RAGCHEW

APRIL 2017

FROM THE EDITOR

Welcome to another edition of "Ragchew" - it seems the months fly by and no sooner have I put an issue "to bed" then preparation for the next one starts. In this month's edition Tony G4HBV has penned some observations regarding the interference problem encountered by Andy M0RON, also an interesting item on contesting by Mike G4IZZ. Also a few archive photos from 1980 and some familiar call signs crop up including G8PZD and G8UXP - whatever happened to him?

At this time of the year your Editor has conflicting interests - our garden explodes into life and for a few weeks this takes priority as I have found in past years if it gets out of hand now I spend the rest of the summer vainly trying to keep things under control. As such your Editor's efforts in the new Spring Challenge have been somewhat muted but hopefully the Easter weekend will give me an opportunity for a bit of time in the shack.

Also while I'm in the shack I hope to find time to complete a small project ready for the Construction Contest on Monday 15th May. It's always interesting to see the many diverse pieces of equipment brought along on the night and I hope this year will be no exception.

The popularity of the various Club nets continues to grow - Club on the Air hosted by Tom G3XMM in its regular Thursday evening slot and also on Monday evenings when the school is closed is attracting many members both on 2 metres and also when they QSY to 80 metres. Wednesday evening is the 2 metre FM Club Net hosted by Tony G4HBV in the guise of G4AYM/P and the recently formed Friday evening 70cm SSB net hosted by Dave G4BCA has been well attended.

As always can I put in a plea for articles for "Ragchew"? Either give me your script (hand written or typed) at club or email to g4cib@outlook.com

73 Brian G4CIB

RSGB STUDY BOOKS

Many newer members may not be aware that the various study books are available at the club. The following are usually in stock:-

Foundation Licence Now!

Intermediate Licence - Building on the Foundation

Advance! The Full Licence Manual

Amateur Radio Exam Secrets

These titles are all discounted from the normal RRP - see Brian G4CIB at club or email g4cib@outlook.com to order any of these ti!tles.

Special Interest Clubs

No 3 - The Radio Amateur Old Timers' Association (RAOTA)

The Radio Amateur Old Timers' Association, so their web site tells me, "seeks to keep alive the pioneer spirit and traditions of the past in todays Amateur Radio by means of personal and radio contact, whilst being mindful of any special needs"

Full membership is open to anyone who has been actively involved in Amateur Radio for over 25 years. You do not need to have held an Amateur Radio licence for the whole of that period of time, or even to have held one at all. All members receive a quarterly magazine "OT News". Their web site may be found at http://www.raota.org/ which contains some useful information including in the "Download" section a Directory with a list of Transmitting Radio Amateurs which was presented free with the January 10th 1925 issue of "Popular Wireless". It makes fascinating reading, and lists, in call sign order, all the Amateur Transmitting Stations in Great Britain. Included in the list is 2LO, BBC London. Many well-known early amateurs are listed including 2HT Rene Klein, 2LR J Scott-Taggart and 2DX W K (Ken) Alford who later became G2DX.

Contesting (by a beginner) by Mike G4IZZ

To encourage participation (particularly for those newer to the hobby) in VHF/UHF contests, I thought I'd jot a few of my recent experiences down here. If you have a little bit of a competitive nature, these could be just the thing for you.

Despite having an 'oldish' call sign, I'm new to VHF & UHF having been a CW H.F. man in my past amateur radio days. Having returned to the hobby in November 2015 I've had (and still have) a fair bit of catching up to do. The challenge of getting onto VHF/UHF was soon sorted by throwing some money in the direction of ML&S who provided me with the necessary rig(s) and a V2000 vertical (10m/6m/2m/70cms).

First, I had to get back into the operating 'jargon' and procedures on VHF, which was soon sorted by coming onto the club's 'on the air' nights. Unfortunately, my first attempt was spoiled somewhat by calling repeatedly (with no response) until I noticed that whilst my right hand was working the squelch and volume knobs on my rig, my left hand was feverishly working the PTT on the mic connected to a different rig. (*We've all been there Mike – **Ed)*** But never mind – once the bruises had gone down (from head butting the shelf in front of me) all was well.

Listed on the RSGB web site (http://www.rsgbcc.org/vhf/) are all of the contests the RSGB run each month. There's the UKFM contests (aimed at getting folks into contesting in a nice friendly, unhurried way, and only lasting for one hour), and then there are the UKAC contests, which last 2.5 hours, and ask you to state the name of your club. This is particularly inviting because any points scored help GARES' position in a league table. These contests, all of similar format, take place on 6m/2m/70cms. There are other contests taking place, such as on 4m, and higher up the radio spectrum – but I have no experience of those.

So – to my first contest - It was the UKAC on 6 metres. Fellow club members (Dave G4BCA and Gary M0XAC) assured me that contacts would be made using SSB – and so it proved. Although geared up for an hour or two of intense operating, with several notepads at the ready, spare pens, (I decided to 'hand log') and my family standing by in relays to bring coffee and biscuits to me, the three contacts I actually made during the 2 hours I sat there didn't stretch my operating skills. This disappointment was made worse when I eventually found that I'd messed up logging the details of one of the QSOs, and was eventually

awarded only two contacts. This reinforced the point that you must not end the exchange until you're satisfied you've got all the details!!

Things could only get better – and I'm very pleased to report that they did.
The next contest, a few days later, was the UKFM on 2m, which is only an hour long, and an excellent way to get started if you're a beginner. Which is exactly what this contest is aimed at. This time – a magnificent 14 contacts – only a bit behind the winner (120 contacts) but so what? Perhaps they had a 14-element beam pushing out a lot more ERP than my 50 watts from a vertical. Bathed in enthusiasm I participated in the next 2m and 6m contests – with varying results – but I found each one really good fun.

I've now done a couple more, including the 70cms ones, and considering that I don't yet have any sort of horizontally polarised antenna (for SSB QSOs) I've been pleased with the way things have gone. Not at the top of any scoring lists, but not at the bottom either. And ever keen to do better, a small yagi will soon be in place.

So – if you fancy it, maybe as someone who's never 'contested' before, I would urge you to give it a go. There are plenty of club members who'd be only too pleased to advise/help in any way. Not only will you enjoy it, but you'll be helping GARES climb that extra place up the points ladder.

I sometimes enter the 80m CC (Club Championship) CW contests, (when family duties permit), and these have CW, SSB and DATA sections which occur on separate days. A bit more hectic, I find, but once you're used to contesting, these too are excellent fun.

And finally, there are lots of contest logging programs to use – but if you're not familiar with them – just ask around the club. I use a Mac so can offer advice for anyone using OS X rather than Windows operating systems.

Newsletter Archive

For those of you who regularly visit the club web site (ably managed by Cliff G8CQZ) you will have noticed that another batch of 1980s Newsletters have been uploaded into the "Library" section. Do read through these to get a flavour of the club activities some thirty years ago. The April 1987 edition (edited by Tony G4HBV) included some notes from Graeme G0EEA, also an article by Tony G4HBV comparing a direct conversion kit receiver built by Vernon G6JYD (now G0HTO) and Tony's own home-brew transceiver.

Another piece in this newsletter was by Walter G0FEW who was for many years our Treasurer. I seem to recall that the quiz he subsequently arranged for a meeting on club night was hilarious. He also arranged a "Call My Bluff" evening which featured club luminaries such as Sir Wentworth Close and Cora Slawn

RF NOTES BY TONY – G4HBV

The description by Andy, M0RON, of his interference on the 2-metre band suggested to me that it was a case of “cross-modulation” since it had the characteristic of only being present when there was a “wanted” signal. Before looking into the specific details that Andy described, let’s just define what “cross-modulation” is. This is a special case of a type of interference called “intermodulation”. In the case of “cross-modulation”, the interfering signal is so strong that its modulation is transferred to the “wanted” signal. The cause of this will be the presence, somewhere in the station equipment or its surroundings of something called “a non-linear device”. Such a device is where the output level is no longer proportional to the input level, thus acting as a mixer, where the two signals interact as just described.

Tracking exactly where this “non-linear device” actually is could be something of a problem: it could be any of the semiconductors in the front end of the receiver, but even more problematical, it could be a poor metallic contact in the near vicinity acting as a diode. For instance it might be a corroded joint between different metals (of which more later).

Looking at the specific details that Andy provided, the problem somehow involves the faulty supply meter, the fact that it had a digital display indicates that it was almost certainly a microprocessor-based design, with a clock circuit operating at a high MHz clock speed. This could be the culprit, but it does not fit the facts that Andy established. However, careful analysis of what Andy established does suggest to me the most likely cause. Because the interference was only at breakfast time and in the evenings when his neighbour turned her lights (and T.V.?) on. The interference disappeared when she went away for a couple of days (TV not on). The interference was bad near a TV junction box – so I am suggesting that his neighbour’s TV was PART of the problem. This TV set was radiating some RF – something not unusual (note that it was NOT the TV feed into his neighbour’s property, which was obviously present all the time). I think that the faulty supply meter was somehow responsible for amplifying/re-radiating this RF to such a level that it became the interfering signal causing the cross-modulation. This would seem more likely (though not absolutely) than the faulty meter box was where the mixing of the signals took place.

Where the mixing actually took place is more difficult to say. Although Andy reports having tried three different receivers, I don’t think this rules out the possibility that all the receivers were overloaded in their front end stages by the interfering signal. I think this more likely than there being a bad contact somewhere (this is more likely to occur outdoors, perhaps in metal guttering, fences or even in the antenna connections themselves) which brings me to the case of cross-modulation I encountered in my own station twenty or more years ago.

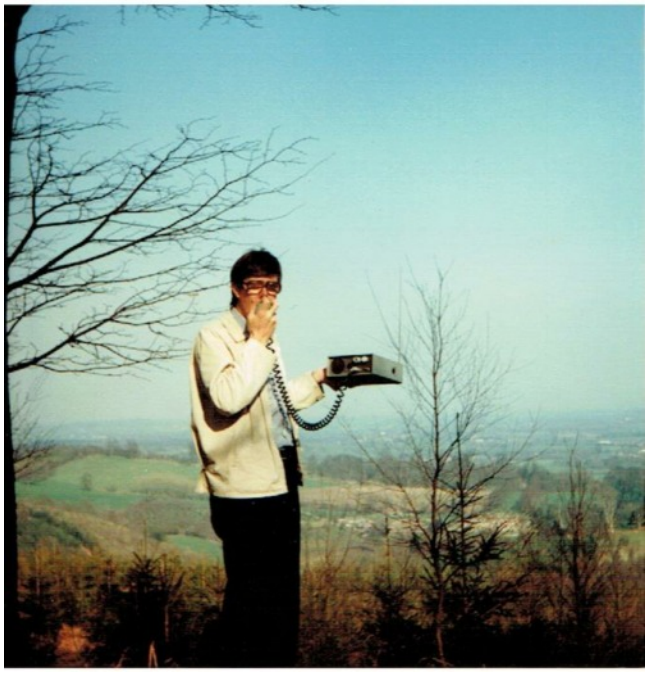
I found that I really liked making my own equipment and antennas on HF and the easiest bands to do this on was the 1.8-2MHz band (Top Band). In the course of my experiments I tried using a sectional, galvanised steel mast as a loaded vertical, instead of low end-fed wires. The Sunday morning I first tried this out, the band was full of strange signals; I realised at once what the problem was; the zinc oxide at the mating portions of the sections was acting as diodes. A trip down to the DIY stores for some Terry clips to make up shorting straps and a bit of cleaning solved it, but in the event I stuck with end-feds.

To sum up: a difficult problem to be certain exactly where the interfering signal is mixing with the wanted signal. I believe that cross modulation performance is not usually specified as such, being implied in certain other performance measurements on receivers. I’m wondering whether we’ve actually progressed in this and similar aspects of receiver design from the older valve receivers.
I do remember that the performance of the first generation of solid-state communication receivers in handling strong signals was suspect. The only thing you can do in cases like this is to track the interfering signal down and for this a good thing to have around is a multi-band portable, say a scanner. It also underlines the necessity for making all antenna connections with soldered joints and waterproofing them. Perhaps the award for the worst ever RF connector should go to the Belling-Lee co-axial plug with non-soldered joints – a good place to start on any TVI problem!

Finally, it occurs to me that most of us have SWR bridges between the antenna and the transceiver, so that the receiver will always have a couple of diodes (inside the SWR meter) right at its front end and these could be susceptible to cross-modulation, but I don’t think this is relevant in Andy’s case.

FROM THE ARCHIVES

Good Friday, April 4th 1980 and here we see Leta, then BRS41248 logging a QSO on a 2m FM rig built by G4CIB. It was a bit of a mish-mash of circuitry, comprising a crystal controlled 12 channel double conversion receiver board and corresponding transmitter board, manufactured by an Italian company. I still have the rig but now in another case from the original one shown here. The location was Welshbury Wood, near Littledean



On the same date and location here is G4CIB/P in QSO and my portable log book from that time tells me that at this location I had a QSO with none other than G8PZD/M motoring (!) In Cheltenham. The QSO was logged at 1410 - 1427. We were obviously roving that day as my log shows QSOs from May Hill in the morning (G3MA/M, G4EYZ/M, G3LGL, G4BDA, G4FMN/M, G8BRN/M , G8UXP/M and G4HBV/A (Hucclecote). We then moved to Welshbury Wood and the QSOs logged there were with G8PZD/M, G8VUO/M, G3WZN/M, G4CHD and G8TKP. Our last port of call was Popes Hill and a QSO with G5BM/M and G8UXP/A (at his works QTH?)

All those /M call signs - amazing!

When I first scanned these photos for this edition of “Ragchew” I didn’t immediately think of searching out my old Mobile / Portable Log Books. I’m glad I did and also glad that I have kept my written log books and am able to relive these /P outings with still familiar call signs. So my advice to newcomers - do keep a log book - they are great to look back on years later!