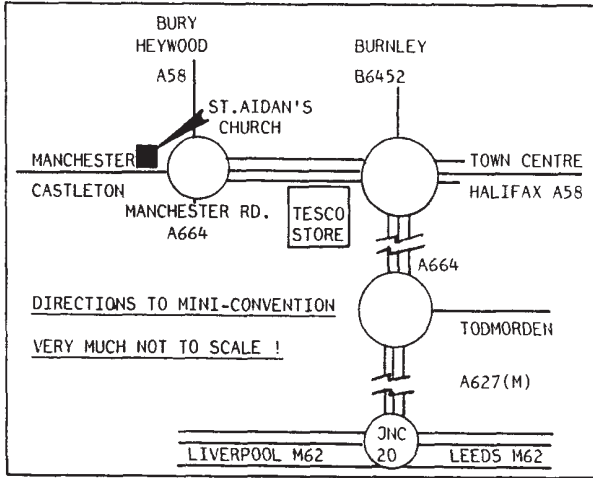
Please keep the new handbook by your log book and please read the WHO DOES WHAT section - It does save us a lot of time if mail is addressed to the correct person.

73 fer nw

G QRP CLUB MINI-CONVENTION

ROCHDALE

1989



THE NORTHERN GATHERING
FOR G QRP CLUB MEMBERS

ST. AIDAN'S CHURCH HALL
MANCHESTER ROAD
ROCHDALE LANCs.

SATURDAY OCTOBER 28th

10am to 5pm

MEET AND TALK WITH OTHER MEMBERS * FULL LECTURE PROGRAMME * EQUIPMENT DISPLAY
LUNCH/TEA * BRING/BUY/SWOP STALL * CONSTRUCTION PRIZES * HF QRP STATION IN USE
COMPONENT/KIT STALLS * G3RJV's QRP CIRCUIT ARCHIVE WITH PHOTOCOPIER * S22 TALKIN

*****HOW CAN YOU JOIN IN ? *****

BOOK IN ADVANCE, IF POSSIBLE : SEE BELOW FOR DETAILS OF HOW TO BOOK.

BRING YOUR HOMEMADE EQUIPMENT TO SHOW AROUND AND SHARE. NO MATTER HOW SIMPLE, OR UNTIDY.....WE WANT TO SEE WHAT YOU ARE BUILDING.

BRING YOUR ITEMS TO SELL OR SWOP. THIS INCLUDES EVERYTHING FROM COMMERCIAL EQUIPMENT RIGHT DOWN TO SURPLUS JUNK AND EVEN COMPONENTS....HAVE A CLEAR OUT YOU COULD BRING FOOD....BUT...FOOD AND DRINKS WILL BE ON SALE THROUGHOUT THE DAY.....WITH PLENTY OF SEATING SPACE TO CHAT OVER TEA OR COFFEE.

ROCHDALE IS ON THE EDGE OF PENNINE MOORS AND HILLS (COUNTRYSIDE WITH HAIRS ON ITS CHEST!) PERHAPS YOUR FAMILY COULD DROP YOU OFF AND EXPLORE OR EVEN GO TO SHOP IN MANCHESTER *90UT 15 MILES AWAY.

CAN YOU HELP THIS FIRST EVENT BY BOOKING IN ADVANCE?

We have little idea of the response, although advanced bookings have been good, and we want to arrange catering and space for your comfort. So please : Send (to G3RJV) £1 (Cheques: G QRP CLUB) with CLUB NUMBER, CALLSIGN and NAME. You can then check in at the door and receive your programme and prize number.

TWO EVENTS TO NOTE FOR NEXT YEAR

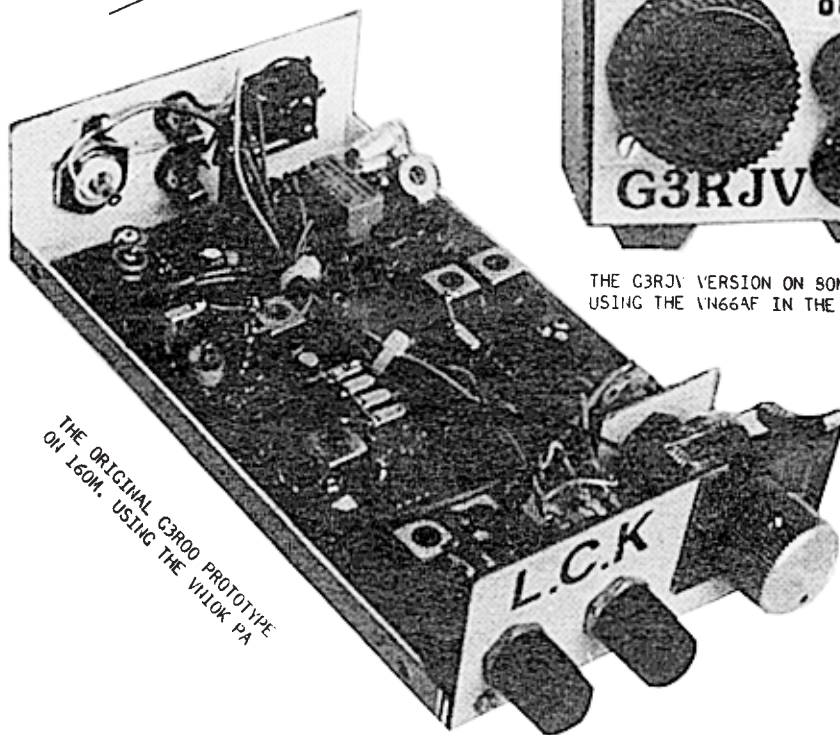
- 1) THE LONDON AMATEUR RADIO SHOW : March 9th and 10th at Picketts Lock Centre. The G QRP Club has booked stand space. Offers of help with the stand, please, to G3RJV. Setting Up on Thursday evening, Stand open on Friday and Saturday.
- 2) THE RSGB CONVENTION AT THE NEC IS BACK : on 21-22nd April 1990. The club hope to run a major stand again and G3RJV is open to offers of help.

CLASSIC ANTENNA TUNER (SPRAT 59) TIP

Jeff, G3LWM, says that J & N Bull Electrical, 250 Portland Road, Hove, Brighton Sussex, BN3 5QT (0273-734648) have Twin Gang 500pF Variable Capacitors with good length shaft at £1 each (Ref: BD630). Jeff as bought 4 and confirms that the Classic ATU will tune anything.

THE LCK TRANSCEIVER

A SIMPLE QRP SUPERHET TRANSCEIVER



THE G3RJV VERSION ON 80M
USING THE VN664F IN THE PA

THE ORIGINAL G3R00 PROTOTYPE
ON 160M. USING THE V100K PA

RECEIVER:

10dB S/N for 0.5uV

Low Power Drain: 15 mA

A COMPACT EASY TO BUILD SUPERHET CW TRANSCEIVER FOR A SINGLE BAND (WITH A KIT)

TRANSMITTER

3 watts (or more) RF Output

Built in change over and LPF

THE RECEIVER:

A discussion between G3R00 and G3RJV at Christmas over the SUDDEN receiver, the availability of some 4.605MHz computer(?) crystals, a few prototype boards and the LCK receiver came into being. A simple four pole ladder filter worked very well (single sided and wide enough for ssb reception) and the overall performance of the receiver was better than expected.

The drawback with the filter was that the crystal could not be moved far enough for ssb reception but it is ideal for cw work. It was found that using the 2KHz passband figure (see chart) increasing the termination resistor from 2K2 to 100K gives a better peak on cw : worth a try. One alternative, should ssb reception be required, is to change the filter to 9MHz (see chart) and use bfo crystals on 8998.5 and 9001.5.

The receiver information is given for 160 or 80m to match the transmitter board. Although G3RJV has run the receiver very successfully on 20m, some re-design of the transmitter would be required to give enough output on the higher bands. The input filter and first mixer are identical to that of the SUDDEN but feeding into the ladder filter on 4.608MHz. The oscillator is set on the high side (8.108 - 8.208 for 80m). A single dual gate MOSFET stage provides post filter amplification, one gate of this device could be used to add a suitable AGC circuit but in the LCK it is used to mute the receiver on transmit. The second mixer and bfo are another NE602 and an LM386 provides more than enough audio to drive headphones.

The insert circuit on the Receiver circuit diagram shows the FET buffer amplifier used to provide an output to drive the transmitter board. This need not be added if only the receiver is being constructed

THE TRANSMITTER

The VFO signal from the receiver board is fed via an emitter follower to yet another NE602 where it is mixed with a 4.608MHz crystal then through a trifilar wound transformer to a bandpass filter (T2/T3). The driver stages, of beloved circuitry, feed a single VN66AF VMOS FET. In the original 160m version a VN10K was used to give about 1.5w output, the VN66AF gives over 3 watts out on the later 80m version. The bifilar wound load choke in the VN66AF should be replaced with a single 7-10 turn winding if the VN10 device is used. The output from the PA passes through a simple 5 element low pass filter prior to being switched by the antenna relay.

The key controls two circuits. The hang circuit energises the relay, switching the antenna from transmit to receive and also supplies 12 volts to the transmitter circuits. This is held on by the hang circuit for a time (between a few milliseconds and half a second) determined by VR2. The amplifier and PA are keyed from the BC214 keying transistor. The receiver is muted using 12 volts from the transmit board applied to the receiver muting circuit. This is shown as an insert drawing which is added to the AGC pin of the receiver. These components are not required for receive only and if added to the receiver board, the two small PCB track links marked "X" must be removed from the receiver board.

NOTE that the sidetone is provided by the signal from the transmit board being 'picked up' on the muted receiver. A RIT will be described in the next issue of SPRAT.

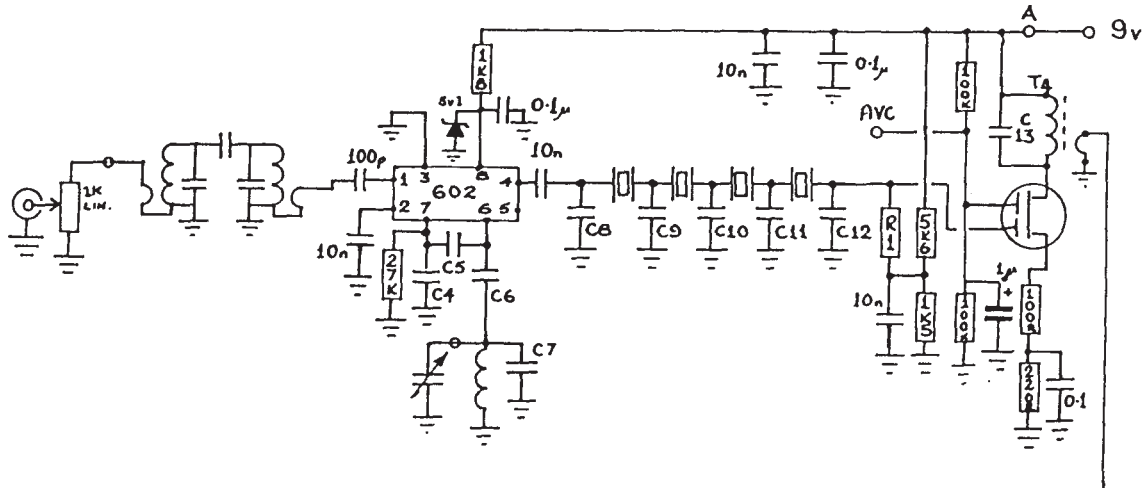
SETTING UP

The LCK Interconnections are shown between the transmit and receive boards. It good practice to join together AND GROUND all the crystal cans in the filter and to ground the other two crystal cans. The receiver setting up is quite simple and could be done, by ear, without test equipment, if the local oscillator frequency can be checked either on a suitable receiver or a frequency counter. I like to start from the audio stages injecting a suitable signal and work back, peaking tuned stages along the way but it is quite possible to work from band signals to peak the IF can (T4), the input tuned circuits (T1/2) and adjust the bfo frequency with the 22pF trimmer.

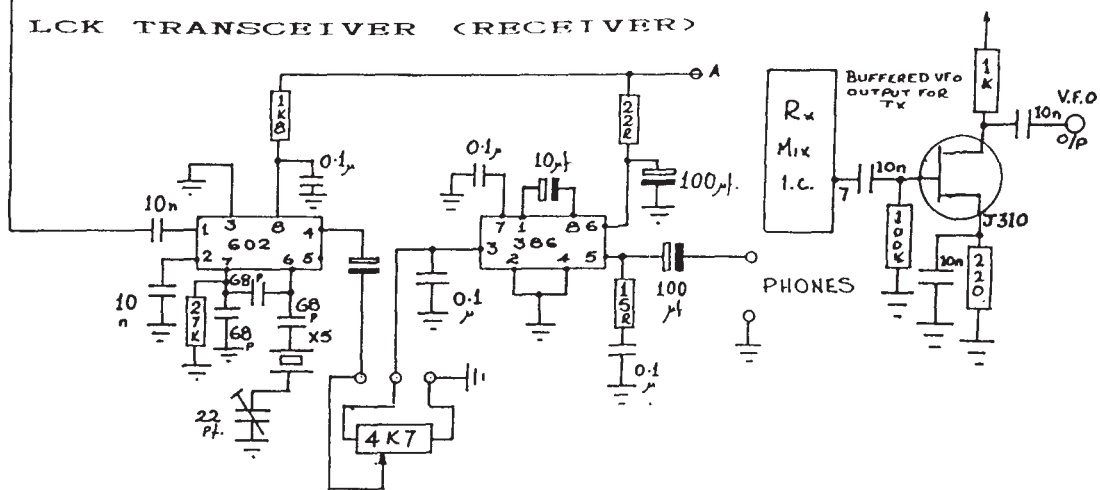
A predictable problem for some constructors will be the trifilar wound transformer (T1) in the transmitter. The dot indicates the START of a winding. Lightly twist the three wires, identify the start and end of each wire, colour coded wire (supplied with Kanga kit) helps. Connect the start of one winding to the end of another winding. This gives a winding going round the core twice in the same direction with a centre tap. The ends of this winding connect to pins 4 and 5 of the NE602 and the centre tap to ground via a 10n (0.01uF) capacitor. The third winding drives the bandpass filter. The transformers T2/3 must be peaked for maximum output of the signal on the band.

Specimen voltages, taken from a prototype of the 80m version, are shown in the final diagrams, on the transmitter circuit these are shown in the "key down" state. Voltages on completed LCK boards should be within about 20% of these values.

A KIT OF PARTS, COMPLETE WITH PCBs, IS AVAILABLE FROM KANGA, 3 LIMES ROAD, FOLKESTONE, KENT. CT19 4AU. The Club members price is £58.00 (+#1 postage)
THE FIRST 50 KITS FOR CLUB MEMBERS ARE OFFERED AT #50.00.

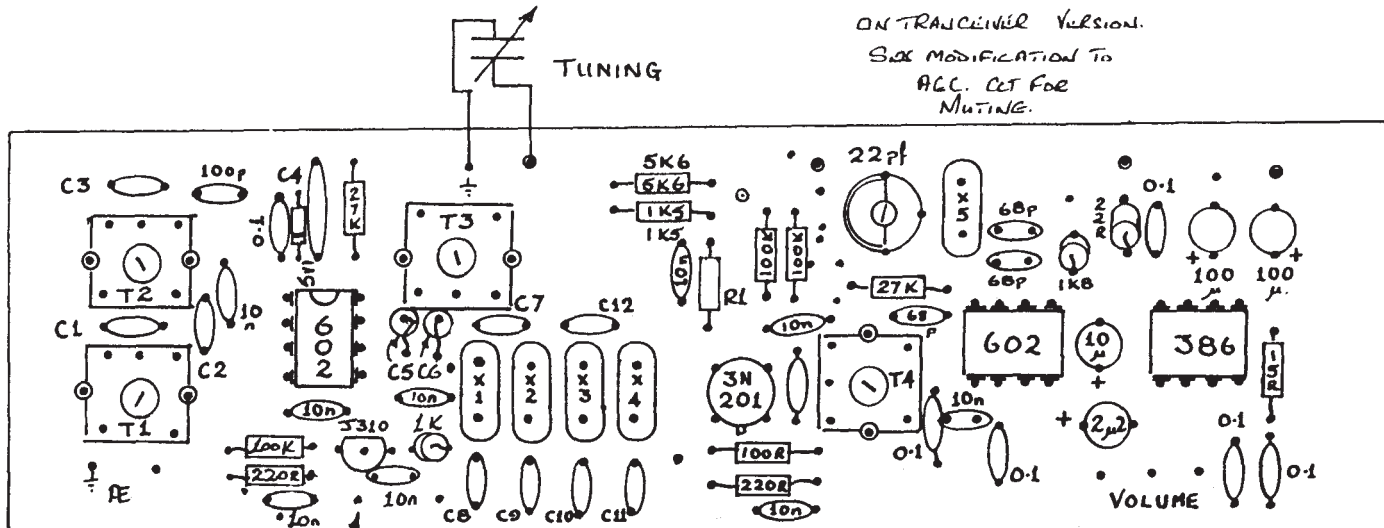


LCK TRANSCEIVER (RECEIVER)



BASIC LCK RECEIVER LAYOUT
 SEE ADDITIONAL DRAWINGS (2) TO INTERFACE WITH TX PCB
 (MUTING AND VFO BUFFER)

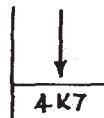
ON TRANSMITTER VERSION.
 S&K MODIFICATION TO
 ALL. C&T FOR
 MUTING.



VFO Buffer o/p

USING 4608 KHz I.F.

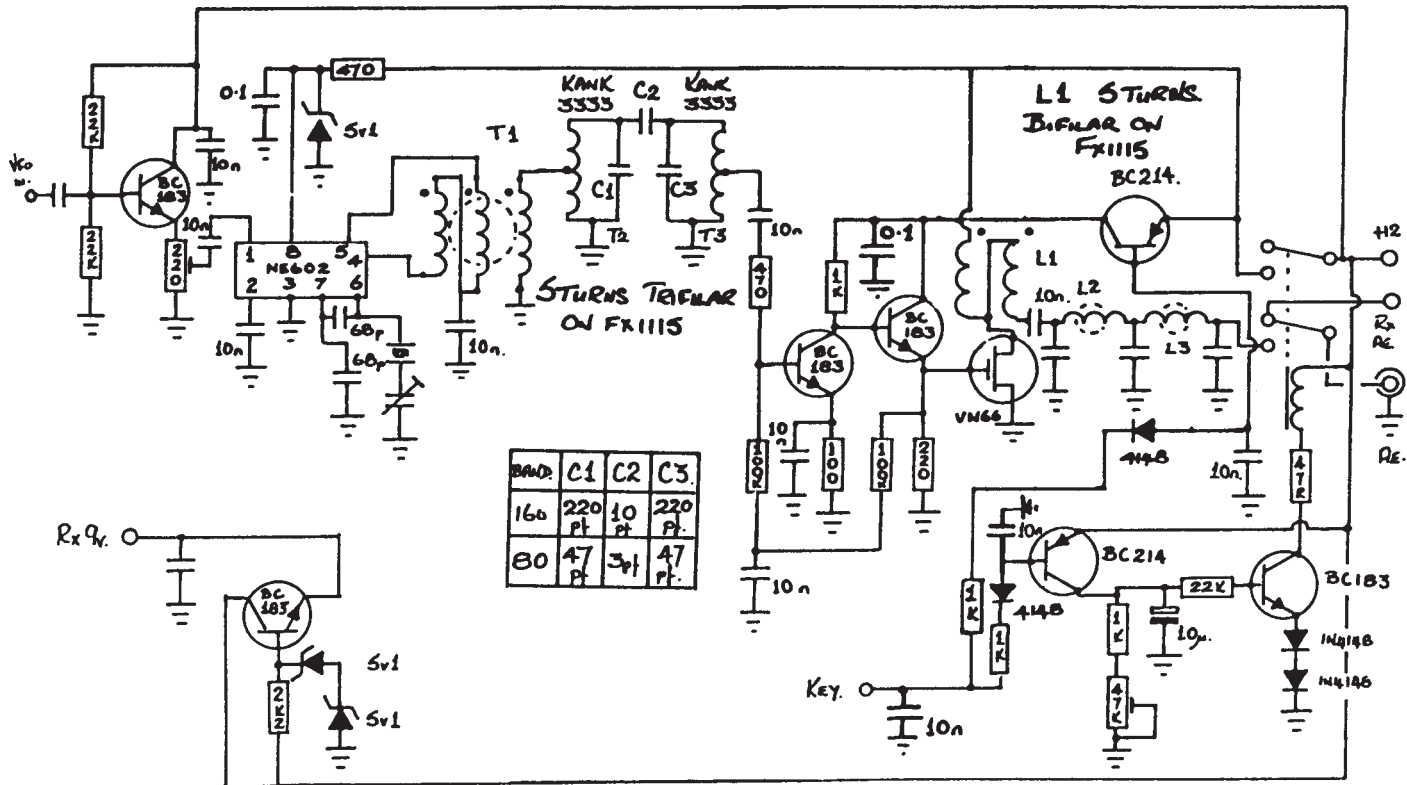
BAND	T1	T2	C1	C2	C3	T3	C4	C5	C6	OSC. FREQ.
160	3333	3333	220 P	10 P	220 P	3334	560	560	560	6418 TO 6608 KHz
80	3333	3333	47 P	3 P	47 P	3334	680 P	680 P	220 P	8108 TO 8408 KHz



PICOFARADS

CRYSTAL FREQ.	CB	C9	C10	C11	C12	R1	PASS-BAND
4608K	18	33	47	33	18	2K2	2KHz
9,000K	8.5	37	57	37	8.5	1K	2KHz
4,608K	18	60	100	60	18	1K	1KHz

LCK TRANSCEIVER (TRANSMITTER)



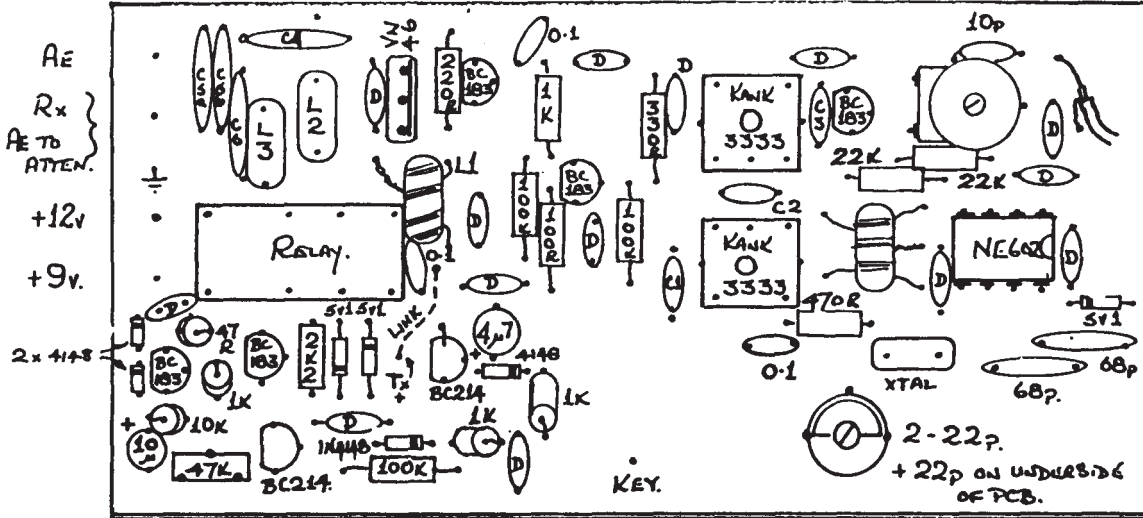
BAND	C1	C2	C3
160	220 Pt	10 Pt	220 Pt
80	47 Pt	3 Pt	47 Pt

SEE L.P.F. TABLE.

ALL CAPS MARKED 'D' = 10 μ f.

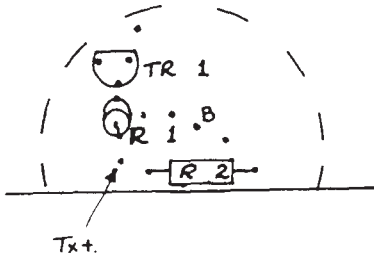
$C5 = 2 \times C4$.

I.C. $C4 = C5 = C5_1 = C6$

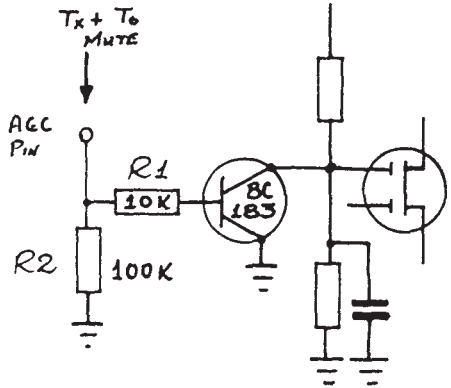


COAX LINK TO VFO
BUFFER ON R_x
PCB (OR VFO
IF "STAND ALONE"
Tx).

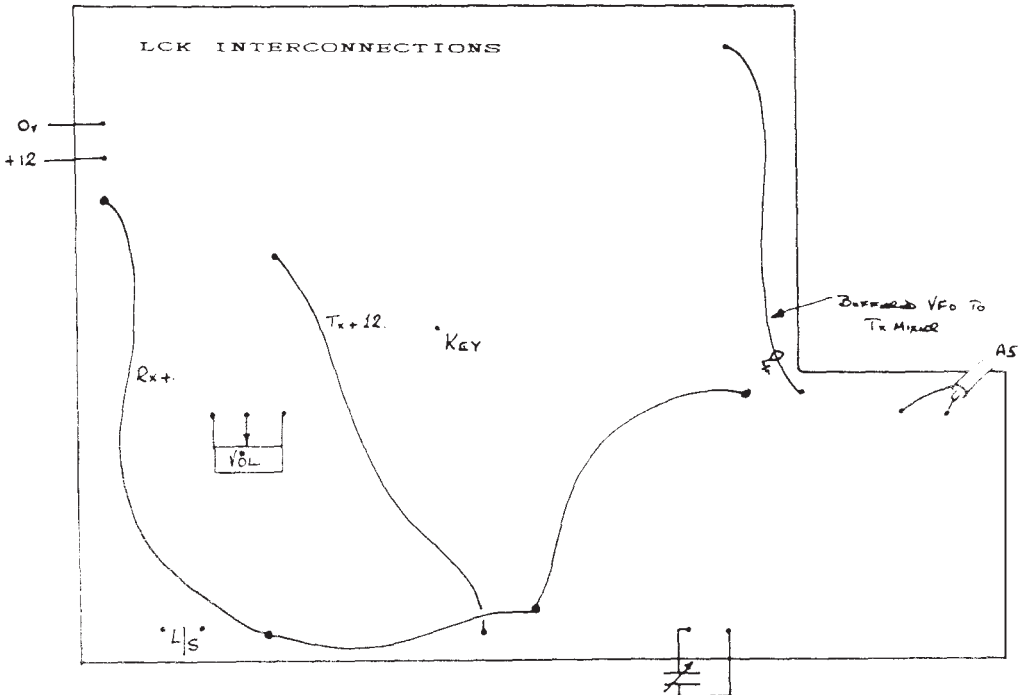
LCK TRANSMITTER LAYOUT



CUT TRACKS
"X"



LCK RECEIVER MUTING
FOR TRANSCEIVE



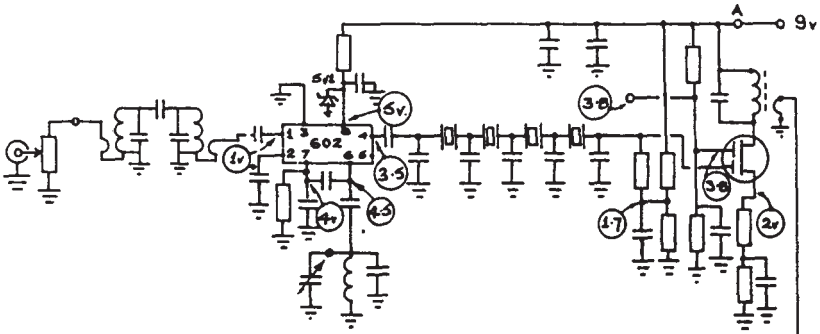
THE LCK
TRANSCEIVER
PCB LAYOUTS



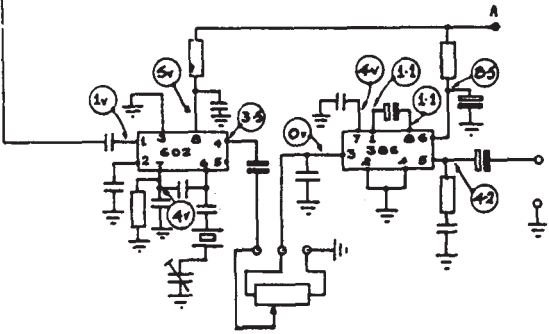
©DKP 29189

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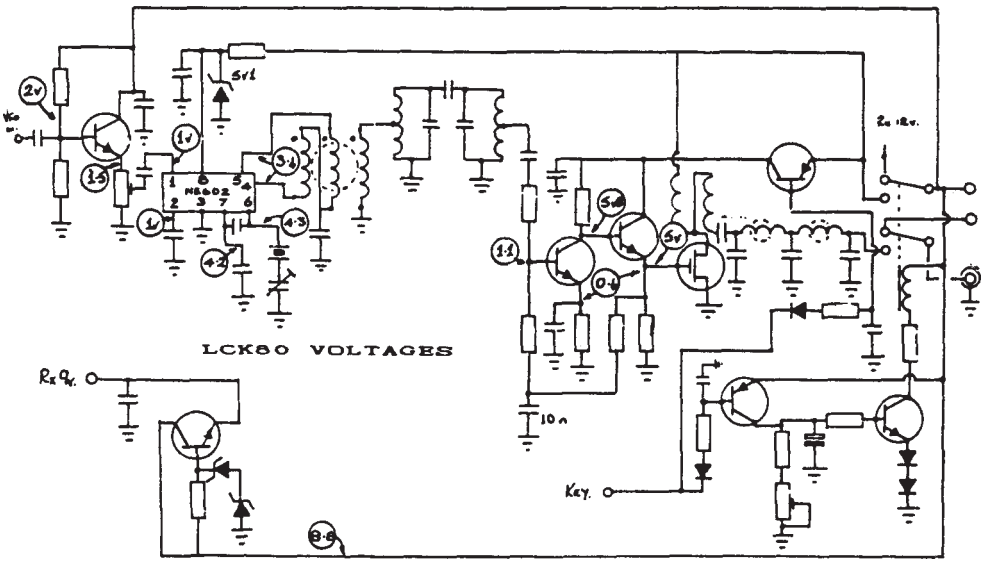




LCK80 VOLTAGES



LCK80 VOLTAGES



COHERENT C.W.
G3IRM Peter Lumb

Some years ago Ray Petit W7GMM and others were trying out a system of sending c.w. using coherent signals with some success but amateurs seem to have lost interest in the system despite the many advantages it has over other methods. It was claimed that C.C.W. enabled operators to reduce transmitter output power by a factor of 10 and increase signal readability by a like amount simultaneously and this was largely borne out in the experiments carried out.

Bert Arnold G3RMI and I are trying to put new life into the system and are building equipment. The fact that equipment has to be home built may well be the reason why c.c.w. lost favour. Another reason may be that all frequency determining oscillators have to be accurate to within 1 or 2 H.z. Bert and I have copies of much of the relevant information - we certainly have enough to enable anyone interested to build c.c.w. equipment. We would be pleased to hear from anyone who is interested in joining us in the project. There is a small section on c.c.w. in all issues of the A.R.R.L. handbook and it is recommended that anyone interested should read this before going further.

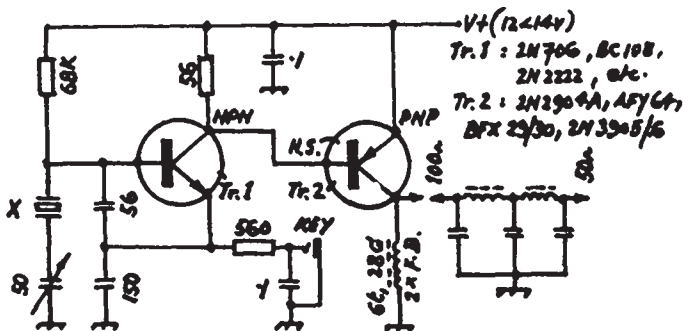
Briefly, c.c.w. uses the idea that signals are sent at definite times and not at somewhat arbitrary times as in c.w. All c.c.w. dots, dashes and spaces are exact multiples of a basic time unit and occur within predictable time frames. This includes any pauses during transmission. When received c.c.w. signals should like c.w. signals except that they are sent very precisely. As a result very narrow filters can be used. 12 w.p.m. is usual for c.c.w. and filter bandwidths are of the order of 10Hz.. A 1 watt signal copied through a 10 Hz filter is equivalent to 50 watt signal heard through a 500 Hz filter and a 230 watt signal copied with a 2300 Hz filter.

To encourage (or discourage) readers here is a list of what has to be built to enable a station to be put on the air on c.c.w.

- 1: A stable crystal oscillator on, say, 4 MHz accurate to at least 1 Hz. This is not difficult using a home made crystal oven and can be done without an oven by careful temperature compensation.
- 2: A divider chain for the oscillator to produce the reference frequencies required.
- 3: A simple keyer circuit for the transmitter though it is better to use a keyboard. The writer has a circuit which can be used and is driven from the divider chain to produce keying exactly timed to the 12-w.p.m. required and synchronised to the c.c.w. frame generator.
- 4: A c.c.w. filter which is child's play for anyone who has ever built simple digital equipment and consists of about a dozen easily obtainable integrated circuits.
- 5: A transmitter on the required frequency for c.c.w. Early experiments were on 14,049,000 though Bert and I are considering using 40 metres for our initial efforts. Crystal control is the easiest way to start as the oscillator must be stable, even under keying conditions, to within 1 or 2 Hz. Another possibility being investigated is the use of a synthesiser which is digitally controlled so that it will be easy to change the frequency by about 750 Hz, the reason for which will be mentioned later. Early experiments used low power of the order of 1 watt or so, it being easier to achieve the required stability if the oscillator is only lightly loaded. This should keep the QRP fans happy!
- 6: A receiver for the required frequencies. As c.c.w. bandwidths are so narrow it looks as though a direct conversion receiver so dear to the hearts of QRP operators will be the best method. This avoids the use of yet another accurate oscillator as the b.f.o.

I shall be happy to reply to all who write in with a genuine interest in joining in this project and can supply photocopies of the information available though help with the cost of this would be appreciated.

Peter Lumb, G3IRM, 2 Briarwood Ave. Bury St.Edmunds, Suffolk. IP33 3QF



'Pippin' QRP Tx

G.M.KING
G3MY

The Pippin has been going great guns on 40 meters. I had the idea for it some time ago and being so simple, it was made, and working in half a morning.

Basically, it is a conventional Colpitt type crystal oscillator but with output taken from a low value collector load resistor and direct coupling is made into the base of the PNP device used as an amplifier. The result is a circuit even more simple than the OX0 and with considerable advantages.

The small amount of forward bias developed for the PA stage makes it very much easier to drive but is less than the voltage required to actually bias the stage "ON". Keying is in the emitter circuit of the oscillator stage and when the key is up and no current is being drawn there is no forward bias at all on the PA stage.

The isolation of the PA from the oscillator by taking the drive from the low value oscillator collector load, is most impressive and there is virtually no pulling of the oscillator even if the PA load is briefly shorted to ground.

Input to the PA stage runs at 120 to 150 Ma. at 12 to 14 Volts and output on 7MHz runs at better than 1 watt measured into a 50 ohm resistive Dummy load. The PA transistor has a "Stove Pipe" heat sink attached and has been left running continuously for more than an hour without any complaint from the PA stage. Obviously, when in use, the PA gets much less warm.

The collector choke is the usual type and uses 6 turns of 29 SWG enamelled wire on two beads in tandem.

The rest of the circuit is so simple that no further description is necessary.

FOR SALE : Crystals in 2 pin holders, various types: 7010, 7012, 7025, 7040 at £2 each. G8UA, 33 Red Lees Rd. Burnley, BB10 4HZ.

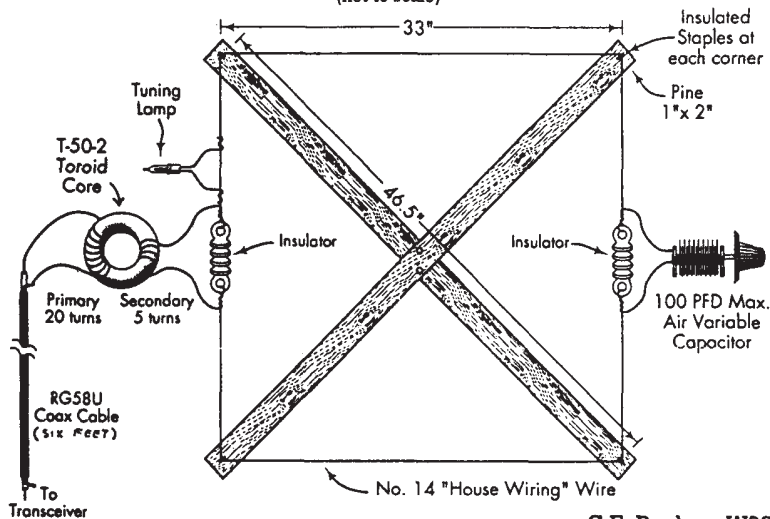
FOR SALE : No reasonable offers refused: 3 Modern Cassette Decks (complete) 1 old fashioned, large, auto 3 speed record player, 1 old fashioned, large, record player (auto u/s/) with PA for in/out stereo/mono Buyer collect or pay postage. (0723) 364654.

SILENT KEY SALE : Transformers, valves etc. Write for list of wants as too many to list. (proceeds to RAIBC). GOKKX (QTHR)

WE REGRET TO ANNOUNCE THE DEATHS OF THE FOLLOWING MEMBERS:
 TIM HEALEY, G4WMV, 4241, at the age of 38. Tim was a keen constructor and an early motivator of the Yeovil QRP Convention.
 Also : G2ATU, Brian, 3681 and GWODDQ, Gwyn, 4434.

The Rockloop

A Compact Antenna for the 15, 20 and 30 Meter Bands
(not to scale)



(ARTWORK BY JOE ROCKEY)

C.F. Rockey, W9SCH
Albany, Wisconsin

Here is something which I threw together primarily for the benefit of hams living in apartments, etc., where an outside antenna is not allowed. I hope that they can use it!

Using it with five watts of RF power and sitting here in my shack (on the first floor of a frame cottage - not over ten feet above ground-level) I find it easy to work all over the USA, from coast-to-coast, and Canada. On 15 metres (cw, of course), I've also worked OK1HCH and DL1ET and hope for more DX when things improve (they've been quite poor over there lately.)

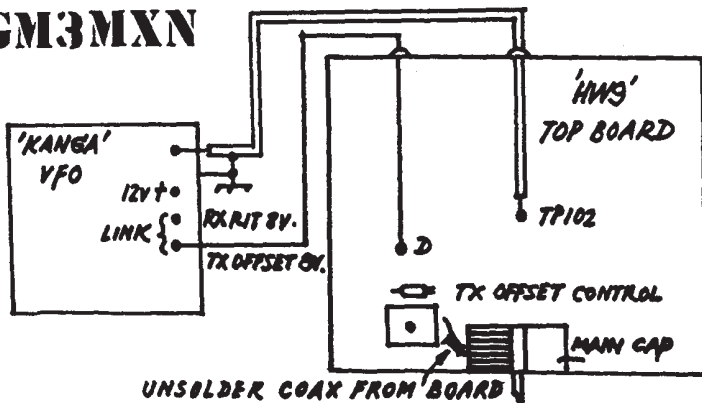
It seems to have little horizontal directivity but works much better when the plane of the loop is VERTICAL (coincident with theory for low antennas.) It might be more directive for local "Ground-wave" contacts, however. There is no doubt but what "fooling with" the dimensions, and the turns on the toroid, might improve, but this is what I found to be OK. No doubt, also, that the local electromagnetic environment will call for possible minor changes. The SWR runs between 2 and 3 on all bands specified.

It tunes to 15 metres with about 15 to 20 pF, to 20 metres with about 30 pF and to 30 metres with about 60 pF here. To use, just hook it to your rig, put a couple of watts into it and tune for greatest glow in tuning-lamp (greatest current). Then run output up to five watts and "blast away".

It seems truly marvellous to me that five watts into a little square of wire here in the shack can push a signal across four thousand miles of briny ocean, - truly, God's world is a marvellous place!

RADIO BYGONES is a new bi-monthly magazine for the vintage radio enthusiast and will cover domestic radio and TV, amateur radio, commercial, military, aviation and marine communications. Feature will include restoration and repair, history and collections and just plain nostalgia. The cover price is £2.20 for single copies or £12 for a year's subscription. Sample copies of the first issue are available by post for £2.00 from the publisher: G.C. ARNOLD PARTNERS, 8A Corfe View Road, Corfe Mullen, Wimborne, Dorset. BH21 3LZ. (0202) 658474.

GM3MXN



STABLE VFO FOR 'HW9'

Tom Sorbie GM3MXN

I had problems with drift on my HW9 until I fitted this outboard VFO. I spent many hours, and I found no cure, even Heathkit didn't cure the trouble of constant drift. They said they would come back to me with a correction: they changed the drift specification!

The Kanga VFO is very stable and the only thing I had to do was to remove turns on my coil and vanes on the capacitor to give me the required frequency and coverage 5.7493 to 5.9993 KHz

1. Remove the mini coax from HW9 VFO capacitor by unsoldering from board.
2. Connect the output from Kanga VFO via mini coax to TP.102 HW9.
3. Link RIT SV Pin to Tx 6V Pin connect wire from this point to D on HW9 leave violet wire connected. This allows you to use the HW9 RIT control and adjust Tx offset to bring Tx on frequency listening on separate Rx:
4. The connections to the HW9 can be made to the back panel of the HW9 this includes the 12v supply if you wish.

Maybe someone will come up with MOD to instal the stable Kanga into the HW9.

PSION ORGANISER : Comprehensive logging program with very fast and flexible recall facility plus complete morse tutor giving letters, figures and words 5 to 20wpm. Details ring G3HNP. Great Yarmouth (0493) 652418 or 72560

FOR SALE : Century 22 with Keyer, Calibrator, circuit Breaker Lead. As New £300 Ring (0324) 31258

FOR SALE : DSB80 Digital Readout QRP Transceiver, Inclusive stable Howes VFO. Very capable CW/DSB Rig. £55
SAMSON ETM-3 Electronic Squeeze Keyer. £55
PHILIPS D2935 Synthesized World Receiver. £99
Jane, G4GIG. 021 - 777 - 6086.

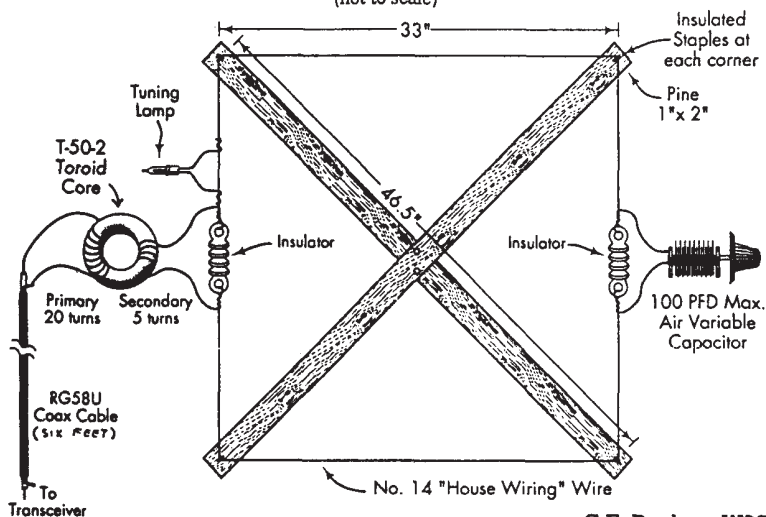
WANTED : Any information on the SRX30 Receiver. Colin Hawkin, GOCEU, 3 Offord Close, London, N17 0TE.

FOR SALE : UNIDEN 2830 AM/FM/SSB/CW Transceiver. 10 watts max (variable drive) Steve, G4YTK, Tel: (0543) 78902.

The Rockloop

A Compact Antenna for the 15, 20 and 30 Meter Bands

(not to scale)



(ARTWORK BY JOE ROCKEY)

C.F. Rockey, W9SCH
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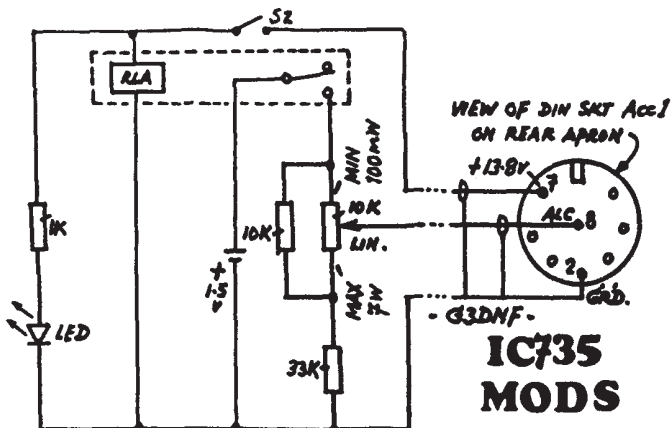
Using it with five watts of RF power and sitting here in my shack (on the first floor of a frame cottage - not over ten feet above ground-level) I find it easy to work all over the USA, from coast-to-coast, and Canada. On 15 metres (cw, of course), I've also worked OK1HCH and DL1ET and hope for more DX when things improve (they've been quite poor over there lately.)

It seems to have little horizontal directivity but works much better when the plane of the loop is VERTICAL (coincident with theory for low antennas.) It might be more directive for local "Ground-wave" contacts, however. There is no doubt but what "fooling with" the dimensions, and the turns on the toroid, might improve, but this is what I found to be OK. No doubt, also, that the local electromagnetic environment will call for possible minor changes. The SWR runs between 2 and 3 on all bands specified.

It tunes to 15 metres with about 15 to 20 pF, to 20 metres with about 30 pF and to 30 metres with about 60 pF here. To use, just hook it to your rig, put a couple of watts into it and tune for greatest glow in tuning-lamp (greatest current). Then run output up to five watts and "blast away".

It seems truly marvellous to me that five watts into a little square of wire here in the shack can push a signal across four thousand miles of briny ocean, - truly, God's world is a marvellous place!

RADIO BYGONES is a new bi-monthly magazine for the vintage radio enthusiast and will cover domestic radio and TV, amateur radio, commercial, military, aviation and marine communications. Feature will include restoration and repair, history and collections and just plain nostalgia. The cover price is £2.20 for single copies or £12 for a year's subscription. Sample copies of the first issue are available by post for £2.00 from the publisher: G.C. ARNOLD PARTNERS, 8A Corfe View Road, Corfe Mullen, Wimborne, Dorset. BH21 3LZ. (0202) 658474.



CAREFREE VERSION OF W3T5 IC735 MODIFICATION
(SPRAT 58) Dr. G. Bennett G3DNF

By using a relay instead of a switch on the potentiometer, this version is energised automatically when the IC735 is switched on, and there is no need to adjust power level every time. The LED acts as an indicator showing when QRP is in use. A single cell provides the ALC bias, rather than a 9 volt battery. Switch S1 can be opened to restore QRO. The whole goes into a 3) x 1) x 1 inch diecast box.

SHORT LOADED DIPOLES PROGRAM
Derek Wickett G4PXD

If space for antennas is a problem you might have thought of shortening a dipole using loading coils. I have a program "Short Loaded Dipole Design" by Hebert Ley N3COR for the Commodore 64. He has kindly agreed that members of the club may use it.

Once loaded it asks for data such as : freq, total length of dipole, length from centre to coil, coil diameter/length, feed impedance and calculates the result for load coil inductance, number of turns, match reactance/inductance, numbers of turns required for match coil. H. Leys article "Short Loaded Dipole Design - The Easy Way" ARRL Antenna Compendium Vol.1. is recommended reading for users of the program.

The program has been tried and does work and being in BASIC it should not be difficult to convert to other computers. Interested members should send an SAE labelled "C64 Program" to G3RJV to receive a listing.

INFORMATION WANTED: on the following tubes : CV4062 - 0621 - 6G60/GG (all the same and Japanese type 6R-A3: Geert-Jan Kijff, Klaproosstraat 64, 2403 EZ Alphen a/d, Holland.

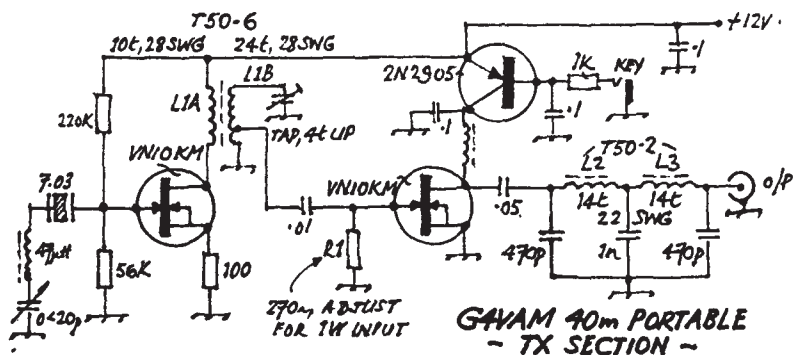
WANTED: Student member requires Magazines, surplus or for sale : RadCom 1975-86, QST 1975-86, SPRAT upto 47, Ham Radio 1979-89

Also Anyone designing or constructing Frequency Synthesizers, Please contact: Syed Maqbool Hasan, Q-8, Ashraf Plaza, Shadman Town, Sector 14-B, North Karachi, Karachi - 75850, Pakistan.

HELP WANTED: A member living in Caerphilly with some disability and a keen interest in QRP would like to meet members in his local area. Please write in first instance to G4HYY (Membership Secretary - see handbook)

WHAT IS SPAM ?

The SOCIETY FOR THE PROMOTION OF AMPLITUDE MODULATION, founded in 1967 by W4CJL with over 1,000 members worldwide. Membership is free, the AM Press/Exchange monthly Newsletter is \$10.00 a year. Details from: SPAM HQ, P.O. Box 27, Potrero, CA 92063. USA.



G4VAM 40 METRE TRANSMITTER

Originally the TX section of a portable transceiver, this circuit VXO tunes from 7030 to 7024KHz with a clean note at 1 watt of RF out. The VXO Circuit was derived from an article by C.F. Fletcher G3DXZ in Rad Com Nov.'87. Look for a good variable capacitor which allows a small minimum C and reduce stray capacitance to a minimum in the circuit. The 47 uH is an Ambit F14 type choke. Adjust the 500pF trimmer to highest output into 50 ohms. L1 : wind L1B first and tap as shown (4 turns from ground) then wind L1A in between L1B in middle of winding.

QSL STORAGE Idea
Vic Flowers G8QM

I expect many Club Members use shoe boxes to store their QSL cards but would prefer something more ambitious. I have found one solution which may be of interest. From 'ARGOS' I bought a 2-drawer video cassette storage cabinet Cat. No 535/2227. Each drawer is just the right size for normal QSL cards. The cabinet may be used as it is, but I found an improvement could be made by fitting four equally spaced thin paxolin dividers, 19cm x 6cm, in each drawer. They are glued or bolted to the mnonddings at the bottom of the drawers and help to keep the cards upright. Stiff card is used to mark and separate sections for Club awards and Country pre-fixes. each drawer should hold about 1,200 cards.

USEFUL HINT FOR VMOS. PA STAGES
G3MY

VMOS devices have much to offer as the PA stage of small transistorised home made transmitters by sadly their characteristics make the DC. to RF. conversion efficiency relatively poor at normal supply voltages (13.5) and, being relatively High Voltage derives most of the readily available VMOS such as the VN66 or VN90 will benefit greatly by an increase of Drain voltage to 24 to 28 volts. Output goes up three to fourfold and the conversion efficiency may well reach 70 to 75 percent. Most people forget that a normal regulated DC supply has around 22 to 26 volts of reasonably smoothed but unregulated DC. at the input to the Pass transistor of the regulator, and it is a very simple matter to tap into this point and bring the 25 volts out to a separate terminal to be available for use with a VN66 or similar PA device. The rest of the exciter is of course run from the regulated 13.5 volts.

DO YOU USE 18 MHz ?

A Stop Press phone call from Dick Pascoe, G0BPS, to confirm that there is no International QRP Frequency on 18MHz, had Dick suggesting 18080KHz as a suitable starting point for trying a QRP Frequency. Any ideas, or reports on QRP use of the band? Perhaps you would like to send suggestions to Gus, G8PG.

A MESSAGE FROM G4HYV

1. AN ADDEMDUM TO THE NEW HANDBOOK

As members will have read in the last copy of SPRAT we had some "teething troubles" with the standing order system. Briefly, our bank failed to give us information about the reference order numbers of some receipts! A few members also sent in their standing order forms rather late and news of these payments did not reach me for some weeks. This has meant that some members are fully paid for 1989 but do not appear in the new edition of the Members Handbook. Our apologies! The following members should be added to the lists in the Handbook.

1180	G3IGN	Les	2205	G3JKF	2239	G4TGS	David
3175	G0DSB		3268	G4WPU	3169	EI8FP	John

2. SUBS STATUS

PLEASE CHECK YOUR ADDRESS LABEL!!!!!!!!!!!!!!Some banks paid your standing orders TWICE (ie January and again in February). A few members have therefore been updated for 1989 AND 1990. If this applies to you and it causes any difficulty please write to me.

In general, the standing order system has been very beneficial to the operation of my office (i.e. the attic) and my office staff (i.e. the XYL Jennifer G6WWO). It cuts down on the amount of waste paper and also on the time involved in dealing with cheques. May I appeal to members to use this system wherever possible. I expect it to run very smoothly next year.

YEOVIL ARC QRP FUN RUN AND CONVENTION

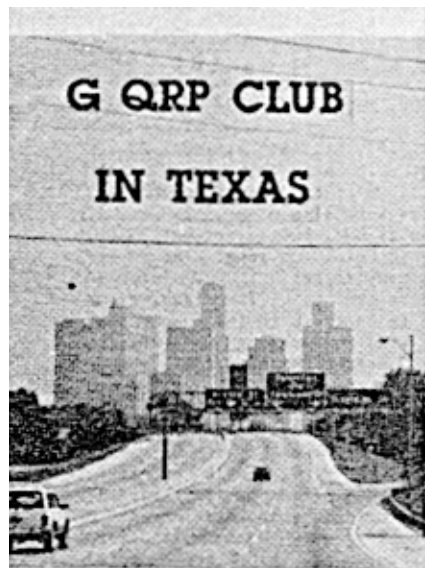
GSPG Gus Taylor

The Fun Run was an outstanding success with around 200 QRP stations known to have taken part. As many as 6000 QRP QSOs may have taken place during it. For logs presented at the Convention the overall winner was G3LGH, who also won the 80m section; the 40m winner was G4VPV. In the postal log section the overall winner was GOFYP, and the band leaders G3MBN (80m), and GSPG (40m). Despite general approval of the event only a small percentage of those taking part took the trouble to submit logs; please do better next time! We hope to repeat the event in 1990, but on a shorter time scale and with various rule changes suggested by our 1989 experience. The Convention itself was a great success, with the lectures by Rob, G3MYM, and Norman, G4LQF being greatly appreciated. The G QRP Club stand was run by Bob, G4JFN (the man who can sell snow to Eskimos) ably assisted by Glyn, G4CFS, an ex member of Yeovil ARC. Glyn motored all the way from Yorkshire to take part. Others attended from Wales, the Midlands and London. (All in all a very satisfactory event. Well done Yeovil ARC. Ed.).

THE G QRP CLUB IN TEXAS : ARRL NATIONAL CONVENTION, DALLAS JUNE 1989.

G3RJV and G3R00 represented the G QRP Club as speakers at the QRP Forum at the 75th ARRL National Convention. The schedule was hectic but the interest and response was even better than we might have expected. The QRP Forum was impressively organised by Fred Bonovita, W5QJM and G3R00 made and G3RJV renewed many amateur radio friendships. The whole event seems to have paid for itself. A full report would be too large to fit into SPRAT but the pictures give a favour of the convention.

- 1) THE JOY OF QRP summed up in the face of Ade Weiss, W0RSP, author of the book by that name, as he listens on the G3RJV LCK Trajsceiver. (see this issue)
- 2) W5QJM (right) makes presentations to the speakers. G3R00 became an honorary Texas Citizen, W0RSP and G3RJV - already given that privilege in 1983 - become honorary Admirals in the Texas Navy!
- 3) G3RJV address the QRP Forum on Home Construction.
- 4) G3R00 speaks on superhet and ssb techniques in Home Construction.
- 5) G3R00 "out-hats" the Texans on the QRP Booth - crowded throughout the event.
- 6) G3RJV in "full flow" on the QRP Booth - SPRATs sold like plates of hot grits!



QRP Communications Forum

G8PG Gus Taylor, 37 Pickerill Road, Greasby, Merseyside L49 3ND

THE OK/G QRP ACTIVITY WEEK-END produced excellent activity, with at least 23 OK QRP stations worked from the UK despite conditions which were only fair. The maximum activity was on 3.5 and 14 KHz, with 10.1 KHz also well supported. Despite its reputation for QRM a number of contacts were also made on 7 MHz. At G8PG there were also a couple of brief openings on 21 MHz, but an attempt to QSY to 28 MHz when working OK1DRE proved fruitless, skip being too long. The number of new OK calls appearing in the logs shows the steady increase in QRP interest amongst our Czech friends which can only be a good thing. The leading UK station was Colin, G3VTT with 37 contacts. There is no truth in the rumour that the Czech Embassy said he would not get another visa unless he came first! Second was Glynn, G4CFS, with 26 contacts. A well deserved placing for a member who has been quietly but steadily creeping up the qrp charts.

NEW QRP CONTEST. The OK DX Contest will now have a QRP Section, 5W maximum. Dates 11/12 November 1989. Times 1200 gmt to 1200 gmt. Modes CW or SSB. All hf bands except WARC. Classes single operator multi-band (A), single operator, single band (B). Exchanges RST and ITU Zone (UK is Sone 27). Stations may be worked only once per band irrespective of mode. scoring; 4 points OK/OL; 2 points DX ; 1 point own continent. Own country only as multiplier, Multipliers; Sum of different ITU zones worked on each band. Final score total QSO points x sum of multipliers from all bands. Log times UTC. Separate sheet each band. Indicate each new zone multiplier. Sent cover sheet with full score details, name, call, address, category and statement that rules were complied with. Cross check sheet if more than 200 QSOs on any band. Logs to CRC, POB 69, 11327 Praha by 15th December. Contacts can be used for 100 OK, OK SSB, and Slovensko Awards in lieu of QSLs if log submitted.

THE CURRENT QRP DXCC QRP TROPHY is to be withdrawn says Ade, WORSP. This is the trophy for working 100 countries with 5W or less. Those still working for the Trophy must work 80 countries by the end of February, 1989, and the 100 by 31 December 1989. Ade is introducing a new Milliwatt DXCC Trophy for those working 100 countries with less than 1w output. This will be offered until at least the year 2000 (which is only 11 years off!)

MODERN MINIATURISED MARVELS in the form of postage stamp sized transmitters, receivers etc appear regularly in SPRAT. But, as several members have pointed out to me, failing eyesight and a slight tremble in the hands mean that many older members are no longer able to undertake such fine construction work. As one of the older generation, I now find myself facing the same problems. So, to make the appeal of our Club even more universal, how about some designs using large, easily seen connectors such as tag boards, with discrete components of reasonable size? And some reasonable large, easy to read diagrams to go with them! One feels that this approach would also appeal to many novices attempting their first home brew project. If it is essential to use a pcb make it large and offer a pre-drilled version.

THE WINDOW FILTER is not a new design, but the thing you use to let light and air into the shack. Glenn, G0LCQ had to use one during our recent 7MHz QSO when a drum and bugle band halted outside his house! Glenn is only 17 years old, but his 15ft wire and HW9 provided a good signal. Keep it up OM!

DO YOU NEED A 5N on two-way QRP? Then keep an ear open for Yemi, 5N2KRC/O around 28060 at weekends. He is very keen to contact G QRP stations.

THE 500 mW CW/SSB RIG described by Lorin Knight in a 1984 issue of RADCOM is highly commended by Rowland, G4JAP, as being easy to build and set-up. He has already worked 22 countries with it, including EA9 on ssb and W3 on cw. Well worth a look!

THE NORWICH QRP CLUB welcomes all those interested in QRP and/or home construction. Their venue is Hellesdon Community Centre, Norwich, on the third Thursday of each Month. The Secretary is Mike, G4EOL, 4 Vera Rd, Hellesdon, Norwich, NN6 5HU.

CQ ALL F QRP STATIONS. Paul-Pierre Bel, FB1MQ0, 14 Avenue de Rodez, 81400 Carmaux (Tele; 63 76 67 01) is now our official representative in France. He already has enrolled new members and put on a QRP display at the French National Radio convention. Now he is starting a national publicity campaign. Thanks and well done OM!

PROJECT FREQUENCY BAND sponsored by Ed, W3NQN, involves a small team of European members investigating LC filters. Full report later.

MID-LANARK ARS OPEN DAY. Our stand excited considerable interest and allowed us to show the flag as far as QRP was concerned. Thirteen members signed in, and two new members were recruited. Mid-Lanark ARS are starting home construction classes, and these will now include a ONER and a sudden; this will generate further publicity for QRP. Ours was the only HB HF equipment on display, and it excited considerable interest. We also learned some useful lessons about the requirements for home brew in a Club where at the moment Black Boxes tend to be the Rule. As always in Scotland we were provided with excellent stand space, and much friendly help. It is nice to arrive at a strange venue and find people leaping forward to help you unload! Thanks to Our Men in Scotland, Nor, GM3RKO, George, GM30XX, and Iain, GM4HBG for their excellent support. The Club representative was Angus, G8PG.

THE EAST TO WEST QRP WEEKEND SCHEDULED FOR QUTMN 1990 will be the biggest thing yet in European QRP. See the QRP Calendar for 1990 elsewhere in this issue for initial details. Full details hopefully in next SPRAT. The one for every European and Asiatic Russian QRP operator.

STOP PRESS, GM30XX has worked 700 members, all CW! Great work George!

NEW QRP MASTERS. Congratulations to G4MEW and G4MQC on admission.

AWARD NEWS. Congratulations to the following.

QRP WAC. G2DAN, UB5LRS, PA3ELD.

QRP COUNTRIES. 200 G3XJS (Wow!); 175 G4JFN (well done!);

100 G3IJV; 75 G4MQC; 50 G4ASL, GM4XQJ, SV1UY, PA3ELD, GI4DQ0;

25 G3FVC, G4AWT, UB5LRS, UA3TAD, G4WUS, GOIFS,

WORKED G QRP CLUB. 640 G4JFN (Terrific!); 520 G3XJS, 340 G8PG,

320 G2DAN, 240 ON4KAR, 220 G3DNF; 180 G4XVE; 160 GM4XQJ, GM4OSS, G5CFS;

140 G4UGC; 120 G3FCK, G4NBL, G4VPV, G3ZJJ, GWODNR; 100 GM4UYE,

GOFTO, GWODYT, GI4DQ0, COFYP, GOIFK, G4ZME; 80 G3IJV, GOCQA, G3INZ:

60 GW3SB, G4VPF, GOCWA, G0B0P; 40 GOEVJ, G4WUS; 20 I3MDU,

G4AWT, G4AP0, G3BGR, PA3ELD, G0JKQ, GOKCA, G4HKM, G4CZL.

TWO WAY QRP. 40 G3XJS, G4JFN (good show!); 30 GM4UYE;

20 G4MEW, G4XVE, G4VPV, G4CFS, GOGWA; 10 I3MDU, G4WUS, GWODNR,

G3INZ, G3FCK, G4AWT, GM4XQJ, GWODYT, UB5LSR, PA3ELM.

AND THEY ALL ENJOYED IT!

SUFFOLK TROPHY 1989 goes to Glyn, G4CFS with the excellent score of 58 points, made despite the bands being dead in daytime. Hearty congratulations on a very good effort Glyn. A sign of the times was a good log received from UW3TW. It earned him a merit certificate.

THE AGCW DL QRP CONTESTS have a new Manager. After many years of faithful service Saggi, DK9FN, has retired; a letter of thanks has been sent on behalf of the Club. The new Manager is our old friend Hal, DJ7ST, a long-time supporter of QRP. All future entries must go to Dr H. Weber, DJ7ST, Schlesierweg 13, D-3320, Salzgitter.1, West Germany.

TOP BAND QRP ACTIVITY PERIODS

Following the recent note in SPRAT Bob, G3IQF will call CQ QRP on 1850 kHz at 2000 hours UK clock time (initially BST then GMT when the clocks go back), on every Wednesday during October and November 1989. Several members are already likely to be QRX for him, and it is hoped that other Top Band QRP operators will join in. Bob is also interested in arranging one or two Top Band QRP periods during the Winter Sports. It may be possible to do so during the Wednesday evening sessions. He is also interested in the possibility of two-way working with V/WE on the band, so any interested W/VE members should contact him by air mail to arrange skeds during the Winter Sports. Address R. Fowler, G3IQF, 2 Fieldhouse Way, Marlow, Bucks, SL7 1PF, England.

QRP CALENDAR 1990

Cut this out and paste it up by your rig

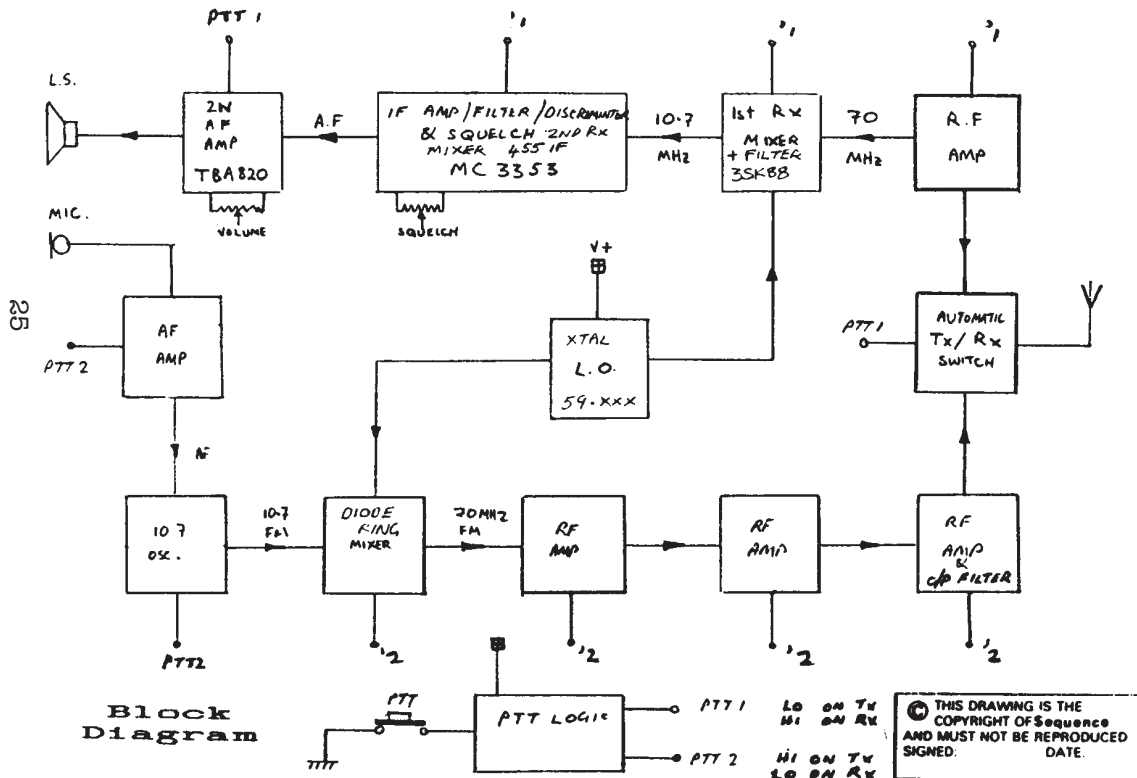
Date(s)	Event
1 January	Last day of 1989 Winter Sports
27/28 January.	OK/G Activity Weekend. Each day:- 0500-0900 gmt 3560/7030/10106 Khz 0900-1200 gmt 10106, 14060/21060 kHz (Note 1) 1200-1400 gmt 14060, 21060 kHz (Note 1) 1400-1600 gmt 14060 kHz 1600-1800 gmt 10106 kHz 1800-2000 gmt 7030,, 10106 kHz 2000-2400 gmt 3560 kHz. All+ QRM. Note 1. Try 18/24 MHz on the hour. Computer predictions by OK1AYQ
7 February	Last date for Winter Sports logs. All considered for G4DQP Trophy and certificates.
15 February	Last date Chelmsley Trophy logs (see Members HB)
28 February	Last date for OK/G Activity weekend logs
9-17 June	QRP Summer Ramble. All QRP frequencies. Maximum activity all QRP frequencies especially International QRP day, 17 June.. Certificates for best overall logs and Suffolk Trophy for best June 17 log (Rules in Members Handbook).
17 July	Last date for Suffolk Trophy/Summer Ramble logs
To be announced. Late September or early October	THE NEW EAST TO WEST EUROPE QRP WEEKEND. Sponsored by G QRP Club and OK QRP Group.. Will cover all Europe and Asiatic Russia. Many Awards. Rules to be published in the next SPRAT. This will be the biggest European QRP event ever organised
To be announced	Last date for E to W QRP Weekend logs (Note logs will go to Czechoslovakia not GSPG).
26 December - 1 January	The 1990 Winter Sports. Maximum activity all QRP frequencies.

VHF

JOHN BEECH G8SEQ 124 Belgrave Road, Wyken, Coventry, CV2 5BH (0203-6173670)

70 MHz Single Channel FM Transceiver

John Beech G8SEQ



From time to time people ask about FM receivers and FM transmitters. A good number of circuits have been published over the years, so why this one?

Well, it has a simplified squelch circuit and uses only one local oscillator crystal per channel for transmit and receive

The transmitter and receiver fit on one board which is small enough to be used as a handheld unit. Output power is about 2 watts. All of the components are readily available and the circuitry is contemporary rather than state of the art. PCBs will be available from October.

With some minor modifications to the LO and input/output filters, this could be used on 50 or 144MHz.

The PCB layout is not included here because it is being re-designed but the PCB will be approx. 120 x 60mm.

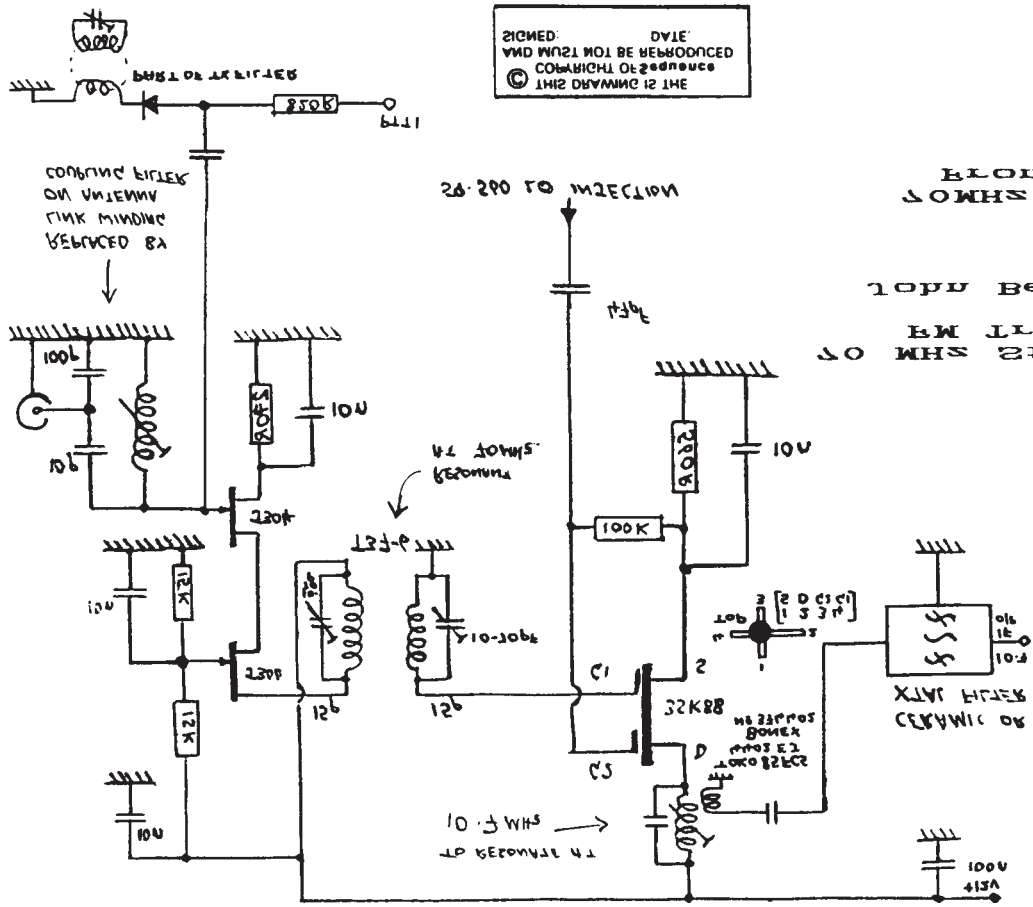
SIGNED: DAVE
AND MUST NOT BE REPRODUCED
OR TRANSMITTED IN ANY
MANNER WITHOUT THE WRITTEN
CONSENT OF THE AUTHOR

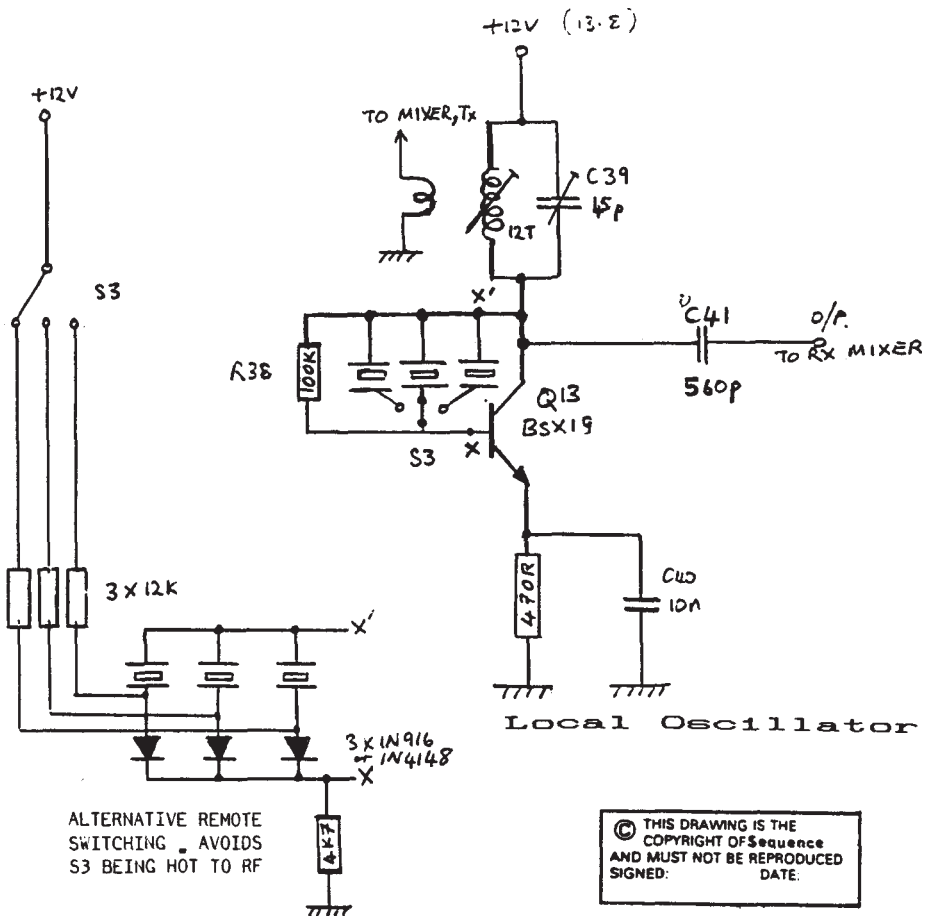
FLONT END
AOMHS FM TRX

LOW PASS FILTER

FM TRANSMITTER
AOMHS SINGLE CHANNEL

26

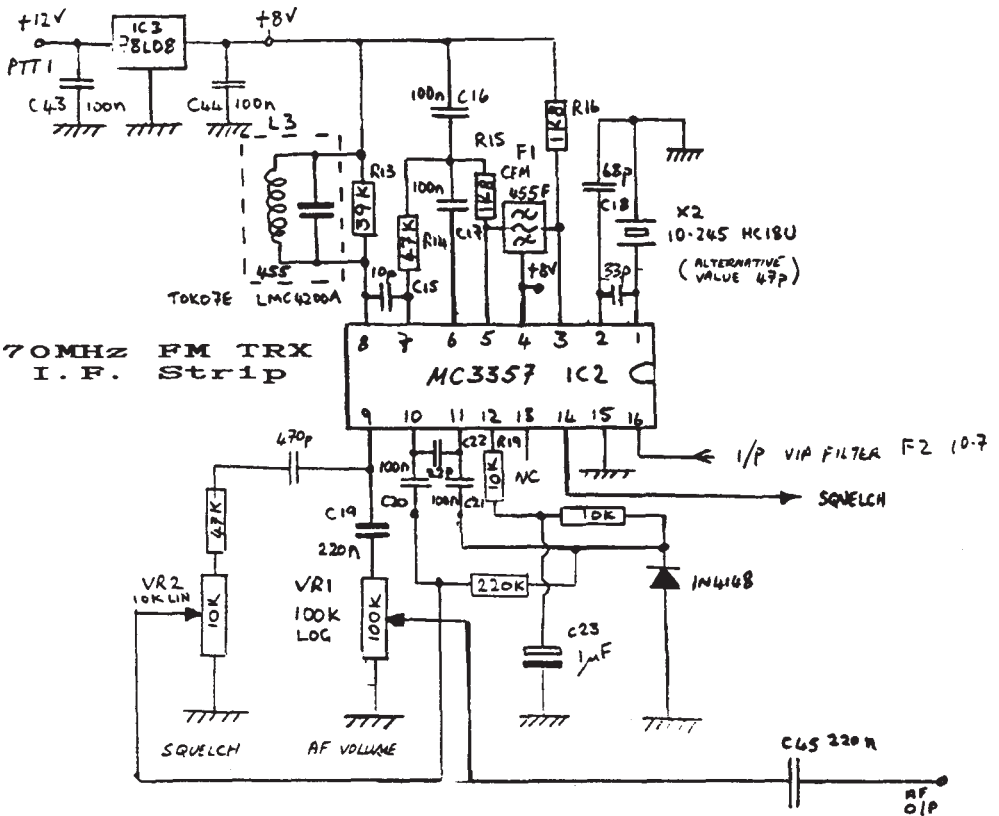




EXTRA V.H.F. NEWS FROM GB8EQ:

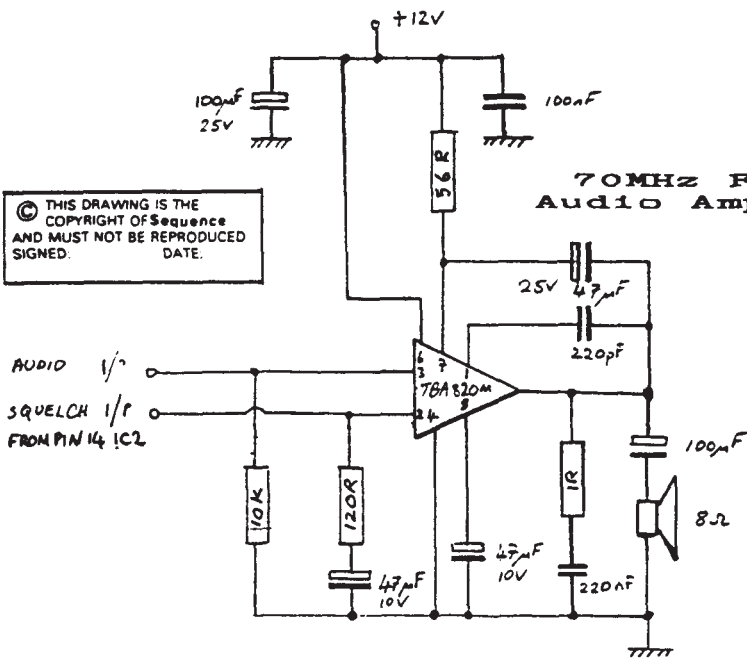
Tom Williams, member 4796, would like information on tuning a PF2 (high band) to 2m and also a T412/R414 UHF radio to 432 MHz band. Can you help?

ATTENTION DC - 30 - P SERIES OWNERS. At the risk of being accused of forming a clique, is anyone out there interested in forming a DC - XX - P owners group? I don't get much feedback from the 200 odd people that have had kits, so either they work OK or people have given up in disgust! Recent comments have been from Peter, who worked ZL from Portugal and Alan, G4VVM who worked ON on 10MHz. Has anyone worked the originator, Graham ZS6HV? Randy, AA2U is still looking for club members below 50.1MHz.



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70MHz FM TRX Audio Amplifier



SSB News

IAN KEYSER G3R00

"Rosemount", Church Whitfield, Dover, Kent, CT16 3HZ tel. 0304 821588

25 June 1989

Dear All,

Nothing on the QSL front as it has been decided too dicuss this and other matters at the Rochdale Convention in October. It is a very important point and all aspects must be looked at very carefully.

One thing has come out of it though. A "TABLE" of stations and countries worked as in the old SHORT WAVE MAGAZINE. George has had requests for this in the past but nothing came of it. I have asked members on the air if they would be in favour and there has been a 100 percent "Yes please!" having had that response I hope that we will get the claims to make it worth while.

"Rules" of the tables

There will be two tables, each divided into SSB and CW.

The two tables will be titled "MEMBERS WORKED" and "COUNTRIES WORKED"

Power limits 5 watts output on CW and 12 watts PEP on SSB.

Each claim will hold its position for two editions of Sprat, after that time without a fresh claim it will drop from the table. A fresh claim will be entered immediately on receipt.

No QSLs will be required.

Each list will consist of at least the top 20, with expansion to fill space available.

This current list will run from Jan 1st 1989 until Jan 1st 1990 when a new list will commence from zero. An all time list will be considered at a later date if the tables are popular.

The list will be started with this edition of Sprat as that will enable me to be in top position, a position I will be forced to vacate by the next edition and never to re-occupy!!

MEMBERS WORKED			
CALLSIGN	CW	SSB	SPRAT
G3R00	7	2	

COUNTRIES WORKED			
CALLSIGN	CW	SSB	SPRAT
G3R00	2	0	

73's

Ian



MEMBER'S NEWS



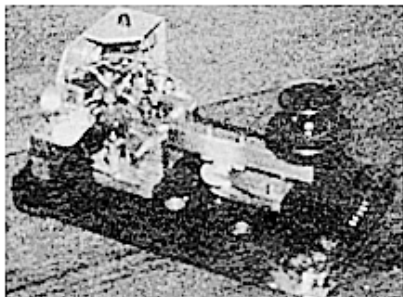
CHRIS PAGE G4BUE

"Alamosa", The Paddock, Upper Beeding
Steyning, West Sussex, BN44 3JW

688024 to arrange skeds. He has recently built a ow/am tovr for 160m. GM3KPD has replaced his HW100 with an Argosy and has worked WAC with it as well as making 100mW QSOs, the best being LA4RA on 20m. Alf says he is getting over that feeling of seeing nil on the Argosy's meter doesn't really mean that nil is going out! Just before his visit to the UK, OK1CZ was operating /M from an anchored yacht at his holiday QTH near Prague. Peter was using 800mW to a 6m vertical wire along the wooden mast to make QSOs including two Ws.

G4VSY is back on QRP "after operating many other modes", and G3CJS says he feels another homebrew project coming on. Peter thinks it may be the G3T80 tovr. Members who need to work Alaska on QRP should keep an ear open for new member AL7FS. Jim uses an Argosy to a KT34A at 40ft and his log of 5w contacts includes some with OZ and UA1. He also used 6mW to QSO VE7SL in Vancouver. DF4SB has also caught the millwattling bug. Gerd uses all power levels between 20mW and 4w. He says he was listening to a QSO on 16m between DL1UG/P and UA10D. The DL was quite strong so he decided to call him with 20mW. No answer, but the UA1 came back to him! His QTH was Arkhangelsk, a QRB of 2572 Kms from Gerd's QTH in Mannheim. AA2U is also a very keen millwattler. Randy has sent me the details of his millwattling DXCC at different power levels and is very impressive. He has worked 124 countries with 500mW, 66 with 100mW, 59 with 50mW, 16 with 6mW and 7 with 1mW. Can anyone beat that?

My thanks to G3MNM for sending the following report on the Yeovil QRP Convention on the 7th May. 166 visitors attended from Doncaster in the north to Penzance in the west. This was lower than last year and Dave thinks it may have been due to the glorious weather or the Liverpool football match being televised the same day! The mayor of Yeovil opened the proceedings and was then shown the club station, GB2LOW. G3MYM gave a talk on propagation for QRP DX in the morning and G4LQF on the evolution and essence of QRP in the afternoon. Trade stands were present, including a club stand manned by G4JFN and G4CFS, plus an exhibition of homebrew QRP equipment. At the end of the afternoon certificates were presented to the winners of the "QRP Funrun". G3LHU won the overall and 80m sections and G4VPV the 40m section. Planning is already under way for the sixth convention to be held in May 1990.



I am writing this on the Monday following our QRP Party. The house is very quiet as the PA gang who stayed overnight on Saturday have left. I am looking forward to OK1CZ staying with me next week-end, but in the meantime perhaps it is just as well the house is quiet as I'm trying to get to grips with my new computer. After several years of using the trusted BBC computers I have now changed to a Tandon 40mB hard disk IBM compatible system. After wrestling with Me Dos for the first time, I am now trying to get to grips with a new word processor and desk top publishing package. My success or otherwise will be judged on how this column turns out!

Reverting to the QRP Party, very many thanks from Pam and myself to all those of you who came and helped by bringing food and drink. It was nice to have HBSDCL and his wife here, OK1CZ plus the usual PA contingent, made up this time of PA3AGO, PA3DUV, PA3FGL, PE1UF and PE1MH0. There were also about 50 UK members and wives who all helped to make it the biggest party yet. Depending on how the photographs come out you may be able to see elsewhere in Sprat what went on. Still on the social scene I plan to be at the RSGB HF Convention at Oxford, the FOC Dinner in London and the QRP Mini Convention in Roehdale. Hope to see you there.

G0HTR is interested in QRP on SSB, but after checking the club net five times has not found any members. Larry invites members interested in SSB to telephone him on 0827

688024 to arrange skeds. He has recently built a ow/am tovr for 160m. GM3KPD has replaced his HW100 with an Argosy and has worked WAC with it as well as making 100mW QSOs, the best being LA4RA on 20m. Alf says he is getting over that feeling of seeing nil on the Argosy's meter doesn't really mean that nil is going out! Just before his visit to the UK, OK1CZ was operating /M from an anchored yacht at his holiday QTH near Prague. Peter was using 800mW to a 6m vertical wire along the wooden mast to make QSOs including two Ws.

G4VSY is back on QRP "after operating many other modes", and G3CJS says he feels another homebrew project coming on. Peter thinks it may be the G3T80 tovr. Members who need to work Alaska on QRP should keep an ear open for new member AL7FS. Jim uses an Argosy to a KT34A at 40ft and his log of 5w contacts includes some with OZ and UA1. He also used 6mW to QSO VE7SL in Vancouver. DF4SB has also caught the millwattling bug. Gerd uses all power levels between 20mW and 4w. He says he was listening to a QSO on 16m between DL1UG/P and UA10D. The DL was quite strong so he decided to call him with 20mW. No answer, but the UA1 came back to him! His QTH was Arkhangelsk, a QRB of 2572 Kms from Gerd's QTH in Mannheim. AA2U is also a very keen millwattler. Randy has sent me the details of his millwattling DXCC at different power levels and is very impressive. He has worked 124 countries with 500mW, 66 with 100mW, 59 with 50mW, 16 with 6mW and 7 with 1mW. Can anyone beat that?

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G0FK has been spending 88% of his time on 40m with 2w and a G6RV. Mike has worked VE1, W2, 3A and 5V. He is now building a /P 40m tovr which has a smaller VFO than the Oner. G4AWT has been using his Oner on 10m but only with 10mW. George has worked UB6, UA3 and UA6 with a TH3 at 35ft. Altogether he has worked 48 DXCC with his Oner. His Oner is built into the end of an ex RAF type D key as shown in the photograph. A jack socket in parallel enables the Oner to be keyed from an electric keyer as an alternative. With a circuit isolation switch the key can be used to key any other rig. OH5VEC also uses a Oner on 40 and 80m with a Drake R4A receiver. Hanak says he is making lots of QSOs with an HF2V Butternut.

W6QJM's letter informing me about his QRP expedition in

August arrived to late for the Summer Sprat. Fred was due to be active from KP2 from the 8th August. Randy was QRV as 4X/AAZU with his Argonaut on 15 and 20m recently. He didn't work any members although he did hear G3OSJ calling CQ. Some nice remarks from Dave, G0KYR which I will quote in full: "If anyone is still not convinced of QRP and Ham radio in general, give them my address and I'll convince them! When a "bog standard" 20m Oner on 14040 can get a 579 report from 1000 miles away in Estonia using a long wire and a DC rx, (and the whole station cost under 30), no one has any excuse to get started."

Now two piece of very sad news to report. A letter from G3CQR informed me of the death of G4WVW while out shopping in Yeovil recently. Tim was only 38 and a teacher at the Preston School in Yeovil. He played a big part in organising the Yeovil QRP Conventions and will be greatly missed. Just after that another letter told me of the death of PA0GG on 27th June while on holiday in Austria. Frens was the Chairman of the Benelux QRP Club and in fact founded it back in 1976. I had the pleasure of meeting him when he visited "Almooes" in 1985.

G0UJ was using a Teme to an end fed long wire with an L match until he changed to a doublet with a 20m top and centre fed open wire. Peter says it is great for 40m but no joy on 20 and 80m, even with the L match. G6JR is now up to 117 DXCC. Pete has also worked WAC on 24MHz in the shape of ZL, 3B8, TU, PY, W and TA2. G3PBA wrote to me just after he had worked LU6CV on 21060. Jim says the LU station uses a 5 element yagi at 80ft and is often to be heard on 21060. Jim worked W1FMR, WA1GRX and K3TKS in the April ARCI Contest and has also worked Z68BUD who was only running 1w. W6BU has now completed his three element quad which he hopes will allow his 4w from an Acom 6F4 push-pull amplifier to really get out.

Further response to OE6HS's remarks in the Spring Sprat about infra-red laser beam transmissions has been received from Tony Tutts. Tony says that in 1958 he and a friend made two-way contacts at night over 600 yards using modulated four foot fluorescent tubes. Any over modulation caused the tubes to explode. They never thought of using cw though! I3DGF sent me a photostat copy of a page from Radio Rivista, the magazine of the Italian national amateur radio club. Piero had written an article about QRP and the G-QRP-Club which featured extracts from Sprat.

G0FK is interested in a computer software exchange with members of any amateur radio related IBM software. Mike has his logbook on computer at present and is anxious to experiment with other software. As I mentioned previously, I am now using an IBM compatible computer and am already building up a collection of amateur software from both the UK and the USA. If there are other members using IBM computers, and there is sufficient interest, I will include details of software held by members and which they are willing to exchange. Let me know what you have.

G3AYJ brought one of the Hamgear QRP wattmeters that I mentioned in a previous column. Dennis says his main criticism of it is that the front panel has the ranges marked in MW and not mW. Funny how the manufacturers can make such a boob when the meter was intended for use by the QRP gang. Apart from that he says the job is good quality and the front panel has a good commercial finish. G4M4NC says the Maxwelltown ARC are due to operate a special event station, GB5TD, between the 8th and 17th of September which may be of interest to members. It will be sited in the control tower of the disused airfield at Tinwald Downs NGR NX 87. The airfield was used during WW2 and closed in 1957. Croesbie says he and G4W0Q will be operating and they want to make lots of QRP cw contacts.

G0DJA says he is no longer QRV on 2m cw. Dave has had to sell his FT290. G0HGA, our EUCW rep, has been without her main HF rig since April, and has been using a Howes tx on 80m at 2w. Angie has worked SM4/5 on 2m tropo and also worked her first Es into LZ and YU in June. She uses 10w to a 4el yagi 10ft above her QTH which is 470ft asl. G0JCW would like to thank members for the help he has received, especially Larry, G0HTR.

Now for a touch of humour, but first you must have the photograph in front of you that appeared on page 32 of Sprat 58. G0AMZ suggests the following caption for it: "After his remarks in Sprat on the subject of QSLing, G3ROO was suddenly summoned to the governor's QTH. A verdict of guilty was returned and sentence passed. Ian is pictured here making the long climb up to the gallows. His last request was for a final "wet". This can be seen clutched in his left hand as he makes one last plea for mercy! LQF, WZV and VTT are not to be swayed by this, but one notices that G2HKU is obviously a member of the anti-capital punishment lobby!!" These remarks from Kelvin are definitely the last reference in this column on the QSL debate!!

A useful tip from G7DEV who was recently reading a book which referred John to USA amateur radio magazines. On enquiring at his local library they told him that most magazines distributed in the UK are held by the British Library and photo copies are possible. A few weeks later John received five photo copies of the articles requested for a total cost of 2.60. In view of requests often seen in the amateur press including Sprat for copies of articles, members may like to bear this service in mind if they are stuck for that vital piece of information needed to complete a project.

Finally, congratulations to G3LHJ who has been elected President of FOC, (First Class CW Operator's Club), for the year commencing October 1989. On a personal note, by the time you read this the last of my examinations should be over. They should have been completed in May but a work commitment prevented me from taking one of them then. I shall then be much more QRV on both the QRP and DX bands. Several projects are planned including getting on HF packet to enable news and information for this column to be passed. In the meantime you are reminded that several members in the midlands and southern England, including myself, monitor 144.525 when we are in the shack. This is the channel for HF DX information and can greatly assist DX chasing. Let me know how your autumn goes and what you think of the new format for this column. Interesting photographs can now be included, so let me have your news have your news and views by the 20th November please.

73, Chris

THE G4BUE SUMMER QRP PARTY



Sunday morning and PA3DUV, PE1LF, PE1MHO, PA3FGI and PA3AQO catching up on their reading of the UK radio magazines.



Gerald, G3MCK (right) in serious discussion



(Above) Doug, G4RGN deep in conversation

"Oh! How I wish I could work DX like you guys," says Bob, G4HZV (left) to Bob G4JFN, Peter G3XJS and Dave G4WZV

(Below) G3ROO, OK1CZ and G3LDO in QSO



(Above) HB9DOF and his XYL

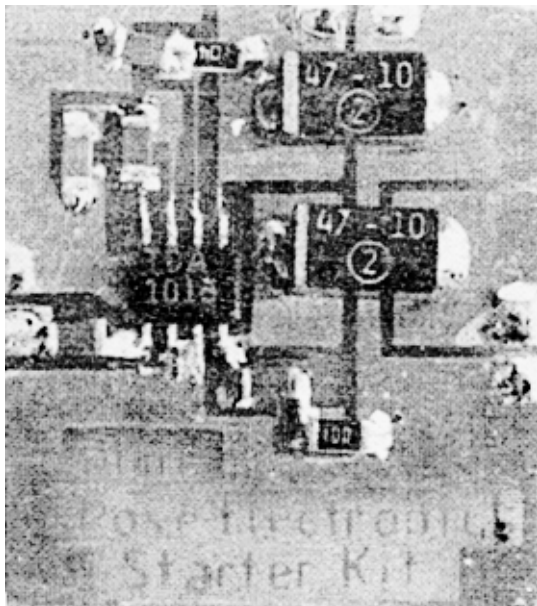


(Right) "Let's try that disk" says Ron G3KTZ to Peter G0BUJ as they both try and fathom out G4BUE's new computer



In the last issue of SPRAT, Bill Mooney, G3VZU, described the use of surface mount techniques for the amateur constructor. Something in radio construction that I had not tried, so I obtained a BRE kit for the beginner to give it a try.

The project I tried was the Starter Kit Audio Biscuit. It is a compact, very low profile audio amplifier suitable for most receiver output circuits. I did not have any special SMD construction equipment so I used a conventional soldering iron and tooth picks to handle the components on the board. The board takes under an hour to complete, mine worked first time, and it adds up to a very neat little audio board which would fit into a very small space.



CONCLUSIONS: A nice little kit, a fair price, fun to build and a useful project. Since that time I have bought an SMD Assembly Jig and that made my next attempt at SMD much easier. An SMD Version of the SUDDEN RECEIVER : See Next Issue.



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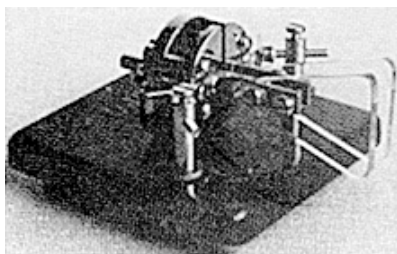
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