

**Chairman:** Nigel Hancocks G4XTF • **Treasurer:** Rodney Archard M0JLA • **Secretary:** Duncan James M00TG  
**Committee:** Derek Gillett G3WAG; Dave Porter G4OYX; Bob Bowden G3IXZ; Richard Langford G4FAD;  
Dave Harris M0RNI; Mike Bush G3LZM; Tim Bridgland-Taylor G0JWJ; Geoff Wilkerson G8BPN

## Editorial

Once in a while a story appears that transcends time for the older readers and which must surely provide a fascinating read for younger people too. "Amateur Radio Training in the late 1960's" by Dave G4OYX and John G4DXY, is just such a missive. Read how amateur radio as we now know it, was born

out of the endeavours of enduring lawless radio enthusiasts.....a splendid read.

It has been confirmed that our Steve, G1YBB has won the RSGB back-packers contest. Read Steve's account by going to <http://g1ybb.uk/rsgb-4th-144mhz-backpackers-contest-2016/>

*Looking forward to your forthcoming talk Steve! ...Ed*

## A QRP Rig at VQRP Price!

On the 7<sup>th</sup> Sept our Chairman, Nigel, introduced to the club members, the PIXIE transceiver. This is available as a self-build kit of parts from China which is obtainable just about everywhere on the Internet. So what!..... you might say; well, the price is around £3.50 including carriage!!

With a pcb which is about the size of a coffee coaster, it is a 7MHz xtal-controlled, single frequency (nominal 7023KHz) rig which has an RF output of 0.8W when connected to 9V PP3 battery and 1.2W when connected to a 12V PSU. It is CW only and there is no side-tone though, but members overcame

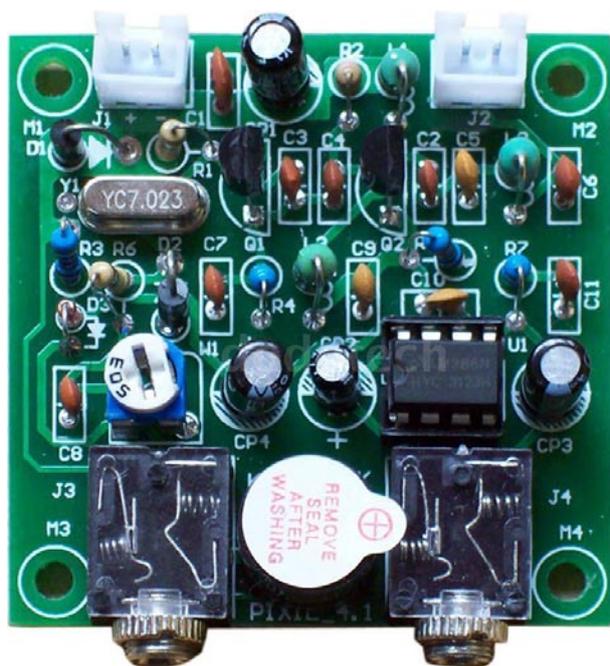
this by using an adjacent receiver with the IF gain turned down. Bob, G3IXZ, showed how by using a simple Xtal changeover switch on his unit, he could easily shift frequency to 7030KHz, the recognised QRP calling frequency.

Derek, G4WAG, said that within minutes of switching on the Pixie he easily worked PA0 at 599.

The output circuit is given as an unbalanced 50 ohm. This would connect into a coaxial fed dipole or an end-fed arrangement using a matching balun perhaps.

There are some 35 components to be mounted onto the circuit board and members reported no difficulty whatsoever in reading the pigeon instructions and carrying out the assembly.

*(Thanks Mr Chairman, a great stocking filler! ...Ed)*



# Amateur Television

This has to be one of the most singularly interesting branches of our hobby. Amateur television is well known of course but if you are interested, how do you get going without too much effort and related expense?

Some of ATV is still analogue. But, now in this modern age digital ATV (DATV) is the norm and as such streaming of colour content occupies much, much less, bandwidth.

L-band (23cms) is the popular ATV frequency of choice. GB3ZZ is the nearest repeater to Hereford being based at Filton, North Bristol – IO81RM for antenna aiming. This repeater is operated by the Severnside TV Group and receives digital TV on 1249MHz and transmits on 1316MHz. It is active 24 hours a day, seven days a week and transmits a test card when not in use.

## So how can I receive GB3ZZ?

A normal satellite TV receiver box will do the trick because it will tune across 850–2150MHz. This is L-band and is the IF which the down-link satellite signals are converted to by the LNB device situated on the sat' dish in a normal household TV setup. Note, a Sky box will not do. The antenna would be a multi-element yagi with a mast-head amplifier such as the VLNA (Very Low Noise Amplifier) designed and produced by G4DDK. This needs to go into a waterproof metal case.

If you are going to transmit to the repeater, or to another club member, then a T/R switch will be needed to turn off the VLNA and take it out of circuit. For the transmitter, look no further than the excellent DTXI TV transmitter/modulator available from the BATC shop at



23cms repeater map available on [ukrepeater.net](http://ukrepeater.net) or [BATC](http://BATC) site.

£465. This unit has everything and in a basic setup no PC is needed. The output is 1W so a linear booster would be a likely requirement.

There is now the opportunity to be positively creative! You may start by designing your own station test card with your own call sign and then venture into films perhaps. For example, some amateurs are rail enthusiasts first and radio amateurs second, producing some fine hobbyist material.

It is worth pondering upon how Hereford shows up on the ATV repeater map. There is a large swathe of un-served zonal area centred on our Hereford location with the Bristol repeater being the nearest. If club interest prevails, then perhaps a start-up consisting of a beacon and test card might be the order for the day?

*Tadpole*

*Two antennas met on a Hereford rooftop. They were compatible and after a short QSO they fell in love with each other. After many "88's" they got married. The ceremony was nothing special but the reception was excellent with a great band performance. They were a perfect match for each other and they soon generated harmonics which grew and grew as their love for each other became evermore powerful.*

*Guy Roper* 😊

# The John Masefield High School Soud

Introducing Ryan Ing. Ryan, an 18 year old pupil at The John Masefield High School Ledbury, had been working since February developing a balloon project for his EPQ (part A-level) qualification. Our club first heard about this project when he approached us asking for any assistance we might be able to offer. We subsequently supplied a 15 element 70cms Yagi to help with tracking.



*Ryan as cool as can be*

The balloon chosen was essentially a meteorological type which is filled with helium. It was designed to float to 100,000 feet, and expand, before popping and parachuting back to earth. The on-board payload reported back the position, height,

temperature, humidity and pictures from two cameras, one being slow scan for better quality.

On the morning of the 15<sup>th</sup> of Sept I had the pleasure of being present at the school sports field and meeting up with Ryan. He had all of the ground monitoring equipment set up and at 1010 hours he set about inflating the balloon. The gossamer white dirigible took on the shape of a parsnip and after a few minutes or so, took the shape of an inverted onion. Then at 1030 hours the balloon was released



*Moments before release*

when the calculated hold-back load was disconnected.

The flight particulars were recorded and passed by the CAA and a flight time of 150 minutes was scheduled. Ryan had calculated that with the presently fine conditions, a landing would be somewhere near Weobley but it turned out to be close to Presteigne. Actually it landed not far from our Hon Sec's house and Duncan, although hitherto not involved, had followed its trajectory on his PC and took off on his bike to retrieve it. He found it strung-up on a holly bush and stood by waiting for a while for Ryan and team to turn up before taking it to his QTH. Eventually the Yagi toting "pathfinders" knocked on Duncan's door to claim their quarry and cups of tea. A most satisfactory outcome.

All of Ryan's school colleagues and teachers were assembled at the launch and together they counted down...5,4,3,2,1 go! It was a real pleasure to report on this and for sure, this young man has a great future ahead. We all wish him well.

*Ed.*



*Padded payload box*



*View from the other side of the cloud base*

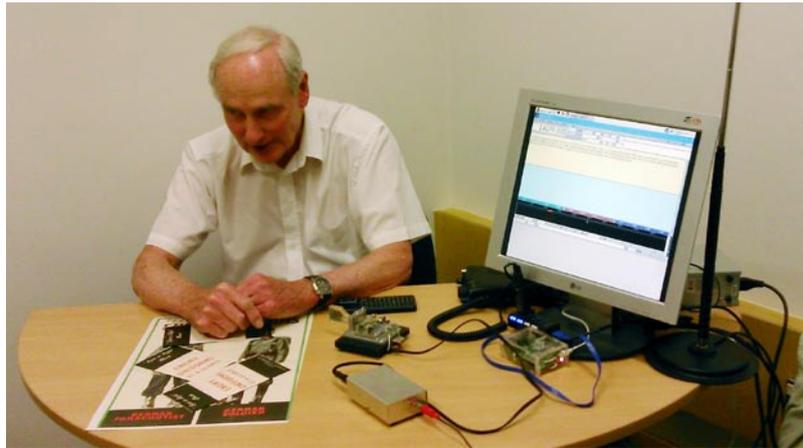
## HARS at the Royal Ordnance Factory Heritage Project – 13<sup>th</sup> August 2016

Towards the end of July, the Herefordshire Aero Club (HAC) at Shobdon was approached by Angela Williams, the project officer of the above. She was keen to see a demonstration of the Morse communications methods commonly in use during the Great War 1914–18. HAC drew a blank until someone remembered that I had connections in telecoms matters and asked me if I could take it on board? After a natter with the other HARS committee members, we decided that it could be a good event to get some publicity for the club while fulfilling the request Angela had made.

Accordingly, we collected some gear together including various morse keys, tone keyers and also a neat little radio comms demonstration assembled by our Chairman Nigel to add authenticity to the proceedings. Nigel's arrangement consisted of a Pixie Tx/Rx and a FT817 receiver which provided a live radio link across the small room we were allocated for the day. To add some real "icing", Nigel added a morse decoder using a tablet PC and a suitable morse decode program.

The idea, which worked well on the day, was to get visitors to try their hand at sending morse, which Rich G4FAD charmed them into taking on, while yours truly, provided a mental decode of the characters sent – which were pretty rough and ready as far as character accuracy was concerned but readable in most cases. The sender's name was usually the test piece and I had to let them know it was "readable" by calling them by their name immediately afterwards!

It seemed to work well and Nigel (who thinks of everything) provided a certificate of



*Bob G3IXZ*



*Duncan M00TG and Richard G4FAD*

competence to the younger members of the public we "tested".

It was a cheery, fun day and a good way to gently let the visitors know that morse is not only "not-dead" but is very much alive and used by hundreds of thousands of radio amateurs world-wide. Post event feedback, from Angela was that everyone who came to our room enjoyed the time with us and they were all pleasantly surprised by the informative way we put the subject across. I suspect we have not heard the last from the Records Office if they should wish to put on a similar event again in future.

My thanks to Richard, G4FAD, Nigel G4XTF, Duncan M00TG, and Dave, G4OYX, who joined with me to make the day possible.

73

Bob G3IXZ

*(Thanks Bob and All... Ed)*

# Amateur Radio Training in the late 1960's

By Dave Porter G4OYX with John Spendlove G4DXY/EI4IM

The present day situation in the UK of working through the three levels of training, Foundation, Intermediate and Advanced for an amateur radio licence contrasts sharply with that some 50 years ago when an application to the General Post Office resulted in the receipt of a hefty enclosure of close-typed foolscap sheets detailing the syllabus and Radio Regulations and of course for an HF licence, tested proficiency at Morse at 12 wpm was a requirement!

No doubt, to many of all ages, but particularly to those of teenage years, it was a step too far and a good proportion of prospective, would-be radio amateurs would fall at this first hurdle.

## The offshore effect

During the mid-60s up to the closedown of the majority of the offshore stations by August 1967 and then finally the two Radio Caroline ships on the 3<sup>rd</sup> March 1968; the appeal was to fundamentally a younger audience including technically interested, usually male, teenagers.



The author, G4OYX must confess now to being one of these and in fact was happy to admit that he wondered how all this engineering happened on the ships and forts. During those formative early teenage years the electronics and radio hobby bug had bitten starting with a Philips Electronic Engineer EE8 Kit in 1965 followed by the add-on A20 Kit which allowed twenty projects to be built including a three transistor TRF tuner that covered medium wave and in addition up to 2 MHz by judicious adjustment of the ferrite rod within the coil. Here of course, were found the local Nottinghamshire amateurs around Sutton-in-Ashfield and Mansfield, QSO-ing in

AM. This coupled with copies both current and older of Practical Wireless, PW and The Radio Constructor added to the author's knowledge. There were even a few copies of my father's Wireless Worlds from the early 60's and a two tome edition of the Admiralty Handbook.

## "Local" broadcasting

It was after the closedown of the offshore stations that one would tune the MF dial on a weekend afternoon hoping to hear something of interest other than the completely uncopyable sound of the then brand-new BBC Radio 1 due to the fact that RF remnants of Moorside Edge, Brookmans Park and Droitwich were all fighting it out with both RF and modulation phase distortion on the co-channel of 247 m, 1214 kHz in the Leen (Notts) and Amber (Derbys) Valleys.

On one such Sunday afternoon in April 1968 the author was rewarded with a fayre of pop music on an announced 213 metres, 1408 kHz with a strong signal. This was coming from "Radio Atlantis South" and their theme tune was The Shadows 1963 hit "Atlantis". There were all-male DJ's with Derbyshire accents and they were playing requests and announcing a mailing address. Technically, it's fair to say it wasn't absolute broadcast quality but nevertheless it was enjoyable. The transmission lasted for another couple or three hours and then closed down. And of course, impressionable young enthusiasts would want to know how this was being done and from where it was coming!

Before too long other stations, for example Radio Pamela (theme tune - Pamela, Pamela by Wayne Fontana and The Mindbenders) were heard playing both pop music and then sometimes going into QSO-mode with others on MF after a pop session where technical queries, discussion and reports would be aired. It was noted around lunchtimes on Sunday that there was a group, one would now say, a net of stations, all on around 200 m, 1500 kHz with call signs suffixed Alpha and preceded by a number for example Five Alpha, Sixteen Alpha and with what appeared to be The Controller, One Alpha. This sounded quite

official to a sixteen-year-old! This was a strictly QSO-mode operation and there was no music. Technicalities were discussed including the equipment in use and reception reports. There were also various spine-chilling sounding announcements of the Alpha Stations ruling the æther!

### The road to transmission

For the author the Philips EE kit was the first receiver, save for a crystal set where the antenna was the downlead of the TV antenna and the earth the centre-pin of the BS1363/A mains socket; this did limit reception to The Third Programme, Daventry on 647 kHz, the Northern Home Service from Moorside Edge on 692 kHz with maybe a weak Midland Home Service on 1088 kHz from Droitwich. Progression was made to a 2 valve TRF (6BR7, ECC81) with F G Rayer's *Beginners' 5-Band Receiver* with plug-in, Denco green B9A coils presented as a blueprint and article in PW<sup>1</sup>. A 120' end-fed long wire antenna down the garden was a help.

By the beginning of 1968 it was the Codar CR-70A superhet, which in barefoot form suffered an image nightmare above 15 MHz, however rapid acquisition of the valved PR-30 tuneable pre-selector with the EF184 aided a great deal in that regard. This, coupled with low noise reception conditions and a fairly active sunspot count, enabled good DX and much receiving experience to be gained. Roaming above Top-Band yet another QSO zone was discovered, going by the name of *Two Megacycles*.

For often late at night there were many stations in QSO including 9 Alpha, 14 Alpha, 16 Alpha, Secret Monitoring 3, Mike Bravo 1, Golf Bravo 1, Kovo Control and PRS-1. The equipment in use was often discussed and it was now that the author heard for the first time that something called *19 Sets* were in use. Reference was made to PW and WW to discover what these were. SM3 was using a slightly modified Codar AT5 to get HF of 2 MHz.



A 19 Set

### The vintage magazines

Those vintage copies of PW came in handy now as there were some good transmitter circuits within including a two transistor design by David Gibson, G3JDG with a BFY51 CO and a BFY51 PA giving about 300 mW around Top-Band and what proved later to be the absolute classic design of the pirate era; the one entitled *A Simple Two-Band Phone Transmitter* by F G Rayer, G3OGR in PW for December 1965<sup>2</sup>. This used a 6J5 (carbon mic) speech amp into a 6L6G choke modulator for the PA which was an 807 as a CO. Full instructions were given including a PSU circuit so for a novice this was an easy-build 8 - 10 W transmitter.

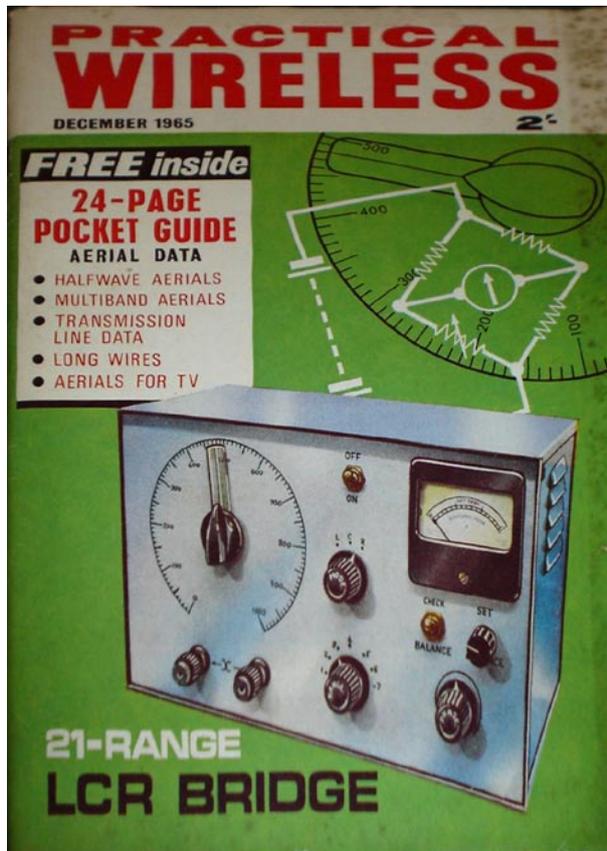
The parts were slowly procured and to save a chassis, literally a bread-board version was built on a section of scrap block-board with copper pins and raised valveholders. The sympathetic owner of a TV repair shop (Mr Fisher of Fisher's, Huthwaite) donated a 350 V PSU with a 5Z4 rectifier and swinging choke output.

An ECC83 in lieu of the 6J5 on the modified AF front end meant an *Acos Mic 45* crystal mic could be used and Henry's Radio in London supplied a 10X 2.009 MHz crystal. After working out how to effect an antenna changeover switch and that the  $\Pi$  network on the TX would indeed tune straight into the long wire: Secret Monitoring 4, SM4 was on the air on the 2 MHz net! Because the operating procedures had been monitored for a while previously it was almost second-nature. The other ops made newcomers welcome and face-to-face meetings were set up over the air along the lines of *I'll be in front of the (closed) Great Central Railway station in Hucknall<sup>3</sup> at 2 pm on Saturday and I'll be wearing a red jumper.*

Now of course it was possible to put faces to callsigns and to explore the possibilities of further experimentation. Not surprisingly, the then fairly recent loss of the offshore pirates featured heavily and proposals were made to offer a *replacement service* albeit on a restricted timescale of broadcasts.

### Broadcasting music

The F G Rayer transmitter design was one of the mainstays of this activity and its operation



*Practical Wireless, December 1965*

was greatly assisted by the readily available GEC Oldham-manufactured ex-Admiralty 10X crystals on a good few channels ranging from 1190.5 kHz and upwards to just over 1600 kHz. These were for sale for 5/- each at a Gov't surplus radio shop in Eastwood, Derbys. It was called P and H Electronics and was run by Noel Pratt, G3RTO and Roy Harrod, G3RWN.

A 10X for 1358 kHz, 220 m was available and was an exact channel on the Copenhagen plan so no terribly nasty heterodynes were apparent from stations on the Continent if used in winter afternoons. This was better than the 1190.5 kHz channel that after-dark was plagued by a 5.5 kHz het from the VoA relay station in Munich on 1196 kHz. It should be added that 1190.5 kHz was very good for use in daylight as it was only some 24 kHz from BBC Radio 1 and those tuning to R1 would possibly stumble on to this frequency.

It was now that the author met fellow contributor, NCB electrician, John Spendlove from Somercotes and discovered his alter egos were as 16 Alpha and Radio Pamela. He had been using another CO design, from the Novice pages of the ARRL handbook where a beefy pentode or beam tetrode 6L6/807/KT66 or even a KT88/TT21 could be elegantly

modulated by audio injection *via* a modulation transformer in the cathode. The transformer of choice was as used in the then many hosiery factories locally, presumably to drive the sewing machines and was a 415 VAC input unit with a 12 VAC secondary. It appeared to be about 75 VA rating and was neatly cased in pressed steel covers having a black or green crackle paint finish with terminations in a pair of substantial Grelco™ bakelite blocks. Low impedance audio from a power amplifier was put on the 12 VAC winding and the 415 VAC winding was in cathode to chassis resulting in cathode modulation. A Linear™ brand audio amplifier with pushpull EL33's in the output was a good choice as modulator.

### More discoveries

It was realised by the author that there was much more to this broadcast lark than there was to QSO-ing and the record decks with the high impedance crystal cartridges couldn't just be switched into circuit by slide switches and the microphone switched off and on by the same means, some type of *audio mixer* was required. The only available unit; that is one which could be afforded, was the Eagle MM4 at 49/6d. This had four channels, a single 2SB56 Ge transistor, a 9 V PP3 battery and was for 50 k. dynamic microphones. For the designated service here the Xtal mic went in at full level on the controls but the decks and jingle tape-recorder were well turned down with what of course we know now to be a poor match, as all sources were looking for > 1 M. rather than the 50 kΩ.

It is interesting to speculate just as to why there appeared to be so much activity in the Leen and Amber Valleys but this piece from John, G4DXY may give an inkling:

*As well as P and H Electronics in Eastwood there were in Nottingham quite a few shops, the names of some escape me, but Eddys on Alfreton Road was one; a good component shop was University Radio near the GCR/ GNR Victoria station and a few shops down Arkwright St. There was also an amateur radio shop in Carlton. Some gear was bought from the London shops like H L Smiths, Henry's, G W Smith and from Birmingham on Alum Rock Road, Hurst Street and Chas H Young on Corporation Street. Bandit Bills (Lowes) at Matlock also did a roaring trade. Stan Hine,*



of the time). The mailing address of Pete 1's girlfriend at 339, Derby Road, Nottingham may not have helped either! *The Nottingham Evening Telegraph* reported as follows:

**Pop pirate fined £30** *Using a record of Russ Conway playing Chopin's Polonaise as his signature tune an 18 year-old youth set up a "pirate" pop radio station in a loft over the garage of his home, Mansfield magistrates heard yesterday week.*

*Before the court was Donald Robert Wilson of Denby Drive, Mansfield. He pleaded guilty to installing a radio transmitter and using it without a licence in three separate occasions. He was fined a total of £30 and ordered to pay £5 costs. Some of his equipment valued at about £5 was confiscated. Mr R C Halse<sup>4</sup>, prosecuting for the Ministry of Posts and Telecommunications said "These pop pirates transmitting music are becoming a great nuisance to the Post Office. Wilson was using a section of the air which is quite close to the Radio 1 wavelength and might have interfered with the listening pleasure of many people".*

*When Post Office officials traced the signals to Denby Drive they found Wilson in the loft over the garage sitting at a low table, with his transmitting equipment set up before him. Asked whether he had a licence he said "You know I can't get one for what I am doing".*

This just about finished the group effort but John Spendlove was having none of it and continued both with music, (RUKI) and QSO-ing! Not surprisingly this resulted in visits from amongst others, the Derbys PO RIS official Fred Ward, G2CVV. After three of these visits and the subsequent court appearances, John was issued with not only the expected fines and confiscations but also a bar on becoming a radio amateur within a certain time scale. *The Derby Evening Telegraph* reported as follows:

**No more pop from the pirates of Somercotes** *The broadcasting days of Radio U.K. International are over. The radio broadcast pop music on Sunday afternoons and requests were directed to an address at South Normanton. But the 12 weeks of the station's transmissions are over following the removal of transmitting equipment from a house at Sleetmoor Lane, Somercotes by officials from the Post Office. A spokesman for the GPO*

*at Nottingham told "The Telegraph" today that the facts have been sent to London for the attention of the Minister of Posts and Telecommunications. The GPO officials were accompanied on their visit by the police but the owner of the equipment handed it over. Apparently it had been made from parts of old radio and TV sets.*

The press report above told only the basic story, after nearly 50 years John is pleased now to reveal the following:

*After the first raid on Sleetmoor Lane, the station was set up in a derelict house on neighbouring Birchwood Lane the following week. This house was in the middle of a long terrace.*

*After an hour of DF-ing and searching the combined East Midlands Guppo Messrs. Undy, Chandler and Ward found the station and whilst trying to gain access on the raid; the operators of the station realised and escaped through the front upstairs bedroom window. There then followed a police chase involving a Morris 1000 panda car and other officers on foot. Fortunately, the police didn't catch them.*

*However, I was later visited by the police and accused of being one of the window escapees. In point of fact this was not true as it was the first time I had heard of the raid having actually left about 30 minutes before it apparently happened! Nevertheless, I was still prosecuted even though I was not there!*

### **1970 and the HF**

With the start of the offshore station Radio Northsea International, RNI on 22<sup>nd</sup> January 1970 many enthusiasts were quickly made aware of some frequencies that were in use over and above the main MF 1610 kHz channel. These were 6210 kHz on the 48 mb and later from August 1970 9940 kHz on the 31 mb. The superb reception quality on 6210 kHz at the then sunspot maximum into the whole of the UK and the Continent was quite unbelievable and again following the voluntary closure of the station on 24<sup>th</sup> September 1970 there was a resurgence of land-based broadcasting to cover the loss. Happily for many listeners RNI did return on 14<sup>th</sup> February 1971. There will be no doubt many who recall tuning around the segment 6 – 7 MHz and hearing the 48 mb music stations between 6200

and 6450 kHz and then the AM QSO stations on Echo Charlie between 6575 and 6625 kHz.

Some of the ex-RUKI operators did inhabit the 48 mb with calls such as United Radio Europe, 6255 kHz, Tower Radio, 6240 kHz and the occasional RUKI 6200/6230 kHz transmission.

### Moving on

The author (G4OYX) had by late 1970 a position with the BBC TX Dept and so kept a fairly low (unlicensed) operating profile. No doubt because of his talent after the experiences of his RUKI programming and jingles Pete 1 (SM3) landed a presenter job with the then-new Nottingham ILR Radio Trent in 1974, with a spell later in 1983 on Radio Caroline from the Ross Revenge and is now M0WKW. Pete 2 (SM5) carried on at the Pathology Laboratory in the local hospital and joined £35-down Don Wilson in ceasing all RF and never getting a ticket. John, G4DXY eventually did get his slate wiped clean and now holds both a UK and Irish licence.

Almost all of the 2 MHz operators became licenced as G8 or G4, for example John Wright, PRS-1 as was, and then G8FZB, now G4DMF recalls the time he was on the midnight 2 MHz net and received a call from Scheveningen Radio in the Netherlands asking him to move frequency when he was in QSO with 16 Alpha!

Paul Walters, MB1 as was, now G8JGF recalls mobile set-ups with his red Morris mini-Traveller with firstly a modified 62 set, then progressing to a Codar AT5, T28 receiver and preselector with a G3TAV Tavasus whip. Other stations had mobile operations including Peter, 14 Alpha with a brilliant home-brew system on Two Megacycles in a green Vauxhall Viva HB, comprising an 807 PA with an EL34 modulator and a telephone handset mike. The antenna was again a Top-Band Tavasus whip. Peter is also licenced now.

John, G4DXY relates the tale of PO RIS official, Fred Ward G2CVV (now SK), who was Secretary of the Derby and District Amateur Radio Society for many years, when he said in the 1980's that the late 60's Derbys and Notts pirates were actually more like the old-time radio amateurs than the radio amateurs of that time because they built transmitters or modified old military gear to use rather than the Japanese *black-boxes* that were coming in then.

### So, was it really so bad?

Often in the Magistrates Courts when evidence re pirate operations was being given, reference and suggestion was made to *possible* interference, but not proven, to important safety-of-life services and the like. This would have seemed very significant to technically naïve members of The Bench when presented by RIS Officers of the PO but looking back with the full technical knowledge we have now it's fair to say that for operations on MW and 2 MHz then it was highly unlikely that this would actually have been a problem.

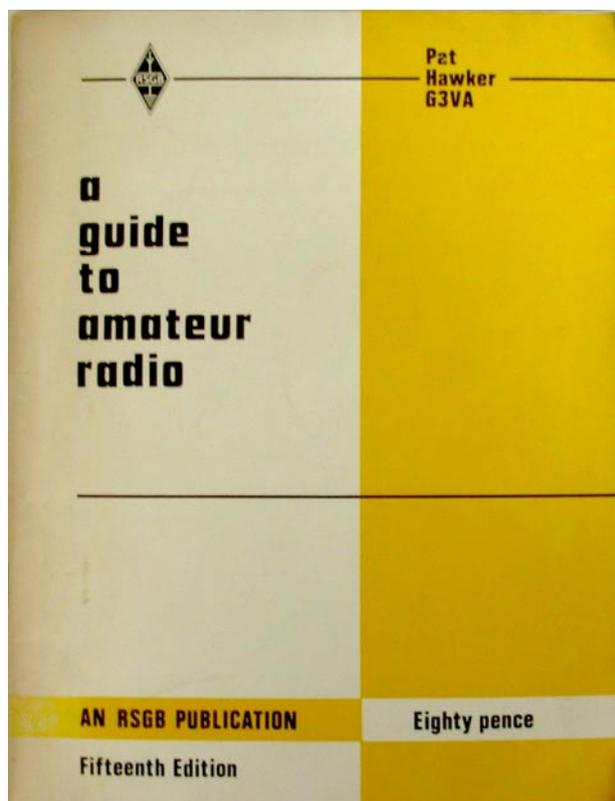
The transmitter output powers in use were often ten to twenty watts or so; maybe a few more in some cases but the most redeeming factor was that the antennas in use, mainly end-fed long wires and their associated earth systems were so poor that the actual *radiated power* was maybe only a watt or two. This was hardly going to be an issue across a town though one must concede that very *local* neighbours may have had breakthrough on record players, telephones and tape recorders.

However, for the HF pirates, particularly on 6.6 MHz Echo Charlie, using dipoles and ten to twenty watts then it must be said that possible interference was a far more serious issue. This part of the spectrum is for Aircraft Comms and there were instances reported in RadCom of such problems.

### Self-training in Wireless Telegraphy

Coming right up-to-date we have now the RSGB/RCF Foundation Licence training and it occurred to the author whilst writing this piece that most of what is detailed in the FL syllabus was what we all experienced by the *unofficial experiments* in the late 1960's particularly with regards to the operating procedures and the practicals. In the 60's the RSGB publication *How to become a Radio Amateur* by Pat Hawker, G3VA was a must-read and contained a great deal of information. However, the author would comment that there was an overbearing and recommended overconcentration of anti-squegging and anti-parasitic components in the circuit designs.

This early emphasis and exposure to doom-mongering has made the author rather over-cautious with RF designs and projects over the following 45 years and indeed the effect



*Another of Pat Hawker's books of the period.*

was only partially negated by seeing the (lack of quite so many) stoppers in commercial, for example BBC, MWT, Pye, RCA, RIZ and STC broadcast equipment.

### **Low Power Restricted Service Licences in the 1990's**

It's interesting to note that following an enacted Broadcasting Act by the Government in the very early 1990's low-power stations were authorised on both MF and VHF/FM. Permissions were given to operate for up to a continuous 28 day period up to and including, for example a Festival or University Fresher's week or for up to 28 isolated sessions in a year on, for example football match days or motor racing circuit events. On MF, radiated powers of usually (up to) 1 Watt were permitted and restrictions were in place over maximum antenna height.

The author was involved in the transmitter and antenna engineering for quite a few of these and typically a 30 W output transmitter was required into the poor antenna to achieve the permitted radiated power. The Radio Authority, later Ofcom would come and inspect the installation after of course, invoicing the organisers and operators for the not inexpensive WT licence. This reminded the author of the RUKI MF set ups and that nothing really had changed *technically* over

some 20 years. A 1 Watt licence appeared to cover a small town successfully if the TX was in the centre, with a rudimentary earth system and a very useable field strength of at least 2 - 3 mV/m would be realised at the edge of the town. Newport, population ~12,000, in Shropshire was an example of a particular *text-book* operation. One must not forget that considerable fees were also due to PRS, The Performing Right Society and to PPL, Phonographic Performance Ltd if music was part of the programme material.

### **Other operations?**

This piece has concentrated on the operations in the Leen and Amber Valleys and both contributors would be interested to hear if there were other centres-of-illicitactivity in the UK at the time? Whilst it is known that the F G Rayer design featured in many pirate transmitters made for the London area, which is not surprising due to the sheer numbers of people there, was this *local phenomenon* peculiar to the Notts and Derbys area? Maybe there were near-Top-Band AM operations but no excursions to MW? If you have a contribution or maybe a confession... please get in touch.

G4DXY and G4OYX would like to express their thanks to the numerous contributors to this article many of whom wish to remain anonymous!

They will step out of the Confessional Box now and maybe into iron shackles en route to The Tower of London!

*Thanks David and John. Will you share the same accommodation in the Tower? ...Ed*

### **References**

1. F G Rayer, G3OGR Beginners' 5-Band Receiver. *Practical Wireless*. 1966 (December) pp 566-567 and blueprint.
2. F G Rayer, G3OGR A Simple Two-Band Phone Transmitter. *Practical Wireless*. 1965 (December) pp 684-687.
3. *The London Extension and Hucknall Central Station*, [http://www.disusedstations.org.uk/h/hucknall\\_central/index.shtml](http://www.disusedstations.org.uk/h/hucknall_central/index.shtml)
4. It is understood on very good authority by G4DXY that Mr R C Halse was previously involved as a UK Government prosecutor in the post-WW2 Nuremberg War Trials.

# Summertime BBQ

On the 14<sup>th</sup> of August club members gathered together for the traditional summertime BBQ at Hill House.



A thoroughly enjoyable occasion on a beautiful summers day.



XYLs helping to prepare the sweets and puddings.

## Dear Member

Please note that the *Journal* will be issued more regularly based upon available content.

Please think about submissions/projects you might like to send in or see.

General topics and key words are listed below.

- |                  |           |                |
|------------------|-----------|----------------|
| Members projects | Events    | Training       |
| Members station  | Notices   | QRP/QRO        |
| Construction     | Help      | Illustrations  |
| Items wanted     | News      | Photographs    |
| Items for sale   | DX        | Early radio    |
| Hints and kinks  | Militaria | Restoration... |

... or anything else that you think might be of interest to HARS members. If you have an idea for a submission, but don't know how to present it, feel free to ask for advice.

Please submit anything and everything to [topix@hars.wagnet.co.uk](mailto:topix@hars.wagnet.co.uk) or talk with Mike at the Club meetings.

73s es GDX, G3LZM  
Mike Bush (Editor)

**H.A.R.S. Notebook**  
Journal of the Hereford Amateur Radio Society  
Issue No 010: May 2016  
Chairman: Nigel Hancock G4XTF • Treasurer: Rodney Archard M0JLA • Secretary: Duncan James M0OTG  
Committee: Derek Gage G3WAG, Dave Porter G4OYK, Bob Bowden G3GXZ, Richard Langford G4FAD, Dave Harris M0RPN, Mike Bush G3LZM, Tim Bridgland Taylor G0JWJ, Geoff Wilkinson G0RPN

**H.A.R.S. Notebook**  
Journal of the Hereford Amateur Radio Society  
Issue No 2 • June 2016  
Chairman: Nigel Hancock G4XTF • Treasurer: Rodney Archard M0JLA • Secretary: Duncan James M0OTG  
Committee: Derek Gage G3WAG, Dave Porter G4OYK, Bob Bowden G3GXZ, Richard Langford G4FAD, Dave Harris M0RPN, Mike Bush G3LZM, Tim Bridgland Taylor G0JWJ, Geoff Wilkinson G0RPN

**H.A.R.S. Notebook**  
Journal of the Hereford Amateur Radio Society  
Issue No 3 • August 2016  
Chairman: Nigel Hancock G4XTF • Treasurer: Rodney Archard M0JLA • Secretary: Duncan James M0OTG  
Committee: Derek Gage G3WAG, Dave Porter G4OYK, Bob Bowden G3GXZ, Richard Langford G4FAD, Dave Harris M0RPN, Mike Bush G3LZM, Tim Bridgland Taylor G0JWJ, Geoff Wilkinson G0RPN

**H.A.R.S. Journal**  
Journal of the Hereford Amateur Radio Society  
Issue No 4 • September 2016  
Chairman: Nigel Hancock G4XTF • Treasurer: Rodney Archard M0JLA • Secretary: Duncan James M0OTG  
Committee: Derek Gage G3WAG, Dave Porter G4OYK, Bob Bowden G3GXZ, Richard Langford G4FAD, Dave Harris M0RPN, Mike Bush G3LZM, Tim Bridgland Taylor G0JWJ, Geoff Wilkinson G0RPN

**Editorial**  
A number of members have sent in congratulations pointing to the club on behalf of Nigel and the Committee. I would like to thank everyone who has taken the time to do so. One such Email was received from G4JL. Grant Lives in Cheltenham and the fact that he contacted me about the club as much as he would like but, he enjoys the Journal which keeps him up to date and the Journal also mentions the early club days. Grant also mentions the early club days. Grant also mentions the early club days. Grant also mentions the early club days.

**ERTY keyboard?**  
how nice it is that the most popular who had made experience during the phone were already phones with the keyboard that...

**A QRP Rig at VQRPrize!**  
On the 7<sup>th</sup> Sept our Chairman, Nigel, introduced to the club members, the PIXIE transceiver. This is available as a self-build kit of parts from China which is obtainable just about everywhere on the Internet. So what... you might say, well, the price is around £3.50 including carriage!! With a pcb which is about the size of a coffee frequency (nominal 7023KHz) single an RF output of 0.8W when connected to a 1.5V PSU. It is CW only and there is no side-tone though, but members overcome this by using an adjacent receiver with the IF gain turned down. Bob, G3GXZ, showed how on his unit, he could easily shift frequency to 7010KHz, the recognised QRP calling frequency. Derek, G4WAG, said that within minutes of switching on the Pixie he easily worked PA0 at 599. The output circuit is given as an unbalanced fed dipole or an end-fed arrangement using a matching balun perhaps. There are some 35 components to be mounted onto the circuit board and members reported no difficulty whatsoever in reading the pigeon instructions and carrying out the assembly. (Thanks Mr Chairman, a great stocking filler!...Ed)

**Software Define**  
At the July meeting v and Derek G3WAG popular software o At the start, Bob professionalism of communication introduced his connected to generated a across the 7MHz

**Looking forward to your forthcoming a18 Steve!...Ed**

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