

C.D.A.R.S.

April 2025

CHESHAM & DISTRICT AMATEUR RADIO SOCIETY MONTHLY NEWSLETTER

All About Repeaters - Part 2

We meet the 2nd Wednesday each month at The Golden Eagle Pub in Ashley Green and every 4th Wednesday each month at the Ashley Green Memorial Hall, Ashley Green, HP5 3PP



Technical

EFHW Antenna Install
Photo Diary

Regulars

*Dates For Your Diary
*Radio Rally Dates
*Contest Results

Want to write something for the newsletter?
Then you can contact me on
cdarsnews@gmail.com

Can't find that elusive part or have anything for sale?
Why not drop me an email and put it in
'For sale and wanted'.

Learn About.....

What are you interested in? Here are a few useful links:



FISTS CW Club

Promoting Morse Code for 36 years 1987-2023

<https://fists.co.uk>

VK3TBS

Learn About VARAC

<https://vk3tbs.home.blog/2024/03/06/vara-varac/>

Essex Ham

FT-8 Basics

<https://www.essexham.co.uk/ft8-basics-explained>

Essex Ham

What is PSK31? The Basics.

<https://www.essexham.co.uk/psk31-the-basics>

Welcome to LCWO.net

Learn Morse Code (CW) Online!

<https://lcwo.net/>

Electronic Notes

What is RTTY? The Basics.

https://www.electronics-notes.com/articles/ham_radio/digimode/s/what-is-rtty-radio-teletype.php



Celebrating the unique art form of Morse Code

<https://cwops.org/>



Morse Code by Ray Burlingame-Goff (SK - 29th July 2021)

<http://www.g4fon.net/>

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Chairman	- Dave Keston (G8FMC)	Secretary	- Malcolm Appleby (G3ZNU)	Treasurer	- Matt Whitchurch (M1DTG)
	- Guy Plunkett (M0GUY)		- John Hall (G0ODQ)		- Peter Holliday (2E0PTH)
	- Roger Fellows (2E0TGU)				

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

Newsletter Editor - Roger Fellows (2E0TGU) newsletter submissions to: cdarsnews@gmail.com

Welcome

Welcome to the April 2025 edition of the CDARS newsletter. This month there are all the usual reports for contesting including a report, (with photo's) on the 80m CC CW contest from the temporary station at Ashley Green Memorial Hall car park. While most of the members were tucked up warm at The Golden Eagle three fool hardy members were getting very cold just up the road. More on this in Dave G8FMC's 'Chairmans Ramble'.



Roger 2E0TGU

After the Club meeting at the Hall on Wednesday 26th March for Malcolm G3ZNU's talk on the VARAC data mode I have realised while compiling this months pages that we don't have a section on data modes of any type. While not everyones cup of tea there is obviously an interest by some club members in these modes by virtue of the numbers that attended the meeting. It would be good to include something each month if possible. So if you have any tips, tricks or even if you participate in any of the data mode contests it would be great to hear from you.

In response to this I have updated page 2 of the newsletter, titled 'LEARN ABOUT....' to include links for other modes other than just morse. Take a look!

Talking of club meetings at the Hall, we have John G4CZB from Northampton Radio Club presenting a talk and workshop about knots. Yes you read it correct. Knots. We all at some point erect antennas on poles of various different sizes and locations. The most paramount thing to consider is that the antenna stays where it was put and not cause damage to you, others and property. A good knowledge of knots to use to make sure this happens is a sensible thing to have. So join John for this on Wednesday 23rd April at 8pm at the Memorial Hall.

Roger 2E0TGU.

DID YOU KNOW?....

.....Shortly after the launch of the Shuttle STS-9, on November 28th, 1983 Owen Garriott (W5LFL) became the first amateur radio operator active in space.

Chairmans Ramble

New member Ata has been studying feverishly and passed his Foundation licence; well done Ata. New call sign is M7IBO. Hope to contact you on-air soon.

As reported last month, I have been looking at some changes to my wire antennas. The Fan Dipole is electrically excellent, but constantly hauling it up and down with the VHF antennas does not work smoothly! Additionally with the mast down the 40m wire in particular, is actually lying on my roof, so not usable due to significant de-tuning. This means the mast needs to be raised, even for the odd casual contact! (A bit of a chore) So, I am now happy to report that I have an EFHW (End Fed Half-Wave) for 80m and up!



Dave G8FMC

We had a sort of 'Dummy run' on Wednesday 12th March: As well as the club 'Informal' meeting (i.e. pub night) it was the 80m CC CW contest. A sprint event from 2000 – 2130 UTC. Roger 2E0TGU and myself met up outside the Hall at a little after 6.00pm, when there was still a little daylight. We threw up an EFHW with a centre main support about 10m AGL. Unfortunately the 2 ends were quite close to the ground, so rather less than ideal. We got a match of sorts (about 1.8:1 dip) at the low end about 3.55MHz & Malcolm's FTDX-10 ATU happily tuned the rest in to keep the rig happy. Roger and I had the antenna up and tuned by the time Malcolm (G3ZNU) arrived at about 1940 UTC. We were using Roger's camper van as a temporary mobile shack.

There was a bit of a hitch whilst setting up, when Malcolm's PC battery decided it was rather worse than he thought it was! We moved the van adjacent to the Hall kitchen door and ran a mains extension lead to keep it all alive. Malcolm also seemed to be missing a keyer lead so had to send all the info on his hand Paddle-key! Of course the van move meant we needed more coax (or move the antenna!) A quick rummage in our store cupboard in the Hall, produced something suitable.

We managed to get-on-air with a couple of minutes to spare. This time we were running 100W and were able to contact most of the stations calling fairly comfortably. (We were using S&P i.e. 'Search and Pounce') We made steady progress and managed the Bonus RSGB station of G16XX at about contact No. 24. Mark M7EFR popped in to see us (mad?) 3 at play briefly, but sensibly went back to the pub!

Since it was rather cold and a drink (and warm up) at the pub beckoned, we debated when to pull-the-plug? There was general agreement that we would reach 30 QSO's then do a quick strip-down and pack away. So about 2050 UTC we hit the 30 target and did a quick strip-down. Only about 20mins and it was all done, hall secured & over the road to the Golden Eagle. There was still a reasonable contingent there, although a couple had left.

Final count was: 30 contacts, one error + bonus meant a 32 point contribution. All good fun as they say.

On Monday 24th March Roger (2E0TGU) came over to help me with the antenna change at G8FMC QTHR. I had already taken down much of the Fan-Dipole and had pre-installed the 49:1 Balun just above the front RH corner of my Bungalow roof. I found a convenient unused vent grill in my soffit board about 1.2m from the corner where I was able to pass the coax through into the loft and then drop down (with the multitude of other cables!) into the shack.

I did a change round of the wires and cords, so that the raising cord now uses a porcelain insulator as a pulley instead of the nylon bush. This bush had started to crack from age, UV and the wear of the cord! This was the main culprit of the mechanical issues.

Initial tests with my friend John G4KXP in Droitwich suggest the EFHW is equal to the Dipole on 40m. Further tests to follow on 80m and other bands?

73 all, Dave K, G8FMC (Chairman & Contest Coordinator)



Dave G8FMC & Roger 2E0TGU (*Holding the torch was an important job!*) attaching antenna wire to 49:1 transformer



Setting up the FT-DX10 and computer before moving closer to the hall..



Malcolm G3ZNU begins operating.



Malcolm in full CW mode and wrapped up against the cold.

Please note all safety precautions were assessed and adhered too during the installation.



1



2



3



4



5



6



7

1. Remains of original fan dipole antenna.
2. Removal of the remaining fan dipole wires.
3. Preparing for the new EFHW wire.
4. New wire running through pulley supported from main mast.
5. Preparing the 1:1 Balun
6. Attaching wire to 49:1 transformer
7. Mounting point for 49:1 transformer complete.

Contests/Operating

The UKAC progress for 2025 (under the Northampton Radio Club banner)

With our enlarged group for 2025, we seem to be out-numbering Hereford and are hence fairly comfortably at the top of the 'Local Club' listings, winning most bands most of the time; with the exception of SHF, where Spalding now lead.

The latest overall results now stand at:

NRC & Friends = 5276pts (Normalised 1000pts on all bands except SHF)

Hereford = 3491pts

Spalding = 2454pts

At Hereford it would seem that although G4ASR continues with all bands, G1YBB is only doing 144, 432 & 1296MHz this year. Interestingly (considering his call-sign) GW4SHF is doing all bands EXCEPT SHF!

As mentioned last month our present 'weight-of-numbers' of middle ranking entrants is what is keeping us ahead of the rest. Keep up the good work chaps, even quite modest scores all 'add to the pot'.

March 144/432MHz Contest – the first in the 2025 VHF Championship series

This took place at the beginning of the month & was the first of 11 events spread over the year. We fielded 9 members, although some just part time due to family commitments. The most notable achievement was Charlie G0SKA who only operated on 2m, but bagged the top spot in the SF (Single Operator Fixed) category for that band and still maintained 3rd place over the 2 bands. John G0ODQ was 4th and Roger G3MEH 5th, over the 2 bands. Thanks to all who made an entry, which got us 2nd place behind Hereford overall. I suspect Hereford have all-but abandoned any attempt to win the UKAC's, but may be pushing hard this year for the VHF Championship AFS Trophy?

I was experimenting with the slightly lengthened 'Short Contest Call' of ME0K. It might work on HF, but it totally confused everyone on VHF/UHF! Add to that the fact that I never seem to get on well with more than 1 band/log at a time (I was always very bad at multi-tasking) and my efforts were rather a disaster! My contribution was thus rather nominal as I quit early; sorry chaps.

Note: VHF/UHF contests generally have separate logs for each band, whereas on HF it is usually a single log for all bands. I cope better with that; multiple logs open at the same time seems to challenge my simple brain and give rise to errors & frustration! 80m CC's – see also my Chairman's Ramble Our efforts on these events is rather nominal, but a few of us battle on.

On the 12th March we put on a token effort for the CW session, from outside the Ashley Green Hall. See my Chairman's Ramble including a few photo's.

On Thursday 27th it was the SSB 90 mins mad-house! I gave this a bash with the freshly installed EFHW at the G8FMC QTH. The 80m band jam-packed as usual, about 200 stations in 125KHz! I was purely S and P and made 67 contacts. My ability to break the pile-up seemed to be about the same, or very close, compared to the 80m Dipole?

73, Dave K, G8FMC (M0K, but probably NOT ME0K going forward?!)

All About Repeaters - Part 2

Repeater types

Conventional Repeaters

Conventional repeaters, also known as in-band or same-band repeaters, retransmit signals within the same frequency band, and they only repeat signals using a particular modulation scheme, predominately FM. Standard repeaters require either the use of two antennas (one each for transmitter and receiver) or a duplexer to isolate the transmit and receive signals over a single antenna. The duplexer is a device which prevents the repeater's high-power transmitter (on the output frequency) from drowning out the users' signal on the repeater receiver (on the input frequency). A diplexer allows two transmitters on different frequencies to use one antenna, and is common in installations where one repeater on 2 m and a second on 440 MHz share one feedline up the tower and one antenna. Most repeaters are remotely controlled through the use of audio tones on a control channel.

Cross-band repeaters

A cross-band repeater (also sometimes called a replexer), is a repeater that retransmits a specific mode on a frequency in one band to a specific mode on a frequency in a different band. This technique allows for a smaller and less complex repeater system. Repeating signals across widely separated frequency bands allows for simple filters to be used to allow one antenna to be used for both transmit and receive at the same time. This avoids the use of complex duplexers to achieve the required rejection for same band repeating.

Most modern dual-band amateur transceivers are capable of cross-band repeater access. A smaller subset are capable of being used themselves as a crossband repeater.

Amateur television repeaters

Amateur television (ATV) repeaters are used by amateur radio operators to transmit full motion video. The bands used by ATV repeaters vary by country, but in the US a typical configuration is as a cross-band system with an input on the 33 or 23 cm band and output on 421.25 MHz or, sometimes, 426.25 MHz (within the 70 cm band). These output frequencies happen to be the same as standard cable television channels 57 and 58, meaning that anyone with a cable-ready analog NTSC TV can tune them in without special equipment.

There are also digital amateur TV repeaters that retransmit digital video signals. Frequently DVB-S modulation is used for digital ATV, due to narrow bandwidth needs and high loss tolerances. These DATV repeaters are more prevalent in Europe currently, partially because of the availability of DVB-S equipment.

Satellite repeaters

In addition, amateur radio satellites have been launched with the specific purpose of operating as space-borne amateur repeaters. The worldwide amateur satellite organization AMSAT designs and builds many of the amateur satellites, which are also known as OSCARs. Several satellites with amateur radio equipment on board have been designed and built by universities around the world. Also, several OSCARs have been built for experimentation. For example, NASA and AMSAT coordinated the release of SuitSat which was an attempt to make a low cost experimental satellite from a discarded Russian spacesuit outfitted with amateur radio equipment.

The repeaters on board a satellite may be of any type; the key distinction is that they are in orbit around the Earth, rather than terrestrial in nature. The three most common types of OSCARs are linear transponders, cross-band FM repeaters, and digipeaters (also referred to as pacsats).

continued....

Linear transponders

Amateur transponder repeaters are most commonly used on amateur satellites. A specified band of frequencies, usually having a bandwidth of 20 to 800 kHz is repeated from one band to another. Transponders are not mode specific and typically no demodulation occurs. Any signal with a bandwidth narrower than the transponder's pass-band will be repeated; however, for technical reasons, use of modes other than SSB and CW are discouraged. Transponders may be inverting or non-inverting. An example of an inverting transponder would be a 70cm to 2m transponder which receives on the 432.000 MHz to 432.100 MHz frequencies and transmits on the 146.000 MHz to 146.100 MHz frequencies by inverting the frequency range within the band. In this example, a signal received at 432.001 MHz would be transmitted on 146.099 MHz. Voice signals using upper sideband modulation on the input would result in a LSB modulation on the output, and vice versa."Phase 3D Satellite Primer".

Store-and-forward systems

Another class of repeaters do not simultaneously retransmit a signal, on different frequency, as they receive it. Instead, they operate in a store-and-forward manner, by receiving and then retransmitting on the same frequency after a short delay. These systems may not be legally classified as "repeaters", depending on the definition set by a country's regulator. For example, in the US, the FCC defines a repeater as an "amateur station that simultaneously retransmits the transmission of another amateur station on a different channel or channels." (CFR 47 97.205(b)) Store-and-forward systems neither retransmit simultaneously, nor use a different channel. Thus, they must be operated under different rules than more conventional repeaters.

Simplex repeater

A type of system known as a simplex repeater uses a single transceiver and a short-duration voice recorder, which records whatever the receiver picks up for a set length of time (usually 30 seconds or less), then plays back the recording over the transmitter on the same frequency. A common name is a "parrot" repeater.

Digipeater

Another form of repeater used in amateur packet radio, a form of digital computer-to-computer communications, is dubbed "digipeater" (for DIGItal rePEATER). Digipeaters are often used for activities and modes such as packet radio, Automatic Packet Reporting System, and D-STAR's digital data mode. Also commercial digital modes such as DMR, P25 and NXDN. Some modes are full duplex and internet linked.

SSTV repeater

An SSTV repeater is an amateur radio repeater station that relays slow-scan television signals. A typical SSTV repeater is equipped with a HF or VHF transceiver and a computer with a sound card, which serves as a demodulator/modulator of SSTV signals. SSTV repeaters are used by amateur radio operators for exchanging pictures. If two stations cannot copy each other, they can still communicate through a repeater.

One type of SSTV repeater is activated by a station sending it a 1,750 Hz tone. The repeater sends K in morse code to confirm its activation, after which the station must start sending a picture within about 10 seconds. After reception, the received image is transmitted on the repeater's operation frequency. Another type is activated by the SSTV vertical synchronization signal (VIS code).

Depending on the software it uses (MMSSTV, JVComm32, MSCAN, for example), an SSTV repeater typically operates in common SSTV modes.

Source: Wikipedia.

Contest Calendar for April and May 2025

April - HF

Day	Date (2025)	Time (UTC)	Contest Name
Sat-Sun	05-06 Apr	1200-1200	FT4 International Activity Day
Mon	07 Apr	1900-2030	80m CC CW
Wed	16 Apr	1900-2030	80m CC SSB
Thu	24 Apr	1900-2030	80m CC DATA
Sat-Sun	26-27 Apr	1200-1200	UKEI DX CW Contest
Mon	28 Apr	1900-2030	RSGB FT4 Contest

April - VHF

Day	Date (2025)	Time (UTC)	Contest Name
Tue	01 Apr	1800-1855	144MHz FMAC
Tue	01 Apr	1900-2130	144MHz UKAC
Wed	02 Apr	1700-2100	144MHz FT8 AC (4 hours)
Wed	02 Apr	1900-2100	144MHz FT8 AC (2 hours)
Tue	08 Apr	1800-1855	432MHz FMAC
Tue	08 Apr	1900-2130	432MHz UKAC
Wed	09 Apr	1700-2100	432MHz FT8 AC (4 hours)
Wed	09 Apr	1900-2100	432MHz FT8 AC (2 hours)
Thu	10 Apr	1900-2130	50MHz UKAC
Tue	15 Apr	1900-2130	1.3GHz UKAC
Thu	17 Apr	1900-2130	70MHz UKAC
Tue	22 Apr	1830-2130	SHF UKAC

May - HF

Day	Date (2025)	Time (UTC)	Contest Name
Mon	13 May	1900-2030	80m CC SSB
Mon	20 May	1900-2030	RSGB FT4 Contest
Wed	22 May	1900-2030	80m CC DATA
Thu	30 May	1900-2030	80m CC CW

May - VHF

Day	Date (2025)	Time (UTC)	Contest Name
Sat-Sun	03-04 May	1400-1400	May 432MHz-245GHz Contest
Sat	03 May	1400-2000	432MHz Trophy Contest
Sun	04 May	1100-1500	1st 144MHz Backpackers
Sun	04 May	0800-1400	144MHz May Contest
Tue	06 May	1800-1855	144MHz FMAC
Tue	06 May	1900-2130	144MHz UKAC
Wed	07 May	1700-2100	432MHz FT8 AC (4 hours)
Wed	07 May	1900-2100	432MHz FT8 AC (2 hours)
Thu	08 May	1900-2130	50MHz UKAC
Sun	11 May	900-1200	70MHz Contest CW
Tue	13 May	1800-1855	432MHz FMAC
Tue	13 May	1900-2130	432MHz UKAC
Wed	14 May	1700-2100	432MHz FT8 AC (4 Hours)
Thu	15 May	1900-2130	70MHz UKAC
Wed	14 May	1900-2100	432MHz FT8 AC (2 Hours)
Tue	20 May	1900-2130	1.3GHz UKAC
Tue	27 May	1830-2130	SHF UKAC

Dates For Your Diary



Listed below are dates of RSGB, UK and International contests for 2025.

Classic Exchange, CW - 1300Z, Mar 30th 2025 to 0700Z, Mar 31st 2025
and 1300Z Apr 1st 2025 to 0700Z, Apr 2nd 2025.

VHF-UHF FT8 Activity Contest - 1700Z-2100Z, Apr 2nd 2025

UKEICC 80m Contest - 2000Z-2100Z, Apr 2nd 2025

EA RTTY Contest - 1200Z, Apr 5th to 1200Z, Apr 6th 2025

RSGB FT4 International Activity Day - 1200Z, Apr 5th to 1200Z, Apr 6th 2025

RSGB 80m Club Championship, CW - 1900Z-2030Z, Apr 7th 2025

Yuri Gagarin International DX Contest - 1200Z, Apr 12th to 1159Z, Apr 13th 2025

ARRL Rookie Roundup, SSB - 1800Z-2359Z, Apr 13th 2025

RSGB 80m Club Championship, SSB - 1900Z-2030Z, Apr 16th 2025

International Vintage Contest HF - 0700Z-1100Z, Apr 20th and 1500Z-1900Z, Apr 20th

DARC Easter Contest - 1500Z-1729Z, Apr 21st 2025

RSGB 80m Club Championship, Data - 1900Z-2030Z, Apr 24th 2025

UK/EI DX Contest, CW - 1200Z, Apr 26th to 1200Z, Apr 27th 2025

Full details and more contests at: <https://www.contestcalendar.com/contestcal.html>

Please double check dates, start/end times etc in good time prior to the event.

Radio Rally Dates.

Full details of the events are available in Radcom & the RSGB website.

April 2025

6th - Hack Green Military Surplus & Military Radio Hangar Sale, Hack Green Secret Nuclear Bunker, Nantwich, Cheshire, CW5 8AL.

12th - Yeovil Amateur Radio Club QRP Convention, Digby Hall, Sherborne, Dorset.

13th - NARSA Blackpool Rally Norbreck Castle Exhibition Centre, Blackpool FY2 9AA

13th - Holsworthy ARC Spring Radio Rally, Holsworthy Live Stock Market, Holsworthy, Devon. EX22 7FA.

19th - Moray Firth Amateur Radio Society Surplus Sale, Roseisle Village Hall, Nr. Burghead.

27th - Cambridge Repeater Group Rally, Foxton Village Hall, Hardman Road, Foxton, Cambs CB22 6RN.

May 2025

5th - Dartmoor Radio Rally, The Yelverton Memorial Hall, Yelverton, Devon, PL20 6AL.

11th - Retrotech UK (British Vintage Wireless Society), Leamington Road, Ryton-on-Dunsmore, Coventry CV8 3FL.

18th - West of Scotland Braehead Radio Rally, Braehead Arena, Glasgow, G51 4BN.

18th - Lough Erne Amateur Radio Club 41st Annual Rally, Lisnaskea, Enniskillen, BT92 0UZ.

25th - Durham and District ARS Radio Rally Bowburn Community Centre, Bowburn, Co. Durham. DH6 5AT.

August 2025

10th - Flight Refuelling Hamfest. *(Further Details to Follow)*

(All information courtesy of Radcom & the RSGB website)



For Sale and Wanted

SK sale of the shack contents of the late Bryan M0IHY (Items with Dave G8FMC)

ITEM	ASKING PRICE or O.V.N.O.
1. Power Mag 145 – large magnetic mount + cable (new £62) New & boxed.	£40
2. Comet CHA-250HD/BXII Multi-Band HF Vertical Antenna (new £350) 250W SSB 75W Data. See March 2024 PW review. As new, unused	£220
3. Moonraker MRQ750 2m/70cm Mobile whip (new £35) Unused as new	£25
4. HF Mobile/portable antenna PL259 fitting e.g. large mag-mount? Unused	Sold
5. Modified Cobweb antenna (Polish) (new £200)	£70
6. Sangean ATS-909X2 all-band portable receiver £225 ish new boxed	£150
7. QRM Eliminator X-phase 1-30MHz - £45 new	£25
8. Kent Straight key	£65
9. CW Keyer TC 701 - £70 new	£45
10. Soldering Station (basic) 60W	Offers
11. IGEN Max regenerative receiver. eBay US has an unbuilt kit at £160.	£50
12. Lead-free solder & cleaner (in bag)	Offers
13. SWR meter Moonraker SWR-300 120-500MHz £35 new	£15
14. Austcol Radiation Meter MT525 -£25 online average price new.	£10
15. Signalink USB sound Card 8pm. £120 new	£70
16. Metro VNA in case (£270 new)	£175 (Reserved)
18. Prepp Comm multi-band morse transceiver. Approx £358 new.	£225
19. MFJ Super Hi-Q Loop Remote Control . Unknown model.	?
20. QRP Kits EFHW Tuner	Offers

Please initially contact Dave G8FMC if interested:- g8fmc547@gmail.com