NEWSLETTER

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C.D.A.R.S.

July 2024

CHESHAM & DISTRICT AMATEUR RADIO SOCIETY MONTHLY NEWSLETTER

From The Archives - Radio Shacks From The Past

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

GEE - H Navigation - How Radio Helped Bomber Command Get On Target.

Club Visit

Report of the visit to RAF Henlow Signals Museum.

For Sale and Wanted

SK sale of Bryan M0IHY

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'.

Morse links

If you're interested in Morse code, here are a few useful links:

FISTS CW Club

Promoting Morse Code for 36 years 1987-2023

https://fists.co.uk

Wikihow

How to learn Morse Code

https://www.wikihow.com/Learn-Morse-Code

The Ham Whisperer

Morse Code Course

http://www.hamwhisperer.com/p/morse-code-course.html

LEARN MORSE CODE

LEARN MORSE CODE in one minute !

http://www.learnmorsecode.com/

Welcome to LCWO.net

Learn Morse Code (CW) Online!

https://lcwo.net/

Tools for learning Morse Code

https://www.aa9pw.com/morsecode/

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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Welcome

Roger M7RMF

Welcome to the July issue of the CDARS newsletter. At the time you receive this it will only be 3 days to the General Election but more importantly it will only be 5 days to VHF National Field Day. Hopefully the weather will be kind and stay fine. More details on the this from Dave G8FMC in the Chairmans Ramble and the Contest updates pages.

Earlier in June some members visited the Signals Museum at RAF Henlow. We have lots of photo's and a report by Mark M7EFR. The RAF theme continues with our main feature which is about how radio helped bomber command navigate Lancaster bombers to their intended target during WW2.

From The Archives returns in this issue with a look at the 'Radio Dens' of the 1950's and 1960's. More commonly known these days as the 'Radio Shack'. Peter 2E0PTH looks at some unusual setups.

There are all the usual upcoming contest and radio rally dates and, sadly, there is, in the 'For Sale and Wanted' section, items of the SK sale of Bryan M0IHY. As some may know Bryan was full time carer for his wife Angie and unfortunately on Bryans passing most of the financial assistance he recieved ended which left Angie financially vulnerable. Hopefully with the sale of the items it will generate some much needed funds for Angie.

Roger M7RMF

Chairmans Ramble


Dave (G8FMC)

I have been somewhat preoccupied recently with preparations for our VHF Field Day in the Wigginton field on 6 – 7th July. More specifics on my 'Contest' page.

I seem to have become the 'contest equipment store site' for antennas, coax, preamp etc. I am not sure if I have a jinx, but it seems that almost everything I gather-in from others has faults or at least minor issues?! Coax has become a major issue, but first:

We have 'borrowed' Phil G4FVZ from MKARS for VHF FD & as well as an experienced operator, he has kindly loaned equipment, specifically for the 23cm (1296MHz) band. CDARS do not have many folks who 'explore' such high frequencies! (I have never had a single QSO on 23cm, in over 50yrs of Ham Radio. There again some might say I am a Luddite, or have little ambition for such new experiences?)

I had collected from Phil G4FVZ his 44 element Wimo beam, a short length of serious looking coax (Ecoflex 15) & a 23cm mast-head preamp of a known & trusted German pedigree. Having been testing the loss of a number of cables (I will get to that shortly) I decided to check the 'through-loss' (in transmit) of the preamp. Having been an RF development engineer for a significant part of my professional career, I do like my test equipment & have a Rigol 1.5GHz Spectrum Analyser, with Tracking Generator. (Ex G3NPI after he went SK) This instrument allows one to sweep the generator from 9KHz to 1.5GHz (or any part of that) & display the response on the Spectrum Analyser bit. This is incredibly useful for adjusting filters, amplifiers & measuring the loss of coax cables etc. So I checked the 23cm Preamp & was a bit aghast to see massive loss at low frequencies & about 7.5dB of loss at 1296MHz! That would mean most of our modest 10W would be lost in the 'Through' mode of the preamp, never mind in the feeder cable. Since the Tracking Generator is only about 1mW, I decided to double check using a few Watts on 432MHz. If anything it was worse, with very little power making it to the output.

Now these 'Mast-head Preamps' have very expensive & low loss coax relays to switch the preamp into circuit on receive & straight through on transmit. They are generally configured to be 'energised' in RX mode; either by an external 12V DC source, or often via a 'Bias T'. This feeds the 12V up the coax inner during RX, separated from the RF signal by small RF isolating chokes & DC blocking capacitors at either end. (The IC9700 has this facility built-in & selectable from the appropriate menu). This means the Preamp is energised in RX & de-energised (i.e. at rest) in TX mode. Although this may at first seem counter-intuitive, it is a good plan, as if the preamp or its 12V power feed fails, one can carry on operating without the preamp in circuit.

So, the loss in 'unenergised' state I would have expected to be about 0.1dB -0.2dB? With Phil's permission I opened the unit up & investigated. The relays looked OK & switched cleanly when energised. I did treat the contacts to a tiny spot of switch cleaner, as I had the covers off. Eventually, after close inspection under a magnifier, I spotted a fractured solder joint on the centre pin of the rig side 'N' connector where it should be connected to a small chip blocking capacitor! (To allow the TX power through, but block the 12V dc on the coax inner). Phil came over armed with some chip capacitors & his soldering kit. He fitted a replacement capacitor & all was much better, about 0.5dB loss at 1296MHz. The replacement capacitor was not of a high power rating, but we will be running just 10w, so no matter. A fully rated component will be fitted in due course after Field Day.

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

Contests/Operating

The UKAC's 2024

No change from last month, with CDARS & friends still maintaining 3rd place quite close to Hereford. 432MHz & 1296MHz continue to be the bands where we beat Hereford most of the time, which makes me feel a little smug; thanks guys. No doubt David G4ASR of Hereford (who does like to win!) isn't so happy when the CDARS & friends team beats them? I can imagine his language might get a bit colourful on such occasions? The last 50MHz UKAC was a bit interesting with lots of Sporadic-E; although not so 'sporadic' thinking about it? It is quite strange to go from a max of maybe 200 – 300Km, to suddenly 59+ signals from 1200 – 2000Km!

I was 40mins late on parade but still managed to play 'catch-up' fairly well. We had 9 logs entered, including Andrew M7RWK/P a relatively new addition to the UKAC's from the Northampton club; thanks for the quite significant entry Andrew.

VHF Championship 2024 (AFS section)

Still in 1st place amazingly! Good results in the May 2m event (just behind Hereford) Some performers of note were;
In SF = Roger G3MEH 3rd place, Phil M0N (M0NVS) 5th & your scribe in 7th which got me the certificate for the lead 'Single antenna & 25W or less' station in the SF category! (Another piece of 'wallpaper' for the radio room. All that time & grind worth it.) In 6S = Charlie G0SKA 3rd, David G4RGK 6th & Dave G1MZD in 12th. Thanks also to several others who produced a good number of additional points to help boost the total.

The 50MHz Trophy on June 15-16th we again had lots of (non?) Sporadic-E with some great distances available. Yours truly, flushed with the 144MHz success, again tried masochist-mode of just 25W, when I could have mustered 500W? It did not really work this time & I am well down in the ratings, having had trouble getting-through the pile-ups for the wanted EU stations!

We fielded 8 stations under the CDARS banner. Although operating from the Verulam clubs site, Phil M0NVS & Anthony G7LRQ put on M0N with points to CDARS, thanks chaps. Some quite good scores from a few others, including Andrew M7RWK again.
We await final scores with interest.

Other Contests:

The big one in serious planning at the moment is the VHF Field-day; 6-7th July, when we will be at Wigginton again. Still the Multi-Single (MS) or Single Transmitter category but this time we have chosen 2m, 70cm & 23cm bands. As mentioned in my Chairman's piece, Phil G4FVZ has offered his services to us as MKARS weren't doing anything this year & was planning to be available both days. However it seems the 'Station Manager' (XYL) has volunteered Phil to help her on the Saturday at a local community Bar-B-Q! Phil is hoping to escape for a while, but may not be available until Sunday. He has however volunteered to do an early stint on Sunday morning; well volunteered that man!

73, Dave K, G8FMC

GEE-H Navigation System

Gee-H (navigation)

Gee-H, sometimes written G-H or GEE-H, was a radio navigation system developed by Britain during the Second World War to aid RAF Bomber Command. The name refers to the system's use of the earlier Gee equipment, as well as its use of the "H principle" or "twin-range principle" of location determination. Its official name was AMES Type 100.
Gee-H was used to supplant the Oboe bombing system which worked along similar lines. By measuring and keeping a fixed distance to a radio station, the bomber would navigate along an arc in the sky. The bombs were dropped when they reached a set distance from a second station. The main difference between Oboe and Gee-H was the location of the equipment; Oboe used large displays in ground stations to take very accurate measurements but could only direct one aircraft at a time. Gee-H used much smaller systems on aircraft and while somewhat less accurate, could direct as many as eighty aircraft at a time.

Gee-H entered service in October 1943 and first used successfully in November against the Mannesmann steel works at Düsseldorf on the night of 1st & 2nd November, when about half of the sets failed leaving only 15 aircraft to bomb the factory. Gee-H remained in use throughout the war, although it was subject to considerable jamming from the Germans. It also remained a standard fixture of post-war RAF aircraft like the English Electric Canberra. Gee-H was adapted by RCA into the US wartime SHORAN system with improved accuracy. The same basic concept remains in widespread use today as the civilian DME system.

Development history

Distance measuring navigation

Determining your location in 2D space requires two measurements of angle or range - two angle measurements, two distance measurements, or one angle and one distance. Early radio navigation was typically based on taking two angle measurements using radio direction finders, but these were accurate only to a few degrees and only provided accuracy on the order of tens of miles. The development of range-based systems had to wait until the invention of accurate time measurement of radio signals were possible, which came about as a result of the development of radar.
The Luftwaffe pioneered the use of distance-measuring radio navigation systems with their Y-Gerät system in 1941. Y-Gerät used a Knickebein-like beam for steering the bomber in the proper direction and an onboard transponder for distance measurements. A special signal was periodically sent from a ground station, and on reception, the transponder would send out an answering pulse after a known delay. A ground operator used an oscilloscope to measure the time between broadcast and reception and deduced the range in a fashion similar to conventional radar systems. They then radioed this information to the bomber by voice, telling them when to release their bombs.
A failing of the beam-type system of navigation is that the beams cannot be focused perfectly and in practice are fan-shaped, growing wider with distance from the broadcaster, accuracy falling with range. Measurements of distance are dependent only on the accuracy of the equipment, and are independent of range. This means their accuracy is a fixed percentage of the measurement, and so is linear with range.
It is possible to use two measurements to provide a location fix, but such systems are generally difficult to use, as they require two range measurements to be made in quick succession, while the aircraft is moving.
Oboe
The Air Ministry developed a distance-measuring system known as Oboe which first started reaching the Pathfinder Force in late 1941 and was used experimentally in 1942. Oboe avoided the problems with two distance measurements by using only one at a time. Before the mission, the distance from one of the Oboe stations to the target was measured and an arc of that radius drawn on a conventional navigation chart. For instance, for an attack on a target in Düsseldorf, the distance between the Oboe station near Walmer and the target would be about 235 mi (378 km); an arc with a 235 mi (378 km) radius around the station would be drawn, passing through Düsseldorf.[Now the "range" of the bombs being dropped would be calculated, the distance between the point where the bombs are released and the point that they hit. For missions around 20,000ft (6,100m) in height, range is typically on the order of 1.5mi (2.4km) for a high-speed aircraft like the de Havilland Mosquito. The planners would calculate the place along the arc where the bombs would need to be dropped to hit the target. This calculation, carried out on the ground, could be as time-consuming as

required, allowing for the consideration of winds, atmospheric pressure, even the tiny centrifugal force generated by the aircraft following the 235 mi (378km) radius curve

During the sortie, the bomber crew would fly to one end of the arc using any means of navigation including dead reckoning. When they were near the location, the transponder was switched on and the Oboe station would measure their distance. This “cat” station would then send out a voice-frequency radio signal of either dots or dashes, allowing the pilot to adjust the path to be at the right distance, where the transmission would be a steady tone, the “equisignal”.[Operators would watch the position of the aircraft, sending out correcting signals as needed so the pilot could adjust the path along the arc.
A second station would also measure the distance to the bomber. This station was equipped with the bomb’s range value calculated earlier and had used this to calculate the distance between their station and the bomber at the point where the bombs should be dropped. When this mouse station saw the bomber approaching the drop point, it sent Morse code signals to inform the pilot that the drop point was approaching. At the right moment, it would send another morse signal that would drop the bombs automatically.

The main constraint with Oboe was that it could only be used by one aircraft at a time. As it took about ten minutes for the bomber to get onto the arc, this delay meant that the system could not be used for a large raid with aircraft in succession. Oboe was used to guide the target marking aircraft of the pathfinder force, giving the Main Force bombers an accurate aiming point in any weather. Oboe was sometimes used for attacks on precision targets by one or a small number of aircraft dropping one after the other. In tests, Oboe demonstrated accuracies greater than those of optical bombsights during daylight in good weather.

A new approach

Oboe was limited to one aircraft because the onboard transponder would send pulses every time the ground stations queried them. If more than one aircraft turned on their transponder, the ground stations would start to receive several return pulses for every query, with no way to distinguish between them. One solution to this problem is to have each Oboe station send out a slightly different signal, normally by changing the envelope of the signal it broadcasts to the aircraft. Similar stations with different signal modifications can be situated around the UK, so that all of them are visible to an aircraft over Germany. An aircraft that turns on its transponder will receive and re-transmit signals from all of them. Although all of the ground stations will receive all of the signals, they can pick out their own by looking for their unique signal. This change allows many Oboe stations to be operational at the same time, although it does not help the situation if more than one aircraft turns on their transponder. Swapping the transmitters and receivers, so that the receiver is on the aircraft and the transmitter on the ground means that each aircraft generates a different signal pattern, and the operators on the aircraft can look for their own signal and ignore the others. Any number of aircraft can use the same station at the same time. As long as the ground station is equipped to quickly turn the signals around and the aircraft do not query too often, the chance of more than one aircraft querying the station at the very same time is low. This is the basic concept behind Gee-H.

de Havilland Mosquito B Mk IV Series 2

The first radio navigation system to be operated by Bomber Command was Gee. This operated by sending out two pulses of known timing from ground stations which were picked up by the aircraft and read on an oscilloscope. The timing between transmissions was not fixed and varied from station to station, so the equipment in the bomber had a system that allowed it to adjust for this.The receiver had a local oscillator that provided a time base generator that could be adjusted. When the receiver was first turned on, the pulses from the ground station would move across the display because the two time bases were not synchronized. The operator then tuned their oscillator until the pulses stopped moving, which meant that the local oscillator was now at precisely the same pulse frequency as that in the ground station. The receiver had two systems of this type, allowing the operator to receive signals from two stations and easily compare them and make simultaneous measurements.

Rapidly to deploy the new design, it was decided to use as much of the Gee equipment as possible. Gee already included the oscilloscope display and the receiver unit, so all that was needed was a broadcaster unit that would trigger the ground station transceiver. This was designed to operate on the same frequencies as Gee, so that the existing receiver and display equipment in the bombers could be used. The new transmitter sent out pulses about 100 times a second. The timing of the pulses was slightly advanced or retarded from 100 per second. This meant that every aircraft had a slightly different timing. The same signal was also sent to the Gee display unit to start the display beam moving across the face of the display, instead of using Gee's manually tuned oscillator. This way, the received signals that did not have the same inter-pulse timing would appear to move one way or the other, like a mistuned Gee. Only the signals originating from the aircraft's own transmitter would line up on the display and remain motionless. This deliberate adjustment of the timing was known as "jittering".

The delay from the original Gee was still used; the navigator would first set the delay of the upper trace on the Gee display to a known figure that matched the radius of the arc they wanted to fly along. This would move the "blip" from the local transmitter along the face of the display. Received signals would then be inverted and sent to the display. The navigator could then direct the pilot onto the right path by giving directions until the upper and lower blips aligned. The same was done for the second channel, setting it to the computed range where the bombs should be dropped. Since they stayed the same distance from one station the operator only had to check that periodically, while watching the ever-moving lower trace as the active blip moved slowly along the display towards the timer blip until they overlapped and the bombs were dropped.
The time taken by the transceiver to receive a pulse, send out the response and return to the receiving condition was about 100 microseconds. With a pulse timing of about 100 a second, a transceiver would be busy for 10 ms out of every second responding to the signals from any one aircraft. This would leave 990 ms free to respond to other aircraft, giving a theoretical capacity of 100 aircraft. In practice, due to the "jitter", about 70 to 80 aircraft could use a station at a time.

The system had the additional advantage that each aircraft selected its timing, which made jamming harder. With most pulsed navigation systems like Gee and Y-Gerät, it is relatively easy to jam the system simply by sending out additional pulses on the same frequency, cluttering up the display and making it very difficult for the operator to read the signal. The British had used this technique to great effect against Y-Gerät, and the Germans returned the favour against Gee. By the late war period, Gee was generally useless for bombing and used primarily as a navigational aid when returning to England.

In the case of Gee-H, each aircraft had unique timing; to jam the receiver, the jammer would also have to have similar timing. As one signal might be used by dozens of aircraft, dozens of jammers set to slightly different times would be needed. As there were dozens of transceivers as well, many unused decoy signals, the magnitude of the jamming problem was considerably worse. As the Gee-H system used Gee equipment, turning off the interrogation transmitter turned it back into a normal Gee unit.

On a typical mission, the set would be used for Gee while leaving England and forming up into a bomber stream, for Gee-H during the mission and back to Gee on the return flight for finding its airbase. Since Gee could be directly read on a map, it was extremely useful for general navigation, while Gee-H was only practically used to navigate to one place.

. As with all VHF and UHF-based systems, Gee-H was limited to distances just out of line of sight, in this case limiting it to about 300mi (480km).

Gee-H's main fault was caused by using Gee equipment; using a higher frequency would allow a tighter envelope, which would allow more accurate timing measurements and thus improve accuracy. Because the system used Gee's small oscilloscope for measurements, it did not have the same visual accuracy as Oboe, which used 12-inch oscilloscopes developed specifically for this purpose. Gee-H achieved accuracy of about 150 yds (140m) at 300mi (480km), while Oboe was good to about 50yds(46m).

Gee-H was used in Operation Glimmer, a diversionary "attack" during Operation Overlord that diverted German defences at Calais while the real invasion fleet was 200mi (320km) away at Normandy. Gee-H-equipped bombers of 218 Squadron flew low, in tight circles, dropping Window (chaff) over radar transponder-equipped small ships, to deceive the German radars that they were the main invasion fleet.

G–H Leader Avro Lancaster B Mark III of 467 Squadron RAAF as it begins its take-off run at RAF Waddington, August 1944

Avro Lancaster photo by Royal Air Force official photographer - This photograph MH 6448 comes from the collections of the Imperial War Museums., Public Domain

de Havilland Mosquito photo By Fotoafdrukken Koninklijke Luchtmacht

Source: Wikipedia.

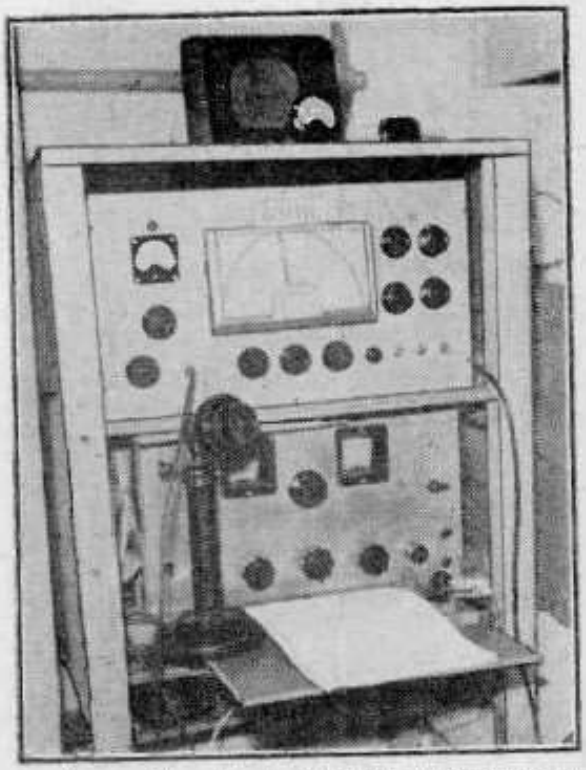
From The Archives.

By Peter 2E0PTH

This month we look at SWL and licensed amateurs shacks from the late 1950's and mid 1960's. What we now call a shack used to be called a den until the early 1960's. We start with a montage from 1959.

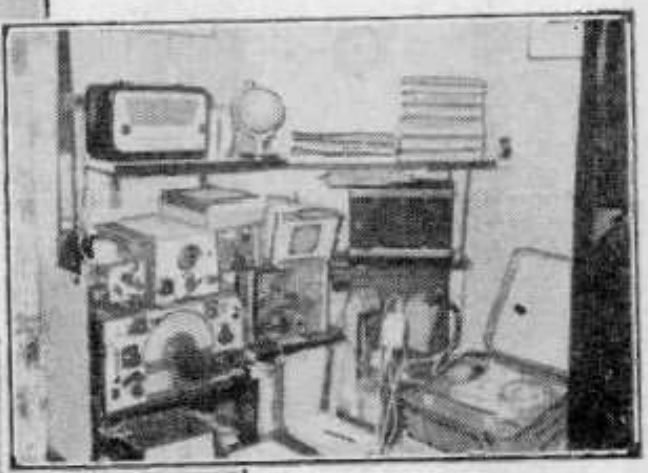
884 PRACTICAL WIRELESS January, 1959

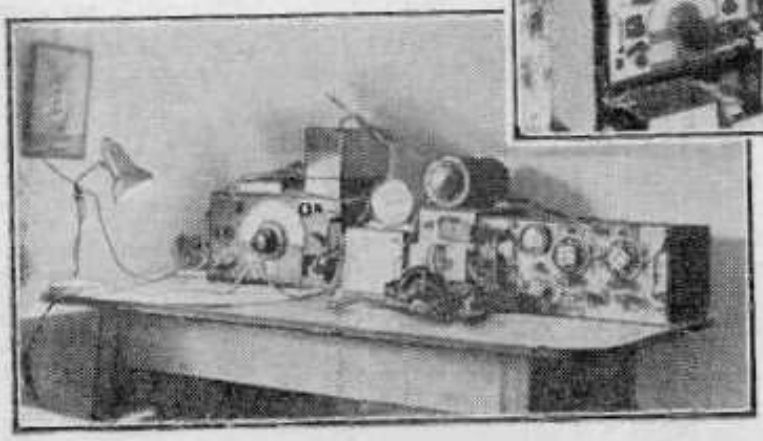
Readers' Radio Dens



(Above).—The radio shack which is run by Warrant Officer Langfield (G3WHC), of the R.A.F., Finningley. The transmitter is a 50 W. "Vanguard," and the receiver is a rebuilt Hammerlund.

(Above).—Amateur station G8UA, owned by Mr. H. Tee, Burnley, Lancs. It has been designed to take up as little space as possible.

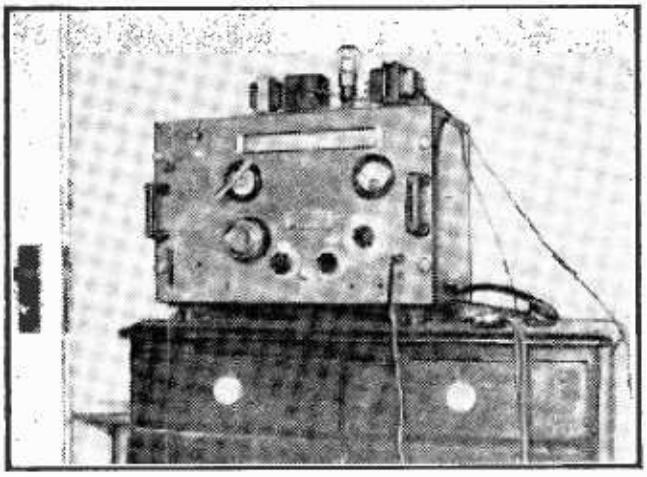




(Above).—The variety of gear which is owned by Mr. D. O. G. Sutherland, of Edinburgh. He has QSL cards confirmed in 42 countries.

(Left).—This shows the den of Mr. Derek Gibson, of Lyme Regis, Dorset, which is situated in the corner of his room.

Does anyone recognize any of the kit?



A Short-wave set owned by L. Hayward, of Swanage.

I think the Station Manager may have a strong opinion on having this lump sitting on the chest of draws.

...AND G6AG CONTACTS "OSCAR III"

Mr. C. J. McClelland (G6AG) of Chalfont St. Peter, Bucks., seen here in his shack, has the distinction of being the first amateur operator to receive reports from the U.S. of trans-Atlantic v.h.f. reception of transmissions he made via the communications satellite Oscar III. Other reception reports arrived from Czechoslovakia, France, Belgium and many English stations, while actual contacts were made with amateurs in Germany, Switzerland and Sweden.

Mr. McClelland, who is a Chief Engineer at Ultra Electronics Ltd., used a home-made transmitter operating at 1kW on 144·1Mc/s for these contacts, the satellite equipment converting and re-transmitting the signals on 145·9Mc/s ± 25kc/s.

This cutting raises a few questions, what were the power limits back in 1965? Why did he need 1kW of power to contact Oscar III? These days 5W and a hand held Yagi works fine for low orbit satellites - Peter 2E0PTH.

Acknowledgement:
1. David Gleason and his team for scanning historical magazines – the source of these news cuttings.
2. Don Field, editor of Practical Wireless, for giving permission to reproduce the cuttings in our newsletter.

Club Visit To RAF Henlow Signals Museum.

Organised by Ant M0UBT, and attended by Ant, Dave G8FMC, Vic Gerhardi, and Mark M7EFR, we first called in at the Guard House to get our passes, as the base is still an operational RAF/MOD site.

RAF Henlow began life in May 1918, at the end of WW1 and has had many roles during its life as an RAF base. It has three grass runways, supported underneath by three layers of special steel plates. In 1924 it became home to the School of Aeronautical Engineering including famous pupil Frank Whittle.
In WWII it was home to the assembly, maintenance, and repairs of all familiar WWII aircraft with Station strength of around 9000 personnel.

After the war it became home to the Radio Engineering Unit, supplying, repairing, and calibrating a vast range of radio equipment at home and overseas.
In 1980 a detachment of the RAF Support Command Signals HQ was formed at Henlow, growing into the RAF Signals Engineering Establishment, which ultimately provided communications for all three services.

The base has been due to close for several years now (Much like RAF Halton) but no set date has been announced as yet.

The Signals Museum was established in 1999 as a result of changes to various bases that donated their own smaller sets of exhibits. There followed various donations by certain private individuals, and loans from other museums.

The exhibits follow a timeline starting with a WW1 Stirling Spark Transmitter, followed by various upgraded items from the 1920's and '30's. The bulk of the exhibits are from WWII including the famous T1154/R1155 transmitter and receivers used in all heavy bombers from 1940 and throughout the war. Smaller sets for the fighters, and the Gee navigation system that is fiendishly clever.

The museum houses a section showing a typical 'Y'Station from WWII which remained classified for many years after the war as this was the station for receiving German transmissions which were passed on to Bletchley for decoding.

Later additions include a huge Marconi SWB8E transmitter, now fully renovated, along with several other large transmitters of the post war/cold war era.
Most interesting were three radar display consoles rescued from RAF Locking. Simulated signals are generated by Arduino processors to create a realistic scenario, including audio.

We chatted to Alf Fisher, the Curator, who guided us through several of the displays. Sadly by the time this newsletter comes out the museum will have closed for good. Many of the displays will head back to their owners, or be bought by other museums including the RAF Museum at Hendon.

It was a privilege to attend, and thanks go to Ant M0UBT for organising.

Mark M7EFR

July - HF

Day	Date (2024)	Time (UTC)	Contest Name
Mon	01 Jul	1900-2030	80m CC CW
Wed	10 Jul	1900-2030	80m CC SSB
Sat-Sun	13-14 Jul	1200-1200	GR2HQ Challenge
Mon	15 Jul	1900-2030	RSGB FT4 Contest
Sun	21 Jul	900-1600	International Low Power Contest
Thu	25 Jul	1900-2030	80m CC DATA
Sat-Sun	27-28 Jul	1200-1200	IOTA Contest

July - VHF

Day	Date (2024)	Time (UTC)	Contest Name
Tue	02 Jul	1800-1855	144MHz FMAC
Tue	02 Jul	1900-2130	144MHz UKAC
Wed	03 Jul	1700-2100	144MHz FT8 AC (4 hours)
Wed	03 Jul	1900-2100	144MHz FT8 AC (2 hours)
Sat-Sun	06-07 Jul	1400-1400	VHF NFD
Sun	07 Jul	1100-1500	3rd 144MHz Backpackers
Tue	09 Jul	1800-1855	432MHz FMAC
Tue	09 Jul	1900-2130	432MHz UKAC
Wed	10 Jul	1700-2100	432MHz FT8 AC (4 hours)
Wed	10 Jul	1900-2100	432MHz FT8 AC (2 hours)
Thu	11 Jul	1900-2130	50MHz UKAC
Tue	16 Jul	1900-2130	1.3GHz UKAC
Thu	18 Jul	1900-2130	70MHz UKAC
Sat	20 Jul	1400-2000	70MHz Trophy Contest
Tue	23 Jul	1830-2130	SHF UKAC

August - HF

Day	Date (2024)	Time (UTC)	Contest Name
Sat-Thu	31-01 Aug	1200-1200	UKEI DX SSB Contest

August VHF

Day	Date (2024)	Time (UTC)	Contest Name
Sat	03 Aug	1400-1800	144MHz Low Power Contest
Sat	03 Aug	1400-1800	4th 144MHz Backpackers
Sun	04 Aug	800-1200	432MHz Low Power Contest
Tue	06 Aug	1800-1855	144MHz FMAC
Tue	06 Aug	1900-2130	144MHz UKAC
Wed	07 Aug	1700-2100	144MHz FT8 AC (4 hours)
Wed	07 Aug	1900-2100	144MHz FT8 AC (2 hours)
Thu	08 Aug	1900-2130	50MHz UKAC
Tue	13 Aug	1800-1855	432MHz FMAC
Tue	13 Aug	1900-2130	432MHz UKAC
Wed	14 Aug	1700-2100	432MHz FT8 AC (4 hours)
Wed	14 Aug	1900-2100	432MHz FT8 AC (2 hours)
Thu	15 Aug	1900-2130	70MHz UKAC
Tue	20 Aug	1900-2130	1.3GHz UKAC
Tue	27 Aug	1830-2130	SHF UKAC

2024 Club (Team) Contests

Note: Contests in Bold are Sat or Sat-Sun Contests

Mon 1 July	1900-2030	80m CC CW	100W-A, 10W-A, 100W-U, 10W-U		NRC
Sat-Sun 6-7 July	**1400-1400**	**VHF NFD**	**O, R, L, M, MS, FSO & FSR**		**CDARS**
Sun 7 July	1100-1500	3rd 144MHz B-packers	5B, 25H	Solo	
Wed 10 July	1900-2030	80m CC SSB	100W, 10W	NRC	
Sat 20 July	**1400-2000**	**70MHz Trophy**	**O, SO & SF**		**CDARS**
Thurs 25 July	1900-2030	80m CC Data	100W-A, 10W-A, 100W-U, 10W-U		NRC
Sat/Sun 27-28 July	**1200-1200**	**IOTA**	**HF CW/SSB**		
Sat 3 Aug	**1400-1800**	**144MHz Low Power**	**25W, NO KST! O, SO & SF**		**CDARS**
Sat 3 Aug	**1400-1800**	**4th 144MHz B-packers**	**5B, 25H**	**Solo**	
Sun 4 Aug	**0800-1200**	**432MHz Low Power**	**25W, NO KST! O, SO & SF**		**CDARS**
Sat/Sun 31 Au/1 Sep	**1200-1200**	**UK/EI DX SSB**	**SSB HF. Single & Multi-Op**		
Mon 2 Sept	1900-2030	Autumn Series SSB	100W, 10W		NRC
Sat/Sun 7-8 Sept	**1300-1300**	**SSB FD**	**SSB HF. Single & Multi-Op**		**CDARS**
Sat/Sun 7-8 Sept	**1400-1400**	**144MHz Trophy**	**O, 6O, SF, SO & 6S (6hr options)**		**CDARS**
Sun 8 Sept	**1100-1500**	**5th 144MHz B-packers**	**5B, 25H**	**Solo**	
Wed 11 Sept	1900-2030	Autumn Series CW	100W-A, 10W-A, 100W-U, 10W-U		NRC
Sun 15 Sept	**0900-1200**	**70MHz AFS**	**SF, O**		**CDARS**
Thurs 26 Sept	1900-2030	Autumn Series Data	100W-A, 10W-A, 100W-U, 10W-U		NRC
Sat 5 Oct	**1400-2200**	**2.3/1.3GHz Trophy**	**O, SF**		**CDARS**
Mon 7 Oct	1900-2030	Autumn Series CW	100W-A, 10W-A, 100W-U, 10W-U		NRC
Wed 16 Oct	1900-2030	Autumn Series Data	100W-A, 10W-A, 100W-U, 10W-U		NRC
Sun 20 Oct	**0900-1300**	**50MHz Trophy**	**O, SF**		**CDARS**
Thurs 24 Oct	1900-2030	Autumn Series SSB	100W, 10W		NRC

Continued on next page.....

2024 Club (Team) Contests

Note: Contests in Bold are Sat or Sat-Sun Contests

Mon 4 Nov	1900-2030	Autumn Series Data	100W-A, 10W-A, 100W-U, 10W-U	NRC
Sat 9 Nov	**2000-2300**	**C-calls (1.8MHz AFS)**		**CDARS**
Wed 13 Nov	1900-2030	Autumn Series SSB	100W, 10W	NRC
Thur 28 Nov	1900-2030	Autumn Series Data	100W-A, 10W-A, 100W-U, 10W-U	NRC
Sun 8 Dec	**1000-1400**	**144MHz AFS**	**SF, O**	**CDARS**
Fri 27 Dec	1500-1700	6m Xmas Cumulative	AR, AO, AL	Solo
Sat 28 Dec	**1500-1700**	**4m Xmas Cumulative**	**AR, AO, AL**	**Solo**
Sun 29 Dec	**1500-1700**	**2m Xmas Cumulative**	**AR, AO, AL**	**Solo**
Mon 30 Dec	1500-1700	70cm Xmas Cum.	AR, AO, AL	Solo

For sale and wanted

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

	ITEM	ASKING PRICE or O.V.N.O.
1	Sangean ATS-909X2 all-band portable receiver £225 ish new boxed	£150
2	QRM Eliminator X-phase 1-30MHz - £45 new	£25
3	L C Meter Juntek - £35 new	£20
4	TYT DMR Hand-Held MD-UV380 -£65 ish new.	£40
6	Begali Simplex Pro paddle key (£160 new)	£100
7	Kent Straight key	£65
8	CW Keyer TC 701 - £70 new	£45
9	Soldering Station (basic) 60W	Offers
10	BNOS LPM432 – 10 – 50 Linear Amp - £150 new	£75
11	IGEN Max regenerative receiver. eBay US has an unbuilt kit at £160.	£50
12	Lead-free solder & cleaner (in bag)	Offers
13	Kenwood HS-6 small headphones - £40 new	£20
14	SWR meter 1.8MHz to 50MHz 120W	£15
15	SWR meter Moonraker SWR-300 120-500MHz £35 new	£15
16	Austcol Radiation Meter MT525 -£25 online average price new.	£10
17	Signalink USB sound Card 8pm. £120 new	£70
18	Metro VNA in case (£270 new)	£175
19	Prepp Comm multi-band morse transceiver. Approx £358 new.	£225
20	ATU 100 Kit by N7DDC	£20
21	MFJ Super Hi-Q Loop Remote Control . Unknown model.	?
22	Morse Tutor D70 G0PJO	£20
23	QRP Kits EFHW Tuner	Offers

Please initially contact Dave G8FMC if interested:- g8fmc547@gmail.com, or 07928-426553

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

	ITEM	ASKING PRICE or O.V.N.O.
1.	Yaesu FT818 TCVR + soft carry case + LDG Z-817 auto-Tuner - As new	£675
2 .	CG3000 remote auto ATU ***(Provisional: Suffered water ingress)***	£90 **(Reserved Ant M0UBT)**
3.	Power Mag 145 – large magnetic mount + cable (new £62) New & boxed.	£40
4.	Comet CHA-250HD/BXII Multi-Band HF Vertical Antenna (new £350) 250W SSB 75W Data. See March 2024 PW review. As new,unused	£220
5.	Moonraker MRQ750 2m/70cm Mobile whip (new £35) Unused as new	£25
6.	HF Mobile/portable antenna PL259 fitting e.g. large mag-mount? Unused	Offers
7.	Modified Cobweb antenna (Polish) (new £200)	£70
8.	DX Commander Pole about 12.4m, 12 section, heavy duty. Weight 3.7Kg With a rotating guy plate & 3 guys, that fits about 3m up. (New £139) (New Unused)	£85
9.	Halo antenna for 50MHz (£50 new)	£25

Please initially contact Dave G8FMC if interested:- g8fmc547@gmail.com, or 07928-426553

Dates For Your Diary

Listed below are dates of RSGB, UK and International contests for 2024.

RSGB 80m Club Championship, SS

VHF NFD - 6th/7th July 2024. (CDARS at Wiggington tbc)

Islands on the Air -IOTA Management & RSGB - 27th/28th July 2024.

SSB NFD - 7th/8th September (CDARS at Wiggington tbc).

CQWW RTTY Contest - 26th/29th September 2024

Railways on the Air - Organised by Bishop Auckland RAC - 28th/29th September 2024.

CQWW DX SSB Contest - 26th/27th October 2024.

CQWW DX CW Contest - 23/th24th November 2024.

ARRL 10m DX Contest - 14th/15th December 2024

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 at: g4gra.org.uk/All

July 2024

6th - Burton on Trent ARC Mini Rally & Barbecue [Saturday]

7th - Barford Norfolk Radio Rally, Barford, Norfolk.

14th - Lincoln Short Wave Club Summer Rally, Market Rasen.

14th - McMichael Radio Rally, Reading.

14th - Cambridge Repeater Group Rally, Foxton, Cambs.

21st - Finningly ARS Rally, Doncaster

28th - Wiltshire Radio Summer Rally, Kingston Langley.

August 2024

4th - Kings Lynn ARC 34th Great Eastern Rally

11th - Flight Refuelling ARS Hamfest, Wimborne, Dorset

25th - Torbay Annual Comms Fair, Newton Abbot, Devon

25th - Milton Keynes Radio Rally, Loughton Lodge, Milton Keynes

26th - Huntingdon ARS Annual Rally, St Neots, Cambs.

September 2024

8th - The Caister Lifeboat Radio Rally Caister Lifeboat station, Caister-on-Sea, Norfolk.

21st-22nd - East Midlands Ham & Electronics Rally, Southfield Lane, Doncaster.

22nd - 9th Radio & Electronics Rally, Worle, Weston-Super-Mare, Somerset,

27th & 28th– National Hamfest [Friday/Saturday] Newark & Notts Showground, Lincoln Road, Winthorpe, Newark, Notts. NG24 2NY

(All information courtesy of g4gra.org.uk)