

C.D.A.R.S.

July 2025

CHESHAM & DISTRICT AMATEUR RADIO SOCIETY MONTHLY NEWSLETTER

SSTV - Slow Scan TV - A Brief History.

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



Report

Photo Report of the
Club BBQ/Antenna
Play Day

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

Meshtastic and MeshCore

Information and Downloads to build your own LoRa Node or Repeater

<https://meshtastic.org/>
<https://meshcore.co.uk/>



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

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

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Cover Photo: SSTV image from the ISS courtesy AMSAT UK.

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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 July edition of the CDARS newsletter. This month has been a bit hectic with various different domestic duties which needed to be dealt with plus a holiday which was booked some time ago, so it's been a bit of a rush here at Newsletter Towers to get this edition out on time. But ontime it is and hopefully you will enjoy the newsletter.

The feature this month is a brief history of SSTV (Slow Scan TV). There is a photo report of the Antenna Play Day/BBQ at John G0ODQ's QTH. Thank you John and wife June for putting on a fabulous day. Plus all the normal regulars.



Roger 2E0TGU

Next month will be a full report on VHF Field Day, which unfortunately it looks like I won't be able to attend this year. I'd be very grateful if those that can attend can take some photos of proceedings including antenna erecting as well as during operating times. Photos can be sent to cdarsnews@gmail.com

Until next month, enjoy.

Roger 2E0TGU.

DID YOU KNOW?....

.....In India, over 15,000 people have licenses for amateur radio. The first ham radio operator in India got their license in 1921. By the mid-1930s, there were about 20 hams. Amateur radio operators played an important part in India's journey to independence by setting up special radio stations in the 1940s.

Chairmans Ramble

Roger G3MEH, who has been in Wigginton for 50+ years, is about to move to Leicestershire. He hosted a 'Summer Social' on Wed 18th June for AVRS members & 'Friends'; that included CDARS members. John G0ODQ & myself attended to represent CDARS & also as personal friends of many years standing. Matt G0XDI was also present with his lovely wife Mandy & their two boys. (Roger has known Matt since he was a boy!)

A very enjoyable time was had by all, for which we are very grateful to Roger & his carer Tyrone (who was very busy in the kitchen – no Bar-B-Q in the MEH household!) The occasion was tinged with a little sadness & poignancy as this was probably the last such gathering. A picture was taken to record the event. (See Below ...12 of us including Mandy who took the Photo)



Dave G8FMC

My diary this month has been a little less full, but I do seem to be suffering a bit from 'burn-out' or something as I seem to have little stamina & motivation? Maybe it is just the recent heat that is getting to me? I have started drafting this quite early as I am going away for most of the week before VHF Field Day. I hope to be able to report next month that I am in better spirits after my few days break in Swanage Dorset with family & friends. (By the time you read this I will have been away & returned for VHF FD, so probably still knackered for a further week or so after the contest?!)

I had an interesting (& very unwanted) plumbing incident recently. On returning home after a very pleasant Fathers day with one of my daughters, I made a small snack & put my feet up in front of the TV. The inevitable happened & I crashed out for some time (it happens at my great age) & I awoke approaching midnight! I had to attend a clinic for an ultra-sound scan the next day & needed to check my journey time & set the alarm clock. So before hitting the sack, I fired up the PC in the Radio Room for Google maps. Still a bit not entirely with-it, I was aware of a strange dripping sound. I quickly fully came to and discovered water dripping through the ceiling from the loft! What great timing for a plumbing emergency. After a bit of rushing around, checking overflows etc, I tracked down the issue to an automatic air bleed valve on the hot water system that had stuck & was leaking water; NOT just air! So it was warm water that was flooding an area of the loft and dripping into the radio shack. NOT on the radio's thankfully!

A bash with a large blunt instrument that was to hand probably sorted the sticking float-valve, but I shut off stop-cocks & drained some water as well. I then turned everything back on & all seemed to reset OK? Son-in-law Pete (conveniently an electrician/builder/plumber) popped round the other day & replaced said valve anyhow, so hopefully free of issues now?



It must be horrendous for folks with no practical/technical knowledge to have water dripping through the ceiling at that time of night & no idea how to take remedial action?

Until next month.

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

Contests/Operating

The UKAC progress for 2025: (under the NRS banner)

We continue to head up the 'Local Clubs' division, with a clear lead over Hereford.

Latest points:

NRC & Friends = 5192pts (Normalised 1000pts on all bands except SHF)

Hereford = 3643pts

Spalding = 2823pts

So still well clear of Hereford at the moment, but they have closed the gap a little.

80m CC's: (also under the NRS banner)

John G4CZB plus a few of us support this when we can. NRC are at present in 13th place out of 46.

VHF Championship: (under the CDARS banner)

No new results this month for the AFS section of the VHF Championship. Hereford are in the lead with 3111 points, with CDARS & friends in 2nd place not far behind on 2930; which is well clear of Sheffield in 3rd place with 1777. There are a total of 54 clubs listed.

The 50MHz event took place over the 21-22 June, where we had 5 of us on-air. John G4CZB managed 30 contacts with low power and a lash-up antenna consisting of the loop of an LFA antenna; but WITHOUT any other elements! He was multi-tasking as well, since he was the lead for the Northampton clubs Bar-B-Q & operating weekend from the field they use. Mostly HF activity on various bands. The Sporadic-E gods were reasonably kind to us, although a lot of frequencies had 2 or even 3 stations from the EU all calling 'CQ Contest' on top of each other! I suspect they were in the skip 'Dead-zone' to each other & were thus unaware of the chaos?

I only had limited time available, so a rather modest entry from me. I started nearly 30mins after the official start & was confronted by a wall of Sp-E stations 1,500 – 2,000km away, all at 59+ signal strength. My first contact being Z3A in North Macedonia at 2118km, which was not bettered over the 2 days. I hadn't even raised the mast, but it made little difference with signals so strong. I guess I should have started on-time? 13 countries & 34 squares in just 61 QSO's. A big score for me, but miles behind the leaders. We wait to see how we have done against Hereford?

VHF Field Day: This will be under way about the time you read this 5 - 6th July!

A full report next month

73, Dave K, G8FMC

SSTV - Slow Scan TV

Slow-scan television (SSTV) is a picture transmission method, used mainly by amateur radio operators, to transmit and receive static pictures via radio in monochrome or color.

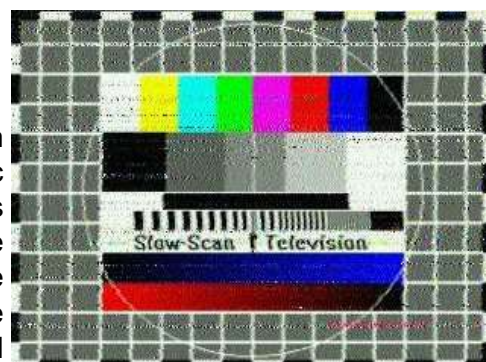
A literal term for SSTV is narrowband television. Analog broadcast television requires at least 6 MHz wide channels, because it transmits 25 or 30 picture frames per second (see ITU analog broadcast standards), but SSTV usually only takes up to a maximum of 3 kHz of bandwidth. It is a much slower method of still picture transmission, usually taking from about eight seconds to a couple of minutes, depending on the mode used, to transmit one image frame.

Since SSTV systems operate on voice frequencies, amateurs use it on shortwave (also known as HF by amateur radio operators), VHF and UHF radio.

History

Concept

The concept of SSTV was introduced by Copthorne Macdonald[1] in 1957–58.[2] He developed the first SSTV system using an electrostatic monitor and a vidicon tube. It was deemed sufficient to use 120 lines and about 120 pixels per line to transmit a black-and-white still picture within a 3 kHz telephone channel. First live tests were performed on the 11-meter ham band – which was later given to the CB service in the US. In the 1970s, two forms of paper printout receivers were invented by hams.



SSTV Test Card.

1.

Early usage in space exploration

SSTV was used to transmit images of the far side of the Moon from Luna 3.

The first space television system was called Seliger-Tral-D and was used aboard Vostok. Vostok was based on an earlier videophone project which used two cameras, with persistent LI-23 iconoscope tubes. Its output was 10 frames per second at 100 lines per frame video signal.

The Seliger system was tested during the 1960 launches of the Vostok capsule, including Sputnik 5, containing the space dogs Belka and Strelka, whose images are often mistaken for the dog Laika, and the 1961 flight of Yuri Gagarin, the first man in space on Vostok 1. Vostok 2 and thereafter used an improved 400-line television system referred to as Topaz. A second generation system (Krechet, incorporating docking views, overlay of docking data, etc.) was introduced after 1975.

A similar concept, also named SSTV, was used on Faith 7, as well as on the early years of the NASA Apollo program. The Faith 7 camera transmitted one frame every two seconds, with a resolution of 320 lines

The Apollo TV cameras used SSTV to transmit images from inside Apollo 7, Apollo 8, and Apollo 9, as well as the Apollo 11 Lunar Module television from the Moon. NASA had taken all the original tapes and erased them for use on subsequent missions; however, the Apollo 11 Tape Search and Restoration Team formed in 2003 tracked down the highest-quality films among the converted recordings of the first broadcast, pieced together the best parts, then contracted a specialist film restoration company to enhance the degraded black-and-white film and convert it into digital format for archival records.

The SSTV system used in NASA's early Apollo missions transferred 10 frames per second with a resolution of 320 frame lines in order to use less bandwidth than a normal TV transmission. The early SSTV systems used by NASA differ significantly from the SSTV systems currently in use by amateur radio enthusiasts today.

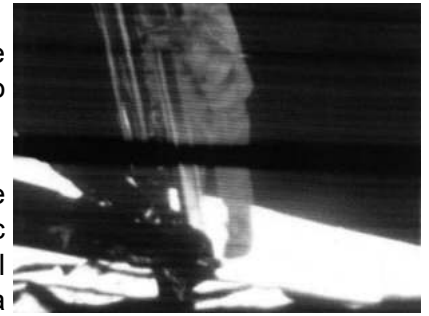
.....continued

Progression

Commercial systems started appearing in the United States in 1970, after the FCC had legalized the use of SSTV for advanced level amateur radio operators in 1968.

SSTV originally required quite a bit of specialized equipment. Usually there was a scanner or camera, a modem to create and receive the characteristic audio howl, and a cathode-ray tube from a surplus radar set. The special cathode-ray tube would have “long persistence” phosphors that would keep a picture visible for about ten seconds.

The modem would generate audio tones between 1,200 and 2,300 Hz from picture signals, and picture signals from received audio tones. The audio would be attached to a radio receiver and transmitter.

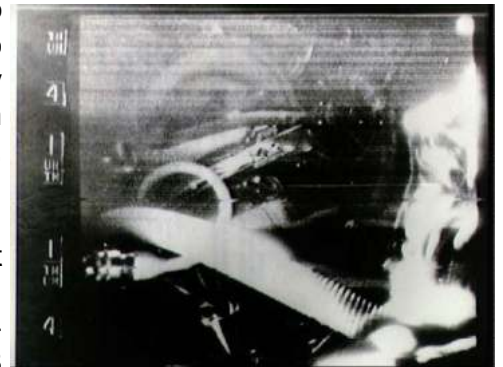


Apollo 11 - One Small Step
2.

Modulation

Like the similar radiofax mode, SSTV is an analog signal. SSTV uses frequency modulation, in which every different value of brightness in the image gets a different audio frequency. In other words, the signal frequency shifts up or down to designate brighter or darker pixels, respectively. Color is achieved by sending the brightness of each color component (usually red, green and blue) separately. This signal can be fed into an SSB transmitter, which in part modulates the carrier signal.

There are a number of different modes of transmission, but the most common ones are Martin M1 (popular in Europe) and Scottie S1 (used mostly in the USA).[7] Using one of these, an image transfer takes 114 (M1) or 110 (S1) seconds. Some black and white modes take only 8 seconds to transfer an image.



Transmission from Faith 7
3.

Header

A calibration header is sent before the image. It consists of a 300-millisecond leader tone at 1,900 Hz, a 10 ms break at 1,200 Hz, another 300-millisecond leader tone at 1,900 Hz, followed by a digital VIS (vertical interval signaling) code, identifying the transmission mode used. The VIS consists of bits of 30 milliseconds in length. The code starts with a start bit at 1,200 Hz, followed by 7 data bits (LSB first; 1,100 Hz for 1, 1,300 Hz for 0). An even parity bit follows, then a stop bit at 1,200 Hz. For example, the bits corresponding the decimal numbers 44 or 32 imply that the mode is Martin M1, whereas the number 60 represents Scottie S1.

Scanlines

A transmission consists of horizontal lines, scanned from left to right. The color components are sent separately one line after another. The color encoding and order of transmission can vary between modes. Most modes use an RGB color model; some modes are black-and-white, with only one channel being sent; other modes use a YC color model, which consists of luminance (Y) and chrominance (R-Y and B-Y). The modulating frequency changes between 1,500 and 2,300 Hz, corresponding to the intensity (brightness) of the color component. The modulation is analog, so even though the horizontal resolution is often defined as 256 or 320 pixels, they can be sampled using any rate. The image aspect ratio is conventionally 4:3. Lines usually end in a 1,200 Hz horizontal synchronization pulse of 5 milliseconds (after all color components of the line have been sent); in some modes, the synchronization pulse lies in the middle of the line.

Source: Wikipedia

Photo Attributes: 1 - By Bruxy at Czech Wikipedia, CC BY-SA 3.0,

2 - By National Aeronautics and Space Administration - NASA's Apollo 11 Multimedia webpage,

3 - by NASA - <http://images.jsc.nasa.gov/luceneweb/caption.jsp?photoId=S63-07856>.

Club BBQ and Antenna Play Day.

On Saturday 31st May club members were invited for an Antenna Play Day & BBQ at John MOODQ's QTH near Chinnor, Oxon. Our lovely hosts John & wife June, pictured right, laid on a superb BBQ for everyone and allowed the use of their garden to erect several antennas. They included horizontal wire antennas, a Cobweb and OCF half wave amongst others. The weather was excellent which made for a very enjoyable day.



Contest Calendar for June and July 2025

July - HF

Day	Date	Time (UTC)	Contest Name
Mon	07 Jul	1900-2030	80m CC CW
Sat-Sun	12-13 Jul	1200-1200	GR2HQ Challenge
Wed	16 Jul	1900-2030	80m CC SSB
Sun	20 Jul	900-1600	International Low Power Contest
Thu	24 Jul	1900-2030	80m CC DATA
Sat-Sun	27-28 Jul	1200-1200	IOTA Contest
Mon	28 Jul	1900-2030	RSGB FT4 Contest

July - VHF

Day	Date	Time (UTC)	Contest Name
Tue	01 Jul	1800-1855	144MHz FMAC
Tue	01 Jul	1900-2130	144MHz UKAC
Wed	02 Jul	1700-2100	144MHz FT8 AC (4 hours)
Wed	02 Jul	1900-2100	144MHz FT8 AC (2 hours)
Sat-Sun	05-06 Jul	1400-1400	VHF NFD
Sat-Sun	05-06 Jul	1400-1400	VHF Fixed Station Contest
Sun	06 Jul	1100-1500	3rd 144MHz Backpackers
Tue	08 Jul	1800-1855	432MHz FMAC
Tue	08 Jul	1900-2130	432MHz UKAC
Wed	09 Jul	1700-2100	432MHz FT8 AC (4 hours)
Wed	09 Jul	1900-2100	432MHz FT8 AC (2 hours)
Thu	10 Jul	1900-2130	50MHz UKAC
Tue	15 Jul	1900-2130	1.3GHz UKAC
Thu	17 Jul	1900-2130	70MHz UKAC
Sat	19 Jul	1400-2000	70MHz Trophy Contest
Tue	22 Jul	1830-2130	SHF UKAC

August - HF

Day	Date	Time (UTC)	Contest Name
Mon	18 Aug	1900-2100	RSGB FT4 Contest

August VHF

Day	Date	Time (UTC)	Contest Name
Sat	02 Aug	1400-1800	144MHz Low Power Contest
Sat	02 Aug	1400-1800	4th 144MHz Backpackers
Sun	03 Aug	800-1200	432MHz Low Power Contest
Tue	05 Aug	1800-1855	144MHz FMAC
Tue	05 Aug	1900-2130	144MHz UKAC
Wed	06 Aug	1700-2100	144MHz FT8 AC (4 hours)
Wed	06 Aug	1900-2100	144MHz FT8 AC (2 hours)
Tue	12 Aug	1800-1855	432MHz FMAC
Tue	12 Aug	1900-2130	432MHz UKAC
Wed	13 Aug	1700-2100	432MHz FT8 AC (4 hours)
Wed	13 Aug	1900-2100	432MHz FT8 AC (2 hours)
Thu	14 Aug	1900-2130	50MHz UKAC
Tue	19 Aug	1900-2130	1.3GHz UKAC
Thu	21 Aug	1900-2130	70MHz UKAC
Tue	26 Aug	1830-2130	SHF UKAC

Dates For Your Diary



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

July 1st - Worldwide Sideband Activity Contest	0100Z-0159Z,
July 1st - RAC Canada Day Contest	0000Z-2359Z
July 2nd - VHF-UHF FT8 Activity Contest	1700Z-2100Z
July 5th - Venezuelan Ind. Day Contest	0000Z-2359Z
July 5th - 6th - CQ Worldwide VHF SSB/CW Contest	1200Z, to 1200Z
July 9th - VHF-UHF FT8 Activity Contest	1700Z-2100Z
July 12th - 13th - IARU HF World Championship	1200Z to 1200Z,
July 19th - Russian Radio Team Championship	0700Z-1459Z
July 19th - YOTA Contest	1000Z-2159Z
July 19th - 20th - CQ Worldwide VHF Digital Contest	1200Z to 1200Z
July 20th - RSGB International Low Power Contest	0900Z-1200Z and 1300Z-1600Z,
July 26th - 27th - RSGB IOTA Contest	1200Z to 1200Z
July 28th - RSGB FT4 Contest	1900Z-2100Z

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.

July 2025

4th-5th-6th Saffron Walden Radio Ham/CB Rally, Lovecotes Farm, Henham Village, Bishops Stortford, CM22 6BH.

6th - Barford Norfolk Rally, Barford Village Hall, Barford, Norwich, NR9 4AB.

13th - McMichael Radio & Electronics Rally & Car Boot Sale, Oak Trees Event Field, Cocks Lane, Warfield, Bracknell, RG42 6JE. **(Note: New Venue)**

19th - HFDXARC Radio Rally, Welwick Village Hall, North Lane, Welwick, HU12 0SH.

20th - Bury St Edmunds Radio Rally, Rougham Tower Museum, IP32 7QB.

20th - Lincoln Short Wave Club Summer Radio Rally, The Festival Hall, Caistor Road, Market Rasen, LN8 3HT.

27th - Wiltshire Radio Rally, Kington Langley Village Hall, Church Road, Kington Langley, SN15 5NJ.

.August 2025

3rd - BATC Convention for Amateur TV (CAT 25) Part 1, Midland Air Museum, Rowley Road, Coventry, CV2 4FR.

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	SOLD
14. Austcol Radiation Meter MT525 -£25 online average price new.	£10
15. Signalink USB sound Card 8pm. £120 new	SOLD
16. Metro VNA in case (£270 new)	£175
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