



Chelmsford Amateur Radio Society Newsletter

May Meeting

Tue 3-May-2022, 7:30pm
Danbury Village Hall

Is Life too Short for QRP?

By Steve Hartley G0FUW

For our next meeting on May 3rd we are delighted to have Steve Hartley, G0FUW, who will be talking about QRP -

His topic is operating with low power, the G-QRP Club and how he went from being a CBer to now being Chairman of the G-QRP Club.

Steve is also a Trustee of the RCF and leader of Bath Based Distance Learning – and a former RSGB Board member too!

In brief: Is life too short for QRP, and how did I get here?



Note our new meetings venue!

CARS meet on first Tuesdays at Danbury Village Hall CM3 4NQ and no longer use Oaklands Museum.

Radio Surplus to recycle? - Members are welcome to bring it along and place it on a spare table!

Zoom:

Quick Link:

<https://us02web.zoom.us/j/87215446400?pwd=MIBxeEtQc3VBdnpvazNOBGxvaHFKZz09>

- Meeting ID: 872 1544 6400
- Passcode: 055551

CARS Activity & On the Air: Saturday 21st May is the Writtle 2MT Anniversary weekend

- see details in inside

In this issue:-

Club Diary..... 2
Club Nets..... 2
Training & Morse Classes 2
April Meeting: Radar History 3

International Marconi Day 20224
Saturday May 21st 2MT Writtle Anniversary Event ...5
New Book: 2MT WRITTLE - 1922-20225
Coming Up in June: Jim Salmon 2E0RMI5

Club Diary

Tue 3-May-2022	Club meeting: Steve Hartley G0FUW - QRP	Danbury Village Hall
Sat 21-May-2022	2MT Celebration Special Event / Demo	Writtle Village Hall
Tue 7-Jun-2022	Club Meeting: Jim Salmon 2E0RMI - 10 Different Radio Topics	Danbury Village Hall

Club Nets

CARS meets for talks/events on the first Tuesday of the month. The subsequent Tuesdays have club radio nets as follows below and dates listed on our calendar at www.g0mwt.org.uk/main/events/categories/net/ :-

- **2nd Tuesday in the Month – VHF**
The CARS VHF FM Net uses GB3DA from Danbury starting at 8pm (local).
GB3DA is 145.125MHz Input and 145.725MHz Output - and CTCSS-only (110.9Hz), 2min timeout
If for any reason GB3DA is not available then 145.375 Simplex will be used. Vertical aerials are best for this
- **3rd Tuesday in the Month - UHF**
The CARS UHF FM Net uses GB3ER from Danbury and starting at 8pm (local).
GB3ER is 434.675MHz Input and 433.075MHz Output - and is CTCSS-only
Vertical aerials are best.
- **4th Tuesday in the Month - HF**
The CARS 80m Net on "3756kHz" Night, SSB and starting at 8pm (local).
Horizontal aerials are best. The idea is to enable distant CARS Members to join the Net.
- **5th Tuesday in the Month (when there is one!) - MF**
This is the CARS Top Band Net on 1947/1950 kHz +/-QRM, LSB and starting at 8pm (local).
Horizontal aerials are usually used for this Net. A reminder - limit your power to a max of 30 Watts, please.

Training & Morse Classes**CARS Training classes at Danbury:**

If you are interested in these or other opportunities in 2022, please contact **John O'Connell M0JOC** our training coordinator and Exam Secretary

We currently are running fast-track courses at Danbury to assist with the Intermediate and Full

John can be contacted via training2022@g0mwt.org.uk or 07868-004380

More info and other updates are at: www.g0mwt.org.uk/training

Online Morse Classes: Thursday evenings at 7pm. Coordinated by Andy G0IBN who has on-air practice sessions and via Skype too... <https://join.skype.com/clsfKXKmlNvf>

- contact Andy via morse2022@g0mwt.org.uk

 Follow @TrainWithCARS

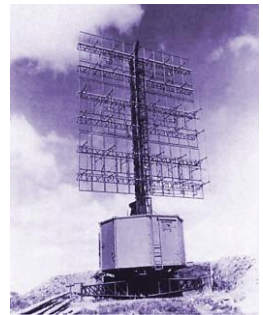
April Meeting: Radar History

Our April talk provided a fresh and fantastically well illustrated perspective on the history of radar.

Our speaker Philip Benstead has been involved with the development & implementation of radar systems from 1964 through to 2020. His career started as a Marconi Apprentice in 1963-68, including a time with Marconi Radar at Great Baddow. His early work included NADGE, before moving to Plessey Radar on the Isle of Wight in 1976. His time there covered MESAR, 996 and Watchman radars. After attending a talk at Bletchley he realised that radar history has some earlier origins than Robert Watson Watt.

Philip outlined some early chronology:-

- **1895:** Russian Alexander Popov observed ships passing his lighting detector caused signal returns
- **1904:** Christian Hulsmeyer (a German inventor), developed a crude proximity detector intended for ships to avoid colliding in fog (granted a patent in 1904). But this was abandoned in 1905
- **1921:** The basic Magnetron was invented by American Albert Hall (The Germans preferred the Klystron)
- **1933/4:** German Rudolph Kuhnold develops prototype equipment that later became Freya radar
- **1935:** On 26th February Daventry experiment by Watson Watt and Arnold Wilkins detects a Heyford Bomber illuminated by the 49m wavelength from the BBC Daventry Transmitter (following fears of RF Death Rays!, but also other experiments in the UA and Russia)
- **1940:** Cavity Magnetron - Randall and Boot at Birmingham University (productionised by GEC/Marconi)



Prior to Daventry, the UK effort had been on acoustic detectors including unwieldy huge concrete sound mirrors. After Daventry, radar development moved in 1935 to Bawdsey Manor on the Suffolk coast prior where it developed rapidly to the deployment of the Chain Home (AMES Type-1) radar network, such as the mast now at Baddow.



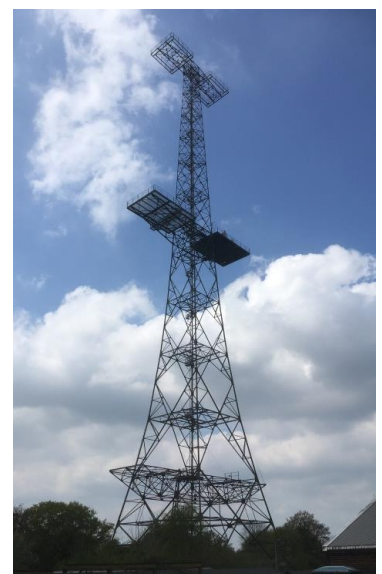
One early key contrast was that whilst the Chain Home radar systems for the Battle of Britain were on ~20-30MHz, the German Freya system was up at ~220MHz (which is why the Germans did not correctly identify CH).

Another key difference was that Chain Home was one element of an integrated reporting and control system that Dowding implemented for RAF Fighter Command. In contrast the Germans did not integrate their radars to anything like the same degree.

Later on Magnetrons and other developments enabled the move to convenient microwave frequencies so that smaller antennas could form accurate directional beams; or even ground imaging for night time (H2S was at 3GHz) – the latter by Bernard Lovell (who later went onto create the Jodrell Bank radio telescope)

Our thanks to Philip for a 100-slide tour of radar history

Photos: Freya, Acoustic Mirrors and Chain Home tower (Great Baddow)



International Marconi Day 2022

Good conditions as well as contest activity made for a busy time for on HF for International Marconi Day on Saturday 23rd April 2022.

CARS club call GX0MWT was registered as an official award station and operated with the kind permission of BAE Systems at Great Baddow, formerly the Marconi Research Centre.

Operators: Andy G0IBN, John M0JOC, Steve M0LCF, Paul G4PVM - supported by Murray G6JYB, Colin G0TRM, Andy G1GKN.

Three stations were in use, two on HF and one on VHF/UHF

- **HF:** Flex Radio 6500 & Icom IC756 with a Hexbeam for 10-20m, dipoles for 40 & 80m. Dual HF operation was enabled by the use of the new CARS HF Bandpass filters from Low Band Systems
- **VHF:** FT7900 and a Diamond X30 for 2m.

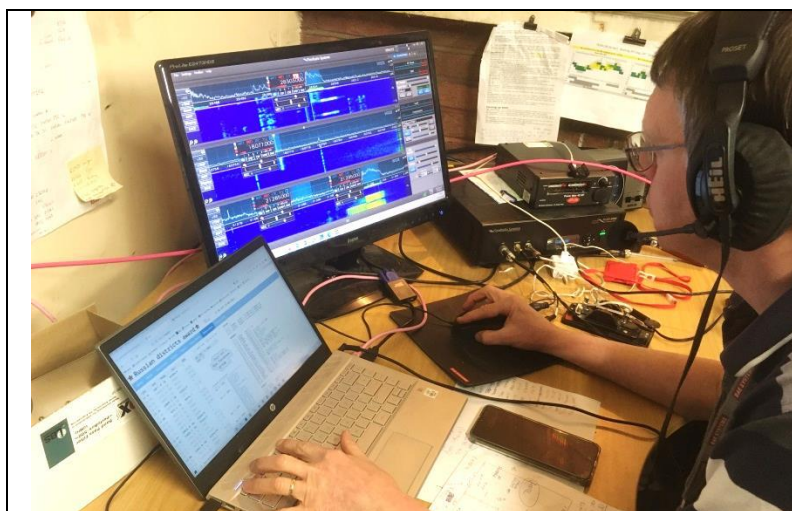


Results Highlights:

- **We made 340 QSOs with 42 different countries.**
- The vast majority of QSOs were with Europe (94%).
- DX: 13 US stations, Canada, Algeria, Asiatic Russia, Kazakhstan and the Falkland Islands.
- We made 19 QSOs with 18 different IMD stations.

Band	Mode	QSOs
3.5	LSB	3
7	CW	54
7	LSB	103
10	CW	27
14	CW	84
14	USB	4
18	CW	11
21	CW	22
28	USB	1
144	FM	31
Total	Both	340

Overall an enjoyable activity day and we hope to receive an IMD award certificate for our efforts



**Paul G4PVM using Flex6500 SDR
– modern C21 Tech!**



**John M0JOC with an
original Marconi key**

Saturday May 21st 2MT Writtle Anniversary Event

Following the successful centenary event on 14th February, CARS will return to Writtle for their 2MT Anniversary Weekend.

Writtle have a variety of events

We plan to have both HF and VHF stations on air along with other demonstrations in the rear room of Writtle Village Hall (same place as February)

Operators and volunteers should contact Paul G4PVM

CARS will be setting up at ~10am. Visitors welcome. Related events and info at:

<https://writtle-pc.gov.uk/event/writtle-celebrates-marconi-in-2022-21st-may-celebrations/>

**New Book: 2MT WRITTLÉ - 1922-2022**

Tim Wander has released his new book to mark the Centenary of British Radio Broadcasting and details/ordering is on <https://2mtwrittle100.co.uk/>

A new, limited edition book – only 300 copies - published in in the centenary year of the radio station (and the BBC!).

Each book is signed and numbered by author - 208 Pages Full Colour A4.

With many new, previously published and coloured photographs.

The complete story of Britain's first regular scheduled radio station that changed the world.

The book will be launched at the **2MT Writtle Heritage Lecture on 17th May 2022** at Writtle University - tickets to the lecture via Eventbrite:-

www.eventbrite.co.uk/e/2mt-writtle-1922-2022-the-centenary-of-british-broadcasting-tickets-259542276937

**Coming Up in June: Jim Salmon 2E0RMI**

For our next June meeting we will have a talk by CARS member Jim Salmon looking at 10 radio topics different to Amateur Radio.

This could cover shortwave broadcasting, Thames forts, tall radio masts, 2MT, numbers stations, live streaming, World Radio Day, - & more!

This will be a brief look at a variety of subjects, from a radio enthusiast (who's also a radio ham!).

NOTE: This meeting is a physical one – Join us and Jim at Danbury Village Hall



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