

Newsletter

Chesham & District Amateur Radio Society

www.g3mdg.org.uk

June 2020

We meet the 2nd and 4th Wednesdays of the month at the Whitehill Centre, Chesham, HP5 1AG

Welcome to the June edition of our newsletter

Welcome

This month we have grown by 2 in the number of licenced members in the club, callsigns are on the back page under Any other Business, well done guys.

DMR is coming to the forefront this month, if anybody is able to do a write up on this it would be most welcome.

There's a new section for those of you who might want to 'declutter' and sell on items no longer needed.

My thanks go out to Dave (G8FMC), Malcolm (G3ZNU) and Jeremy (G3XZG) for their take on the Brill Windmill Stay at Home event, without contributions like this the newsletter cannot exist, thank you.

Bryan M0IHY

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Contact details:

Chairman - Jeremy Browne (G3XZG) Secretary - Angie Page (M6WTL)
Treasurer - Matt Whitchurch (M1DTG) Editor - Bryan Page (M0IHY)

All the above are members of the committee and can be contacted on cdars_committee@googlegroups.com

Chairman's Ramble

Dear all,

As I write this on 22nd May, we are still waiting for further information as to how the next stage of easing the lockdown will work. Sadly we had to cancel the meeting on 13th May, and I fear we will not be able to meet on the 27th either, though I think the prospects for June are brighter.

In the meantime I would like to thank all members for doing so much, not only to keep the club going, but to keep it moving as well.

I hope that by the time the newsletter comes out, we will have two more new licensees, as Paul and Peter both passed the foundation exam on-line on 15th May. Congratulations to you both and we look forward to hearing you on the air.

Members have also been exploring DMR (something which I confess is a mystery to me), and the attendance at the regular Wednesday nets has been very good.

We also made the most of the use of the special call GB0BWM for Brill windmill over the week-end of 9th and 10th May, notching up between those who used it, 338 Qsos in all. Malcolm undertook the herculean task of collating the details and putting them on Clublog, as well as on the club's website. Many thanks for that. We have had a steady stream of eQSL responses and will be sending some QSLs via the bureau as requested by a number of stations. What it has done also is give publicity to the Windmill, which we hope will help them when they re-open, though that may not be this year. Both we and the Windmill society are looking forward to our operation from there next year.

Members have also taken part over the month in UKAC and club calls contests, which maintains the club's profile in the wider radio community.

Later in the newsletter you will see the idea of, a fun league table within the club over the coming months starting in June. The treasurer might even buy a pint from club funds for the winner each month, when that is possible.

The radio community is apparently expanding with a resurgence in interest in the hobby over the lockdown period. Not only have people been digging out equipment which had fallen out of use, but there has been a welcome rise in people taking the Foundation course on-line. Let's hope that when lockdown eases and people are more able to get out, the interest in the hobby is maintained as people get to know both its value and fascination.

73 for now, Jeremy.

The Editors Musings

"If things don't change, they stay the same" as the saying goes, and it certainly applies how things are at the moment with COVID-19. Both Angie and I have our marching orders and are still under 'house arrest' continuing till the end of June.

"Yes" to an 'expanding' hobby, the R.S.G.B. report all 600 slots for online exams are now taken for June and that the usual method of applying is replaced by online applications, the R.S.G.B. are moving with the times!

Masochism by 80m SSB!

(GB0BWM 2020 on the LF bands) - Dave G8FMC

Masochism by 80m SSB! (GB0BWM 2020 on the LF bands) ,, Dave G8FMC I had volunteered to kick-off the 2020 'Stay-at-home' 'Mills-on-the-air' fairly early on Saturday 9th May on 80m, expecting a lot of easy inter-G to kick-start the log. It turned out to be a weekend of abysmal propagation on 80m! (I should have guessed, as morning 80m propagation took a big nose-dive about Thursday?)

The log opened at 0901UTC (10:01 BST) with Simon M0TRJ in Bristol. We exchanged 5&9 reports, but some deep & slow QSB took signals way down on that, with noise about S8-9, so not really 'armchair copy' as one might expect? 45 mins more had only produced another 5 QSO's, when I took a break for the club sked on GB3TU at 11am local.

Matt M1DTG took over & spent about an hour trying to raise ANYONE, without success! If he did get any attempted replies they were buried in his RX noise? It appeared that my set-up & semi-rural location (NO VDSL here, yet!) was slightly 'less-worse' than other club members on 80m, so I volunteered (in a weak moment?) to plug away on 80m/40m SSB for most of the day.

Just one contact with GB4VED before a fairly lengthy break for me to prepare & consume lunch with Jean. More struggles in the afternoon, but enjoyed a good chat with Jeff GW3UZS in Cardiff (350W to a good antenna) who I have not spoken to for several years. (An avid & advanced home-brewer, see his QRZ.com page, very impressive!)

James M0JCQ took over at about 5pm for a couple of hours, as previously arranged.

I came back on for the evening stint (something we could not have done at the windmill) & conditions seemed, slightly less dire? However skip was enhanced for mid-range which included lots of continental QRM, plus LOTS of lightning all over Nth France & parts of the UK. This caused continuous crashes with spikes up to S9+30dB, which was about +15dB on the best signals!!!

One evening contact was with Giles G0NXA, who I haven't spoken to since we both worked at the BBC Designs Department 45 years ago! Scary!

I got a run going, with a mini pile-up about 5 deep at one point, but most stations needed several repeats. The exception was Kevin MW7KJC in Pontypool, who was excellent copy (& optimum skip?) only running 10W but to an excellent Fan Dipole. He told me I was S9+40dB! I closed down at almost 9.30pm, ears ringing, but with 33 in the log.

Sunday conditions were just very poor, rather than absolutely dire, so a bit of improvement & no lightning crashes! I plugged away on & off for most of the day (I had upped the power to about 150W) actually getting a mini-run at times. A few other GB calls (VE day, plus GB9NHS as my only 40m QSO) but NO other windmills heard. It was stated by some that we seemed to be the only UK 'Mills' station active?

Again passed the batten to James for a couple of hrs 5-7pm then bashed on from about 8.20pm until 9.30pm. A steady run including ON, PA & DL, with only a couple of brief interruptions for my 'carer' duties! Still quite difficult copy on many stations.

Total tally for the weekend 77 QSO's, so not a disaster (just felt like 277!)

GB0BWM on the VHF bands (mainly)

Malcolm (G3ZNU)

The screenshot displays the WSJT-X v2.1.2 interface. At the top, there are two panes for 'Band Activity' and 'Rx Frequency'. The 'Band Activity' pane shows a list of received signals with columns for UTC, dB, DT, Freq, and Message. The 'Rx Frequency' pane shows a similar list. Below these panes are control buttons for 'CQ only', 'Log QSO', 'Stop', 'Monitor', 'Erase', 'Decode', 'Enable Tx', 'Halt Tx', 'Tune', and 'Menus'. The central display shows the frequency '7.074 000' and a digital readout for '2020 May 10 15:37:01'. On the right, there is a 'Generate Std Msgs' section with a dropdown menu and buttons for 'Tx 1' through 'Tx 5'. The bottom status bar shows 'Receiving', '2m MGM contest', 'FT8', and 'Last Tx: S53EO GB0BWM 73'.

Malcolm's (G3ZNU) WSJT-X display

GB0BWM on the VHF bands (mainly) Malcolm G3ZNU I only joined CDARS a couple of years ago, and last year I missed out on operating GB0BWM at Brill Windmill because the trust was redecorating the mill, so it wasn't available for us to run the weekend. I was again disappointed that the windmill was having to close this year due to the COVID-19 situation. When we heard that we could operate GB0BWM from our home stations, I was keen to activate the callsign on the VHF bands, and see what interest the special event callsign would generate.

Conditions were none too special over the weekend, but I did make a few 2m SSB QSOs on Saturday before deciding to give FT8 a try on 6m. I had a steady string of QSOs over the afternoon, and as evening drew on I alternated between 2m and 6m FT8. When operating for an extended period it's possible to pick up on small ripples of propagation. Hence I worked SM4KYN on 6m during the afternoon, and several stations in the north of the UK that aren't always heard here.

On Sunday morning I had heard that there was some potential for meteor scatter, so started listening on 2m MSK144. I received some brief pings and bursts and decoded PA4VHF, so gave him a call. Much to my surprise he came back, and on one exchange I had an almost full 15s burst at high signal level. We exchanged comments on ON4KST as well, and we weren't sure if the QSO was meteor scatter, tropo or sporadic E!

cont'd

GB0BWM on the VHF bands (mainly)

Malcolm (G3ZNU)

Sunday had some definite sporadic E to Spain in the morning, with three QSOs in quick succession. For the rest of the day there was again a steady stream of QSOs on 2m and 6m FT8. It was a shame there was not more activity on SSB, but at least the special GB0 call meant more interest and more CQ calls being answered. A satisfying weekend overall, with 57 QSOs in the log.

Now here's a strange thing with FT8. I finished the day with a few QSOs on 40m, and afterwards left the receiver running into WSJT (as you do). When I came back a couple of hours later it looked like I had worked more stations „ the tell-tale lines in red showing other stations calling and working “me“. Then I twigged „ someone else was working FT8 using the same callsign - GB0BWM. That someone was Bryan M0IHY! I was receiving all the responses that Bryan was getting and logging too. A warning if you share a callsign - be prepared for unusual responses!

Jeremy's take on the Brill Windmill event

Windmills on the key

My contribution to GB0BWM was mainly on the key, 37 out of 39 Qsos. Yes I used the microphone twice. Starting on 40 on Saturday mid-morning with 8 QSOs and a further 7 on 30 metres in the evening, a band to which all the refugees from a CW contest had fled.

Sunday morning was very slow, with a few QSOs on 40 and 30, before I went on to 20 with some success into eastern and mid Europe, before moving on to 80 in the evening, where I finally found some UK stations.

CW contacts take longer than SSB to get the same information across, and I averaged about 7.5 minutes per QSO. Surprisingly I was rarely without an answer to a CQ call and often had people waiting to work me. That made a pleasant change.

Most confusing call was OE3BMW, with which I couldnt really cope, favourite call, M0MMX, just set the paddle to dashes and have a drink. I also had contacts with a husband and wife in Poole, and was glad I had given them the same report.

I did not rush and some contacts took over 15 minutes if the other person wanted to chat. All in all a very enjoyable bit of operating.

Jeremy, G3XZG.

It was like shooting fish in a barrel

So, where does the saying come from?

“Prior to the modern days of refrigeration, fish were packed and stored in large barrels. The barrels were packed to the rim full of fish. As such, any shot that entered the barrel would be guaranteed to hit at least one of them. This being the case, nothing would be easier than shooting fish in a barrel.”



Being in a 'black hole' as regards 80m for the Brill Windmill event I decided to call it a day on Saturday after making 0 contacts in just over an hour, I had started at 11:00. Not wanting to give in entirely I resurrected myself at 18:00 and gave FT8 a bash. Within 2 hours I had made 24 contacts, I felt redeemed!

Sunday I started again at 10:00. The one thing I noted about having a callsign such as GB0BWM is that everybody wants to contact you, it's not an everyday, run of the mill, callsign. At its highest I had 4 people in the queue at any one time, not to say I made contact with them all as some didn't want to wait (or was it something different - more on that later), I suspect they were in 'collecting car numbers' mode (although, again, I could be wrong, see bottom of page)...

One of the frustrations I find with FT8 is where someone comes straight back to you with a signal report immediately after you put out your CQ, you then respond (automatically, of course) with your signal report to them, then you repeat the whole process over again without moving forward. In the end I decided to abandon the contact if they didn't move forward after 4 attempts, this happened more often than I would have liked, I suspect my count would have been much higher had they all completed successfully.

By the time I'd finished at 19:00 I'd made a further 78 contacts, 30 countries in all with Germany taking the bulk of contacts. My best reception was China, Thailand and Japan, unfortunately they were unable to receive me, although having Brazil, USA and Canada pleased me.

Oh yes, I forgot to mention, a lot of my contacts were made on my cobweb antenna at just 4 metres above ground level, the remainder on my inverted-L 10 metre high vertical.

While I was pleased with 102 contacts overall, I had the luxury of not straining my vocal chords for any of the time, my hat off to those who braved the air-waves on SSB, they had a much harder time than me.

Bryan MOIHY

It seems maybe more than one of us (proven by Malcom (G3ZNU) finding 3 duplicates in the logs) were operating on the same frequency on FT8 at the same time. What I thought was impatience on behalf of several 'in the queue' may have, quite innocently, been the fact someone else had responded to them, thus finishing the FT8 cycle - hmmm...

Practical Wireless vs Radcom, or vica versa

Every month I receive my copy of Practical Wireless before RadCom, and every month I say to the wife "I bet the 'on test' articles will appear in both magazines at some point during the year" and as sure as 'eggs are eggs' I'm right 99% of the time, my question is, are these 'sister' magazines?

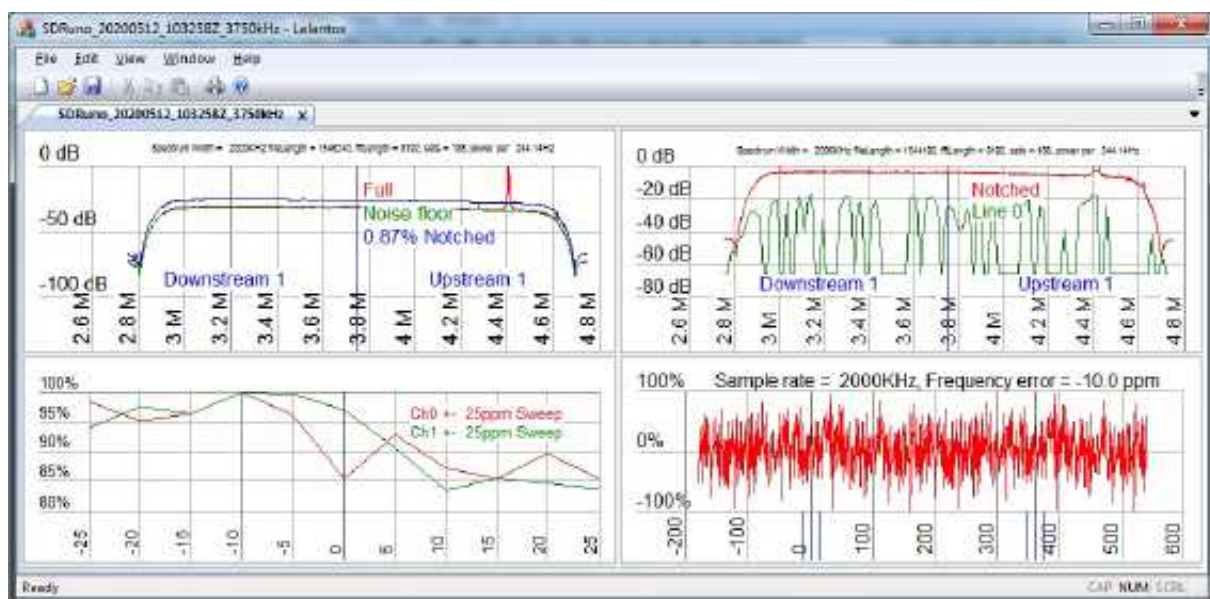
I enjoy both magazines, Practical Wireless for its many items on just about anything radio-wise and RadCom for it's Amateur Radio club and RSGB organisation content, I also enjoy reading the monthly articles on antenna's in both magazines.

RadCom scores with its "items for sale" section, far larger than Practical Wireless, maybe RadCom has more readers with equipment for sale? RadCom also scores with its advertising, RadCom with 34% of its entirety as opposed to 27.8% for Practical Wireless.

So what's this VDSL problem about?

My intention was going to be about VDSL (Very-high-bit-rate Digital Subscriber Line), which is the means used to deliver broadband internet services to you and I, but after performing the tests as described in the software documentation I found I had nothing to talk about!!!.

After running SDRplay 1a on my PC and capturing 2Mhz wide graphs at 3.75MHz, 5.2Mhz, 8.5MHz, 12MHz and 14.175MHz centre frequencies, I then examined the 4 'windows' on each frequency and following instructions in the downloaded Lelantos instruction manual it appears I don't have VDSL interference here where I live, something else is responsible for the S9+10/20 noise I sometimes suffer with - hmmm...



My 3.5MHz graph set (the other sets produce the same results).

Bottom right - No VDSL interference in the spectrum recording.

How many of you did the scans and what results did you get from your area?

Unlicensed operators to use Ham equipment...

Spain's national amateur radio society URE have talked to their regulator and obtained permission for unlicensed people to use amateur stations during the COVID-19 lockdown reported Practical Wireless this month.

The Secretary of State for Telecommunications and Digital Infrastructures has issued a temporary authorization for the use of amateur radio stations by people who do not have authorisation (unlicensed), under certain circumstances, the unlicensed user will have to be supervised face-to-face while using the equipment.

What will happen when COVID-19 restrictions are lifted, will these people go back to being 'unlicensed', or will they (hopefully) go on and become licensed?

Food for thought...

Antenna's, what is a safe distance?

I've always been conscious about operating when people are near antenna's, or the counterpoises going round my garden fence and as a consequence don't operate much during the day on HF (when good weather is around) as my neighbours are sitting literally inches away from where my counterpoises are, and then there's my cobweb, conveniently sited 4 metres directly above my head in the shack, time to get the Power Flux Density calculation into operation...

The World Health Organisation recommends adult exposure to radio frequency radiation of no more than 2W/m^2 (0.2mW/cm^2).

Now for the calculation:

$$\text{Field Strength (V/m)} = \frac{7 * \sqrt{\text{erp}}}{\text{distance in m}}$$

an example: ERP = 400W, gain = 6dB (3dB is double, so 6dB is 4 times), distance = 10m.

$$\frac{7 * \sqrt{(400 * 4)}}{10} = 28\text{V/m}$$

As stated in the Full Licence Manual (page 15, top of 3rd column) "Although no longer a formal limit, 28V/m is often used as a guide above which you need to conduct a more careful analysis and take steps to reduce it", or increase your distance from the antenna, thereby reducing the V/m.

The above is important when considering public events/field days with fencing at an appropriate distance from the antenna.

In my case, 50W at 3dB gain and 4 metres height yields a figure of 17.5V/m, I'm good to go then!

My gut feel is this subject should be taught at Foundation level, mainly because this is where you first transmit and would need to know the implications of being too close to RF.

Further information can be found at: <http://www.icnirp.org>

Who said DMR was easy??



Thanks to Dave (G8FMC) for this picture.

I have just recently purchased a TYT MD-UV380 handheld, my first venture into my unknown world of Mobile Digital Communications, initially I felt like the guy above in the picture.

When it comes to manuals I've often said they were written by "those in the know for those in the know", never explaining things down at ground level to get you started, the MD-UV380 manual is no exception to this idea, as such I've ordered the only book I could find on this particular model from Amazon and expect to take delivery by the end of next week (22/05/2020), at that point I might be able to start to understand the concept. If I remember a while back, Darren gave a talk on DMR, or its ilk, at the Whitehill Centre, something now I wish I'd paid more attention to..

Together with Matt (M1DTG) we ran tests from our QTH's to see what was possible. Accessing either the Amersham (GB3AL) or Tring (GB3TU) repeaters was easy, only problem was Matt had to go 'walk-about' to Coleshill (I believe), I felt guilty as I'm "confined to barracks" which meant Matt had to do the hill climbing!

So, analogue contacts were okay, albeit sometimes noisy, it was time to try DMR Simplex, this was

as they say 'different'. Initially I thought we weren't able to communicate, but with perseverance on Matt's side we managed to make contact, Matt just couldn't stray too far from the wire fence he was standing by otherwise we lost contact!

DMR Simplex, I was quite surprised that whilst your voice is 'digitized' it's remarkably good as I was aware I was talking to Matt, not some Zombie from outer space, the reproduction was good.

Matt had very kindly created the code plug for my handheld, putting certain repeaters in the 'A' list, whilst others were in the 'B' list. Accessing the lists is simple, using the up-down arrows on the keyboard I select the 'A' list (upper) or 'B' list (lower) on the screen, however, there is a caveat, I'll explain... With the Amersham repeater showing in the list from the 'A' list at the top and the Tring repeater showing from the 'B' list at the bottom I pressed the down arrow key to move from the Amersham repeater to the Tring repeater. The Tring repeater now had a black arrow to its left but the Amersham repeater also had an arrow to its left, but this time it was green. What seems to have happened is the Amersham repeater was active whilst the Tring repeater was not and as such, even though I wanted to access the Tring repeater it wasn't going to happen whilst the Amersham repeater was active.

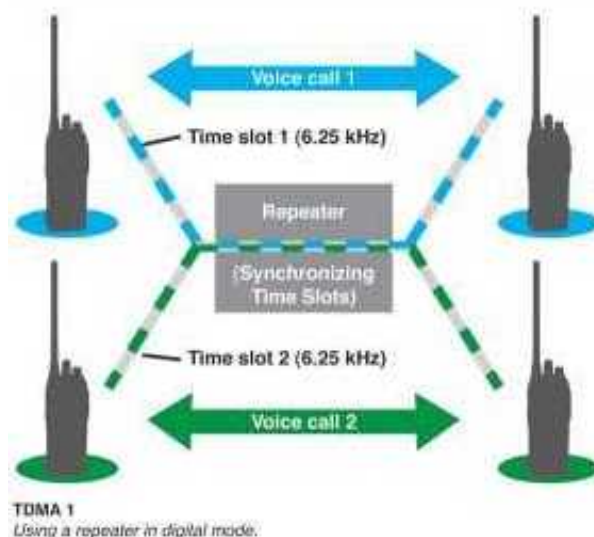
DMR simplified (excerpt from dmrummies.com).

It stands for Digital Mobile Radio and uses the TRBO (Motorola) protocol for communicating. Other digital modes (D-Star, C4FM and APCO P25), use the same protocol which converts your voice into a digital form and sends it out via your antenna (there are other bits of information included), this allows you to communicate with other DMR radios and repeaters, which are networked together around the world via the internet.

What makes it stand out from some other digital modes is that it utilizes TDMA (Time-Division Multiple Access) to divide a single frequency into 2 distinct "channels" or time slots. By doing this, you can have two conversations going on at the same time, using just one frequency.

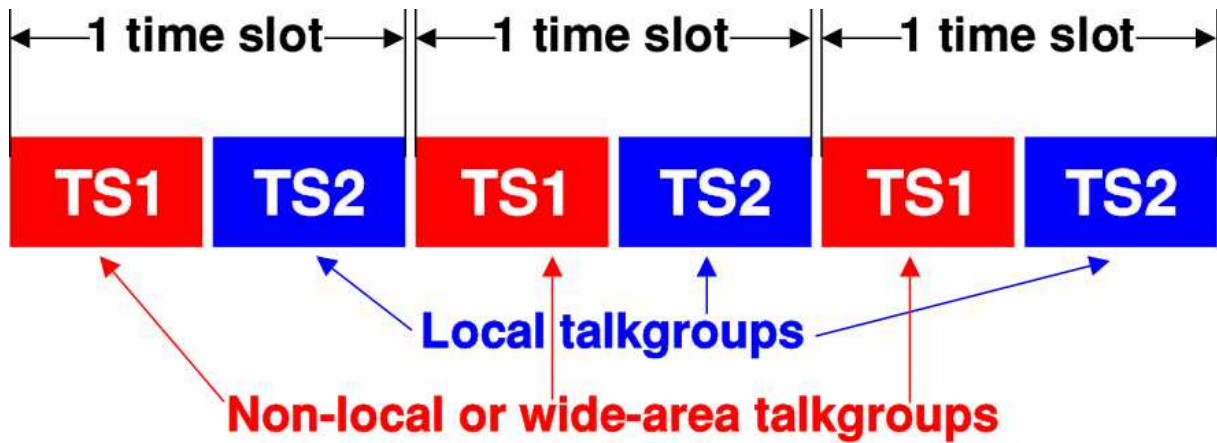
Using just one frequency with radio A talking to radio B on time slot 1, and radio C talking to radio D on time slot 2 is amazing... Both at the same time!

Here is a nice graphic from Retevis to help visualize and understand what is going on...



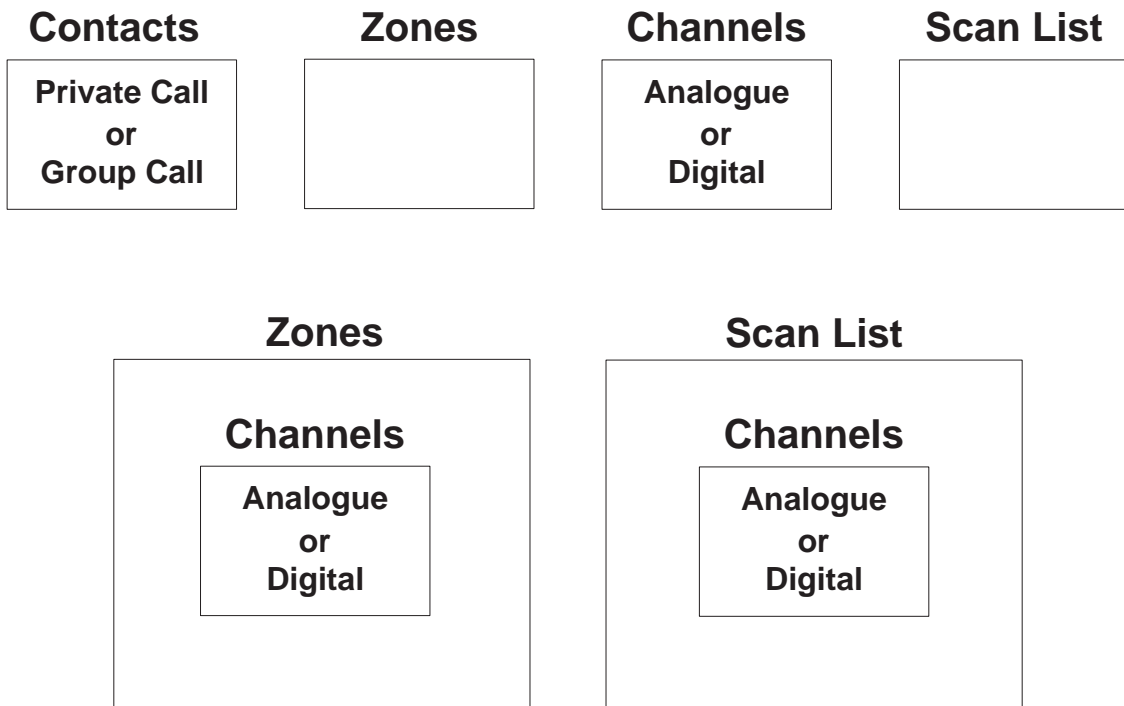
Although the graphic above relates to how a DMR repeater works, this same principal applies to using a simplex frequency as well.

Moving on...



As can be seen, 1 time slot can carry 2 transmissions, you only use the time slot relevant to your talkgroup.

I think most of us have seen the above diagram so many times, it's been done to death, what interests me more is the hierarchy and relationships between Digital Contacts, Zone Information, Scan List and Channels Information, this is my take on it, please correct me if I'm wrong...



What confused me was where talkgroups belonged, then a 'lightbulb' moment occurred, they're just channels!

Anyways, my book for the MD380 arrived a day early this morning, time to get out in the sun and do some reading. For the 30+ pages of information in "DMR for Beginners" by Brian Schell at over £10 (inc. P & P) from Amazon I found the programming PDF's free of charge from the internet better explained and far better value, buyer beware...

Hopefully next month I shall be more meaningful and have a better understanding of DMR.

For sale/exchange

This section of the newsletter is for members use only.

Should you have an item you wish to sell or exchange these are the details I need to know:

Item description

A short description of the item.

Picture(s)

Nice clear photo's please.

Sale, or exchange

If it's for sale (no need to mention price, if they're interested they'll contact you), or what do you want to exchange it for.

Contact details

If you would prefer not to be contacted please state "Bring to club" and a price, otherwise your email address.

please contact me via bryanpage1@btinternet.com

As Bamber Gascoigne (for those old enough to remember) would say, "here's your starter for 10".

MOIHY for sale on behalf of MOTLI (Darren)

Tri-band rotating dipole, 15/10/6m with balun. The ends are collapsed in for loading into our car, these will be extended for tuning and operation. Darren is asking £50 for this, which, in my opinion is an absolute bargain as the balun alone cost more than that.



Modelled by M6WTL



Modelled by M6WTL

As I said, it's being sold on behalf of Darren, if you want to see spec's for it, go to:

<https://www.innovantennas.com/en/shop-page/345/36/hf-ham/multi-band-rotating-despoles/15m-10m-6m-three-band-despole-rotating-dipoleInnovAntennas.html>

Its price is £199.95 + the balun + postage, so £50 is a 'no-brainer'.

You can contact me on bryanpage1@btinternet.com

This months club contests

Contesting

This month we have the 80m CC SSB, DATA and CW contests. Next month we have the same HF contests - I have included the National Field Day for completeness, hopefully we'll be able to do this, we also have VHF contests this month.

HF

Callsign	Day	Date (2020)	Time UTC	Contest Name
M0IHY	Mon	1 Jun.	1900-2030	80m CC DATA
M0IHY	Sat-Sun	6-7 Jun.	1500-1500	NFD
G3XZG	Wed	10 Jun.	1900-2030	80m CC CW
M0IHY	Thu	25 Jun.	1900-2030	80m CC SSB

VHF

Callsign	Day	Date (2020)	Time UTC	Contest Name
M0IHY	Sat/Sun	20/21 Jun.	1400-1400	50MHz Trophy Contest (VHF Championship)
G3XZG	Sun	28 Jun.	0900-1200	50MHz Contest CW (VHF CW Championship)

Please be aware, multi-operator contests (NFD) may not run (ruling by the RSGB).

Stay at home contest... 80m-6m and more

In June I'd like to trial a club members contest, originally it was for HF, which is the bandset most used by the club members BUT we now have 3 new licences, of which 2 I know are VHF/UHF only, so...

Bands - any, however many you want to try.

Modes - any, again however many you want to try.

The purpose of the contest is to get as many 'air miles' as possible in the month on any/all bands and or modes, contest QSO's are not allowed.

Calculated 'air miles' will be from your locator to the QSO locator and then divided by the number of QSO's to give an average 'miles' per QSO, I think this might need refining into band/mode, your thoughts please.

The whole point of the contest is to do 'what you want', 'when you want' and above all to enjoy yourselves.

Each QSO (log) should contain the following, your callsign, band, mode, date-time, your locator, their callsign and their locator. If there are 1, or 2 entries without their locator I can find them out (but not too many please!).

You can send your logs to me, please put "Logs for " and your callsign in the subject field., the email address is: bryanpage1@btinternet.com, you can send them as often as you like, the more often, the better.

I would like some suggestions on how you might see the league and how you would define 'who won what'.

Any other business

Congratulations to Peter and Paul

To you both, Peter (M7CKP) and Paul (M7XTW) for passing their Foundation Licence exam, it will be nice to hear you guys on air when you get your radio's.

New Callsigns April-May

M7GUY

Guy (April 2020)

M7CXP

Peter (May 2020)

M7XTW

Paul (May 2020)