

SPRAT

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DEVOTED TO LOW POWER COMMUNICATION

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Summer 1980

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Bob WB9QPS Our US Rep

Club member Bob Molle WB9QPS,
the club representative in USA
at the Dayton Hamvention.
Photo by Skip WB9OWM.

The DXers Magazine.

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Another Simple Keyer
Double D Beam
Mini Tener
Verticals No.1
Active Audio Filter
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Award News



Rev. George Dobbs [G3RJV]
17 Aspen Drive, Chelmsley Wood,
Birmingham. B37 7QX [021-770-5918]

Dear Member,

One of the pleasant aspects of QRP is the number of 'old hands' in the hobby who find their interest reawakened by the challenge of low power operation and the realisation that it is possible to use inexpensive, home brewed equipment on today's amateur bands. My little offering for the Short Wave Mag. in recent months - the S.C.D. Transceiver - seems to have done just that. I have received a lot of mail, most of it from old calls, tired of the recent commercial trends, for whom the homebrew, QRP alternative seems to struck a chord.

Followers of the articles may have noticed an error in Fig.1. of the transmitter circuit. There should not be a capacitor in the feed to the PA transistor - it is correct in the Layout (Fig.2.)

I am promised a good QRP chat or two around the time of the Upton on Severn Rally on July 13th. George (GM3OXX) and his xyl are to visit me for a time before the rally and travel to it with us. At Upton we are meeting up with Chris (G4BUE) and Alan 'The Subs' (G4DVW). If you are able to attend that rally, we will be pleased to see you.

Recently the conditions on 80m in the afternoons have made the weekly Sunday get-together on 3560 very difficult. I have noticed that some members, finding the band dead, have gone up a band and called on 7030 - very sensible.

May I wish you a pleasant summer, good luck if you have plans to work /P and may your gardening not steal too much time from QRP.

Best 73 fer nw,

G3RJV.

Data Sheets

Gwyn (G4FKH) who has been producing our Datasheets for a long time is no longer able to do so in the future. Sheets will be still issued until the present stocks are used. May I, on behalf of the club, thank Gwyn for all his work (at no cost) for the club.

Should there be any other members who could do batches of sheet duplication (photocopies) at the cost of the paper (or less!) would you please let G3RJV know.

NEW DATASHEET: Universal Transmitter, QST circuit - 2 watts on 80,40 or 20. Xtal controlled, but VFO may be added.

SUBSCRIPTIONS

Renewals to Alan Lake, G4DVW, 7 Middleton Cl. Nuthall, Nottingham. UK and Europe £2.50 - US and Others \$5 cash (\$6 cheque)

Cheques to G.C.DOBBS, RE: QRP CLUB. PLEASE QUOTE MEMBERSHIP NUMBER.

121 - 154	223 - 232	293 - 325
419 - 444	573 - 615	

BY SEPTEMBER 31st

THE LAGOS QRPeter by DJ1ZB

VXO-FD/FT-PA, 4 watts input on 14, 21, or 28MHz, 14 volt supply.

This simple transmitter has been built for a business journey to Nigeria, to be prepared if a licence could be obtained there. Unfortunately there were no regulations for guest licences (only for residents), and so the only chance to test the transmitter under a Nigerian call sign was from the shack of 5N0AKD, Ken, in Lagos (G3BQA, ex 9G1GD) on one Sunday morning, resulting in few contacts to Italy and Germany on 21MHz. Recently, however, the transmitter has been used from the home QTH in the QRP overseas section of The R.S.G.B. 21MHz CW Contest, in which 60 QSOs and 1800 points were made.

The transmitter has mostly been used in combination with the Sony ICF-5900W dual conversion receiver, with reduced bandwidth in the second IF (smaller coupling capacitor C58 across ceramic filter). This receiver is very suitable for travelling (but look for minimum backlash in both dial drives) and covers the CW portions of the 7 to 28MHz amateur bands. For this reason the transmitter may also be operated on 7MHz as a straight amplifier.

The Circuit

In spite of all modern achievements, the crystal controlled version will remain the simplest of all transmitters. As some frequency pulling is desirable, the crystals are excited in their fundamental mode, and frequency doubling or tripling is used. With toroidal coils, all three stages can be arranged on a single PCB without any need for screening.

An untuned Colpitts oscillator is used, with sockets for FT-243, HC-6/U and HC-25/U crystals. The capacitive divider is optimized for frequencies between 4.6 and 11MHz, so all the bands can be reached by either doubling or tripling. Almost any silicon n-p-n transistor will work as T1. The oscillator output voltage can be controlled by varying the bias resistor R1 (250K or 500K).

The supply voltage of the VXO is keyed. For CW monitoring, a simple unijunction transistor T2, 2N2646 tone oscillator is operated on the same supply. A special keying transistor (T6, BC108) is recommended if keying to ground is desirable.

Transistor T3 is operated in Class C as a frequency doubler or tripler. The conduction angle is designed for best tripling to 28MHz by varying resistor R3 (use a 5K trimmer first and replace the optimum value by the next highest fixed resistor). R2 and R4 will prevent parametric and VHF oscillations. To generate the PA driving power required it is advisable to use a good UHF transistor such as the 2N3866 or 2N5109 in this stage, cooled by a Wakefield NF-207 or similar cooler. The tuning capacitor, C1, in the collector resonant circuit is fairly high to achieve a high loaded Q to suppress unwanted harmonics and to allow tuning to 7MHz also. A test on a spectrum analyser has shown that all unwanted crystal harmonics are suppressed by 40dB or more at the transmitter output.

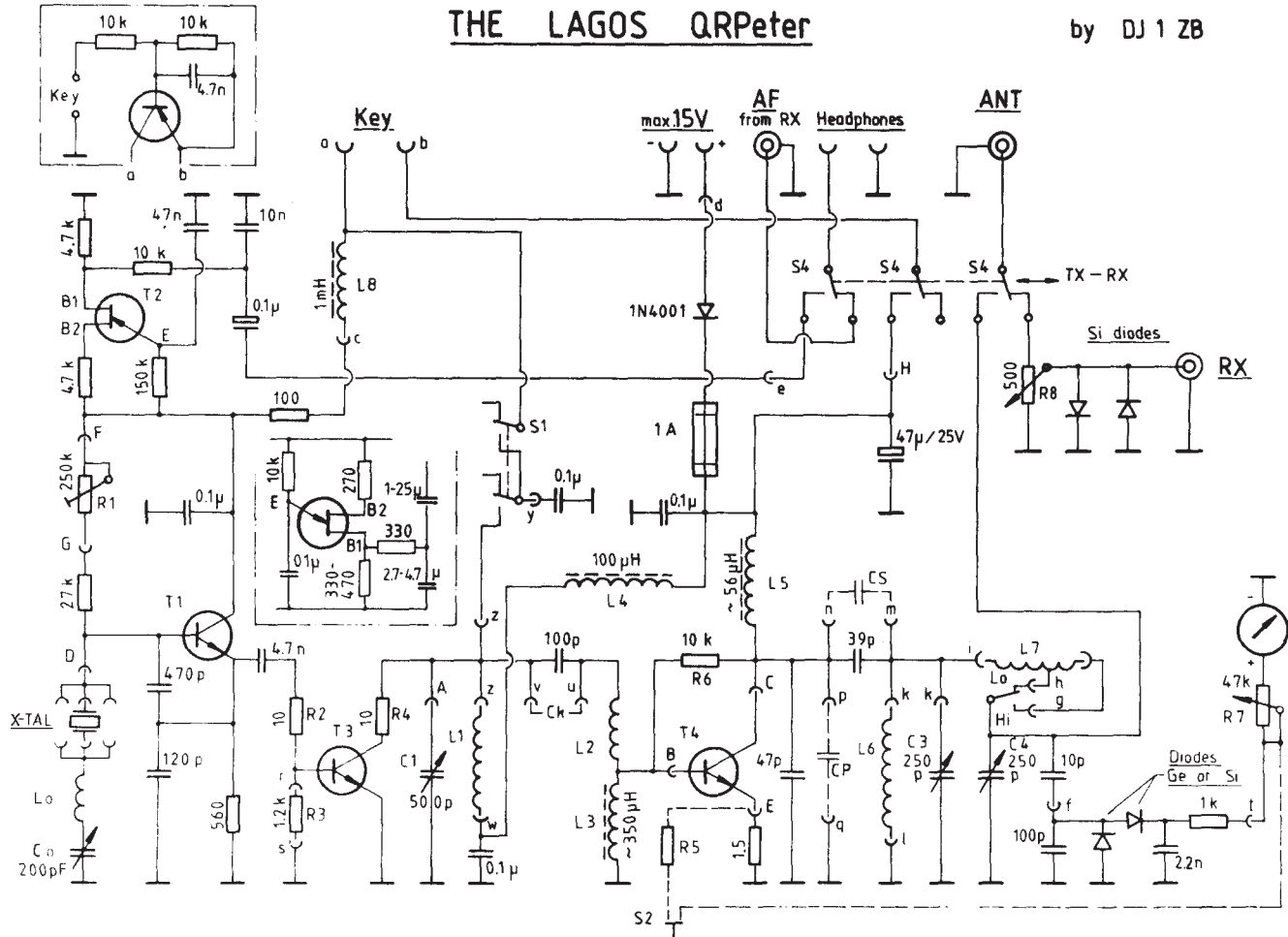
For spotting the VXO to a calling station in the associated receiver, the collector resonant circuit is loaded by section I of switch S1 and a low impedance capacitor (0.1µF disc ceramic). This is the simplest way to disable the PA without any influence on oscillator frequency (keying T3 in the collector current path would result in increased base current, causing a noticeable frequency error). Lead lengths from switch S1I to the 0.1µF capacitor and the hot end of the resonant circuit must be kept as short as possible, however.

The coupling capacitor C2 matches the doubler/tripler load resistance to the low PA input impedance. It is optimized for 28MHz, but can be retained on the lower bands as well, because the lower driving power required on these bands results in a somewhat higher input impedance. Soldering posts are provided on the PCB, however, to add another capacitor for 7MHz operation.

The PA transistor T4 is a 2N3553 mounted into a Jermy 1101A hard anodized cooler, with some silicon grease inside to improve the heat conduction from the TO-39 case.

THE LAGOS QRPeter

by DJ 1 ZB



The cooler is mounted to the front side of the metal box into which the transmitter is built and the PCB must be fastened so close to the cooler that the normal lead length of the TO-39 can is sufficient to make contact to the terminals of T4 on the PCB. With the same mounting arrangement, the 2N3553 and Jermyn 1101A cooler may be replaced by the 2N3375 (same chip but TO-60 stud mount version) with the possibility to increase the PA input to the five watts limit of The G-QRP-C. Under these cooling conditions the PA will not be damaged even under conditions of severe mismatch and a supply voltage of over 15 volts, because the VCE(sus) of the transistor is 40 volts and the full DC input power can be dissipated in the cooler.

The PA output circuit used has previously been described in The G-QRP-C data sheet "Transistor PA Design - the Safe Way". Coil L2 is to prevent VHF oscillations of the PA. The difference in inductivity between base and collector chokes L3 and L5 is also necessary to avoid TGTP oscillations at MF. A 10K feedback resistor (R6), from collector to base is a further means against parasitic oscillations under certain tuning conditions.

The PA tank circuit will match coaxial loads as well as random wire or window aeriaks. For low loss matching, switch S3 changes the series inductance for either low or high impedance loads. If the transmitter shall be used for coaxial loads only, S3 and the coil extension may be omitted.

Capacitors C3 and C4 are tuned for maximum antenna voltage with the optimum position of S3. R7 sets the reading of the instrument so that the maximum can be observed under different load conditions.

The tuning position of the double/tripler tuning capacitor C1 depends on frequency only and can be marked. For those, however, who may find it more convenient the push button switch S2 may be installed. When the PA is de-tuned, with no reading at the antenna output, C1 can be tuned for maximum PA emitter current by pressing S2. The value of R5 depends on the instrument ratings (maximum 0.5 volt DC at PA emitter). After a reading at the antenna output has been obtained, C3, C4 and C1 should be retuned for best output voltage.

Whilst 15 volts is the maximum recommended supply voltage, the transmitter will operate down to less than 10 volts with reduced output power. Bias resistor R1 may be decreased under these conditions. At 10 volts the input will be 2 watts. Therefore the transmitter may well be operated from dry cells (10 cells) down to less than one volt per cell.

S4 is the transmit-receive switch, a three pole Marquardt miniature switch. Section I changes the aerial from the TX to RX. Section II dis-connects the VX0 supply during receive. Section III connects the headphones to the receiver in the receive position and to the tone oscillator in the transmit position.

S1 changes the circuit from normal operation to SPOT. Section I loads the doubler/tripler output as mentioned earlier. It also feeds supply voltage to the VX0 via section II. The arrangement of contact ensures that the VX0 is not excited before the doubler/tripler output has been loaded. During SPOT S4 must remain in the receive position (otherwise the headphones are disconnected from the receiver).

R8 is a simple attenuator in the receiver antenna path, to avoid receiver input overload when good antennas are used. The two anti-parallel diodes will protect the receiver input against residual RF voltages from the transmitter.

The series diode in the supply line will protect the transistors in case of wrong polarity. The fuse seems to be rather useless in a transistor circuit. But in any case the transistors T3 or T4 should break down (which should happen only if experimenting or with abnormal high supply voltage) the fuse will open, and the RF chokes L3 to L5 and the associated resistors will not burn up.

Mechanical Layout

Minimum size was a design goal, so it was decided to omit a band switch and to solder in the coils (L1, L6 and L7) and additional capacitors (Cp, Cs and Ck) for

a specific band. For the same reason solid dielectric variable capacitors were used. So it was possible to build the whole transmitter into a Teko 4/B aluminium box (137 X 70 X 40mm). The location of the various controls is shown by the picture. The outlay of the construction and the PCB is such that critical RF lead lengths (from the PCB to the crystal sockets, the variable capacitors and to switch S1 and S3) are kept to a minimum. The PCB is grounded to the aluminium box by four metal bolts.

If there are no space limitations, a band switch and air variable capacitors can be used, of course. A variable capacitor of good mechanical design is especially desirable in the VXO if a high amount of frequency pulling is to be achieved.

VXO and Crystals

The author has used either 4.6MHz or 7MHz crystals for 14MHz, 7MHz or 10.5MHz crystals for 21MHz and 9.3MHz crystals (or 28MHz third overtone crystals in their fundamental mode) for 28MHz.

Frequency pulling without a series coil L₀ was almost zero with FT-243 crystals (4.6 and 8MHz) and fair (about 10KHz) with HC-6/U and HC-25/U crystals on 21 and 28MHz. For The R.S.G.B. 21MHz CW Contest, a 9µH coil was inserted for L₀, giving almost 30KHz pulling range with 10.5MHz HC-6/U and four to five KHz with 7MHz FT-243 crystals on the final frequency. A maximum L₀ of 15µH seemed possible for the 10.5MHz HC-6/U crystals, giving a pulling range of 44KHz on 21MHz, but resistor R1 had to be reduced to retain sufficient drive to the doubler stage. Later on a maximum L₀ of 25µH was found possible for 7MHz FT-243 crystals, resulting in a pulling range of seven to eight KHz on the fundamental frequency and correspondingly more on the higher bands.

These results show that some experiments on the VXO are highly recommended and may give astonishing results. With C₀ near minimum capacity however, the keying characteristics must be controlled in relation to bias resistor R1, for some crystals may not start to oscillate immediately with the key closed and thus may effect readability of the signal.

It is hoped that this transmitter will increase QRP activity on the higher bands. The author has several 10.5MHz crystals to offer. Also, HC-25/U crystals 28045KHz, 28070, 28090 and 28100 crystals are available in Germany.

Coil Winding Data (all Amidon T 50-6) and Additional Capacitors for the Various Bands

MHz	L1	L6	L7	Cp	Cs	Ck
28	4 turns	9 turns	LO - 15 turns HI - 21 turns	-	-	-
	4 turns	12 turns	LO - 17 turns HI - 25 turns	27 pF	22 pF	-
14	9 turns	12 turns	LO - 21 turns HI - 30 turns	47 pF	39 pF	-
7	14 turns and 120 ohms in parallel	23 turns	LO - 30 turns HI - 42 turns	330 pF	120 pF	220 pF

Coil L2: 8 to 9 windings self supporting, 0.5mm Ø copper lacquer, wound on 1mm rod (inner diameter).

Choke L3: Siemens RFI suppressor choke type B82111-A-C29 350µH/0.1A.

Choke L5: Siemens RFI suppressor choke type B82111-A-C26 55µH/0.5A

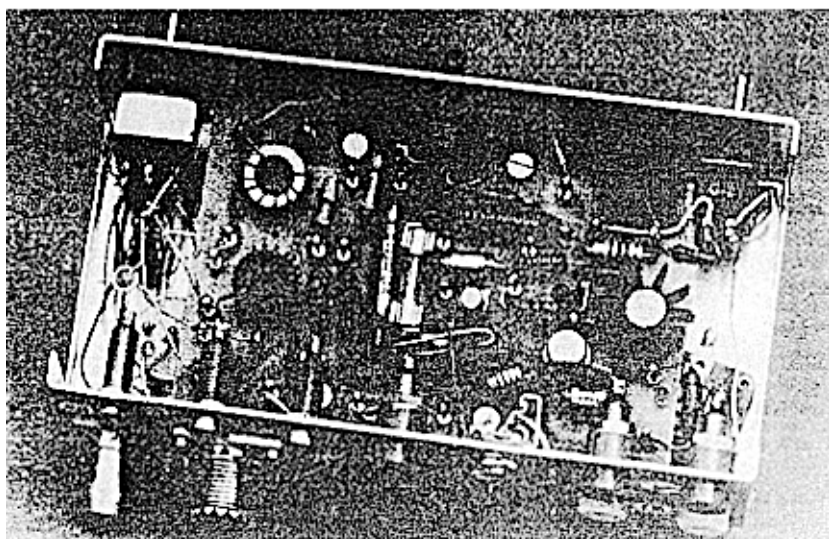
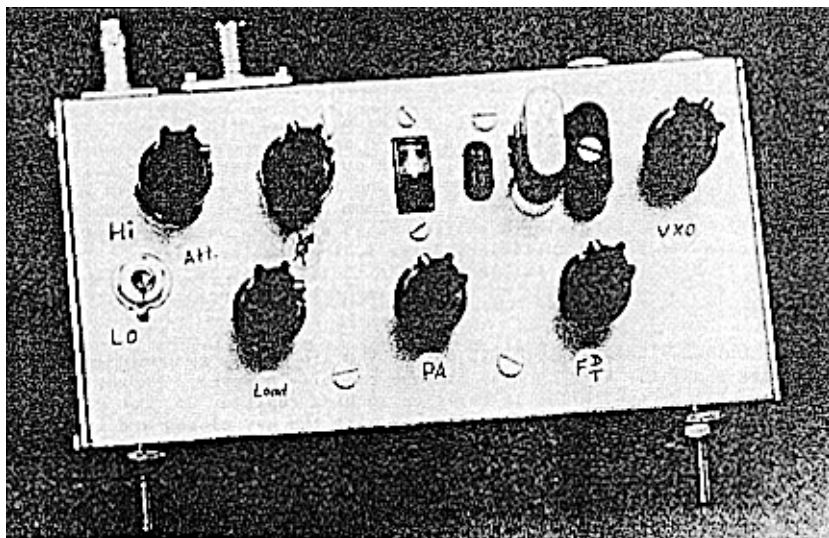
Chokes L4 and L8 are molded RFCs.

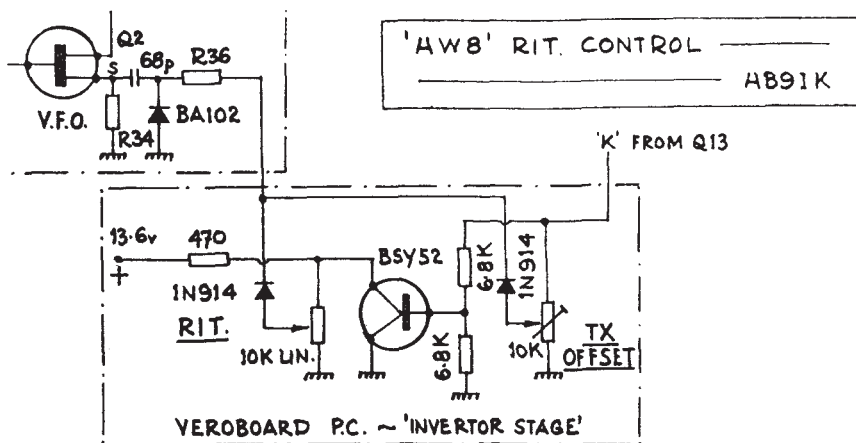
Postscript

The unijunction transistor tone oscillator was designed first to drive high impedance headphones only. If the 2N2646 is operated at higher currents however, as shown in the extra diagram, it will drive 8 ohms headphones as well.

If TVI should be a problem, especially on channels 8 and 9 when operating on 28MHz, an additional low pass filter must be employed at the transmitter output. But harmonics will also be radiated from any lead leaving the aluminium box. Therefore before the antenna low pass filter can become effective, all DC and AC leads must also be filtered as shown in the drawing.

Finally it should be mentioned that the tiny transmitter can also be designed for the future amateur bands. For instance, the 5.0688MHz microprocessor crystal which is available from several sources may be used in a VXO and doubled to the new 10MHz band. In later years, CB crystals in their fundamental mode can also be doubled to the 18.1MHz band.

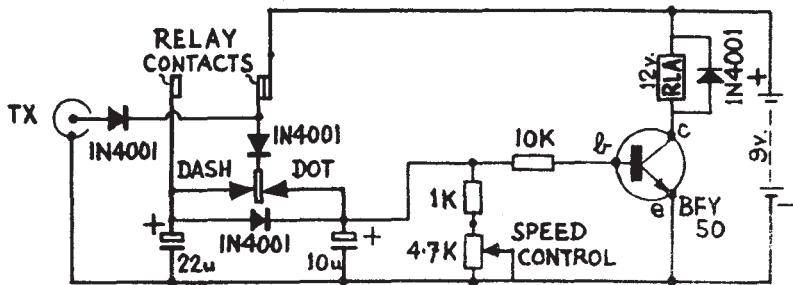




Adding and Using R.I.T. Control with the Heathkit HW8

- 1) Replace switching diode and small capacitor in VFO with new 68pF and BA102 Varicap diode.
- 2) Break Lead K from Q 13 to Q2 and insert polarity inverter stage with BSY 52 transistor, as shown above.
- 3) Try to place RIT control pot beneath the power meter. Use Philips mini pot on a bracket with the meter screws.
- 4) Mount inverter stage, on veroboard, inside the left of the cabinet.
- 5) Set RIT control halfway and adjust TX Offset trimpot to the same VFO frequency. Check the zerobeat of both RX and TX frequencies on a loosely coupled receiver.
- 6) In operation, select either high side (USB) of RIT and tune the main dial from high to low, listening to the down going beat signal, or visa versa.
- 7) Select the 750 Hz beat note, corresponding with built in audio filter.
- 8) If the signal has QRM, try to use the other side of the RIT, but don't change the main dial tuning.
- 9) Following this procedure, your signal will be within the audio pass band of the wanted station. Good Luck and CU QRP - Peter HB9IK.

SIMPLE KEYS — GW3ZFY



Another simple circuit from Don Benham - one transistor and a light acting relay give a useful basic keyer.

The DOUBLE D BEAM

by Peter Dodd G3LDO

This antenna is compact and easy to construct. A 28 MHz model has been on trial for about six months and appears to have the same gain as a Quad. The front-to-back ratio is about five 8 points according to local reports, and this and the gain correlates well with the data obtained from a VHF model.

Other data obtained from the VHF model indicates that the 14, 21 and 28 MHz versions may be interlaced without detuning but the feed impedance is disturbed. This means that separate feed line and Gamma matching is required for each driven element. Further data will be made available when the necessary tests are complete.

The light weight and low windage of the Double D enabled me to me to put the 28 MHz model up to 45 feet (13 metres) on a thin unguyed mast. Using this antenna with a QRP 3 watt output SSB homemade transceiver I worked all continents in 5 days and 24 American states in 3 months.

Design Data

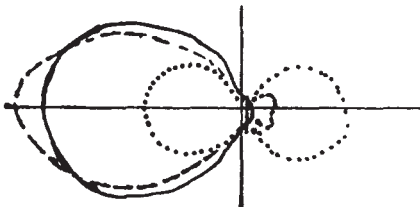
Freq MHz	Reflector		Driv: Elt:		A		B		C		D	
	in	cm	in	cm	in	cm	in	cm	in	cm	in	cm
14.2	452	1147	417	1060	245	622	263	668	180	457	33	84
21.25	302	767	279	708	154	390	166	420	113	287	22	56
28.5	225	572	208	528	114	290	122	310	85	216	15	38

The above figures are based on the formula below

$$\text{Driven Element.} \quad \frac{5920}{f} = L \text{ inches.} \quad \frac{15050}{f} = L \text{ (cm)}$$

$$\text{Reflector} \quad \frac{6413}{f} = L \text{ inches.} \quad \frac{16288}{f} = L \text{ (cm)}$$

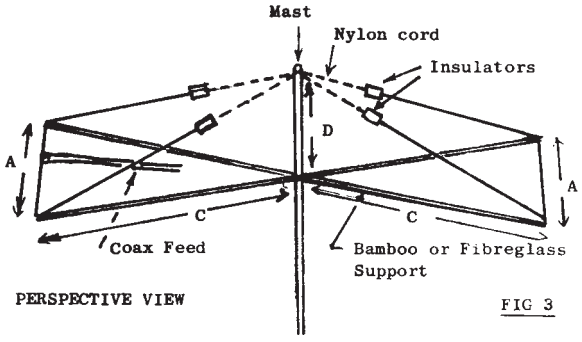
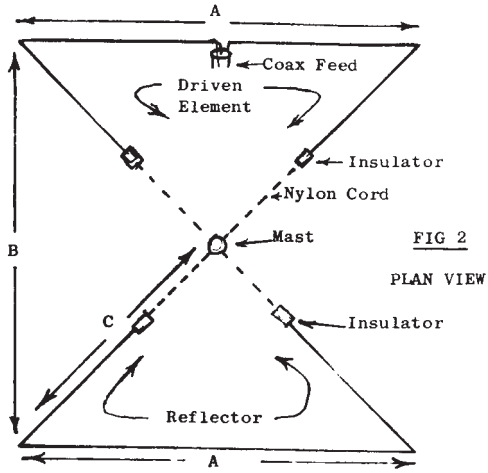
1. The above formula for PVC wire only, Multiply L by 1.04 if using uninsulated copper wire
2. See figs 2 and 3 for meaning of A,B,C and D dimensions.
3. Figures in C only approximate and are an aid to construction
4. A,B,C,and D not critical and need not be altered if the elements are tuned to the band edge.



Dipole
 3 Element Beam - - - -
 Double D _____

FIG. 1

HORIZONTAL POLAR DIAGRAM COMPARISONS USING 145.6 MHz MODELS



The MINI-TENER GM3XNE

A SIMPLE D.S.B. TRANSMITTER FOR TEN METRES.

A simple circuit to enable the QRP addict to enjoy the openings on Ten. Imagine the satisfaction of raising the DX with around 1 watt pep!

COILS: L1, L2, L5: 20 turns/26 swg on $\frac{1}{4}$ slug tuned former.

L2, L4, L6: 3 turns around main winding in PVC covered wire.

DIODES: D1, D2: Pair of 1N4148 (matched if possible)

ALIGNMENT NOTES:

- 1) All coils resonated at xtal freq (28.600 in original) by adjusting cores and associated trimmers.
- 2) Check the TX for operation by listening for the xtal freq on the station receiver. **NE** Only operate the rig into a 50 ohm dummy load. Peak L1 & C2 for maximum signal strength on receiver S meter, then null the carrier (minimum S meter indication) using the pot R13 (2.5K)
- 3) Advance the MIC GAIN control (500K pot) halfway and speak into the microphone - Doublesideband signal should be audible in the receiver. Adjust the proximity of the TX to RCVR is required.
- 4) Adjust L3/C3 for futher NULL on S meter. It may be necessary to tweak R13 and L3/C3 combination to achieve the best null through their interaction. Estimated carrier suppression was 35/40 Db down in prototype.
- 5) Finally - adjust L5/C6 for maximum output (with small torch bulb) and check final frequency with wavemeter/signal frequency meter as available.

AWARD NEWS

Congratulations to the following members who have qualified for the Award indicated.

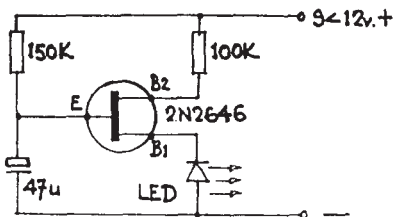
QRP MASTER No 4. G8PG

QRP Countries. 125 GM30XX, 100 GM3BFR, 75 G8PG, Basic G3KPT (1st rtty).

Worked G QRP Club. Basic G4DQP

Two-way QRP. 30 G4BUE, Basic G4CQK, GM3VAI

LOW-POWER INDICATOR — G3AGX



This circuit provides a flashing pilot indicator for equipment where low battery drain is essential. The LED flashes approximately once per second, and the total current drain is only 320 μ A!

(Reprinted courtesy of the "WACRAL Newsletter").

DL AGCW WINTER QRP CONTEST 1980

The first six placings were :- G4BUE, GM30XX/A, G3DNF, I7CCF, WB2RZU, G8PG. All are, of course, Club members. Other members in the first 10 were OK1DKW and DL7DO/p.

OFFERS for Ten Tec C.W. Filter Model 203. Suits Argonaut 509. Brand new with guarantee and instructions. G2HKU QTHR. Tel: 0795 372100.

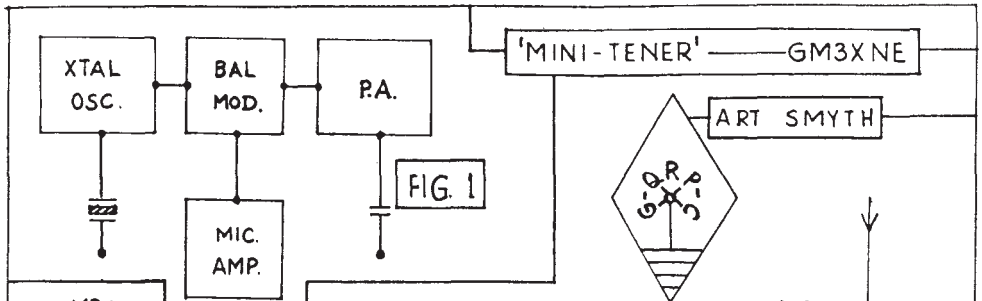


FIG. 1

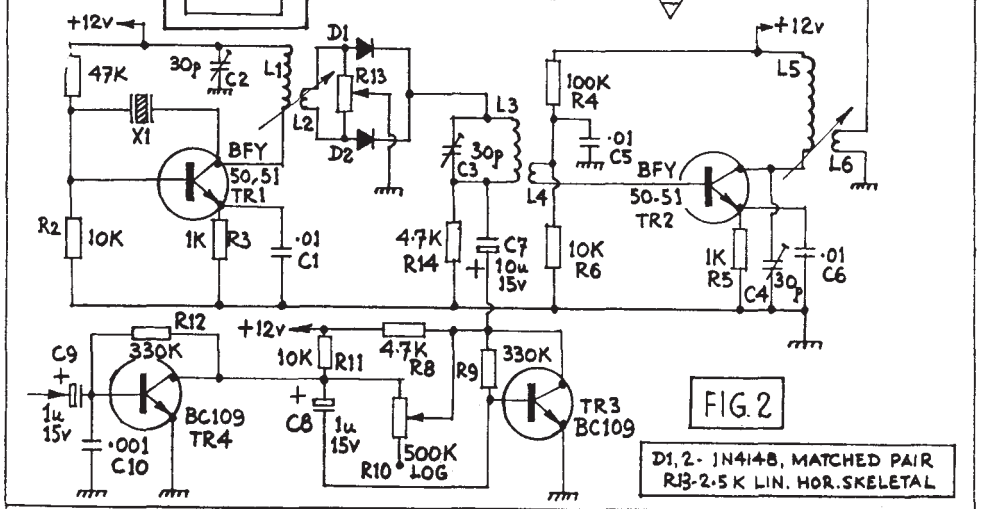


FIG. 2

D1, 2- 1N4148, MATCHED PAIR
R3-2.5 K LIN. HOR. SKELETAL

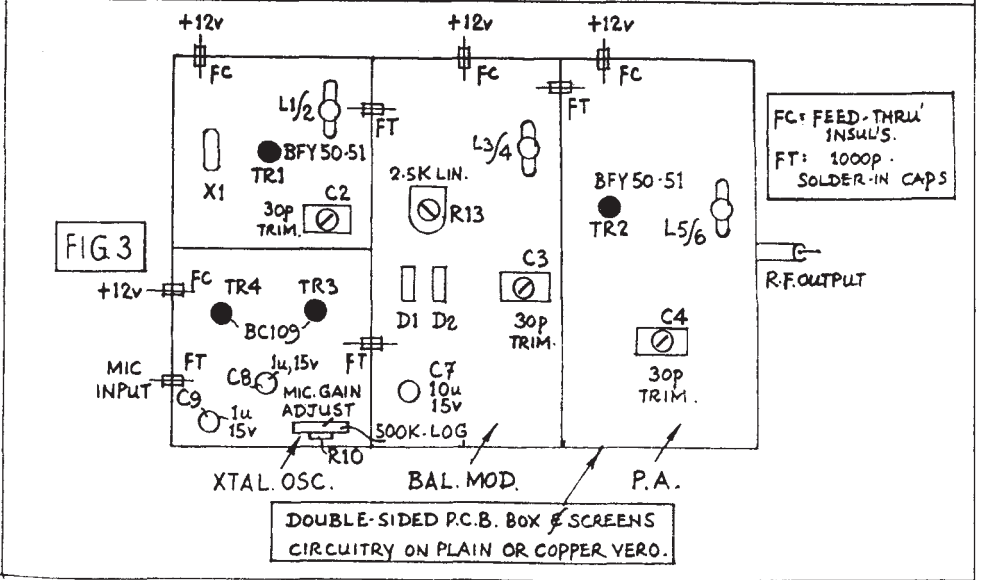


FIG. 3

FC: FEED-THRU INSULS.
FT: 1000p. SOLDER-IN CAPS

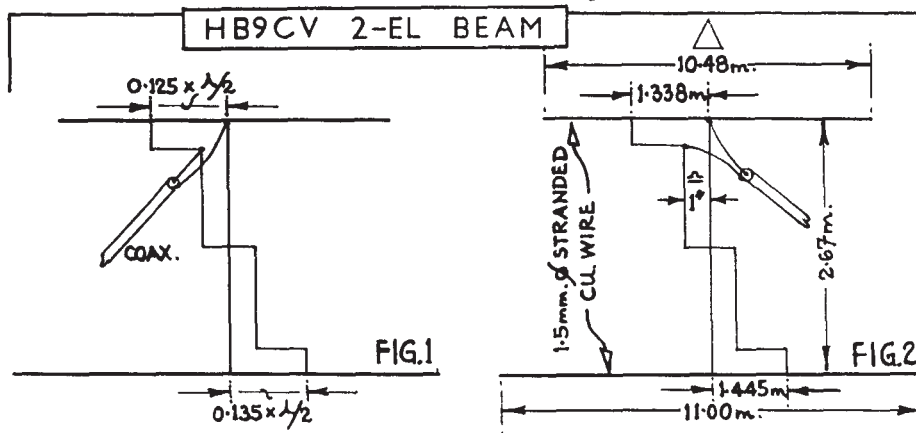
DOUBLE-SIDED P.C.B. BOX & SCREENS
CIRCUITRY ON PLAIN OR COPPER VERO.

OK1DKW

This antenna is often used on vhf, but the hf version is not so well known. Figure 1 and 2 shown versions as designed by HB9CV. These are for construction from tubing or heavy gauge wire, and they are designed to provide a compromise between maximum gain and best back-to-front ratio. At OK1DKW I needed to keep the weight down, so I used fairly light wire, and for QRP work the motto for beams must always be "never mind the back-to-front ratio, let us have the gain!". Figure 3 shows the 14 MHz version currently in use at OK1DKW. Stranded wire of approximately 1.5mm was used to provide lightness, so the length of the elements had to be slightly increased. The inter-element spacing is chosen to provide maximum forward gain. With the increased element length (approx 20 cm at each end) the swr does not exceed 1.2:1 over the whole of the 14 MHz cw band. As only a single guyed mast was available the centre of the elements was supported on it and the the ends were supported from the mast guy wires. This gives an inverted V configuration with the element ends about 1.5m lower than their centres. The support mast is located in my elevated antenna farm on the roof of an apartment block in Praha, and the centre of the array is approximately 18m above ground level. Results with this beam have been excellent, averaging 1 to 2 S-points better than my verticals and sloping VS1AA in its direction of maximum radiation. It is possible to alter the direction of maximum radiation by releasing the securing guys, walking the beam around to the new direction and re-securing it, but as this takes about an hour it is not recommended during contests!

(Now do you see what I mean about skyscraper antennas ! Ed.)

Late note; A subsequent communication from OK1DKW indicates that the length of the co-ax feeder can effect swr. A half wave long feeder works well.



Club Kicking Post....

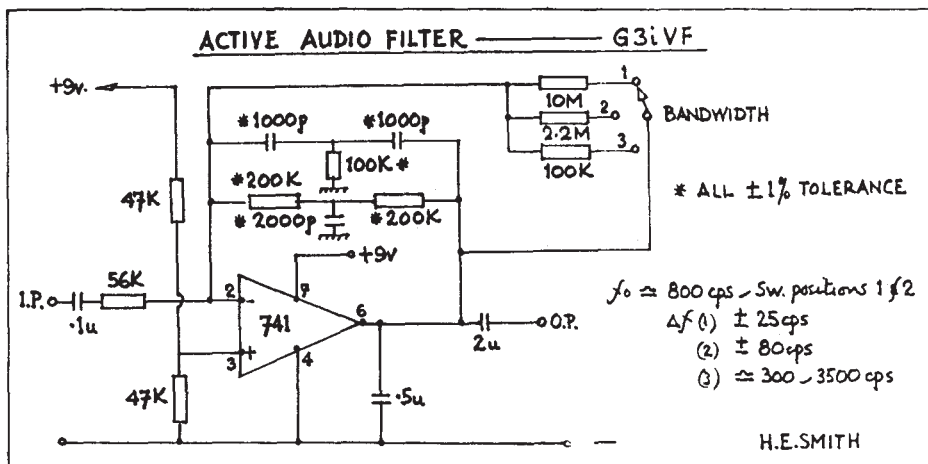
Ian Keyser, G3R00, has spent considerable time discussing ideas and problems about the ZVC board, I.C. receivers and other home brew projects. He has kindly offered to act as a 'kicking post' for members construction problems and the basis of two minds being better than one. Ian would be pleased to receive queries by post with SAE to Rosemount, Church Whitfield, Dover, Kent. or by telephone (Dover 821588)

WANTED. Adrian thanks members for their response with Command Receivers, but still requires Command Transmitter (40-80-160) G4GDR QTHR.

FOR SALE: Mizuho 7MHz TX Board, as reviewed in SPRAT 21. Built and tested and working well. £10. G4FMD Great Dunmow. (0371) 3119.

VERTICALS: No 1, THE G3ZQA TOP BAND TILTOVER

The main member of this antenna is an alloy scaffold pole 20 feet long and 2 inches in diameter. The bottom of the pole is secured to a hinged, insulated support fixed about 1 foot from the wall of our bungalow. When vertical the pole fits into an insulated clamp stood off from the wall at a height of about 8ft. Once clamped no guy wires are necessary. It is very easy to walk the pole up or down. The next item is a 6 foot long, 2 inch inside diameter plastic pipe. This is slotted for 1 foot at its base so that it will push fit over the top of the pole. A coil consisting of 370 turns of 18 swg wire is wound onto the plastic pipe, spaced over the top 5 feet of it. One end of the coil is connected to the scaffold pole and the other to a 4 foot length of half inch diameter alloy tubing which is arranged so that one end is secured in an insulated mount in the top of the plastic pipe and the other end is slotted for 6 inches. A further length of alloy tubing of suitable diameter and about 1 foot long is arranged to slide in the slot to provide fine tuning. Once the antenna is tuned it is held in place with a clamp. The antenna system is provided with 10 radials made from 7/22 copper wire dug into the ground about 3 inches. They are of various lengths and not resonant. For operational use the antenna is tuned initially to 1920 KHz, then brought down into the cw portion of the band with the aid of a variable inductor connected in series (roller-coaster or tapped coil). Sounds simple, but the DX worked so far is 3 continents with PY1 as the best.



In Case You Didn't Know...

The ARRL book SOLID STATE DESIGN FOR THE RADIO AMATEUR is probably the best current text and reference book for the QRP home constructor. I and many other club members use it constantly. In addition to complete QRP rigs, it contains design ideas for most techniques in the field. It can be obtained by post from the Short Wave Magazine for \$5 - quite a price, but it should provide its monies worth of enjoyment.

Wanted: QRP Station Photos [black-white] for use in SPRAT

NICE GOOD CONTRAST PICTURES WILL ALWAYS FIND A SPACE IN SPRAT FUTURE ISSUES....

FOR SALE: H.W.8. with I.R.T. and Calibrator. £60. G4GXU.
6 Spinney Bank, Kings Sutton, Banbury, Oxon. OX17 3RL.



MEMBERS NEWS

Chris Page G4BUE

This time we start by saying congratulations to VE5JQ, WA2JOC and OK1DKW. John, VE5JQ has been awarded the very difficult QRPP DXCC Trophy No. 17, and Bill, WA2JOC has been awarded a second trophy, this time endorsed SSB to go with his Trophy No. 10 endorsed CW. Petr, OK1DKW has sent his application for the Trophy to Ade Weiss, K8EEG after having the cards vetted by G8PG. Petr has 80 countries worked towards The Milliwat DXCC Trophy (100 countries with an output power of one watt or less).

Congratulations are also in order to Lars, SM0GMG for being awarded The WB700Q Memorial Trophy for obtaining the world high score in the QRP Section of The 1979 WPX CW Contest. Lars beat your scribe into second place, and members WA6POC, VE5JQ, OK1DKW, W9PNE, PA3ABA all received certificates for winning their respective class. Members G3DOP and OK2BMA were also listed in the results.

The new model 515 Argonaut from Ten-Tec seems to be a hit amongst our members. G4DMH, G2HKU and G4CQK have all purchased the new rig and all agree that it is first class. Malcolm, G4DMH has been using his on 7MHz SSB with a motor cycle battery for power. Albert, G4CQK worked WAC in two days on 21 and 28MHz with his and Ted, G2HKU worked VE,W,JA and PY with "no problem".

Several members are nearing the illusive 100 countries confirmed with QRP. Dave, GM4ELV has 102/89 with his Argonaut 509, and Brice, W9PNE has 105 worked. New member Jacky, F9YZ has 198 worked including WAZ and WAS. He tells me his best QRP DX is working ZL3GQ on 3.5MHz!!

The RSGB LP Contest saw many members taking part. GM3OXX had 78 QSOs including "loads of new members". G4DVW had 32 QSOs in five hours operating, and Gordon, G3DNF lost some time due to a fault in his transmitter which caused the keying relay to fail. Gordon continued with the hand key and made the same number of QSOs as last year. G8PG had 34 QSOs and OK1DKW found 14 G stations. Petr remarks that just as the contest is ending conditions to OK land are starting to improve. Everybody agreed that many new members were active and wondered where they all go between contests.

It seems as though there is plenty of QRP activity in Italy these days. Sandro, I0SKK writes to tell me that he is the QRP Manager for Italy and writes in their monthly magazine. He is QRV on 7MHz with half a watt input. Gigi, I7QBH is now QRV with a QRP rig using a 2N5109. He has worked 11 countries but is studying R exams. Members worked to date are I7CCF and ON5AG. I5WUO, appears to operate on SSB the majority of the time. Leo has worked 40 countries on the HF bands and on 144MHz QRP has worked HB,FC,IS0,YU,EA6 and 9A.

GM3XNE and G3KPT are QRP RTTY enthusiasts. Art, GM3XNE using a maximum of five watts and has WAC, except VK/ZL with his sloping dipole for 14MHz. His equipment is all home brew and he would like to hear from other members interested in QRP RTTY. Gerry, G3KPT used a modified HW8 for his RTTY and has just been awarded The Clubs Countries Award, endorsed RTTY. He has WAC except for Asia.

G8PG had some good and bad news in the same day recently. The ZL that Gus worked reported in the Spring edition turned out to be a phoney, and Gus still needs that last continent for WAC. The good news was that in the next letter he opened he learnt he had been awarded QRP Masters Award No. 4.

There seems to have been very little activity during the Clubs SSB Activity Week-end over 10/11 May. Two reports have been received from G4LMI and I5WUO. Malcolm said he worked GI4GNT and a three-way with G3NEJ and your scribe on 7MHz, whilst Leo did not work any members but said he heard a QRP station calling I7CCF on the HF bands. Unless there are any strong comments from members it is proposed not to

hold a SSB Activity Week-end in 1981.

The Mizuho kits described by George, G3RJV in the Winter 1979 Sprat have been tried on 21MHz by two members. G4HZC has worked into W and VE with a dipole in his roof space and G4GIU has worked the east coast of USA with a long wire. Mike's QTH is The Royal Shrewsbury Hospital and he says the other end of his antenna is attached to a friendly nurse's bed through her window, (that's his story anyway)!!!

The results of the AGCW Winter QRP Tests have been received and the Club is very well represented with the first six places of the main QRP Class going to members, G4BUE, GM30XX/A, G3BNF, I7CCF, WB2RZU and G8PG. Other members listed (in order) were OK1DKW, DL7DO/P, OK2BMA, SM7BNG, G4ETJ, PA3ABA, PA0YF, and DK9FN. In the 10 watt class members were listed in order - PA0GG, VE5JQ, SM0FSM, and LJ5QK. Well done to you all The Summer QRP Test is over week-end 19/20 July and the same rules apply. Members are reminded of the second Club CW Activity Week-end on 2/3 August. Bands and time (GMT) as follows:- 0900-1000 on 14060: 1000-1100 on 21060: 1100-1200 on 7030: 1200-1300 on 28060: 1300-1400 on 14060: 1400-1500 on 3560: 1500-1600 on 7030: 1600-1730 on 28060: 1730-2000 on 21060: 2000-2100 on 3560 and 2100-2300 on 14060.

Our scribe, GM30XX and G3RJV are planning to meet at The Upton Rally in Worcester on 13 July. We will be very pleased to meet other members who intend going.

7MHz is not a band usually associated with DX by QRPers, but read the DX worked by GM4ELV: W1-W0, VE1-VE8, VKs, VK9, ZLs, ZP, 8P6 and OY. I am hoping Dave will tell us something about his antenna. Another member who likes 7MHz is W9JKF who runs an Argonaut. In February he heard members G3RFE and G3PZP in QSO, but was unable to break in. He will continue to monitor 7030. G3R00 is another member who likes to work his DX on the LF bands. Recently Ian was on 3.5MHz SSB when he received a 53 report from VO1FG, whilst using 1 watt output and the rhombiquad antenna described on page 10 of the last issue of Sprat.

G4AYS has been trying out a homebrew solar charging system. Albert uses Ferranti 36-MST7 cells which charge a motor cycle battery between 10 and 170mA. CT4CH says his absence from the bands is due to a two month trip away from Portugal, but should be QRV again in July. G4ETJ is now up to 60/48 countries with his HW8 and vertical, including UA0, JA, OX and JY. Reg has also been working some /MM stations. SM0FSM has been QRV with QRP since May 1978 and now uses an Argonaut. 81/55 is the country score to date including VP2A, CT2, VP2M and PP0 in pile ups as causing the biggest thrills with Per. He has also worked 45 States towards WAS. G8PG is now 84/76, recent additions being TA and UG6 which has given Gus all USSR prefixes. G3RJV is trying the new five band vertical from S. Midlands and despite a 40 minute QSO at 589 with a W8 is still not convinced whether it works well! OK1DKW is looking for more members to add to his 64 worked. Petr has recently been awarded QRPP WAS - 30 States sticker. G3YCC uses a four watt broadband PA (from the data sheet) on 3.5MHz CW to a trap dipole at 30 feet. This has given Frank 15 countries including USSR stations.

Those of you who would like to QSO with Sri Lanka on two-way QRP, listen for 'S7KG. In a recent QSO with GM30XX the 4S7 station told George that he was running 10 watts and was shortly to build a two watt rig. Congratulations to SWL Alex Young (member 146) who has just passed the RAE and is now plugging away at the CW. F6FZL is another member who uses the Argonaut, and during his first month with it, John worked 33 countries including VK and JA all on CW. Another John, K0UBA also uses an Argonaut which feeds a 14AVQ. This combination has given John the QRPP WAS Certificate and 16 States on two-way QRP.

Bill, WA2JOC comments on the use of lists, nets, "listen for my friend on QRP" type of operation and asks should it count for country score purposes. Well what do members think? I will stick my neck out and suggest that there is nothing wrong with nets or lists provided QRP was used for the initial check in, i.e. the QSO was made with only QRP, but reducing power from QRO or someone else asking the LA stations to listen for you is out. I don't like lists but am afraid they are here to stay.

This month's funny story from Ted, G2HKU who was working PY8ZLC on CW. Suddenly the PY station had to QRT as a hornet had stung him on his keying hand!! Let me know how your Summer goes and anything else of interest. News to reach me please by the end of August.

Best 73 and good QRP Lixing,

Chris Page - G4RUE

Club Changes

QTH CHANGES:

- 047 Dave Powell, F6GLP, 146 Les Jardins de Nanbours, Auzielle, 31650 ST.ORENS DE GAMEVILLE. France.
- 344 WA2JOC, 352 Crampton Dr. Monroe, Michigan. 48161. USA.
- 420 A.C. Courtney, 11d. Lakeside Ave, Exeter. Devon. EX2 7BL.
- 475 Bill Robinson, c/o The British Council, PO Box 345, SAFAT. KUWAIT.
- 507 GM4FQE, c/o Admin Office, Dept Physical Sciences, University of St. Andrews, North Haugh. St. Andrews. Fife.
- 513 WBØWGS, PO Box 25, Minden, Iowa 51553. USA.
- 540 G4EYA, Flat 4, 69 Albemarle Rd. Beckenham. Kent.
- 625 G8UQY, 17 Walmsley St. Rishton. Nr. Blackburn. Lancs.
- 735 G. McKay, 33 Woodyett, Woodyett Farm, Denny. FK66 BU. Stirlingshire.
- 769 WD5BUG, Boles Box 3717, Alamogordo, NM. 88310. USA.
- 121 G8IGZ, 12 Mendip Rd. Weston-Super-Mare, Avon. BS24 7AF

Note: DL AGCW QRP Contest JULY 19/20th 1980
RULES AND TIMES AS PER USUAL - LETS KEEP UP THE CLUB GOOD RECORD AGAIN !

NEW CALLS:

- 047 Dave Powell is now F6GLP and retains G3ZXX and C31DV
DAVE HOPES TO BE RUNNING C31DV AGAIN THIS JULY.
- 585 is now GM4JMU
- 625 is now G8UQY

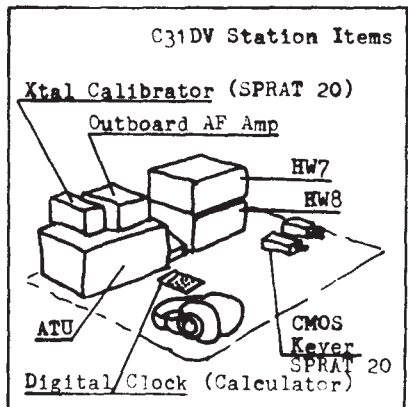
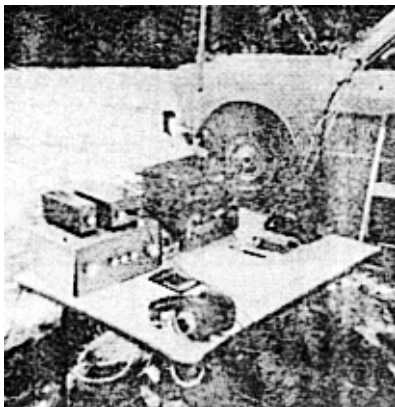
CALLSIGN LIST CORRECTIONS:

AI2J should be AI2H, G3FUH and I7QBH were missing.

RESIGNATIONS:

502 G3ILO has resigned membership.

C31DV (member 047) in Andorra last summer. See above lists.



NEW MEMBERS

- 772 W3QF John Muller, 10204 Greenfield Street, Kensington MD 20795 USA.
- 773 G3JAD Julian Drury, 24 Mollison Road, Hull, N.Humberside, HU4 7HB.
- 774 GI3GTR Roy McKinty, 3 Rhanbuoy Park, Seahill, Craigavad, Co.Down, N.I.
- 775 Chris Henderson, 76c The Avenue, Beckenham, Kent, BR3 2ES.
- 776 WA3FNK Tom Rhodes, 29 West Church St., Williamsport, Maryland 21795, USA.
- 777 WD0EAO Jon Presley, Route 3 Lebanon, Missouri, 65536, USA.
- 778 K0TBB Stan McKean, Box 15201, Kansas City, Missouri 64106, USA.
- 779 KA0EGJ Adrian "Kit" Larsen, R.R.1, Box 45, Hinton, Iowa 51024, USA.
- 780 G3VMU Colin Davis, 12 High Street, Wollaston, Wellingborough, Northant NN979Q.
- 781 G8UED William Harris, Mendip Lodge, Hornblotton, Shepton Mallet, Somerset, BA462P
- 782 G4GRR Dr. George Searle, The Mathom House, 148B Buckskil Lane, Basingstoke, Hants, RG22 5AR.
- 783 WD4HTN Gary Hall, 190 Severt Street, Marion, VA 24354, USA.
- 784 G4JDF Peter Scovell, 17 Petrebrook, Chelmer, Village, Chelmsford, Essex.
- 785 G.L.Downing, 9 Norton's Way, Five Oak Green, Nr. Tonbridge, Kent.
- 786 G4INM Tom Frankland, 131 Rutland Rd., Chelmsford, Essex.
- 787 G4AJV Geoffrey Pople, 12 Almond Walk, Holbeck, Barrow-in-Furness, Cumbria.
- 788 G4HOR Nigel Freer, 88 Danford Lane, Solihull, W.Midlands, B91
- 789 G4IKR David Boase, 10 Forth-an-Ryn, Redruth, Cornwall, TR15 2JT.
- 790 WB9WIC Lawrence Schulman, 1014 Dell Road, Northbrook, Illinois 60062, USA.
- 791 Julian Jablin, 9124 N. Crawford Ave., Skokie, IL 60076.
- 792 Trevor MacDiarmid Artingstoll, 14 Barn Street, Haverford West, Dyfed.
- 793 G4IWC B. Catterall, Sec. Chiltern Amateur Radio Club, 78 Fairacres, Prestwood, Gt. Missenden, Bucks.
- 794 Kevin Philp, Garden Cottage, 26 Caroline Row, Ventonleague, Hayle, Cornwall.
- 795 G4GFK Robert Morris, 73 Ingoldsby Road, Northfield, Birmingham.
- 796 J.Cotterell, 28 Bankdale, Alum Rock, Birmingham 8.
- 797 F9YZ Jacques Cartier, 3 Rue Voltair, 33700 Merignac, France.
- 798 GI4GNT Joe Taggart, 4 Caman Park, Ballykelly, Limavady, Co.Derry, N.I.
- 799 DL7MAM Harbert Hanrieder, Valpichlerstrasse 78, 8000 Munchen 21, Germany
- 800 G4HEM A.Lawance, 60 Loggon Road, Basingstoke, Hants.
- 801 G4GVH Cyril Oliver, 13 North Road, Kingsworthy, Winchester, SO23 7NZ
- 802 KA2ETN David Hancock, 11 Pine Str., Hackensack, N.J. 07601, USA.
- 803 WB0WCH Crvall Sherwood, R.R.1, Hamilton, Iowa 50116, USA.
- 804 EA5ME Arturo Andreu, C/Ceuta 12, Edificio Sonido 3º D, Murcia, Spain.
- 805 G4JKO Kevin Ruffley, 9 George Avenue, Marton, Blackpool, Lancs.
- 806 GM4JNF William Watson, 108 Albert Road, Gourrock, Inverclyde, Scotland.
- 807 G4CSM Donald Chaplin, 134 Upper Richmond Rd.West, East Sheen, London SW14 3DS
- 808 G4IUP R.Limbert, 1 Westleigh Drive, Baildon, Shipley, W.Yorks.
- 809 KA5ELD KenKetner, 4408 62 St., Lubbock, Tx. 79414, USA.
- 810 ORS42796 Vince Hlavac, Box 5255, Station "B" B, Victoria, B.C., V8R 6N4, Canada.
- 811 G3NKS D.Thom, 37 Whittington Rd., Cheltenham, Glos, GL51 6DB.

812 C. Austin, 34 Roise Court, Bedford, MK40 1JJ.
 813 N8BF Larry Drinkard, 3280 Genoa, Clarkston, Mich. 48016, USA.
 814 G8UXH 62 Peel Road, South Woodford, London E.18.
 815 KA4NRM Tristram Milne, 228 Liberty Street, Vero Beach, Florida 32960, USA.
 816 G3HDL Dr. Sydney Kelly, Threlkeld House, 159 The Green, Ecclestone, Near Chorley, Lancashire, PR7 5SA.
 817 I3MDU Michele Del Pup, Castello 1005, 30122 Venesia, Italia.
 818 AF3S Edward Hall, Rd 1 Box 295, Oxford, N.J. 07863, USA.
 819 W5QJM Fred Bonavita, PO Box 12072, Capital Station, Austin, Tx.78711 USA.
 820 VE7DZR Garry Cameron, 3528 11th Ave., Port Alberni B.C., Canada.
 821 K9PNG James Jones, 615 N.Benton St., Palatine, Ill., 60067, US
 822 VE2EZI Claude O'Neill, 1560 Ave., Duverger, Sillery, Quebec, Canada.
 823 G8UAT Harry Wooding, 4 Kelsall Rd., Off Councillor Lane, Cheadle, Cheshire.
 824 WØON Roy Stanley, 2212 Sherwood Drive, Cape Guerdeau, Mo. 63701, USA.
 825 G4ILU D.Bell, 27 Inwood Court, Rochester Sq., London, NW1.
 826 G4BHO 174 Rushby Place, Letchworth, Herts. SG6 1SH.
 827 G3XSK Joe Phillips, "Smaston", Wintermay Lane, Ilminster, Somerset.
 828 G3KTX Jack Tomlinson, 88 Linby Rd., Hucknell, Nottingham.
 829 VE3KTZ Wally Byer, La Salette, Ontario Canada, NOE 1HO.
 830 BR541666 David Marsden, 67 Fourth Avenue, Carston, Watford, Herts.
 831 K1EQA/6 Jay Jones, 917 Helena Circle, Costa Mesa, California 92626, USA
 832 VK3NQQ Margaret Iaquinto }
 833 VK3VEU Lou Iaquinto } Box 87 Bentleigh 3204, Australia.

Please notify changes to G3RJV - Quoting your number