



MKARS News

Letter from the Chair

Dear all,

.Dear MKARS members,

Firstly, let me wish you all a very Happy New Year for 2022 and I hope you all enjoyed your seasonal break. I hope you are all keeping well. The HF bands have been kind to us over that time, with the SFI high, and some good DX to work without too much slog.

At the same time, we have had some great news on the results of our 2021 Contesting efforts with MKARS having its best ever performance in the UKACs and we are now a 'top three' Club. Thanks must go to Tim, G6GEI for leading this activity for us and building the team and its capability, and the many MKARS members who contribute to our weekly score.

As we look forward to starting our programme, we seem to be in the midst of another major COVID surge with a new highly infectious variant. Thankfully with most of us double vaccinated and boosted and it being less virulent, hopefully this wave will be the final one and over quickly.

At the AGM in October,

we started to hold meetings at our new location in the TNMOC at Bletchley Park and so far, despite the trials and tribulations of COVID, have regularly held weekly meetings there, sometimes assisted by Zoom, and managed several social nights, sometimes supported by Pizza or Xmas fare. Looking ahead to January, we have to reflect on the current virus situation, and we will revert to Zoom for virtual meetings, but we will review this and hope to restart meetings at the TMNOC in February.

We have also used the last few months to sort through the historical inventory of Club equipment, and reviewed what we think we will use in future and what has become surplus to our requirements. Some of the items held at the egg farm have already been sold, and some members who have held items on the Club's behalf have also expressed interest in acquiring those items. We will start an exercise shortly to sell off these Club items.

Turning to Club meetings, our Programme for January and February is

on the back page.

That's it for now. Stay safe and very best wishes once again for 2022.

May your dreams of DX, become reality (3JOY?)

Phil G4FVZ

Best 73's

**Phil G4FVZ
Chair 2020/2021**

January 2022

Highlights:

- Winter club programme announced
- Special Interest Group news
- Club talk highlights
- Club AGM & elections
- MKARS moves to TNMoC

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Phil G4FVZ

Contesters Special Interest Group

GREAT NEWS

MKARS made an outstanding achievement in getting 3rd place in the 70cm UKAC contests of 2021. "In the Local Clubs Section, Hereford are in first place for the fourth year in a row. Northampton RC have moved up one place from 2020 to take second spot and Milton Keynes had a very strong finish in the last three months of the year, moving up from sixth to take third place." Looking at just the last 5 months we beat Northampton, so that is our goal for 2022, Thanks to all who took part (listed on the certificate).

MORE GREAT NEWS

MKARS made 2nd place

(Local Clubs) in the 6m UKAC for 2021. (We were 6th in 2020).

the runners up slot this year, with Tall Trees moving to third place"

Consistently good scores throughout the year, but a big gap between us and 1st place, so hard to improve upon.

It's been great to hear so many MKARS stations on the band at one time, big thank you to all who took part.

I will be doing a talk in January on how to 'have a go' at contesting for anyone that's interested.

Best 73 to all

Tim G6GEI/P



UK Activity Contest successes



"In the Local club section Hereford Amateur Radio Society again ran out winners by a large margin. Milton Keynes ARS move into

Home Construction Special Interest Group

The group met at the end of September and Steve, G6ALU gave a presentation to launch the club transceiver project. This is a 5W SSB, data & CW transceiver that can be built for 20, 40 or 80m. It includes a case and has a built in USB CAT interface and line input/output for data modes.

The presentation included a full technical description of

the Explorer design and operation. A video of the meting is available on the MKARS YouTube channel.

Assembly needs very little electronics knowledge but good attention to detail and reasonable soldering skills. The three surface mount components will be pre-soldered. An initial batch of kits will be available shortly to existing members of the SIG, but some components

are currently on a long lead time and further availability will be announced in due course. The cost will be £75

If you have an interest in the broad area of home construction, you can sign up to the group message board by visiting <https://groups.io/g/MKARS-Homebrew> or contact Steve, G6ALU or Las MOBOY.

Club meeting recordings

Remember that we record the Zoom meeting talks. If you missed a meeting or just want to revisit something in a talk, just click the link under Library on the MKARS

website or go to youtube.com and search for **Milton Keynes Amateur Radio Society** to see a list of the recorded club meetings. A copy of Mike Richards,

G4WNC's presentation (see next page) is also available on our website See item "Recording of club talks" posted on 2nd October for the link.



The Explorer HF transceiver project

Club Meeting Report - 13th September

Mike Richards, G4WNC gave us a talk about SDR radio. He started with the definition of SDR as “some part of the radio signal is handled by software”. An early SDR was the Softrock which produced I & Q outputs using two mixers fed by 90° phase shift local oscillator. These IQ signals are at the heart of any SDR. Mike then talked through the AD conversion, use of FFT for creating a waterfall display and decimation for

demodulation. The very popular low cost RTL-SDR dongle is basically a USB TV & DAB analogue receiver chip with an ADC which had an undocumented feature to send the IQ signal over the USB interface. In the mid range is the SDRPlay which is a similar device but with better RF stage and the Airspy covering up to 1700MHz. There is a newer HF version the Airspy Discovery HF+. At the high end of SDR are the Flex and

Anan transceivers. These feature very fast high cost FPGA hardware for the processing.

Ideas for next generation SDRs look to eliminate the FPGA and send the IQ signal directly over USB 3.1 to a PC for processing. An early example is the RX888 MkII giving LF-64MHz 16 bit sampling for about £174. It can be used with HSDR or Simon Brown’s SDR console to create a good 0-50MHz



Mike explained IQ, AD conversion FFT & decimation and talked about readily available SDRs we can use

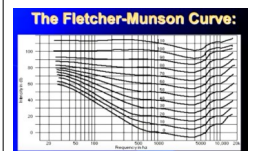
Club Meeting Report - 27th September

Bob Heil, K9EID gave us a very entertaining talk which centred around adjusting your audio to get the best readability for your signal. As an organist, Bob learned at an early age the importance of listening so that you can recognize the best sound. Bob learnt a lot from his early ham radio operations which more than made up for his lack of educational attainment. He formed a company to produce sound systems for large performance venues and was soon providing the sound engineering for major rock bands at their concerts in the USA and around the

world. This led Bob to investigate many avenues to improve the audio and the ear’s perception of the sound. From some work by Bell Labs he realized that a critical frequency for intelligibility of sound was 2.5KHz. The human ear has a significant dip in its response here. Initially he used filters to cut other frequencies in his sound systems, but later started using an equaliser to boost 2.5KHz. In July 82 he wrote an article that became the lead in QST magazine “Equalising your microphone audio”. This led on to Icom building his equaliser into

their rigs. Later Yaesu and others also introduced equalisation. Bob stresses that we should NOT leave the equaliser at the default settings but should use it to reduce the base and boost 2.5KHz even for rag chewing. He also cautioned using compression as that distorts the sound envelope, but keep close to the mic.

If you missed this talk, I thoroughly recommend visiting our YouTube channel to take a listen and enjoy Bob’s anecdotes. Recommended rig audio settings are included in the video and are also on his website heilhamradio.com.



**“equalisation is the key to articulation”
.... you need to boost 2.5KHz ...**

Club Meeting Report - 8th November

We welcomed Chris Taylor, GOWTZ to the Club to give us a talk on the emerging UK repeater network. Chris is the keeper for a number of VHF/UHF repeaters in our area. They are installed at three sites that Chris is responsible for. These are at Amersham, Tring and the Moonraker premises at Woburn Sands with 10 repeaters active on 4m, 6m, 2m and 70cm with a mix of

analogue, DStar, Fusion and DMR links. The Amersham and Tring Repeater Group have a list of most of these giving full details of the frequencies and access requirements on their website 77hz.com. Like all repeater groups they hope that amateurs that enjoy the use of the repeaters will donate to help defray the running costs of keeping the repeaters on the air.

Chris thinks that the future will be a move to Voice Access Points. However at present there are obstacles to be overcome within the RSGB Emerging Technology Coordination Committee (ETCC) which is responsible for promoting the use of new technology with repeaters and also within Ofcom for licensing.



Local repeaters

Club Meeting Report - 15th November



**DVB-T, DVB-S2,
H.264, H.265,
QAM16
What does it all
mean?**

Our speaker was Justin Cockett, G8YTZ who give us a talk on Digital Amateur TV. Justin joined us from his home QTH in Kent over Zoom.

Amateur TV has to overcome the challenges of fitting a video channel into the relatively narrow bandwidth that we have available on many of our bands. An analogue video signal is 5.5MHz wide. Once this is digitized it can become a massive 27MHz!

Justin got started by taking us through the common methods used to compress and encode the video image to get it down to a manageable bandwidth. Some key points here are that the eye is much better at resolving luminance than chrominance levels, often parts of the picture remain unchanged between frames or adjacent pixels are the same colour. These facts can massively help compression.

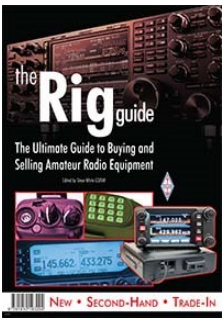
Justin then took us through

some equipment options pointing out that a standard satellite receiver will often cover 23cm. BATC have the MiniTiouner Rx, Ryde Rx and Portsdown TxRx designs with parts available at batc.org.uk.

Generally DVB-T is used up to 2m (NoV required for 146.5MHz) and DVB-S2 on 70cm upwards.

After a coffee break, Justin gave us a live demonstration using the local Petts Wood TV repeater.

Club Meeting Report - 29th November



**Ergonomics and
convenience are
very important**

With sunspots beginning to appear again, quite a few members have turned their thoughts to getting started or getting back on the HF bands. Phil, G4FVZ gave us a talk called "Buying your first HF transceiver".

Phil regularly uses rigs from at least four manufacturers and appreciates the benefits and shortcomings of each and gave some unbiased advice.

The starting point is to think about where you want to operate. Is the rig for a base station? Mobile? /P? Do you just want HF bands or would you like VHF/UHF in the

same box? New or used? Are you keen on contests? Answering these questions will start to narrow down the choices.

The next thing is to do your research. Most rigs have support forums that can be a good source of information. Eham.net is a website of user reviews. Rob Sherwood has extensive receiver test reports (although he confesses that the top 20 are all pretty much as good as each other!).

Talk to other club members or on air about what you are thinking of buying. Maybe you can get an opportunity to

try out somebody else's rig before you buy? Alternatively go and try your chosen rig at a rally/show or one of the retailers. You can quite quickly judge the ergonomics and convenience of using the main features. It is important that the rig works well for YOU and that YOU like it.

Don't forget about your antenna either. A great rig with a poor antenna or feeder and connectors is never going to give you the enjoyment you hoped for. Ideally on HF spend 10-15% of your budget here.

Club social events

In December we held a Christmas social at TNMOC which gave members a chance to catch up with each other over hot and cold snacks. The opportunity was taken to present some of the club awards for 2020/21.

Member of the year : Stefano (Ste) Pinna G7RDX

New Club Member of the Year ; John Owen 2EOJPO

Club Contester of the year : Andy Bloomer M5TKA

Stu, MOMMZ and his wife Dawn, MOTGR organised the refreshments and it was a chance to say farewell to them as they prepare to move away from the area They have been long term members of the club with Dawn being a previous secretary and Stu having been Vice Chairman until the last

AGM.

The final meeting of the year saw MKARS members compete against members of the OARC in an online quiz organised by Francis, MOUKF. It was a great fun evening with questions on general knowledge, TV theme tunes and of course amateur radio. Tim, G6GCM took the honour of being the winning MKARS member.



**Christmas social
& quiz night**

Youngsters on the Air (YOTA)

Each year in December youngsters throughout the IARU region 1 (Africa, Europe, Middle East, and northern Asia) take part in YOTA. The aim is to promote young people being involved in amateur radio. You will have probably heard some of the special YOTA callsigns on the air during the month being operated by some very competent young people. The RSGB had obtained the callsign GB21YOTA and any amateur (with a full license) could request to operate the

call. Generally the day is split into morning, afternoon and night sessions. The intention is that the station operation will involve young people under the age of 26. John 2E0JPO supervised by Brendan G8IXK had a slot booked for 22nd December. When Tommy obtained his M7OMY license in early December we suggested that he might like to take part as well. There were plenty of unfilled operating slots and with great enthusiasm Tommy and Las MOBOY filled

three of them!

HF conditions were superb on 22nd and John and myself had many contacts around the world on pretty much all of the bands from 80m-10m. John explained the idea of YOTA to several American operators that had never come across it before. One of the more unusual contacts was a 15min ragchew with a station in Faro—using AM on 20m.

Brendan, G8IXK

YOTA report from our newest license holder—M7OMY

Greetings fellow MKARS members, I'm Tommy, M7OMY and I was one of the hosts for the GB21YOTA station. I had a fantastic experience operating as GB21YOTA and managed to work over 100 stations in the first two days of operating. It was a unique opportunity to have and I'm grateful for the RSGB for supporting YOTA activities all around the country. I operated on HF using FT8 and the QO-100 satellite, where I met lots of great people from all around the world and even contacted other YOTA stations. Overall, I loved operating GB21YOTA and I am sure I will do it again.



I would like to take this opportunity and thank everyone at MKARS and the RSGB for supporting me throughout my training and looking forward to the exciting journey that comes

with being a licensed amateur. Overall, radio is enormous fun and I am glad to be another M7 in the MKARS family."

Tommy, M7OMY

Club equipment sale

Over the years, the club has acquired a lot of radio equipment. The committee has been reviewing the list of assets and their usefulness for club activities over recent months. It has been decided that items which are not being used should be sold rather than just sitting in storage. The

sale will be to members of the club for their own use. Some items are potentially of significant value and these will be sold by an auction process that will start at the club meeting on 24th January. These are highlighted in blue at the top of the list on the following page.

Offers are invited for all other items.

Watch out on the MKARS website and Facebook group for the meeting link for 24th January.



**Young MKARS
members
represent UK
in this
international
event**



Club Equipment Sale

- Yaesu FT450D
- Dentron MT2000A ATU
- Irwin Desman Morse practice oscillator with key 6490-99-219-2848 (event kit)
- Yaesu FT950 transceiver
- Yaesu FT101ZD Mk0 Transceiver, working, with user manual
- Watson CX-SW-4N coaxial aerial switch (VHF)
- G4CQM 2m 8 element beam
- KLM KT34A 4-element beam, serviced and working with Spares and Manual
- Icom IC746 with mic & 12V power cable & box
- Icom IC728 Transceiver (bent pot needs replacing) (no mic) with Icom PS55 psu
- Tennamast Head unit for Tennamast takes 50mm mast VGC
- BHI Noise filter
- Yaesu MH31A8J handheld microphone
- Spectrum 4m Transverter
- Kenwood CS5235 3-channel 40MHz Oscilloscope, with bag of probes
- Vintage Wates 3 In 1 meter, ex museum display (not working)
- Tool Kit, some for HF kits
- Dewsbury Supa-Tuta Morse trainer
- service manuals for Amateur Radio Equipment (most have now been sold)
- GEC-Marconi RC410/R Receiver (ex RMS "Queen Mary") with manuals
- Toa PA amplifier with 2x PA horns and 2-core cable
- Parmeko P 3064 output transformer ex dismantled audio amplifier (needs inductance test)
- Multicore cable for rotator
- Metal shelving unit - 1 off 3 ft
- Heathkit HM2140 Reflectometer / SWR meter with detachable sense head (for Dentron tuner)
- AVO DA116 digital multimeter, working (needs 4x "C" batteries)
- Rogers Cadet Mk3 Integrated Hi-Fi Amplifier (undergoing refurbishment)
- Aerial patch panel with 5 x patch cables
- Toa 5 x TU35 35W 16 ohm PA drive units (4 working, 1 for spares/repair)
- GEC 2x KT88 valves (to be tested) ex dismantled audio amplifier to be tested
- Wooden box of aerial clamps & hardware
- various lengths of ladder line and coaxial feeder
- Steel cable & locking bar for mast
- small hand winch
- Set of poles for small marquee (in wooden box 2200 x 330 x 250)
- Rotator cage
- Plastic toolbox with basic toolkit
- Parts for cubical quad aerial (poles & centre), jubilee clips and reel of wire (see later in list)
- Mastech M830B small multimeter
- Kenwood LF-30A filter
- Half-size G5RV aerial (unused)
- Bundle of spare poles for gazebos
- Tennamast Base & bracket for Tennamast (NEW)
- Goodmans Active 75 PC speakers (one grill missing)
- MFJ 949E ATU (switch now repaired)
- 80m Doublet aerial with ladderline feeder
- MFJ 784 DSP audio filter (with power cable)
- B&W 595 aerial switch
- Florabest 3 x Pole bases (Ground Screws) for ex-MOAJ vertical etc, with fitting levers
- Powerbeam G6HKS 2m 10 element yagi (refurbished and repaired)
- 2 x HL755 linear halogen (outdoor) lights for marquees / gazebos
- 2 x 8m Westflex coaxial cables
- MFJ 1700B aerial switch
- 10m length of LD450 feeder (unterminated, spare)
- 10m length of LD450 feeder
- 1 x Maintained (safety) light for marquees / gazebos
- 1 x 3 x 3m gazebo with poles
- 1 x 3 x 2m gazebo in wooden crate, with poles, guys and 2 water ballast tanks
- Abru 0245/0246 Ladder (2.8/5m)
- Bag of Moonraker PL259 & N types mixed RG58/RG213
- 2 New RS BNC-N type inter series adapters
- Fencing/bunting spikes x 14
- Bag of egg insulators
- 1 new plastic pulley
- Heavy cable earth leads
- Some mixed lengths of paracord
- 1 folding picnic chair
- K from TK bracket set galv new 25cm
- Wall standoff galv new 24cm
- Icom IC-PS15 PSU
- G450 etc Yaesu manual
- Trap dipole
- SQBM100 2/70 vertical
- Homebrew roller coaster SPC ATU (TAU / Capco SPC300, less case)
- R1155 Receiver + Power Supply & Loudspeaker Amplifier
- Polish Scouting Association Statue GOZHP (in wooden box with scroll)
- Morse training console
- Metal shelving units - 2 off 1.5 ft
- Yaesu FL2000B Linear Amplifier with 2 spare (used) 572B valves
- Tonna F9FT beam (1250-1260 MHz) New in box
- Drum of RA519 coaxial cable
- radio controlled clock
- Moonraker Trap Dipole aerial 160 / 80 / 40m
- Yaesu SP2000 Filtered Loudspeaker
- Plastic toolbox with basic toolkit
- Yaesu FT480R, mic and power lead with manual on CD
- 5 x plastic boxes of tent couplings etc (2.58 sq.ft each, stackable)
- 1 x 3 x 2m gazebo in wooden crate, with poles, guys and 2 water ballast tanks
- 24Way Molex for Icom
- Tarpaulins
- Watson W20AM 12V PSU (meters don't work)
- Diamond CP6 Multiband Vertical aerial

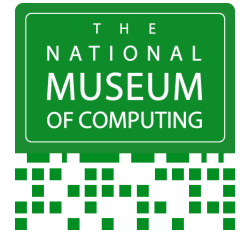
New club venue

The club committee have been reviewing options for a new location for the club over the past year. In September an opportunity arose to make use of facilities at The National Museum of Computing. The committee considered this to be an excellent opportunity to improve the club meeting environment. The museum have several rooms that can

be used by the club in addition to the main meeting room. This allows us to have skills workshops, special interest groups etc meeting at the same time.

The museum is located within the Bletchley park site and is much more accessible than our previous location with all rooms on the ground floor with level access to the building and good car

parking outside. To get to the museum, go through the main Bletchley Park entrance, through the barrier, walk or drive bearing left beyond the main car parks. Continue straight up the road to block H, you will see the TNMOC car park and sign. The MKARS entrance is on the right.



MKARS have moved

AGM & Committee News

We held our AGM on Monday 11th October with the outgoing committee at our new club home at The National Museum of Computing with members joining on zoom. The following members were nominated and elected as the officers of the committee:

Phil Gould, G4FVZ - chairman

Brendan Owen, G8IXK - vice chair

Francis Hennigan, MOUKF - secretary

Tim Cowell, G6GEI - treasurer

The committee proposed that the annual membership subscription would return to £25 per adult. The membership fee can be paid online (see website) or at a club meeting.

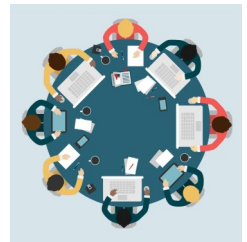
At the November committee meeting the following were co-opted onto the committee

Malcolm Richardson, MOGXZ

László Sánduly, MOBOY

Mark Gadeke, M5GDK

The committee meets once a month and would welcome your suggestions to include in the club programme.



Membership News

Exam successes

Congratulations to those that have had exam successes.

Tommy Sanduly passed his foundation exam and is now licensed as M7OMY.

Chris Clarke has passed his full exam and is now MOJVD

New Members

We are delighted to welcome the following new and returning members to MKARS:

Henry Cooper - GOBLQ

Krasimira Frampton - M7YAY

Andrew Thomas - G8GNI

Silent key

Sadly two of our members have passed away recently.

Tim Walker - MOTSW

Andrew Cygan - G7JQL

Congratulations!

Welcome



Milton Keynes ARS
Amateur Radio Society

Milton Keynes Amateur Radio Society

Meeting Venue:

The National Museum of Computing
Block H
Bletchley Park
MILTON KEYNES
MK3 6EB

(Due to COVID-19 precautions some club activities may be held online)

Web: www.mkars.org.uk
Email: information@mkars.org.uk

Please send items for the club newsletter to information@mkars.org.uk

The club for Radio Amateurs in and around Milton Keynes



[WWW.FACEBOOK.COM/
GROUPS/MILTONKEYNESARS](http://WWW.FACEBOOK.COM/GROUPS/MILTONKEYNESARS)



Weekly nets and coffee chats

Sunday 20:00 —club net on GB3MK

Wednesday 20:00 —Club net on 28.4MHz

Friday 10:30—coffee chat on Zoom

Meeting ID: 912 5115 4247

Passcode: coffee

Members Ads

This area is for placing advertisements for the MKARS members for items for sale, exchanged or available to be freecycled. Please included some words of description about the item with its condition and then your contact details.

Please ensure that all local and national COVID guidelines and restrictions are observed when viewing or collecting items.

For sale

Upgrading your station? —Want to sell some kit to fund a new purchase or make space? Send an email to information@mkars.org.uk and we can let the rest of the club know what you are selling.

Wanted/Exchange

Are you looking for a piece of kit for your station? - drop us an email and we will include it in a future edition.

Club Calendar

Monday 10th January : MKARS Committee meeting on Zoom.

Monday 17th January : MKARS : Open house with Committee – What do you want from your Club in 2022 ? - Zoom details to follow.

Monday 24th January : Sell off of MKARS equipment that we no longer use. The process for this will be announced shortly.

Monday 31st January : An introduction to Contesting – Joining the highly successful MKARS team – Tim, G6GEI. Zoom details to follow.

Monday 7th February : MKARS Committee at TMNOC.

Monday 14th February : Bring and Buy Table Top Sale at TMNOC

Monday 21st February : Skills Night -TBA

28th February – Building radio kits – some tips and tricks – Phil G4FVZ.

Monday 7th March – MKARS Committee TMNOC.

Sunday 28th August - MKARS annual radio rally at the Irish Centre, Manor Fields, Watling Street, Bletchley, MK2 2HX

We hope that you have enjoyed this edition of MKARS news. We look forward to featuring your projects in Shack Corner. To tell the rest of the club what you are doing or place a Members Ad, please email information@mkars.org.uk



Milton Keynes ARS
Amateur Radio Society

GB2BP - Bletchley Park
G8MKC - Training & Events

M5MK - Club Contest Call
M5EI - Irish Centre Call