Radio ZS

Volume 79, Issue 11 - November 2026



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Radio ZS

The Journal of the South African Radio League
Die Tydskrif van die Suid-Afrikaanse Radioliga
"Advancing the Spirit of Amateur Radio Through Innovation"

Volume 79, Issue 11 - November 2026
Editor: Dennis Green, ZS4BS radiozs@sarl.org.za

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On the Cover. 4 October 2026 - Johan, ZS4AA on the summit of 7P/BB-017 during the 2026 SOTA Expedition. Photo by Brandon, ZS6LZ.

Op die Voorblad. 4 Oktober 2026 – Johan, ZS4AA, op die kruin van 7P/BB-017 tydens die 2026 SOTA-ekspedisie. Foto deur Brandon, ZS6LZ.

Disclaimer. The opinions expressed in this publication do not necessarily reflect the official view of the South African Radio League and the South African Radio League cannot be held responsible for incorrect information published.

South African Radio League
Suid-Afrikaanse Radioliga
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Die Nasionale Liggaam vir Amateur Radio in Suid-Afrika
Lidvereniging van die IARU Streek 1
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What's happening in November

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4 Taurids Meteor Shower	5 Taurids Meteor Shower	6	7 the West Rand Boot Sale and the SARL Spring QRP Contest
8	9	10	11 Armistice Day	12 Cherry Festival, Ficksburg	13 Cherry Festival, Ficksburg	14 Cherry Festival, Ficksburg
15	16	17 Leonids Meteor Shower	18 Leonids Meteor Shower	19	20	21 SARL Newbie QSO Party
22	23	24	25	26	27	28 the CQ WW DX CW contest and the SARL Saturday 40 m Club contest
29 CQ WW DX CW contest	30	1 Start of the YOTA Month	2	3 International Day of Persons with Disabilities	4	5 International Volunteers Day and the Pretoria Boot Sale

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and contact me on 072 026 8909 or zs2bl@sahamshack.co.za



Silent Keys / Stil Sleutels

They shall grow not old as we that are left grow old
Age shall not weary them nor the years condemn
At the going down of the sun and in the morning
We will remember them."

Hulle word nie oud soos ons wat bly vergrys,
Die jare sal hulle nie raak nog die tyd se eis
En, soos die son sak of die môre ontvou,
Eer hul herinnering – ons sal onthou."



Cliff Smyth, ZS6BOX

Amateur Radio News

In Loving Memory of Clifford Smyth, ZS6BOX

A cherished friend, devoted family man and respected radio amateur.

It is with profound sadness and a heavy heart that I share the news of the passing of my dear and longstanding friend, Clifford (Cliff) Smyth, ZS6BOX, who passed away this afternoon.

Cliff and I first met in 1972 and from that day onwards, a wonderful friendship developed that endured for more than 54 years. Throughout those years, I came to know Cliff as a man of exceptional character, unwavering integrity, kindness and sincerity. He was not merely a fellow radio amateur but a true and trusted friend whose friendship I shall always treasure.





Cliff was a passionate and dedicated radio amateur who, since obtaining his licence in 1974, remained an enthusiastic and familiar presence on the amateur radio bands. His love for amateur radio was matched only by his willingness to serve and contribute to the hobby he held so dear.

He served with distinction as a trusted Councillor of the South African Radio League (SARL) and held the important position of Treasurer for many years. His dedication, sound judgement and outstanding service earned him numerous awards and honours, including the prestigious Honorary Life Membership of the SARL, a fitting recognition of his remarkable contribution to amateur radio in South Africa.

Yet, beyond his many accomplishments, Cliff will be remembered most fondly for the wonderful human being he was. A gentleman in every sense of the word, a man of impeccable integrity, a loyal and

dependable friend and above all, a devoted husband to his beloved wife, Wendy and a loving father to their three daughters, Angela, Felicity and Joy-Ann.

To Wendy, Angela, Felicity, Joy-Ann and the entire Smyth family, Lorna and I extend our deepest and most heartfelt condolences. No words can adequately ease the sorrow of losing someone so dearly loved, but may you find comfort in knowing how greatly Cliff was respected, admired and loved by the many people whose lives he touched.

On a deeply personal note, saying farewell to a friend of more than half a century is extraordinarily difficult. Fifty-four years of friendship leave a lifetime of treasured memories and Cliff's passing leaves a void that can never truly be filled.

My dear friend Cliff, you fought a long and valiant battle with remarkable courage and determination, right up to the very end. Your struggle is now over and you may finally rest in peace.

Your voice will no longer be heard on the airwaves and your Morse code key has fallen silent, but the warmth of your friendship, the example you set and the memories we shared will remain with me for as long as I live.

The amateur radio fraternity has lost a true gentleman and I have lost a very dear friend.

Rest peacefully, Cliff. Thank you for 54 wonderful years of friendship. Until we meet again, old friend.

73 dear Cliff ZS6BOX.

de Gary ZS6YI

Year of the Club … Special Delivery to 7Q (Malawi)

It is the ARRL's Year of the Club; several radio clubs are helping to build up amateur radio some 8,000 miles away in the African nation of Malawi. One of them is the New Providence Amateur Radio Club (NPARC), an ARRL Affiliated Club in New Jersey, which contributed "one very full pickup truck with antennas, coax, test instruments and tools" to a shipping container packed with gear heading to the Jeffrey Dahn Memorial Foundation in Embangweni, Malawi. The foundation is run by Don Jones, 7Q6M and according to its website, its purpose is to help encourage interest and skills in STEM (science, technology, engineering and math) fields "through the hands-on discipline of amateur radio."

NPARC's relationship with this program goes back to a random QSO a few years ago between 7Q6M and NPARC activities director Sam Sealy, KC2OSR. Don's QSL card piqued Sam's interest, since the club had a large collection of surplus equipment that had been donated by families of Silent Keys. Making contact off-air, Don told Sam he'd take whatever they could spare. That resulted in the Club's first shipment of 64 kg of gear destined for Malawi.

The club has recently been collecting more items, including two Hamtek oscilloscopes it purchased for use at the foundation's technical school in Embangweni, the Jeffrey Dahn Learning Centre. The newly-gathered gear from NPARC andother clubs is about to begin its journey across the
Atlantic, as Don told the club this week that he had received a shipping container in which to pack all the equipment headed for its new home.

AMSAT SA announces the date for the 2027 Space Symposium

The 2027 AMSAT SA Space Symposium will be held on Saturday 31 July 2027. At this stage it is planned to be a virtual event as it facilitates the participation by radio amateurs and satellite and space enthusiasts on the African continent and elsewhere in the world without incurring expensive travel and accommodation costs.

2026 Space Symposium videos

All available videos of presentations delivered at this year's Symposium held on 1 August are available free of charge on the AMSAT SA YOU TUBE channel. The links are on www.amsatsa.org.za. The last one added is the paper by Ethan Kaslassy of Aurora Ice. The paper deals with a new South African Satellite project.

MS Publisher - SK!

Microsoft decided to stop MS Publisher in October 2026. I have been using Publisher for over 30 years - the ZS4BFN newsletter, the OFS Philatelic Society Newsletter, Corbadus the newsletter of the School of Armour and Radio ZS.

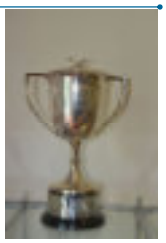
I had a look at LibreOffice and then Affinity by Canva. So, this issue of Radio ZS was created on Affinity. On Carina's PC, she has Scribus and I will try that for the December issue.



Working Groups and Coordinators

Amateur Radio Today: Hans van de Groenendaal, ZS6AKV artoday@sarl.org.za.
ART Relays: Louis Veldkamp, ZR4DJL and Andy Cairns, ZS6ADY
Awards: Tjerk Lammers, ZS1J
Contest WG: Johan Bezuidenhout, ZS6JBZ; Gerhard Coetzee; ZS3TG; Phillip van Tonder, ZS6PVT; Phillip Fischer, ZS6FY; Danie Schnetler, ZS6DPS
Database: Colin de Villiers, ZS6COL
Forum: Roger Conroy, ZR3RC and Andy Cairns, ZS6ADY
IARU IWS:
QSL Manager: Gert du Plessis, ZR6GRT
RAE and Training: rae@sarl.org.za
Regulatory WG: Hans van de Groenendaal, ZS6AKV; Leon Lessing, ZS6LMG; James Archibald, ZS6NS and Peter Leonard, ZS5PL
Reno Faber Station: Philip van Tonder, ZS6PVT
Repeater Co-ordination:
SARL Beacon Project Manager: Brian Jacobs, ZS6YZ
SARL Hamnet: Brian Jacobs, ZS6YZ; Michael Taylor, ZS1MJT; Andrew Gray, ZS2G; Rickus de Lange, ZS4A; Keith Lowes, ZS5WFD; Gert Botha, ZS6GC and Leon Lessing, ZS6LMG
SARL/ICASA Liaison: Hans van de Groenendaal, ZS6AKV; Nico van Rensburg, ZS6QL and Colin de Villiers, ZS6COL
SARL News/SARL Nuus: Dennis Green, ZS4BS; Dave Reece, ZS1DFR; Rory Norton, ZS2BL; Andy Cairns, ZS6ADY; Vivian Dold, ZS6VD; Herman Erasmus, ZS6CTA; Paul Johnson, ZS1S; Irene Myburg, ZS6IEA; Deon Erwin, ZS1ZL; Christo de Witt, ZS3CDW, Hannes Enslin, ZS6JDE and Kevern Burger, ZR2BK
SARL VHF and Above Records: Bernie vd Walt, ZS4TX
Swap Shop: Rassie Erasmus, ZS1YT
Youth/Jeug: Vacant

Radio ZS Awards



The Gary Immelman RA Heritage Award Floating Trophy awarded by the SARL Council for the best article of a historic nature describing an event that occurred more than five years previously or an interesting personality that has played an important part in the development of Amateur Radio in years gone by. Donated by Gary 1993.

The JJ Pienaar Trophy awarded by the Editor for the best article published in Radio ZS during the past year.

The Radio ZS Shield awarded by the Editor to a South African Radio League affiliated Club or member who best supported Radio ZS during the year. Donated by the Port Elizabeth Branch in 1966.

Radio ZS

Radio ZS is a forum for South African Radio League members to share their amateur radio experiments, experiences, opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for publication. Articles on e-mail are especially welcome. Material may be submitted in MS Word, Open Office or rtf format, using Calibri 12 pt and English (South Africa). Material may be e-mailed to radiozs@sarl.org.za. The League cannot be responsible for loss or damage to any material. https://mysarl.org.za/radio-zs-archives/.

Use of Articles in Radio ZS. Other IARU Member Societies may on written approval from the author and the editor of Radio ZS, reproduce material published in paper or digital form, for which the publishing author holds the copyright.

Such approval shall not unreasonably be withheld. Material taken for other Member Societies' publications in this way shall have a source and originator acknowledgement included on publication



SARL News Bulletins / SARL Nuus Bulletins



The South African Radio League, ZS6SRL broadcasts a news bulletin every Sunday in Afrikaans and English at 08:15 and 08:30 Central African Time respectively, on HF and various VHF and UHF repeaters around the country. The bullen is relayed on EchoLink and AllStar Node 53511 by Johan, ZS6JPL. Audio bulletins can be downloaded from https://sarlnews.podbean.com, while the text bulletin is available at https://mysarl.org.za/sarl-news/.

We invite clubs and individuals to submit news items of interest to radio amateurs and shortwave listeners, in both English and Afrikaans where possible, by uploading the news item at https://mysarl.org.za/news-inbox/ and/or by sending items to news@sarl.org.za no later than 12:00 on the Friday preceding the bulletin date.

The weekly radio programme Amateur Radio Today can be heard every Sunday morning at 10:00 CAT. The programme is carried on VHF and UHF repeaters countrywide and is relayed on 7 115 kHz lower sideband by Louie, ZR4DJL. A rebroadcast by Andy, ZS6ADY, can be heard on Monday evenings at 19:30 CAT on 3 620 kHz. Signal reports, comments and suggestions are welcome, send them by e-mail to artoday@sarl.org.za.

In Cape Town, Amateur Radio Today can be heard at 10:30 CAT on the 145,700 Mhz repeater, with an EchoLink relay to ZS1DCC-R by Dave, ZS1DFR.

In Bloemfontein, listeners can tune to the 145,7625 Mhz repeater at 08:15 and 08:30 for the SARL News and again at 10:00 for Amateur Radio Today.

In Sasolburg, listeners can tune to the 145,6875 Mhz repeater at 12:00 for the SARL News.

The weekly SARL News Bullens

Subscribe at sarlcommunicaons+subscribe@groups.io. Get a copy https://mysarl.org.za/sarl-news/

The weekly HF Happenings Newsletter

Subscribe at HFHappenings+subscribe@groups.io. Get a copy https://mysarl.org.za/hf-happenings/

Die Suid-Afrikaanse Radioliga saai elke Sondag nuus bulletins uit in Afrikaans sowel as Engels om 08:15 en 08:30 Sentraal Afrika Tyd onderskeidelik op HF sowel as op verskeie BHF- en UHF-herhalers.

Hierdie uitsendings word ook via Echolink en Allstar Node 53511 herlei deur Johan, ZS6JPL. Die oudio bulletins kan afgelaai word vanaf https://sarlnews.podbean.com/ terwyl die teks bulletins by hps://mysarl.org.za/sarl-news/ afgelaai kan word.

Ons nooi klubs en individue uit om nuusberigte van belang vir radioamateurs en kortgolfluisteraars in te dien, indien moontlik in beide Engels en Afrikaans, deur die nuusberig op te laai by https://mysarl.org.za/news-inbox/ en/of die items te stuur na news@sarl.org.za, nie later nie as 12:00 Vrydag voor die bulletin datum.

Die weeklikse radio program Amateur Radio Today kan elke Sondagoggend om 10:00 SAT gehoor word. Die program kan landwyd op VHF- en UHF-herhalers gehoor word en word deur Louie, ZR4DJL, op die 7 115 kHz laer syband herlei. ‘n Heruitsending deur Andy, ZS6ADY, kan

Maandagaande om 19:30 SAT op 3 620 kHz gehoor word. Ons ontvang graag jou sein rapporte, kommentaar en voorstelle, stuur ‘n e-pos aan artoday@sarl.org.za.

In Kaapstad kan Amateur Radio Today om 10:30 SAT op die 145,700 Mhz-herhaler gehoor word, met ‘n EchoLink-herlei na ZS1DCC-R deur Dave, ZS1DFR.

In Bloemfontein kan luisteraars om 08:15 en 08:30 vir die SARL Nuus en weer om 10:00 vir Amateur Radio Today inskakel op die 145,7625 Mhz-herhaler.

In Sasolburg kan luisteraars om 12:00 vir die SARL Nuus inskakel op die 145,6875 Mhz-herhaler.

Die weeklikse SARL Nuusbulletins

Teken in by sarlcommunicaons+subscribe@groups.io. Kry ‘n kopie https://mysarl.org.za/sarl-news/

Die weeklikse HF Happenings Nuusbrief

Teken in by HFHappenings+subscribe@groups.io. Kry ‘n kopie https://mysarl.org.za/hf-happenings/

SARL Awards and Trophies for 2026

The Awards and Trophies will be presented at the 2027SARL Awards Dinner

A. SARL Honours

Honorary Life Membership. The SARL's highest honour. Rule 1.4, 1.5.1 and 28.2.1 - Constitution and Rules of the SARL.

The Willie Wilson Gold Badge. Awarded by Council to a SARL member that gave exceptional and meritorious service to the League. Rule 28.2.2. - Constitution and Rules of the SARL.

The Koos & Annie van der Merwe Platinum Award

The Koos & Annie van der Merwe Gold Award

The Jack Twine Merit Award. To recognise qualities such as unselfishness, clean operating and a genuine interest in Amateur Radio and its affairs. This prestigious Award will be made to SARL members who, in the opinion of their fellow amateurs and the League's Council, exemplify the qualities desirable in a Radio Amateur. Rule 28.2.3. - Constitution and Rules of the SARL.

SARL Hall of Fame

The President's Award. This award is bestowed annually by the President of the SARL.

B. Technical Awards

The Icom Excellence Award. This award is bestowed annually by Council on the SARL member who through his/her activity in the Amateur Radio Service has brought international recognition to South Africa by either the achievement of a VHF/ UHF long distance record which is internationally recognized by the IARU, or by service to the Republic of South Africa or the SARL in the field of scientific research using the amateur spectrum, or in promoting the amateur service internationally or as Council may determine from time to time.

The Tinus Lange 7066 Technical Excellence Award. The award is bestowed annually on the League member who submits a technical project in any of the following categories – a) the design and/or construction of projects such as a pre-amp, SWR bridge, patching unit, automatic ID'er, practical antenna ideas, mast, portable gear, power supplies, etc., or b) any software for use in Amateur Radio.

The SAATI Technology Award. The South African Amateur Telecommunication Institute has tasked the SARL to present an annual award on its behalf. The purpose of the award is to stimulate development of and activity on Amateur Radio bands in South Africa by rewarding radio amateurs who have contributed materially to this goal. New and lesser-known modes of operation are preferred. The award recognises contributions such as the development of a digital or analogue operating mode, contributing to amateur radio over an extended period or by materially contributing to Radio ZS.

C. Operating Awards

The Barney Joel Trophy. Awarded by Council to an SARL member who has been an exceptionally active HF mobile operator during the year. This award recognises commitment to HF mobile communications, contributing to the advancement HF equipment, antennas and operating. This may be operation from a vehicle but may also include other short term self-contained field operation such as SOTA, HOTA, POTA or similar activity.

The Bert Buckley Six Metre Trophy. Awarded by Council to any SARL member for his/her individual achievements with transmissions in the six-metre amateur band. This award is not for the longest distance worked but for outstanding work or activity on six metres.

The Radio ZS 4 Metre Floating Trophy. Awarded by Council to the SARL member who achieved the longest distance on the 4-metre band during the year.

The Arthur Hemsley 2 metre Trophy. Awarded by Council to a SARL member for his/her individual achievements with transmissions in the 2-metre amateur band. This award is made for extraordinary performance on EME or modes such as Tropospheric propagation. It is not for the longest distance worked but rather for persistence in achieving something special on 2 metres.

The Radio ZS Two Metre Floating Trophy.

Awarded by Council to the SARL member who achieved the longest distance on the 2-metre band during the year.

The Joseph White Plaque. Awarded by Council to any SARL member for exceptional achievements in 432 MHz or higher during the past year. This is not awarded for the longest distance worked, but for all round achievements.

The ZS2BK Satellite Trophy. Awarded by Council to any SARL member for exceptional achievements on amateur satellites during the past year. This is not awarded for the longest distance worked, but for all round achievements.

The Heritage on the Air Award. Awarded by Heritage on the Air SA to the ZS amateur who contributed most towards the HOTA ZS programme in the past year.

D. The ZS-SOTA Awards

The Brian Jones, ZS6BV, SOTA ZS Award. Awarded by ZS-SOTA to the ZS amateur who contributed most towards the SOTA ZS programme in the past year.

The Tyler SOTA Excellence Award

The ZS-SOTA Ten Regions Challenge

The ZS-SOTA DX Challenge

E. Radio ZS Awards

The Gary Immelman RA Heritage Award Floating Trophy. Awarded by the Editor of Radio ZS for the best article of an historic nature of an event that occurred more than 5 years previously or an interesting personality that has played an important part in the development of Amateur Radio in years gone by.

The JJ Pienaar Trophy. Awarded by the Editor of Radio ZS for the best article published in Radio ZS during the past year.

The Radio ZS Shield. Awarded by the Editor of Radio ZS to a SARL affiliated Club or SARL member who best supported Radio ZS during the year.

F. Other Awards



The Arland Ussher Gold Pen Award. Awarded by Council for achieving the highest marks in the 2026 Class A Radio Amateur Examination.

The Class B RAE Certificate. Awarded by Council for achieving the highest marks in the 2026 Class B Radio Amateur Examination.

The Hamnet Shield. The Hamnet Shield rewards an individual or group for excellent service in a particular area to the community, the authorities and to Hamnet in particular. Criteria include cooperation with disaster relief organisations and enthusiastic provision of emergency communi-cations.

The Shield is awarded by the National Director of SARL Hamnet, normally based on nominations by the provincial directors.

The SARL Hammies Youth Development Excellence Award

The SARL Young Amateur Excellence Award

SARL Club Excellence Award. To recognise on an annual basis affiliated Clubs that have made an exceptional and significant contribution in promoting and growing the amateur radio service.

The SARL Certificate of Recognition

G. SARL HF Contest Awards

The Silent Keys Memorial Trophy SSB. Awarded by the Contest Committee to the SARL member who achieves the highest score during the annual HF Phone Contest.

The Joseph White Trophy. Awarded to the SARL member who as a Single Operator Single Band achieves the highest score on any one band, during the annual HF Phone Contest.

The AKYAB Trophy. Awarded by the Contest Committee to the SARL member who, in his/her first year of licensed activity, achieves the highest score during the annual HF Phone Contest.

The SARL Digital Trophy. Awarded by the Contest Committee to the SARL member who achieves the highest score during the annual HF Digital Contest.

The Silent Keys Memorial Trophy CW. Awarded by the Contest Committee to the SARL member who achieves the highest score during the annual HF CW Contest.

The Anon Trophy. Awarded to the SARL member who as a Single Operator Single Band achieves the highest score on any one band, during the annual HF CW Contest.

The HOS Trough. Awarded by the Contest Committee to the SARL member who achieves the highest aggregate score in the three HF Contests.

The Fred Mills Trophy. Awarded by the Contest Committee to the SARL member who achieves the highest score during the annual HF Phone, Digital and CW Contest and who has never won a SARL HF Contest Trophy before.

The SA Women's Radio Club Trophy. Awarded by the Contest Committee to the YL SARL member amateur who achieved the highest aggregate score in the three annual South African Radio League HF Contests.

The SARL Youth Trophy. Awarded by the Contest Committee to the young SARL member amateur 25 years or younger who achieved the highest aggregate score in the three annual South African Radio League HF Contests.

The Club Participation Award. Awarded by the Contest Committee to the SARL affiliated Club who achieves the highest participation in the annual HF Phone, Digital and CW Contests.

H. SARL VHF/UHF Trophies

The "Ray Webber, ZS6RSW" VHF/UHF Trophy. Awarded by the Contest Committee to the SARL member/club who achieves the highest score during the annual SARL VHF/UHF Analogue Contest.

The Koos du Plessis, ZS6BFD VHF/UHF Trophy. Awarded by the Contest Committee to the SARL member/club who achieves the highest score during the annual SARL VHF/UHF Digital Contest.

I. The SARL Club Contest

The SARL 80 m Championship Trophy (SARL Wednesday 80 m Club Sprint)

The SARL 40 m Club Championship (SARL Saturday 40 m Club Sprint)

The SARL 20 m Club Championship (SARL Saturday 20 m Club Sprint)

J. SARL QRP Contest Awards

Grand Champion 2026

CW Mode Champion

Chaser Champion

FT Mode Champion

Nomination forms

The various nomination forms are available in MS Word format at https://mysarl.org.za/ and click on AGM.

Please collect all the required signatures on one nomination form before submitting it. Closing date for submissions – midnight on Sunday 31 January 2027 by e-mail to secretary@sarl.org.za.



Dear IARU Region 1 Members Societies,

On 3 December, the International Day of Persons with Disabilities, I would like to propose that we take this opportunity to recognize and celebrate radio amateurs with disabilities across our community.

Amateur Radio is a unique hobby that can bring people together regardless of physical limitations. With appropriate adaptations and support, many operators with disabilities can actively participate in amateur radio, contesting, emergency communications, satellite communications and international friendship.

This day could be an excellent opportunity for IARU Region 1 and its member societies to highlight the achievements and contributions of disabled radio amateurs, encourage greater accessibility within our organizations and clubs and remind the amateur radio community that everyone should have the opportunity to participate.

I believe that a simple message from IARU Region 1 on 3 December, perhaps accompanied by stories or photographs from disabled radio amateurs across Region 1, could have a meaningful impact and help promote inclusion within our hobby.

I would be very pleased to support such an initiative and to contribute, if useful, to its preparation. Let us use amateur radio to demonstrate once again that communication has no barriers.

PDRA is not about giving special treatment. It is about removing unnecessary barriers. One hobby. One community. One frequency accessible to everyone.

73, Riri, OD5RI - PDRA Coordinator

The Mauritius Amateur Radio Society

Ashwin Mandary, 3B8GL https://3b8mars.org/

The Mauritius Amateur Radio Society, founded in 1968, is the national representative organisation for amateur radio enthusiasts. Membership is open to all who have an interest in amateur radio telecommunications.

The Mauritius Amateur Radio Society (MARS) is a membership-focused organisation made-up of Corporate Members and Associate Members. The Society is legally registered with the Mauritius Registrar of Associations and holds annual general meetings. The governing body comprises of elected members for the posts of President, Secretary and Treasurer. MARS is a member of the International Amateur Radio Union (IARU) Region 1.



Mauritius is a volcanic island, measuring 58km (36mi) from north to south and 47km (29mi) from east to west. It lies in the Indian Ocean, roughly 800km (500mi) east of Madagascar, 3860km (2400mi) south-west of India and 220km (135mi) north-east of its nearest neighbour, Réunion.

The Republic of Mauritius, it includes the inhabited island of Rodrigues some 560km (350mi) to the north-east, and other scattered coral atolls such as Cargados Carajos , St Brandon and Agalega. Call sign prefixes: Agalega 3B6, St Brandon 3B7, Mauritius 3B8, Rodrigues 3B9.





The Pioneers (1927 – 1936)

The first "official" radio amateur operators were:
V8AA / VQ8AA Jean Regnaud - SK
V8AB / VQ8AB Leny Mazery - SK
V8AC / VQ8AC Gaston Koenig - SK
V8AD / VQ8AD Paul Caboche -SK
V8AE / VQ8AE Henri d'Agnel - SK
V8AF / VQ8AF Volcy de Robillard - SK

They self-adopted the prefix V around 1933 because there was no legislation for amateur radio operators. The date of the first license officially issued by the Post Master General is unknown (probably between 1933 and 1936).

In 1927, Volcy de Robillard, a radio enthusiast and future amateur radio operator, obtained a license from the Colonial Office to receive wireless telegraphy (TSF)signals.

The first known amateur radio contacts were made by Leny Mazery in 1931 and Volcy de Robillard (picture) in 1932.



Paul Caboche (VQ8AS, VQ8AD and 3B8AD – SK) at Salomon Island in the Chagos in 1936.







QSL card of Paul Caboche, VQ8AS confirming QSO between Salomon Island and France on 25 July 1937.

The Pioneers (1967)

On 18 November 1967, the Mauritius Amateur Radio Society (MARS) was founded. President Paul Caboche sent his first message on 30 November of the same year to thank the volunteers who had worked hard to establish MARS. The founding members were native Mauritians and British expatriates. Some names of that period are Steve Gibbs, VQ8CC, Ray Mills (VQ8CR), John Stratful (VQ8CV) just to name a few.

On 7 October 1969, the International Telecommunication Union (ITU) assigned the prefix 3B to Mauritius and its dependencies. Before independence, the prefix was VQ. A new chapter in our history began, as Mauritian amateur radio operators now had their own distinct identity, independent of Great Britain.

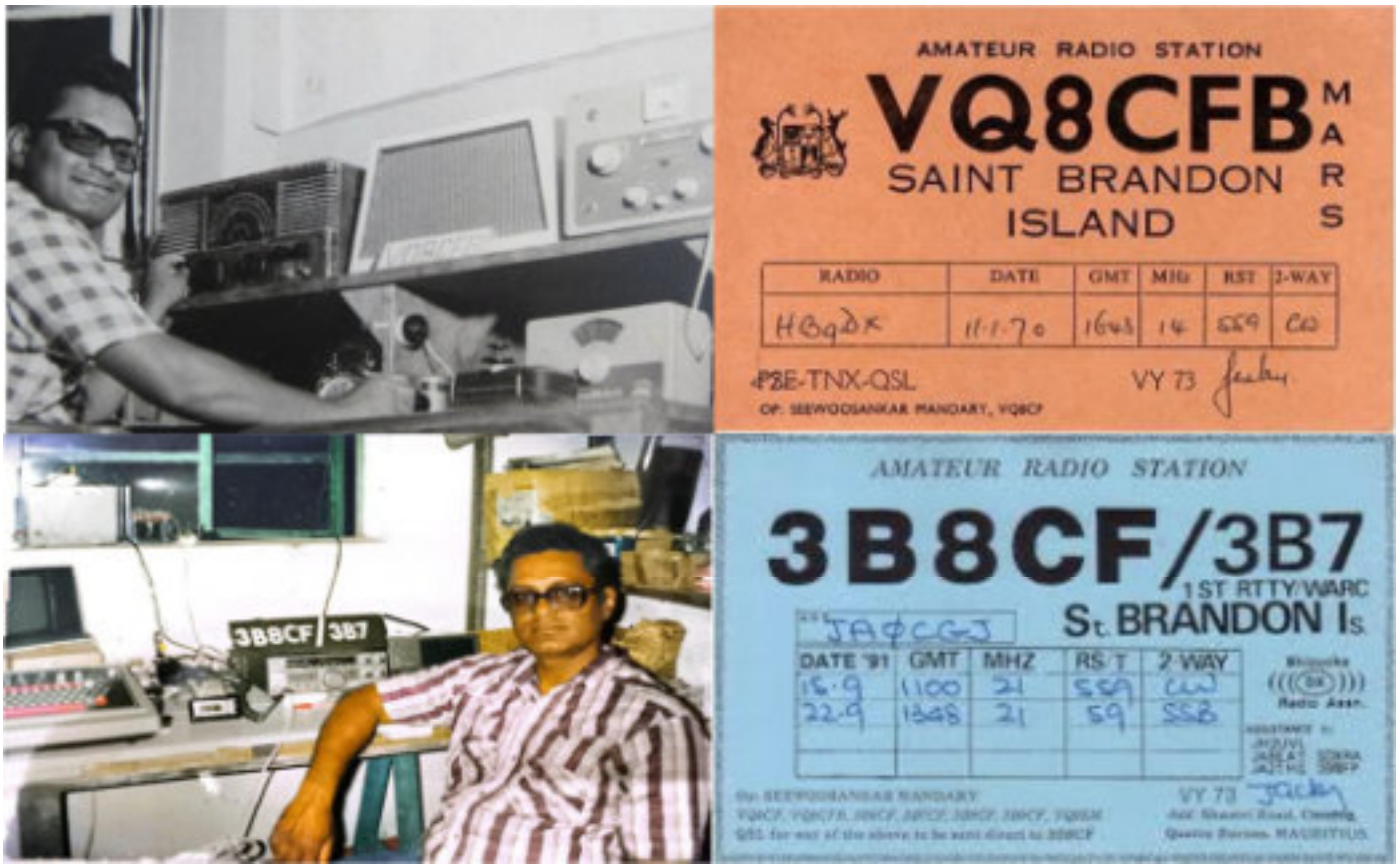
The Mauritian amateur radio prefix changed from VQ to 3B in July 1970.



1976 -1977

The Michel Brothers, Alain (3B8DH - SK) and Gérard (3B8DX - SK) embarked on a space adventure and were the first Mauritians to make amateur radio satellite contacts.

Jules Labat (3B8CS – SK) made the CEB's main frame computer available to them to calculate passes and orbits. They made contacts with South Africa using Morse code on the OSCAR-7 satellite with a

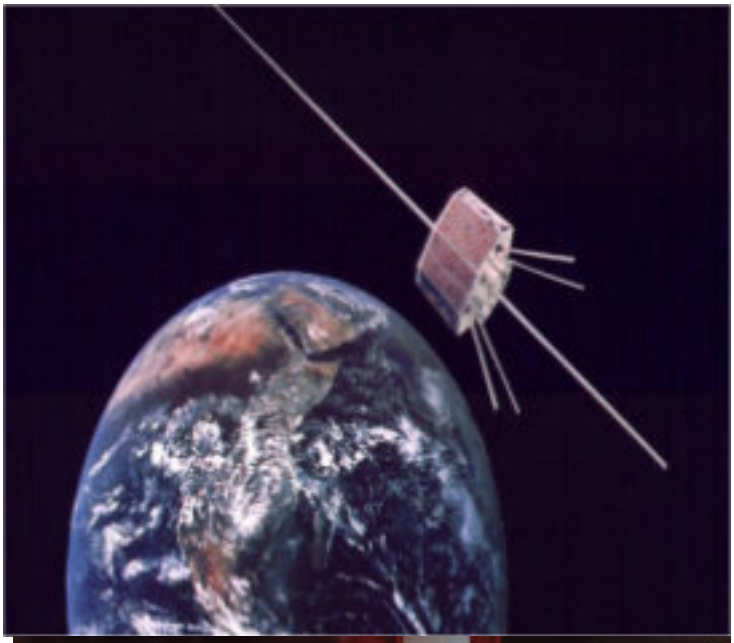


QSL card of Jacky Mandary, VQ8CF/3B8CF before and after the change

transmitter of their own design.

1988

The Department of Telecommunications was dissolved in 1988. As a result, aspiring amateur radio operators were no longer able to take local exams and had to pass a foreign exam (City & Guilds) to obtain a amateur radio license in Mauritius.









Then in 2010, MARS was authorised and recognised to conduct Radio Amateur examination and deliver certificates to successful candidates.

1991

First public demonstration of digital amateur radio transmission by Rachid Karroo (3B8FP) to Governor Sir Veerassamy Ringadoo during “Science and Technology” fair on July 17, 1991

1994

On 1 December 1994, MARS registered a new constitution (No. 4388). Extract from the MARS constitution: President: Jacky Mandary, 3B8CF (SK) Secretary: Rachid A. Karroo 3B8FP. Proposed by: Maureen Martin, 3B8GB, Seconded by: Ismet Aumeeruddy, 3B8DM

The Evolution Of Mars Since 1994

Providing Emergency Communication During Car Rally Championship (In Picture -Jacky Mandary, 3B8CF – SK)





Jamboree On The Air For The Scouts (VHF / HF / ECHOLINK)











Forming part of DXpeditions (in the picture – Jacky, 3B8CF (SK)
Conducting regular Technical Workshops amongst 3B8 OMs



Attendees at the Mauritius Amateur Radio Society (MARS) March 2018 meeting: Jacky, 3B8CF (MARS Secretary); Patrice, 3B8FA; Patrick, 3B8GF; Dr Dokhony; Jean-Marc, 3B8DU; David Bastien; Johnny Nemo; Gérard, 3B8FV; François, 3B8BAN; Gérard, 3B8DX; Yusuf, 3B8FO; Michel Sinnott; Clive, 3B8CW; Jacques, 3B8GC; François 3B8GZ and Ashwin, 3B8GL. Photo courtesy of Nigel, G3TXF.





Since 2010, MARS Is authorised to conduct Class A and B Radio Amateur Examination in Mauritius and its



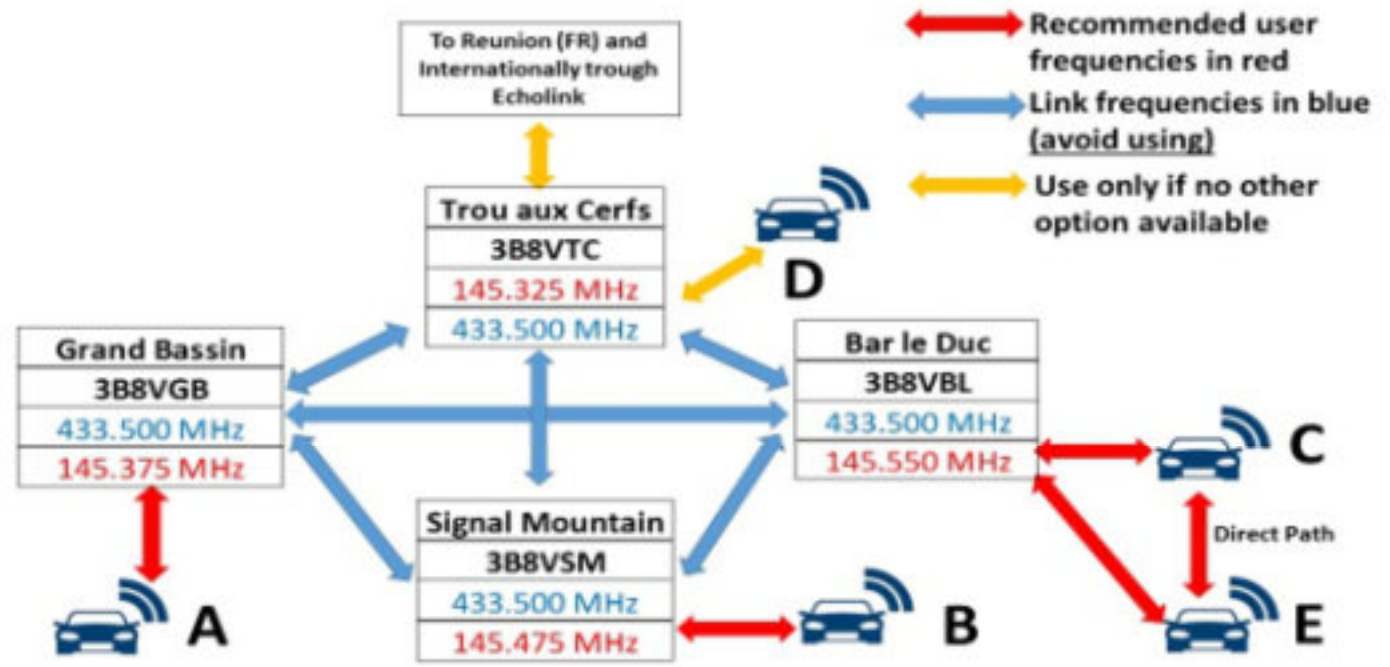






Territories – Certificate Remittance Ceremony

In 2017, we upgraded our repeater system (unique national meshed network in the world) from 1 to 4,



which had a 90% coverage plus a link (EchoLink) to Reunion and Rodrigues islands.

Through interviews and newspaper publications, members of the Mauritius Amateur Radio Society are helping to raise awareness and promote the importance of amateur radio within the local community

The arrival of QO-100 has pshed MARS to a higher level either locally or worldwide. Demonstations at educational institutions were easier. Same as ARISS contacts, educational institutions contact 3B8 amateurs for live demonstrations. The first activation of 3B9 on QO-100 was in 2022 by 3B9FV, 3B9GF, 3B9HI, 3B9CF, 3B9FA and 3B9GL.





13 MAGAZINE

MIR-SAT 1 Award

Ashwin Mandary capte les données du nanosatellite mauricien

Le policier Ashwin Mandary, passionné par l'espace et l'aviation, marche sur les pas de son père. Il fait partie des dix premiers radioamateurs au monde, à remporter le « Platinum Award ».

Au service du Police Helicopter Squadron

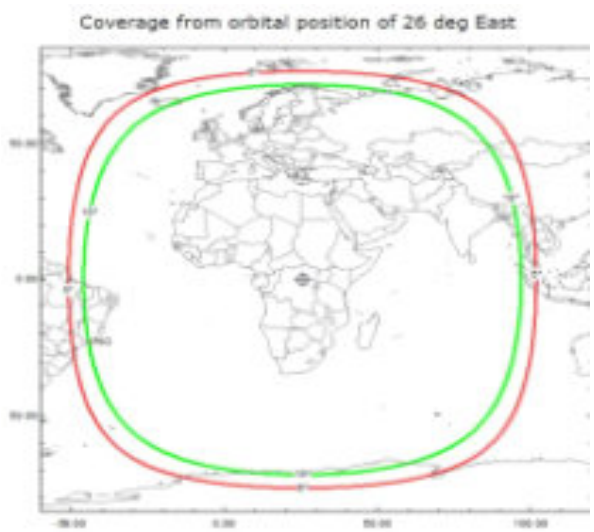


TECHNOLOGIE SPATIALE

Les radioamateurs communiquent déjà avec MIR-Sat 1

Le premier nanosatellite mauricien a été lancé en orbite mardi. Quelques heures après, les radioamateurs attendaient de recevoir les premiers signaux...

Le nanosatellite mauricien a été lancé mardi après-midi de la station orbitale internationale.


Coverage from orbital position of 26 deg East




3B8CF


3B8BAN
QO-100




Contact scolaire avec
l'île Maurice
ÎLE MIURICE
DATV
QO-100
Jean-Marc 3B8DU
Véronique 3B8AU
Radio-club F5KEE


QO-100









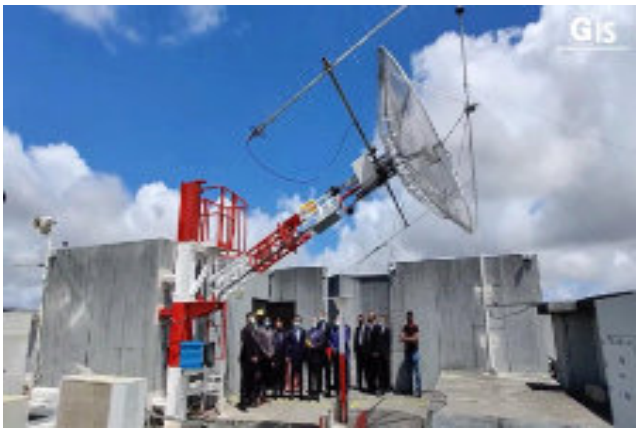
The activation of 3B9 on QO-100 for the first time in 2022 by 3B9FV, 3B9GF, 3B9HI, 3B9CF, 3B9FA and 3B9GL

MARS Is part of the national disaster and risk reduction management committee where we can provide emergency communications during natural disaster if the need arises.





The launching of the first Mauritian CubeSat (MIR Sat 1 – MO-112) was a challenging task as MARS was involved in setting up the national tracking centre and an award was issued to stations receiving telemetry at launch and re-entry locally and abroad.







Students of Educational were invited to set up their receiving station with the help of MARS members to receive telemetry data by MIRSAT 1 (MO-112). Students of Hassan Raffa College Constructing their antenna

Forest Side SSS (Girls) was the first school in Mauritius to have decoded MIRSAT 1 telemetry and uploaded same to Satnogns under the supervision of their teacher Vikram, 3B8HJ



Students of Hassan Raffa College constructing their antenna

Some of the 3B8 OMs are experienced for carrying out experiments on new projects and ideas. Reception of weather satellite imagery (LATE NOAA 15, 18, 19, METEOR M2 - 3,2 - 5, EWS – G2), antennae and TEP propagation, etc.

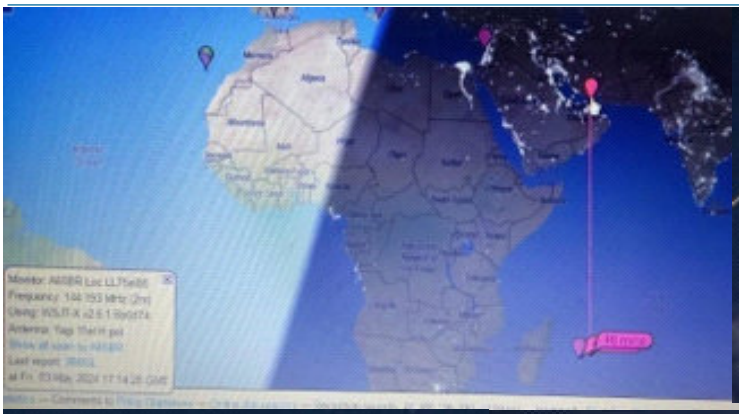
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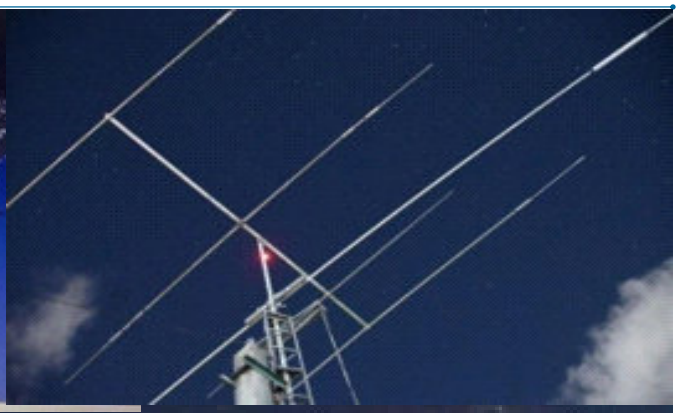


Lunar Amateur transponder

Longjiang-1 and Longjiang-2, built by students at Harbin Institute of Technology, carrying Radio Amateur transponders were launched with a Long March 4C rocket from Xichang, China on the 20th May 2018.

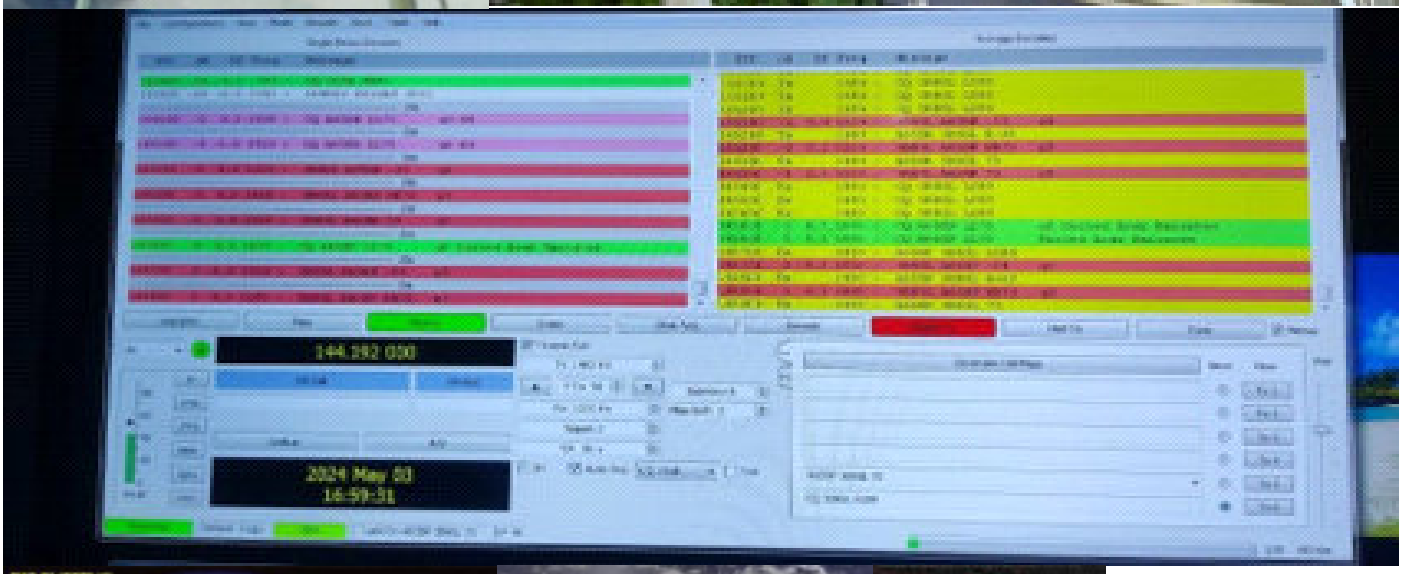
Many Radio Amateurs around the world have been able to receive the weak signal from the moon

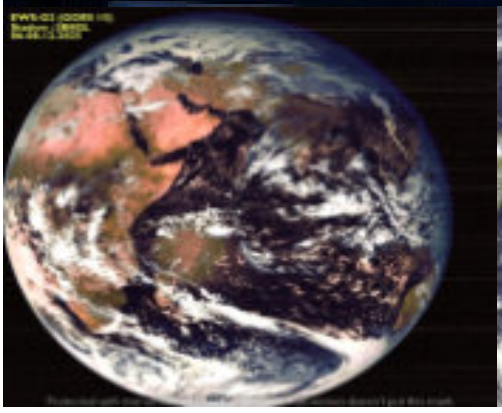


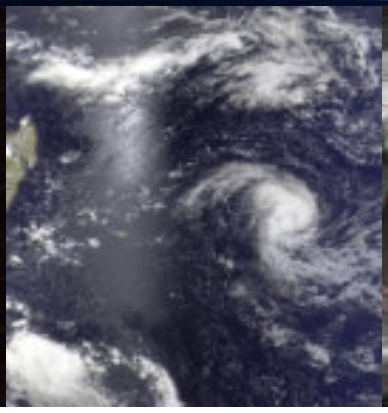


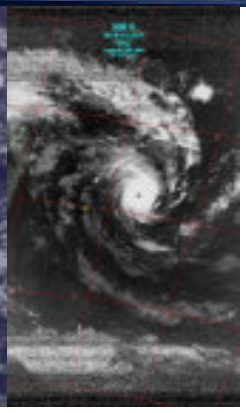


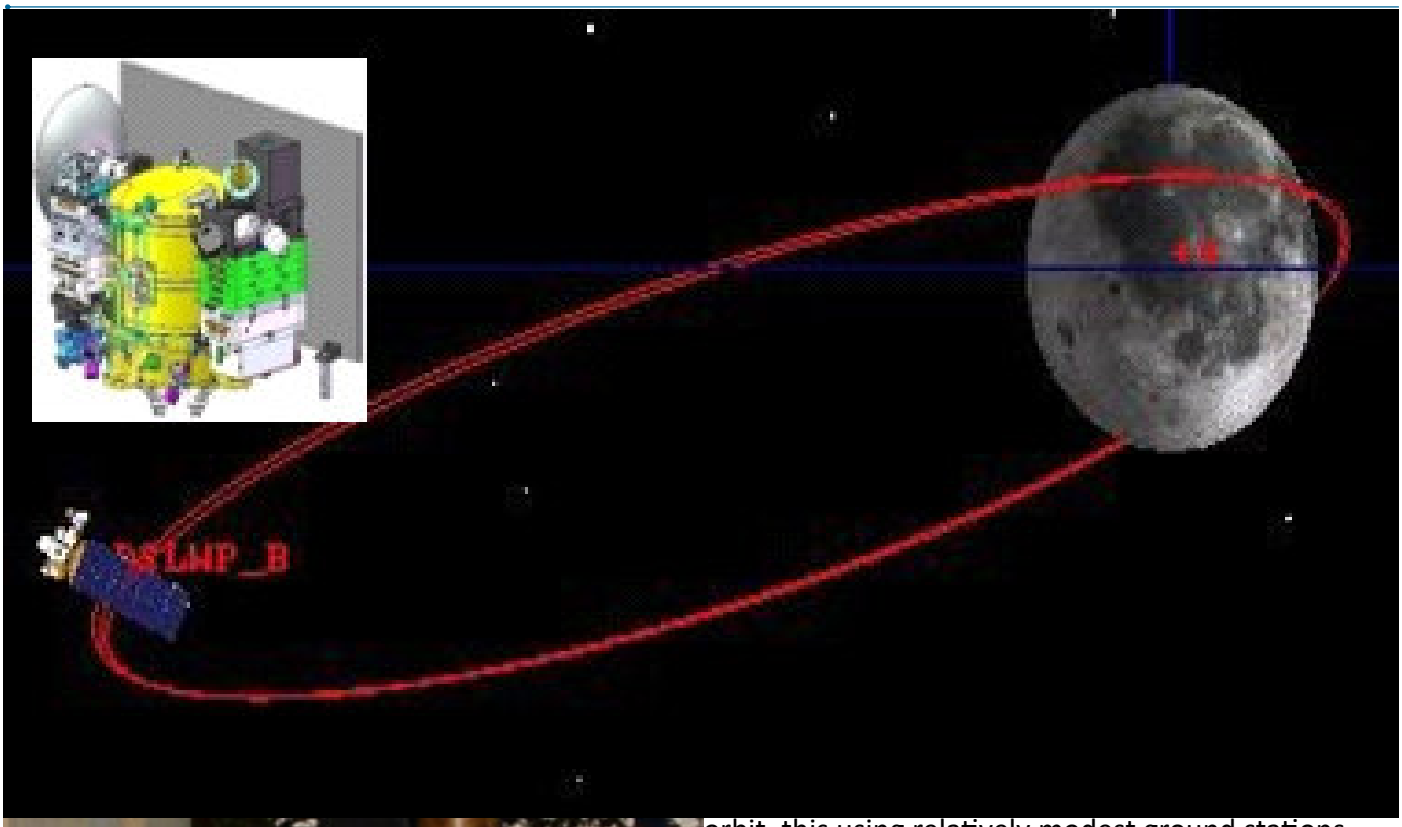



144.192 000
2024 May 03
16:59:31









orbit, this using relatively modest ground stations, including 2 stations in Mauritius by Momple brothers namely Jean Marc, 3B8DU and Patrice, 3B8FA on the UHF band.







EME Dxpedition by Bernie, ZS4TX

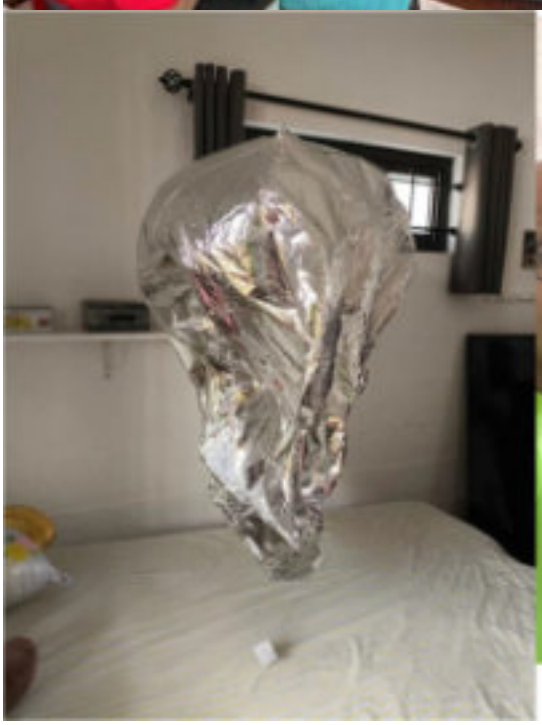
DXpedition by 3B8M Team Every Year for the CQ WW Contest lead by Olof, 3B8HA / G0CKV



BERU Contest Ian, G3WVG/3B8VV and Nigel, G3TXF/3B8XF



Our latest project, MARS has been involved in launching pico balloons, but due to local regulations, we had to send the balloons to be launched from South Africa. Our objective is to have at least one of them to do a full circumference of the globe.





Courtesy Visit To Foreign Hams Visiting 3B8

From left to right: 3B8GL, OE6MBG, VU2GHO, DL5PT, Karyn and OE6YWF





3B8GL and DL5PT

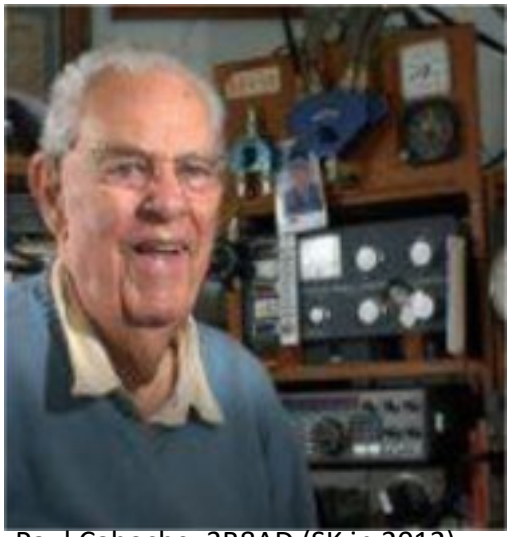


3B8FA, 3B8GL, DK6SP and 3B8HI

As you have seen through this presentation the small island in the Indian ocean has made a huge leap from where it started and where it is now. And we are still learning everyday…

As at today... We are having a total of nearly 40 members out of which 10 are very active for a population of 1,6 million inhabitants. MARS has delivered 59 certificates to successful candidates of radio amateur examination as of September 2026. But this would not have been possible without the dedication of two persons that i want to pay a tribute here

Paul Caboche, 3B8AD, who passed away on 24 July 2012, was a leading figure in the amateur radio community and played a key role in shaping the future path of MARS, while the demise of Jacky Mandary, 3B8CF on 17 November 2023 was a tremendous loss for Mauritian amateur radio operators, as he steadfastly supported and guided MARS through decades of challenges and progress.



Paul Caboche, 3B8AD (SK in 2012)



Jacky Mandary, 3B8CF (SK in 2023)

HF Conditions South Africa

A real-time HF propagation service for South African radio amateurs https://zs1gfl.ampr.org/HFSA/

Georg Lerm, ZS1GFL

HF Conditions SA has a new home at https://zs1gfl.gpio.co.za/HFSA/. The site runs 2 instances and a load balancer to spread the load between them. This is hosted by long-time friend and amateur John, ZS1EQ/ ZL1VMM.

If you have done the app install on any of your devices, please uninstall and reinstall from the new site, and re-enter your call sign and Grid Square. Site functionality is identical as before.

The old site will be shut off by the weekend and will become the development site for further expansion/ development/testing before being pushed to the production site.

I would like to thank John, ZS1EQ/ZL1VMM for the hosting space and me and effort he put in to make his more accessible.

Comments to zs1gfl@glech.co.za please.

1. Introduction

HF Conditions South Africa (HFSA) is a free, browser-based service that reports the current state of the high-frequency (shortwave) radio bands for South African radio amateurs. It gathers live space-weather data, runs two independent propagation models and presents the result as a set of simple, colour-coded pages: which bands are worth trying right now, how far signals are likely to reach and what to expect over the next day or two.

The service runs at https://zs1gfl.gpio.co.za/HFSA/. It is a static website backed by small scheduled Python jobs on a Raspberry Pi 4 running Debian 12 and Apache. There are no database and no third-party runtime: the pages are ordinary HTML, CSS and JavaScript and the data they display is generated by the jobs and served as plain JSON files.

This document is a first draft. It describes the purpose of the service, what each page does, how the numbers are produced and checked and how the site is licensed and operated. It screenshots the main pages and includes figures for the system architecture and the verification results.

Comments and constructive criticism are welcome and can be sent to zs1gfl@gltech.co.za.

2. Purpose and audience

The questions an HF operator asks most often are the ones the site was built to answer at a glance: Which bands are open? How far can I work? Is a geomagnetic disturbance about to spoil the path? What will conditions be like tomorrow? HFSA answers these for a South African audience, where little dedicated local guidance has historically been available.

Provided free of charge to the amateur community

HFSA is offered free of charge to the amateur radio community and to the public. No fee, subscription or registration is required and there is no premium tier or other form of paid access. The service is not monetised: it carries no advertising, sponsorship or affiliate arrangements and no commercial product or service is attached to it. It is operated and funded privately as a voluntary contribution to the hobby and it remains wholly independent of any government agency, commercial organisation or data provider.

The intention is straightforward: authoritative HF propagation information should be freely available to every South African amateur, regardless of means and the knowledge of how it is produced should be shared openly rather than locked away.

Who it is for

South African radio amateurs (ZS, ZR and ZU) plan-ning contacts or contests.

Shortwave listeners who want to know when a band is likely to be busy.

Anyone curious about space weather and its effect on radio, including educators and students.

Visitors who are simply looking for the local HF outlook, with no technical background required.

Getting started in 30 seconds

A newcomer can get a useful answer in under a minute. The steps are:

1. Open https://zs1gfl.gpio.co.za/HFSA/ and accept the short licensing notice. The Home page then loads the current conditions.
2. Read the Current HF Outlook panel for the overall verdict and the Space Weather tiles for the four key measured values (solar flux, Kp, sunspots, X-ray).
3. Open Bands to see which bands are rated GOOD or better right now.
4. Open Paths to check whether a particular destination is workable and on which band.
5. Open Forecast for the next day or two and Alerts for anything in progress.
6. Optional: on My Station, enter your callsign and Maidenhead locator for conditions at your own location and use the Install button to add the app to your home screen.

Design principles

Plain language first. Every value carries a plain-English label and a glossary defines every technical term.

Honesty about uncertainty. Each value is tagged as MEASURED, FORECAST, MODELLED or DERIVED and its freshness is always shown.

- Independence. Two unrelated models are run and cross-checked, so the user can see where they agree and where they do not.
- Low friction. It is a website and an installable app, works offline from the last snapshot and stores personal settings only in the browser.
- Free and non-commercial. Provided at no cost to users, with no advertising, subscription or commer-cial interest of any kind.

3. The service at a glance

The site is a small set of focused pages reached from a single navigation bar. The table below summarises what each page is for; Section 5 walks through the main pages with a screenshot and groups the legal and utility pages together in text.

Page	Purpose
Home	Current HF outlook, space-weather tiles, best bands and quick links.
My Station	Conditions and forecast for the visitor's own callsign and locator.
Bands	Which of the HF amateur bands are usable now, rated and explained.
Map	World map with live day/night terminator, grey line and modelled paths.
Paths	Point-to-point predictions to DX and domestic destinations.
Forecast	The next 24 - 48 hours: predicted Kp, solar flux and storm scales.
Alerts	Decoded NOAA space-weather alerts, warnings and watches.
QO-100	Pointing, solar-outage and live monitors for the QO-100 satellite.
Source Status	Freshness of every data source and model cross-check state.
Guide	A written walkthrough of every section and how to read it.
Glossary	Definitions of every badge, label and technical term.
About / Data Sources	What the service is, plus the provenance of every dataset.
Licensing	Terms of use and the licensing position of every component.
Disclaimer	No-warranty and limitation-of-liability statement.
Privacy	POPIA-aligned privacy notice.
Offline	Shown by the app when the network is unavailable.

4. How it works

HFSA separates collection from presentation. Scheduled jobs run on the server, write JSON snapshots to disk and Apache serves those files alongside the static pages. The browser does no modelling of its own except for simple geometry (sunrise, sunset and the grey line), which it computes locally for the visitor's exact square.

The data pipeline

• Space weather (every 10 minutes): solar flux, Kp index, sunspot number, X-ray flux, solar-wind speed and NOAA forecast products are pulled and written to data/current.json.
• Propagation models (hourly, cached): ITU-R P.533-14 runs the path predictions and NTIA VOACAP runs in parallel as an independent cross-check. Agreement is recorded per path rather than hidden.
• Per-anchor runs (every 3 hours): the country is grouped into six Maidenhead locator anchors and P.533 is run for each so every visitor gets a nearby path set.
• Real-world validation (every 6 hours): predictions for the past 24 hours are compared against actual WSPR reception reports from wspr.live.
• Clock beacon (every 30 seconds): a GPS-referenced time reference so all times shown are consistent in SAST and UTC.

The diagram below shows the whole system as one flow, from the upstream data sources through the scheduled jobs and JSON snapshots to the files Apache serves and the browser displays.



Figure 1. HFSA system architecture

Built for trust

The project does not ask the user to take its numbers on faith. Engine verification re-runs the official ITU reference cases and compares the output line by line; parameter pass-through confirms inputs are not silently ignored; geometry is checked against both engines; and the two model families are cross-examined against each other and, finally, against real reception reports. See Section 7.

5. The pages

The screenshots below are of the live site, captured at the same moment, so the figures are internally consistent.

Note: the values shown in the screenshots are a single snapshot taken for illustration — for example a particular space-weather state, band ratings and path reliabilities — and do not represent the current conditions on the live site, which update several times an hour. They are intended to show what each page presents and how it is laid out, not what it reads at any other time.

5.1 Home

The landing page answers the most immediate question, then offers a route into everything else. A large 'Current HF Outlook' panel gives the overall verdict (for example, FAIR or GOOD) with a one-line explanation, beside a 'Space Weather' panel showing the four key measured values: solar flux (SFI), Kp index, sunspot number and X-ray flux. A banner strip carries any active space-weather watch. Below these, a 'My Station'

card invites the visitor to personalise the site, a 'Best Bands Now' panel lists the HF bands with colour-coded ratings and an 'All Sections' grid links to the rest of the site.

Purpose: to give a usable answer in the first few seconds and to make the deeper pages discoverable. The 'Refresh now' button asks the server to recalculate the path model for the visitor's area (subject to a 30-minute server-side cooldown) and the Install button offers the app.

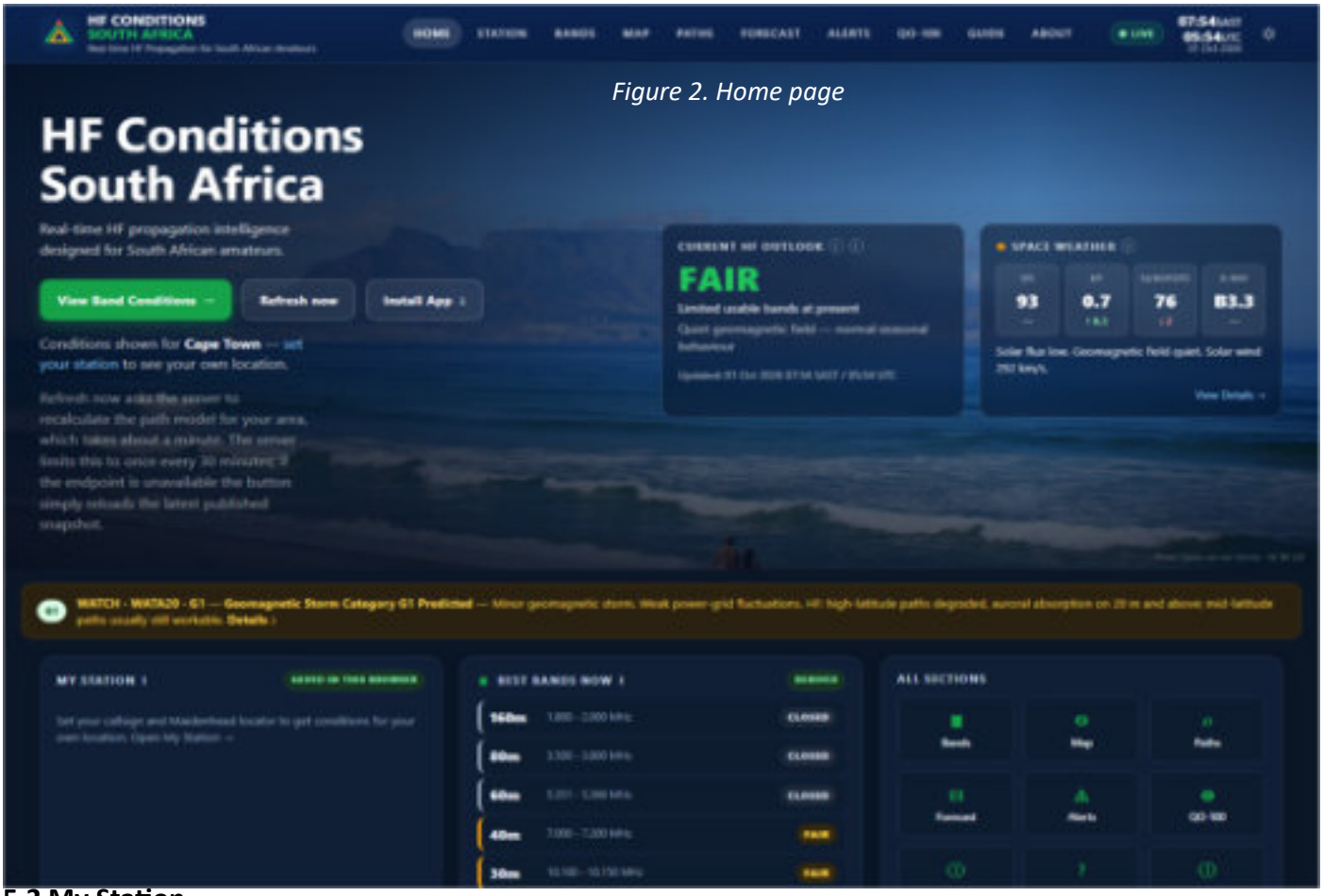


Figure 2. Home page

5.2 My Station

The visitor enters an optional callsign and a four-character Maidenhead locator. The site stores these only in the browser and computes local conditions, band ratings and a forecast for that square, with path predictions taken from the nearest of the six model anchors. A ‘Use my location’ button fills the locator from the device’s position.

Purpose: to turn a general national outlook into a personal one, without requiring accounts or sending personal data anywhere. The privacy notice reflects this ‘stored in your browser only’ design.

5.3 Bands

A single ordered list of the HF amateur bands (160 m through 10 m) with the frequency range of each and a rating: GOOD, FAIR, POOR or CLOSED. An ‘About these ratings’ note explains that the ratings are derived from current solar and geomagnetic conditions plus time of day for the reference area.

Purpose: to answer, ‘which band should I try now?’ in one glance. The ratings are labelled DERIVED because the project computes them from other data rather than measuring them directly.

5.4 Map

An interactive world map drawn on a canvas: Natural Earth coastlines, a live day/night terminator with the grey line along its edge and great-circle paths radiating from Cape Town to more than thirty destinations, coloured by modelled reliability (green good, amber fair, red poor). A legend and a sub-solar readout sit below the map.

Purpose: to make propagation intuitive and geographic. The visitor can see at once where it is day or night, where the grey line is and which directions are working. The map is a live layer, not a static image.

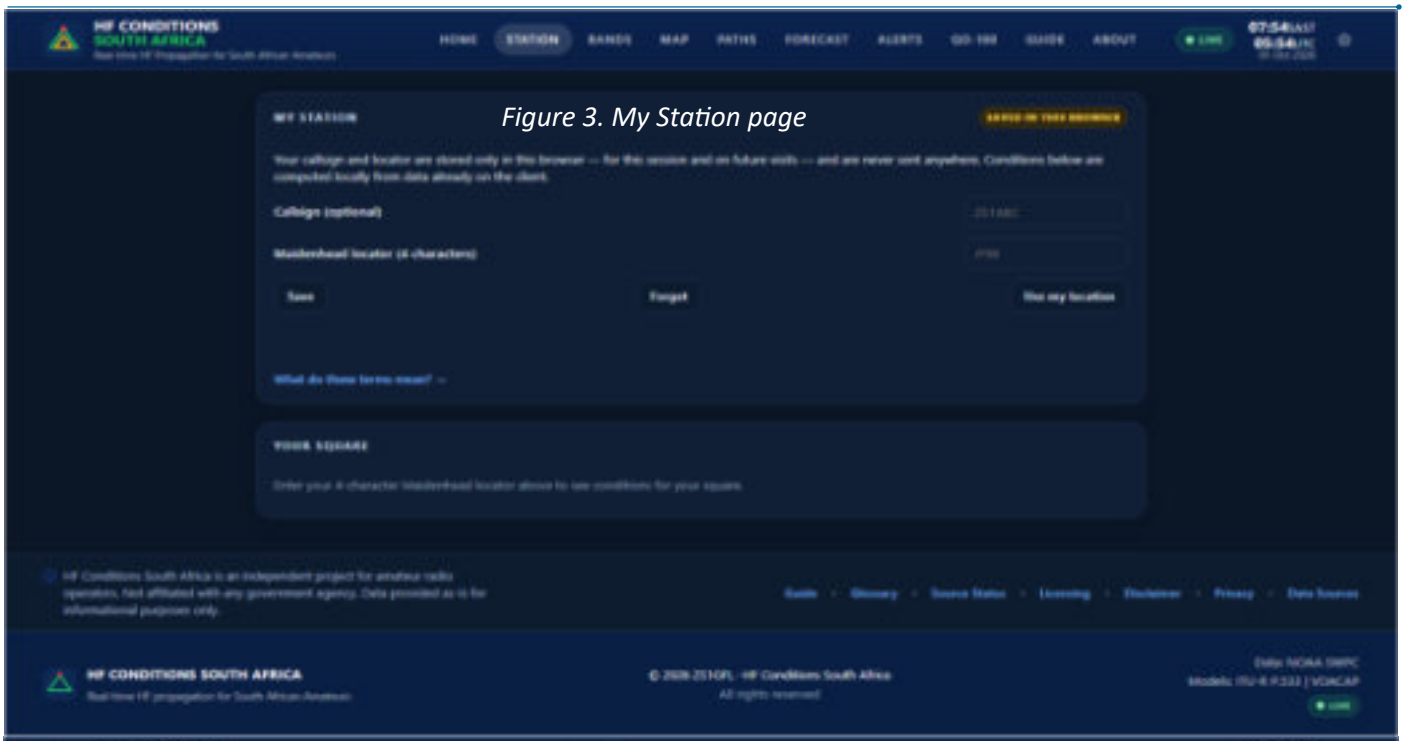


Figure 3. My Station page

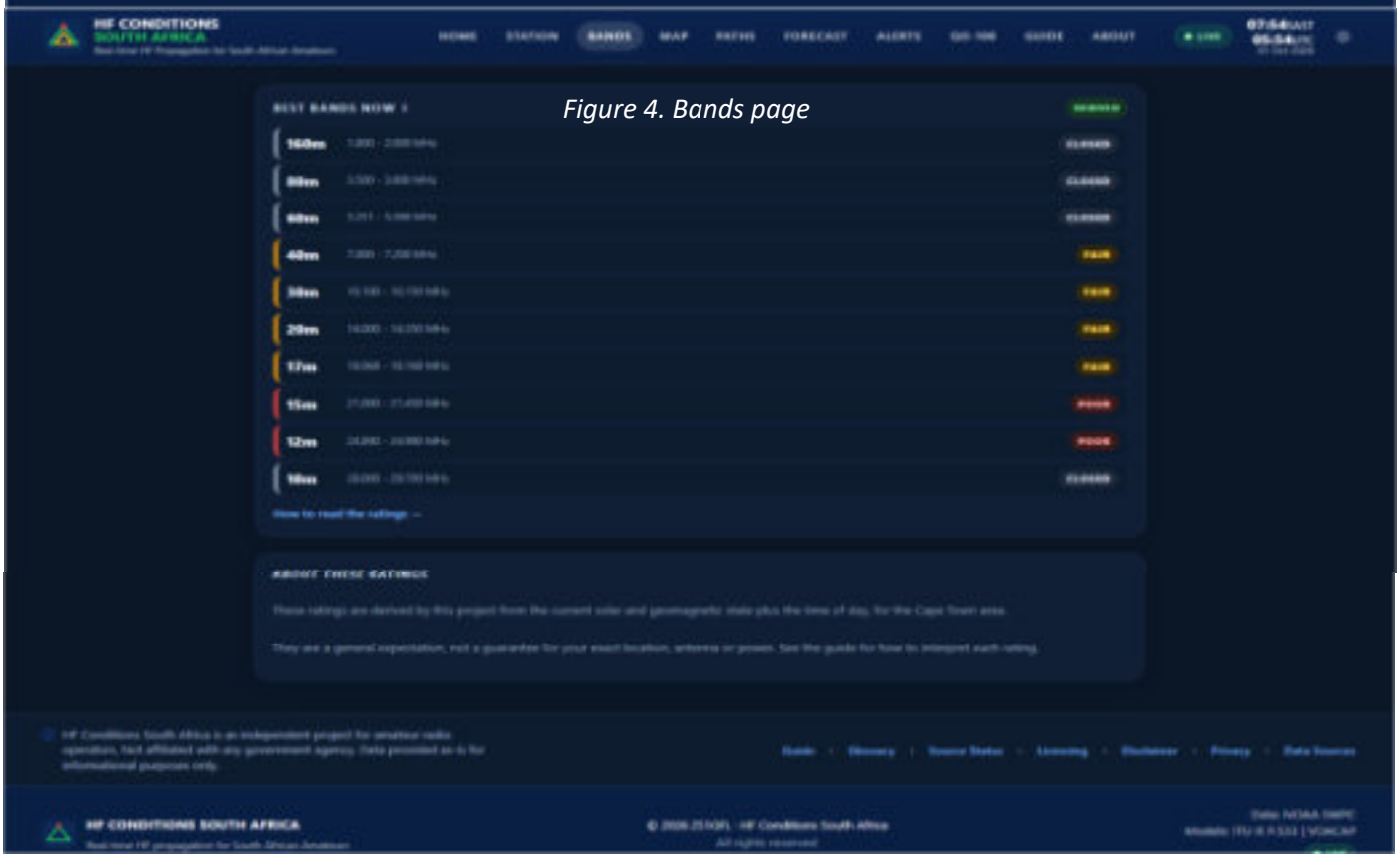


Figure 4. Bands page

5.5 Paths

Two tables present point-to-point predictions. The ‘Top DX Paths’ table lists distant destinations with the best band, the circuit MUF and a reliability percentage. The ‘Top Domestic Paths’ table does the same for the six South African call areas. An ‘About these paths’ panel explains that each row is a model, not a measurement, computed with ITU-R P.533 and cross-checked with VOACAP.

Purpose: to answer, ‘can I work a particular place and on what band?’. MUF is the highest usable frequency for the circuit; reliability is how often that circuit is expected to support a usable signal.

5.6 Forecast

A bar chart of the predicted Kp index for the next 48 hours, followed by rows for predicted solar flux

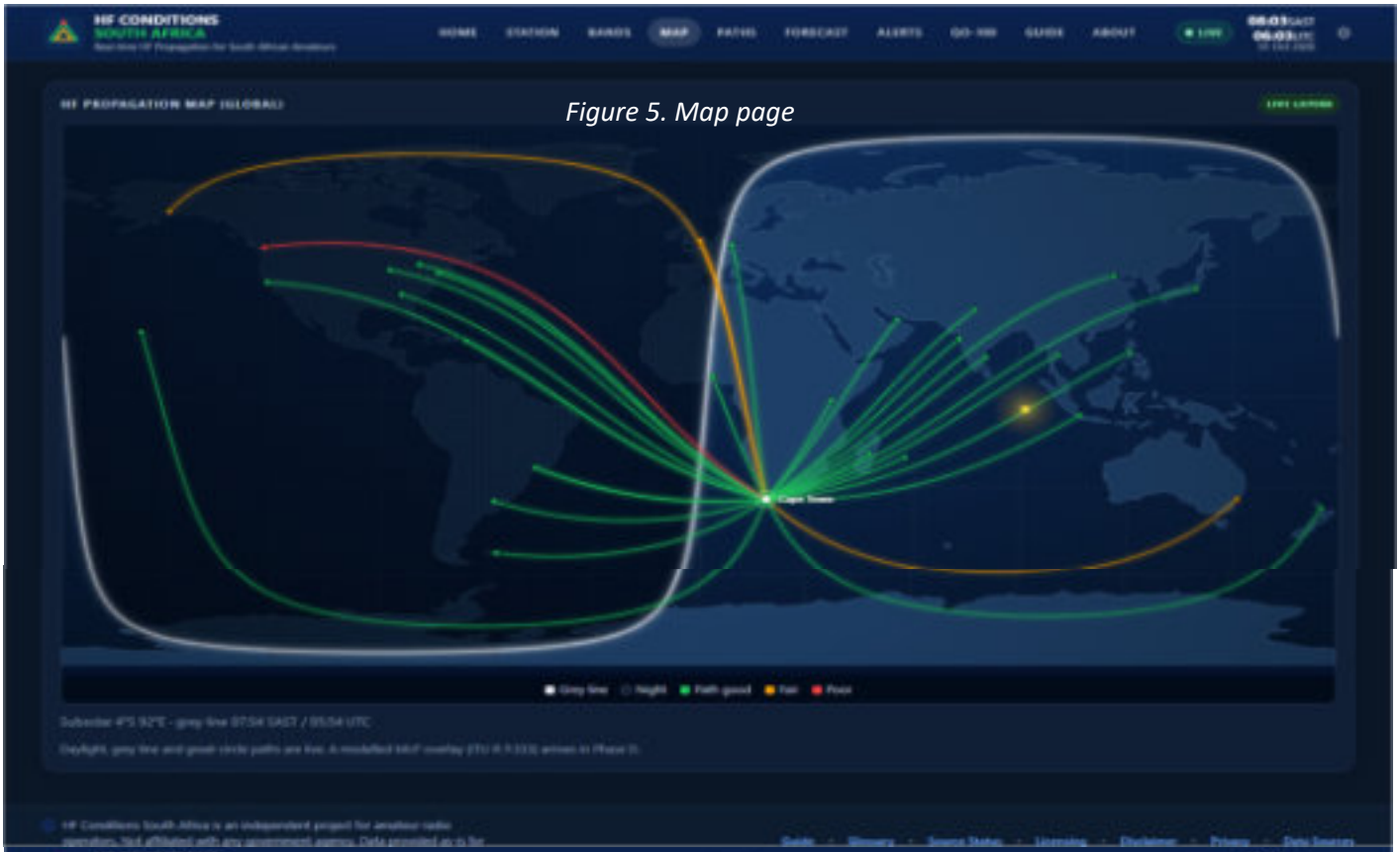


Figure 5. Map page

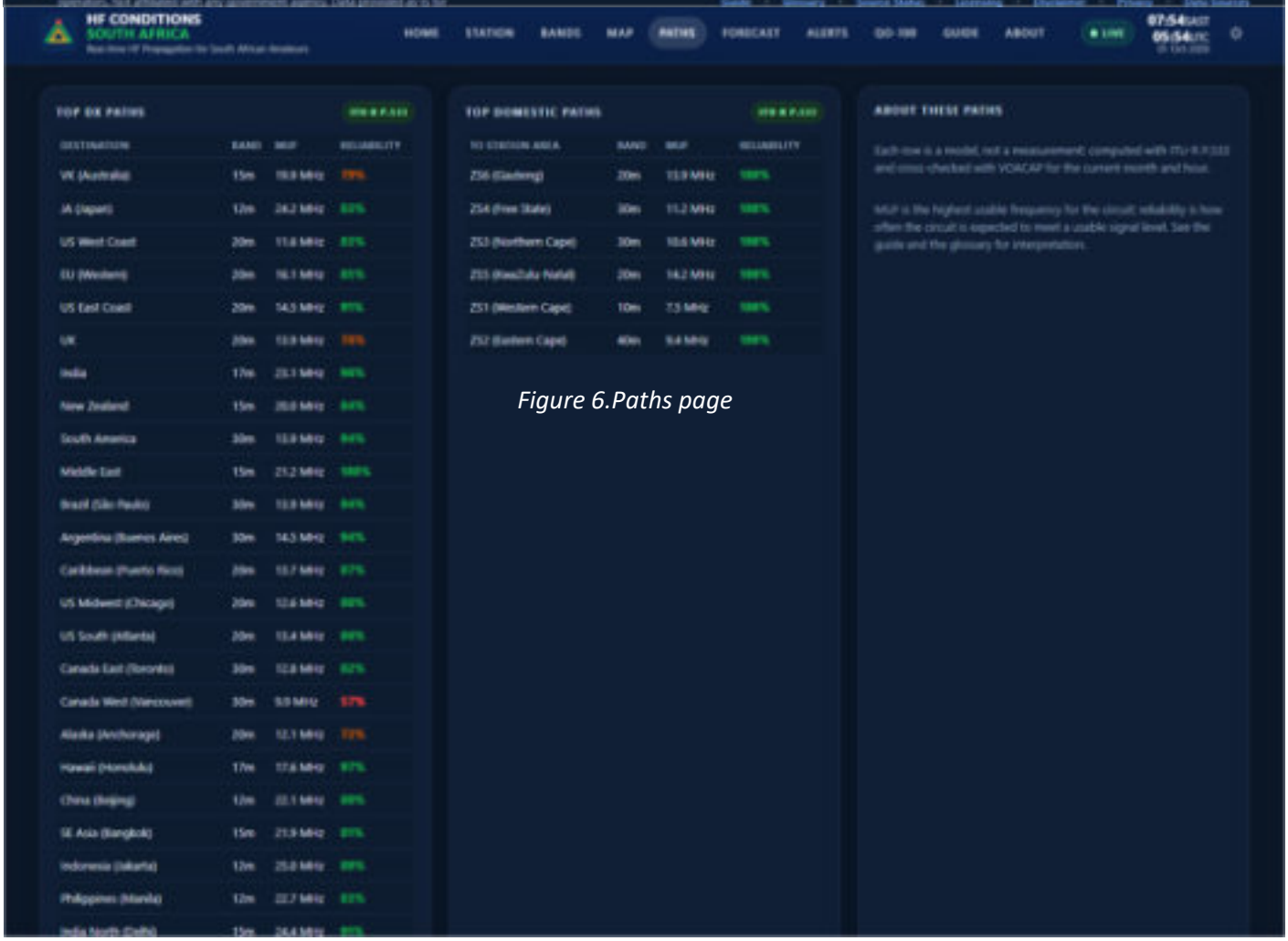


Figure 6.Paths page

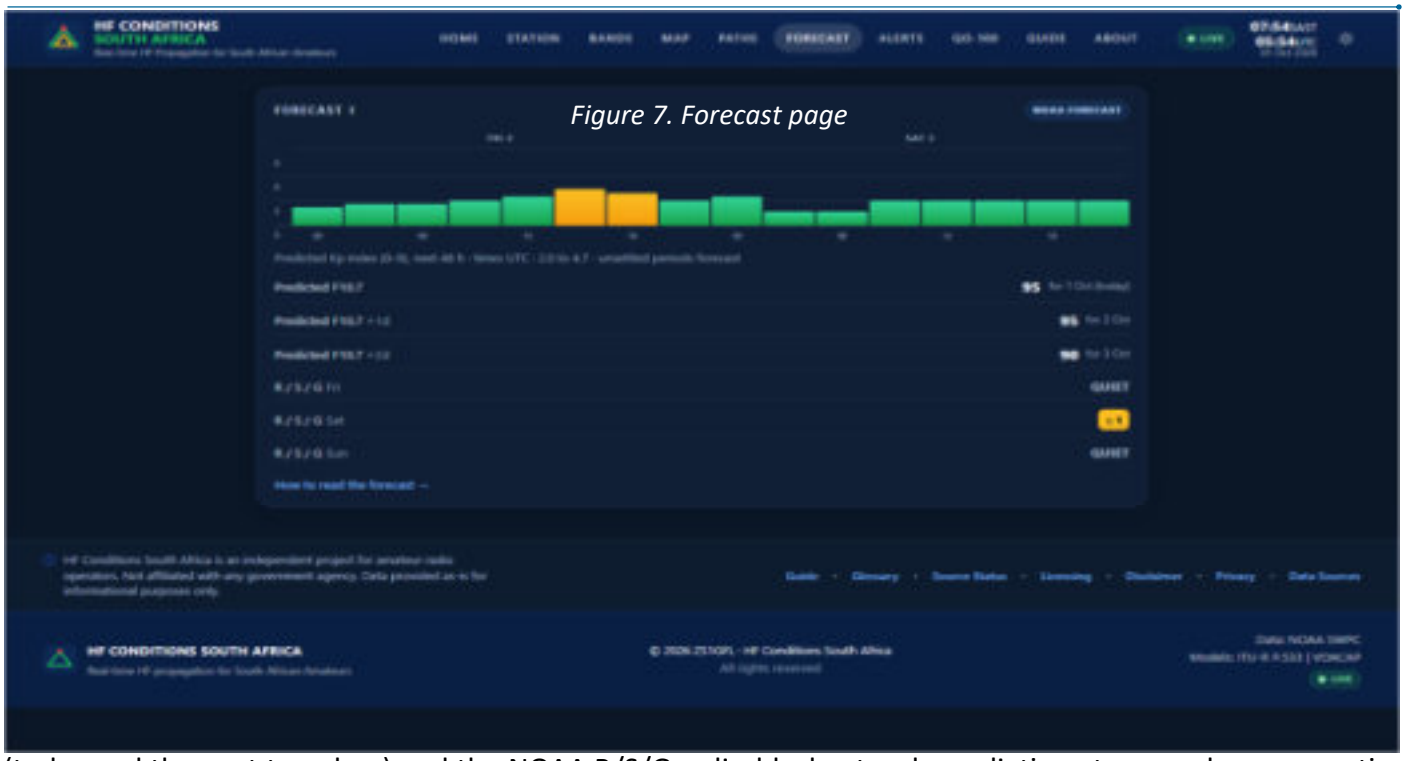


Figure 7. Forecast page

(today and the next two days) and the NOAA R/S/G radio-blackout, solar-radiation-storm and geomagnetic-storm scales. Quiet days read QUIET rather than a misleading zero.

Purpose: to support planning. Where the Bands page covers the present, the Forecast page covers the next day or two, which matters for contests and scheduled skeds.



Figure 8. Alerts page

5.7 Alerts

A list of active space-weather alerts, warnings and watches, decoded from NOAA SWPC coded messages. Each entry carries its ALERT/WARNING/WATCH tag and serial, a plain-language summary and an expandable ‘Message details’ section. A note explains that events mapping onto NOAA’s R, S or G scales also show the scale and its likely HF effect.

Purpose: to surface events that may disrupt propagation as they happen and to translate the coded NOAA text into something a non-specialist can act on.



Figure 9. QO-100 page

5.8 QO-100

A dedicated page for QO-100, the first amateur radio satellite in geostationary orbit. It gives fixed pointing figures from Cape Town (azimuth, elevation and satellite longitude), the twice-yearly solar-outage window, a set of external live monitors and a plain explanation of what QO-100 is and why HF propagation does not apply to it.

Purpose: to serve a growing part of the amateur community with accurate, location-specific satellite information that is clearly separated from the HF content.

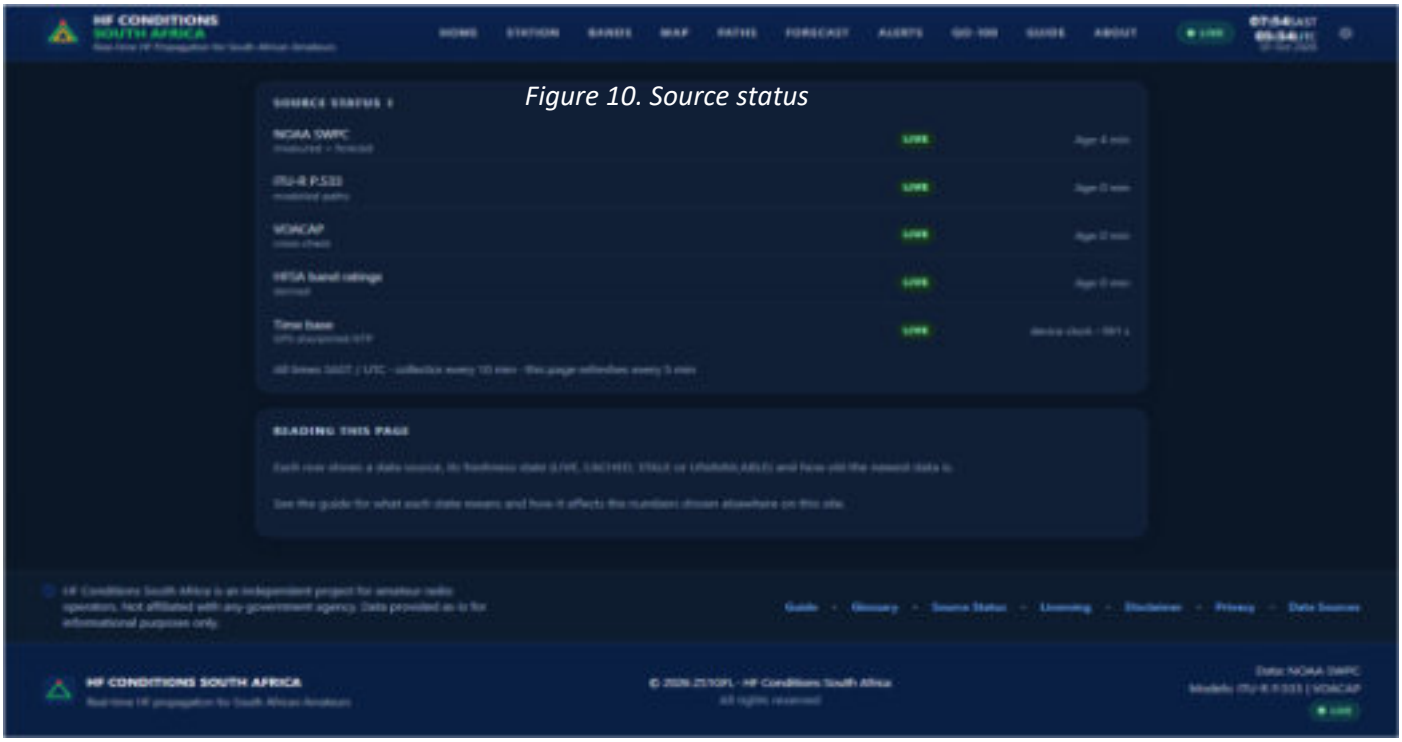


Figure 10. Source status

5.9 Source Status

A compact health panel listing each data source with its freshness state — LIVE, CACHED, STALE or UNAVAILABLE — and its age in minutes, plus the model cross-check agreement and the real-world (WSPR) validation summary.

Purpose: transparency. Before trusting a number, a visitor can confirm that the underlying data is fresh and that the two models agree. This page is also linked from the verification notes elsewhere on the site.



Figure 11. Guide page

5.10 Guide

A written user guide that walks through every section of the site and explains how to read it. It opens with a '30-second version', then gives a section-by-section walkthrough, guidance on interpreting conditions in practice and an account of where the numbers come from. It is also available as a downloadable PDF (the beta guide).

Purpose: to make the site self-explaining, so a newcomer can learn to read it without outside help.

5.11 Glossary

Definitions of every badge, label and technical term used anywhere on the site. It explains the four data classifications (MEASURED, FORECAST, MODELLED, DERIVED), the freshness states (LIVE, CACHED, STALE, UNAVAILABLE) and the individual space-weather and propagation terms.

Purpose: to keep the main pages free of jargon while still making every term discoverable on demand.

5.12 About / Data Sources

A plain-language summary of the service in English and Afrikaans, followed by a data-sources and provenance table. The table records every external dataset, its type, its reuse rights and whether it is enabled.

Purpose: to state openly what the service is and exactly where its data comes from, which underpins the confidence the rest of the site depends on.



Figure 12. Glossary page



Figure 13. About / Data Sources page

5.13 Legal, utility and support pages

The remaining pages are supporting rather than operational and are summarised here rather than illustrated. They are part of the same site and are reachable from the footer and the About grid.

- About / Data Sources — a plain-language summary of the service in English and Afrikaans, followed by a data-sources and provenance table recording every external dataset, its type, its reuse rights and

whether it is enabled.

- Licensing & Terms — the terms of use and the licensing position of every third-party component, with upstream notices reproduced verbatim (for example, that NOAA data is generally public domain, that ITU-R P.533 is usable free of copyright assertions and that the VOACAP Linux port is CC0).
- Disclaimer — a no-warranty and limitation-of-liability statement, setting correct expectations about what the numbers can and cannot promise.
- Privacy — a POPIA-aligned notice confirming there are no accounts, that station details are stored only in the visitor's browser and that the site sets no tracking cookies.
- Offline — the page shown by the app when the network is unavailable, explaining that conditions shown are the last known snapshot, with their original timestamp always displayed.

Purpose: these pages keep the project honest and lawful — acknowledging every data source, stating the limits of the service, protecting privacy and keeping the app useful when connectivity drops. Together with the Guide and Glossary, they mean a visitor can understand and trust the site without needing any outside help.

Component	Role	Licensing position
NOAA SWPC	Space weather: F10.7, Kp, sunspots, X-ray, solar wind, alerts.	US Government work; generally public domain, attribution given
ITU-R P.533-14 / P.372-15 (ITURHFProp)	Primary HF circuit prediction: MUF, reliability, SNR.	ITU-R SG3; usable free of copyright assertions, no warranty
NTIA VOACAP	Independent cross-check of band predictions.	US Government work, not subject to US copyright; no endorsement
Voacapl (J. A. Watson)	Linux port that runs VOACAP on the server.	CC0 public-domain dedication
Wspr.live	Real WSPR reception reports used for validation.	Public WSPR spot database, queried over HTTPS
Natural Earth	World coastline outlines for the map.	Public domain

6. Data sources and licensing

Every external source is used under a known licence and is recorded on the site. The main components are:

Sources such as SANSA, GIRO and DIDBase that would require permission are deliberately not used; where relevant the site links out instead of republishing. Every image licence was checked against live Wikimedia Commons metadata before use.

Written permission to use South African ionosonde data has been requested from SANSA. Until it is granted and the agreed attribution is in place, that source remains disabled on the site (see Section 9).

7. How the numbers are checked

Verification runs in five layers, strongest first:

Reference regression (automated). The engine is re-run against the ITU repository's own golden input/output pairs and compared line by line. All cases must match exactly.

Parameter pass-through (automated). Confirms year, month, hour and sunspot number are echoed by the model, so a silently ignored input cannot slip through.

Geometry consistency. Cape Town to Johannesburg: the project, P.533 and VOACAP agree to within a few hundred metres.

Independent cross-check (automated). Two unrelated model families run the same paths at the same power; agreement is published per path and disagreement is shown rather than hidden.

Real-world validation (automated, every 6 hours). Predictions for the past 24 hours are compared with actual WSPR reception reports from the Cape Town area and the result is published in the cross-check note.

The first full validation run is summarised below. It shows both the reference-regression result (engine build) and the real-world comparison against actual reception reports.

What verification does not mean: layers one to four prove the implementation is faithful and self-consistent. Layer five tests it against reality, but WSPR measures activity as well as propagation — a band can

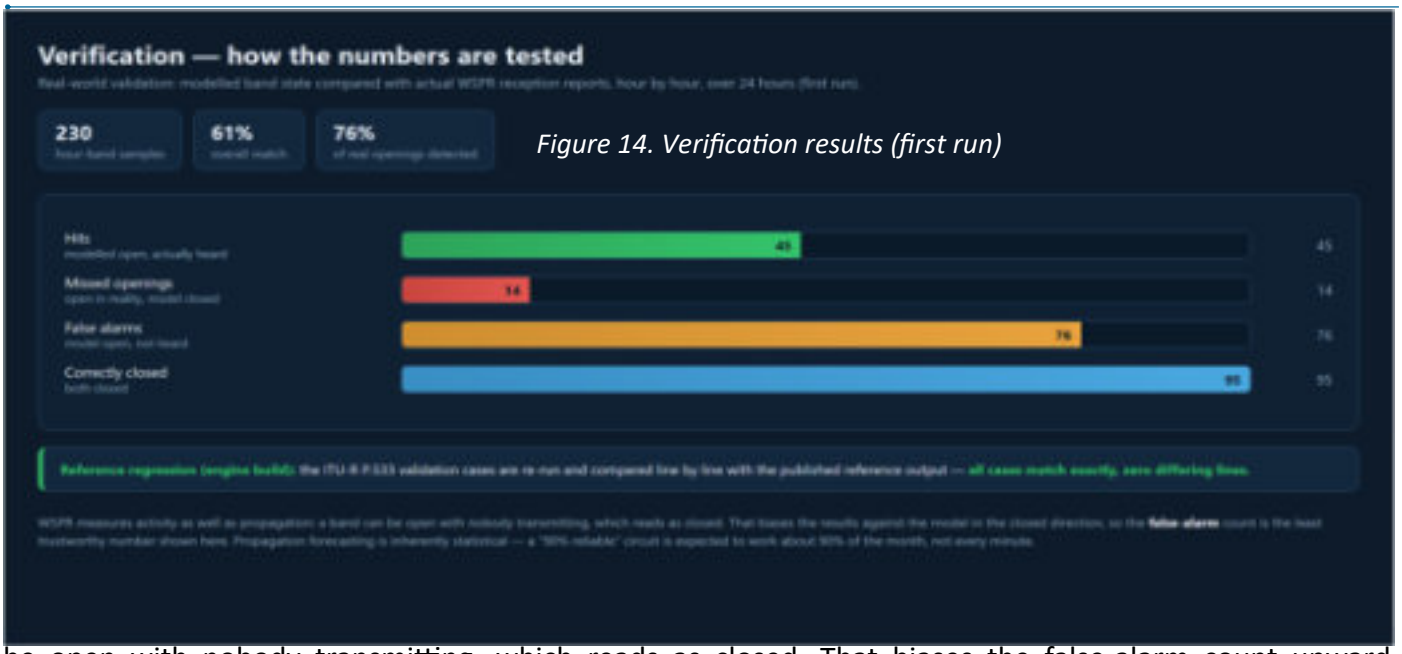


Figure 14. Verification results (first run)

be open with nobody transmitting, which reads as closed. That biases the false-alarm count upward. Propagation forecasting is inherently statistical: a '90% reliable' circuit is expected to work about 90% of the month, not every minute.

8. Access and installation

The service is reachable at https://zs1gfl.gpio.co.za/HFSA/ from any modern browser. It is also an installable Progressive Web App: via the browser's install prompt it can be added to a phone or desktop home screen and then opens like a native application. A service worker caches the app shell and the last known data, so the app opens and remains readable offline, clearly labelled as a last known snapshot.

A licensing/consent notice appears when the app first opens. It must be acknowledged before the site is shown; the acknowledgement is remembered in the browser. It is a notice and acknowledgement step rather than an enforceable control.

9. Limitations and honest caveats

Forecasts are statistical. Conditions change constantly and no forecast is certain; the site is not for safety-of-life or critical use.

WSPR validation is biased. Because WSPR measures activity as well as propagation, the false-alarm count is inflated. Comparing against ionosonde measurements would remove this bias; written permission has been requested from SANSA and is still pending.

Path predictions are approximated by anchor. Background path predictions use the nearest of six model anchors; local geometry is computed exactly for the visitor's own square, but the point-to-point paths are not.

The consent gate is client-side only and can be bypassed; it is a notice, not an enforceable control.

10. Summary

HF Conditions South Africa turns public space-weather data and two independent propagation models into a clear, honest, locally relevant propagation service for South African radio amateurs. It is deliberately unambitious in technology — static files and small scheduled jobs — and deliberately ambitious in transparency: every value is classified, every source is credited, every model is cross-checked and the predictions are tested against real reception reports. It aims to be the first place a ZS operator looks before switching on the radio.

Above all, it is a community service: free of charge to every user, free of advertising and commercial interest and independent of any agency or vendor.

Comments, corrections and constructive criticism are welcome and can be sent to zs1gfl@gltech.co.za.

Dipoles on theAir

John, VA3KOT - Ham Radio Outside the Box

Not another "x-On The Air" programme surely? Yes, that is right, not another "x-On The Air programme" at all. Instead, this is a post about why I have come around to the way of thinking that simple dipoles may be the best antennas for portable field operations after all. I will present my case and let you be the judge.

I have spent a lot of me this summer, out in the backyard, monitoring portable field operators (typically POTA activators), working some but not hearing others at all. My home QTH is in grid square EN94MO which is in the Owen Sound, Ontario, Canada area.

Typically, I have no trouble working stations in Florida and Texas (two of my favourite states to visit, by the way) and often into the Midwest. Stations closer to me in the northeast, for example New York and New England, are sometimes uncopiable. Most of the stations I want to work are in the northeast United States, a region with the greatest concentration of amateurs in the whole North American continent.

From my QTH, the US lies to the west across Lake Huron, around 160 km; to the south, 210 km at the Bluewater Bridge Crossing into Michigan and 222 km to the Rainbow Bridge crossing at Niagara Falls. All these distances exceed the range of ground wave propagation. The alternatives are NVIS (Near Vertical Incidence Skywave) and Skywave.

Heavenly shades of night are falling, it is 40 metres time

When selecting an antenna to reach a specific target area we must look carefully at two things, the radiation pattern of the antenna and the choice of band. Let us look first at the band choices. Most of the POTA activity happens on 20 m by day and 40 m near dawn and twilight me. So, let us look at propagation on those two bands.

20-metre band propagation

A couple of hours after sunrise until a couple of hours before sunset are the best times to use 20 metres. Skywave propagation works best and the band favours a fairly low angle radiation pattern for long distance communication, but with a skip zone restricting communications over shorter distances. Higher radiation angles using an appropriate antenna can shorten the skip zone. At night, ionization of the F-layer by the Sun is no longer occurring and signals are refracted much less, leading to significantly weaker signals being propagated. NVIS does not work at mid-latitudes because signals are no longer refracted by the F2 layer, simply passing straight through and becoming lost in space.

40 metre band propagation

Propagation on 40 metres is almost the exact opposite of 20 metres. Long distance communication on 40 metres is impacted by D-layer absorption during the day. At night, the D-layer dissipates and signals are refracted by the combined F-layer, traveling long distances quite efficiently. During the day, NVIS is a viable propagation method since signals are still refracted by the F2-layer and strong propagation can occur within a few hundred kilometres of the transmitting station. It should be noted that NVIS propagation changes from season to season so the latest FoF2 (the maximum usable frequency for NVIS) should be observed.

* These notes on 20 and 40 m propagation assume calm solar conditions. Our nearest star can be fickle and throw curveballs when we least expect them.

Now what about antennas?

Understanding propagation conditions leads to the possibility of being beer informed when it comes to choosing an antenna. No single antenna is ideal for all bands and at all times of day or night.

We make compromises, perhaps, but armed with a keen understanding of the science affecting our choices we certainly have a beer chance of making the right decisions.

This amazing antenna works on all bands with fantastic gain!

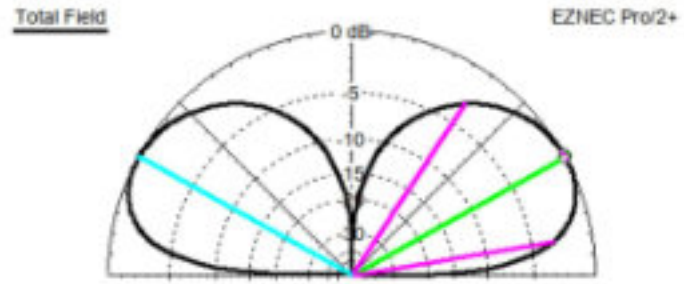
There is one information source that is infamously unreliable – marketing claims by commercial antenna manufacturers. Marketing hyperbole has one purpose – to improve sales.

Marketing language can be selected to create a favourable impression of a product without being wholesomely accurate. For example, "… has a gain of 10dB." Sounds good, does it not? But a decibel is a ratio, so 10 dB compared to what? An antenna that costs hundreds of dollars and claims great performance should be examined with a sceptical eye. Read the specifications carefully before buying.

This is straight up one of the most popular amateur antennas

Straight up – as in vertical. Very popular for a good reason. Just plant a spike in the ground, extend the whip and lay out a few radials on the ground, then hit the air. I have used them – a lot, so let us take a closer look.

The radiation pattern looks fairly good, omnidirectional with an elevation around 25 degrees.



No gain so the -3 dB points for low angle DX and higher angle mid-range comms will be at half power.
Our best signal will hit the F2 layer around 600 km away, so the skip zone extends about 1 200 km around the transmitter.



Skip zone around my home QTH – from the flat Earth society – Owen Sound branch. NB: map not entirely accurate.

Communication within the skip zone is still possible if sufficient power is used, but, unless propagation conditions are very good and the antenna is a raised full-length whip with raised radials, QRP signals may be coming in on a whip and a prayer.

The accompanying map (generated by ChatGPT) shows a circle with a radius of 1 200 km around my home QTH.

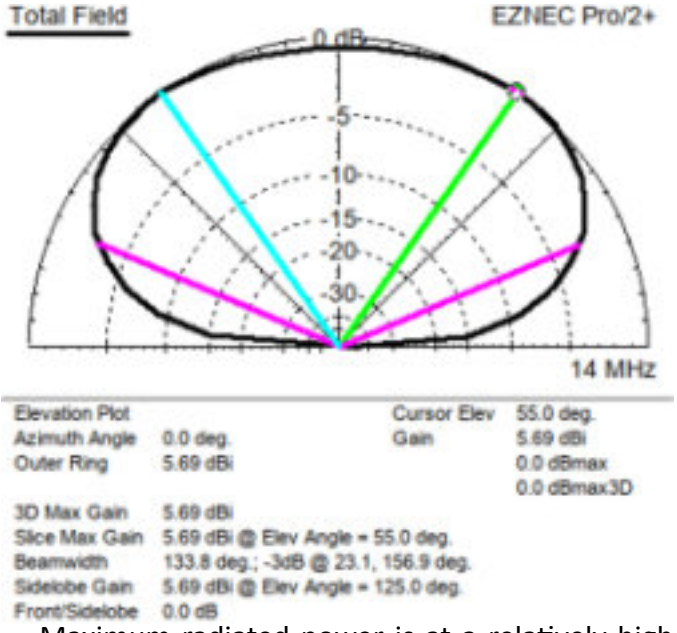
I am going to have difficulty receiving any station within this circle that is transmitting QRP using a quarter-wave, ground-mounted vertical antenna – or worse.

NB: The height of the F2 layer varies over a wide range of 220 – 880 km. Its peak electron density is in the range 250 – 400 km (source: Wikipedia). I used a figure of 300 km to calculate the skip zone and assumed the Earth is flat to simplify the trigonometry.

Well, the Earth is flat, is it not?

Now I am gonna level with you

"Level" as in horizontal – like a dipole. Well, not exactly in fact. A truly horizontal dipole needs three supports, so I use a shallow inverted-V dipole up around 7 metres at the apex when working the 20-metre band. The radiation pattern changes from the classic bidirectional pattern to a plum pudding shape as we can see from this image.



Maximum radiated power is at a relatively high elevation of 55 degrees – perfect for reaching mid-range locations. But there is another advantage. EZNEC predicts a gain of 5,69 dBi, so the -3 dB points still have a modest gain too!

In fact, modelling shows good signals can be radiated over a wide range of elevations. DX is possible since very low angle radiated signals are still propagated more efficiently than with a vertical antenna. Strong high angle signals are radiated for efficient NVIS propagation over short range.

In summary, modelling predicts an efficient radiation pattern favouring NVIS, mid-range and DX operations.

Critics may say …



"Get outta here; My wee whippie works wonders"

Like I said earlier, I have used vertical antennas a lot – especially in public areas I am sharing with other people. They occupy a smaller footprint and can be relatively stealthy too. But I suspect many amateurs are adopting fashionable short-loaded whips with compromised counterpoise arrangements. Short-loaded whips have a very low radiation resistance which reduces the effective radiated power.

"But I make QSOs with my wee willy whippie so you must be wrong."

Well, there is no right and wrong here. Under the right conditions you can make QSOs on a wet noodle. Lots of factors affect whether we can do so. For example, terrain. High ground works beer than the boom of a valley. So, if you are working from down in a deep south "holler," maybe consider hollering louder. Ground conductivity helps a lot; signal reception is improved if both stations are in high soil conductivity regions.

Stations located in areas with a high amateur population clearly have an advantage over more remote areas.

Above all, choice of antenna is often the most critical deciding factor determining whether we make that QSO. I will give you an example. I enjoy a weekly rag chew with a friend about an hour's drive away. His antenna is at DX height; mine is at NVIS height. His signal comes into my station at S9+ while mine reaches his station around S9. I transmit at 75 watts, my friend switches on his amp.

Let us say you go out to the field to do a POTA activation with a short-loaded whip sticking out from your BNC. Hunters come back to your CQs with booming signals. Wow, what a great antenna eh? Yes, but just maybe that great antenna was at the other end of the QSO, not your end.

One final thought: the relative gain between an efficient quarter-wave vertical and a dipole approaches one full S-unit – do we need to redefine what counts as QRP based on which antenna is chosen? And if you are using one of those new-fangled short whip things, should you still be able to claim to be QRP if you switch on a linear amp?

I rest my case; now it is your turn. Let me know what you think.

3 November 1957 - Soviet Russia launched the world's first inhabited space capsule, Sputnik II, which carried a dog named Laika.

4 November 1922 - King Tut's tomb was discovered at Luxor, Egypt, by British archaeologist Howard Carter after several years of searching. The child-King Tutankhamen became pharaoh at age nine and died around 1352 BC at age 19. The tomb was found mostly intact, containing numerous priceless items now exhibited in Egypt's National Museum in Cairo.

8 November 1922 - Pioneering heart surgeon Christiaan Barnard (1922 - 2001) was born in Beaufort West. He headed the surgical team that achieved the first-ever human heart transplant in 1967.

11 November 1918 - At 05:00, in Marshal Foch's railway car in the Forest of Compiegne, the Armistice between the Allied and Central Powers was signed, silencing the guns of World War I effective at 11:00 – the 11th hour of the 11th day of the 11th month. In many places in the World, a moment of silence in memory of the millions of fallen soldiers is still observed.

22 November 1497 - Portuguese navigator Vasco Da Gama, leading a fleet of four ships, became the first to sail round the Cape of Good Hope, while searching for a sea route to India.

26 November 1922 - In Egypt, Howard Carter and Lord Carnarvon first went inside the tomb of King Tutankhamen.

27 November 1701 - Anders Celsius (1701 - 1744) was born in Sweden. He invented the centigrade (Celsius) temperature scale commonly used in the world.

Potecting spectrum for weather, climate and early warnings

https://www.itu.int/hub/2026/09/protecting-spectrum-for-weather-climate-and-early-warnings/

From satellites measuring the Earth's atmosphere to weather radars tracking approaching storms, radio-frequency spectrum is fundamental to understanding our planet.

Meteorological services rely on spectrum both to collect environmental measurements and to transmit the resulting data. This is particularly important for passive sensors, which measure radio-frequency energy emitted naturally by the Earth and atmosphere to provide information on temperature, humidity, precipitation, ocean conditions and other environmental variables.

These observations underpin weather forecasts, climate monitoring, water-resource management and early warning systems that help protect lives and livelihoods.

But as demand for spectrum grows across radiocommunication services, increasing pressure is being placed on frequency bands used for weather, climate, water and Earth system monitoring. Protecting sensitive observations from radio-frequency interference is essential to maintaining the quality, availability and continuity of environmental information worldwide.

Why protecting spectrum matters

Any degradation in the quality or availability of observational data can reduce the reliability of forecasts and warnings. The consequences can extend well beyond meteorology, affecting public safety, economic activity, disaster preparedness and environmental protection.

Reliable and continuous access to interference-free spectrum is therefore essential for maintaining meteorological services and ensuring that critical information reaches decision-makers, emergency responders and communities.

An observation ecosystem in transition

The global observation ecosystem is evolving rapidly.

Major space programmes and coordinated international systems continue to form the backbone of global meteorological observations. At the same time, industry is advancing sensing technologies such as radars and radiometers, while commercial operators are providing additional sources of environmental data through small-satellite constellations.

The way meteorological information is disseminated and processed is also changing. Satellite broadcast systems remain important, while cloud-based platforms are playing a growing role in storing, processing and distributing increasing volumes of data.

These developments offer new opportunities for improved observations and services but also add complexity to the way spectrum is used and managed.

Bringing the meteorological and spectrum communities together

These challenges and opportunities were explored at the Global ITU/WMO Seminar Spectrum use for meteorology: challenges, opportunities and evolving requirements which took place from 28 to 30 September 2026 at the ITU Headquarters in Geneva, Switzerland.

The seminar brought together national meteorological agencies, spectrum regulators, scientists, industry representatives, international organizations and other experts to:

- review the role of spectrum in meteorological observation systems;
- present the requirements of national meteorological services;
- examine regulatory and interference-related challenges;
- highlight technological developments and industry perspectives;
- consider commercial environmental data and cloud-based processing; and
- discuss preparations for the World Radiocommunication Conferences in 2027 and 2031 on issues relevant to meteorology.



Spectrum use is governed internationally by the ITU Radio Regulations and supported by studies conducted through the ITU Radiocommunication Sector. Preparations for WRC-27 and future work towards WRC-31 include several issues relevant to meteorological services, making continued cooperation essential to ensure the adequate protection of critical observation systems and frequency bands.

A new reference for the meteorological community

The seminar also marked the official signing and launch of the new joint ITU-WMO handbook, Use of Radio Spectrum for Meteorology: Weather, Climate, Water and Related Environmental Applications.

Drawing on the expertise of the two United Nations specialized agencies, the handbook provides an updated reference for meteorologists, spectrum managers, regulators and radio-communication specialists.

It describes the technical and operational characteristics of meteorological and related environmental systems, explains their spectrum requirements and addresses interference risks and the importance of protecting essential frequency bands over the long term.

As demand for spectrum increases and observation technologies evolve, this shared understanding will become increasingly important.

Strengthening cooperation across communities

Weather satellites, radars, environmental sensors and the networks that carry their data form part of an interconnected global system. Ensuring that these systems can continue to operate reliably requires cooperation among meteorological agencies, regulators, industry and international organizations.

The Global ITU/WMO Seminar provides an opportunity to exchange knowledge, anticipate future spectrum requirements and build greater understanding between the communities that observe our planet and those responsible for managing the spectrum on which those observations depend.

By strengthening this cooperation, the seminar aims to support the sustainable and resilient operation of Earth observation systems worldwide. Ultimately, protecting spectrum for meteorology means protecting the observations that enable societies to forecast the weather, monitor a changing climate, manage water resources and warn communities when hazardous conditions are approaching.

The YL.Beam

Heather Holland, ZS5YH

Poland - YL SP0PYL Meeting

Wrocław, 22 and 23 August 2026. YL, radio, conversations and lots of good energy – that was our SP0PYL meeting in Wrocław on 22 and 23 August, we met and… it was truly great!

There was lots of laughter, excitement, late-night conversations and above all, great fun on the radio. The microphone was passed around, more stations appeared and YLs that could not reach Wrocław were on the bands with us. And that was when we felt the strongest sense that radio truly connects.

We also talked about where each of us came from. How our radio adventures began, who inspired us with this passion, what our first contacts were like, the stress of pressing the PTT and stories that we now recall with laughter.

Each path was a little different, but they all led us to one place – a shared table and a shared radio station in Wrocław. There were also stories of Polish YLs and SP8PYLs, SP9PYLs, Jerzy SP8TK's recollections and stories about inter-national SP88YL and OL88YL meetings. There were also some interesting things to hear!

Maciej, SQ6RMA took us into the world of antennas, Kazik, SP6MNM talked about the Lower Silesian Emergency Radio Network (DASR), EMCOM and emergency communications and Agnieszka, SQ8BWA (Agnieszka Pasternak-Haczewska) presented the YL Power graduation event.

A special SP0PYL graduation event was also prepared for the meeting itself – YL SP0PYL Meeting – Wrocław, 22 and 23 August 2026 – thanks to which our meeting was heard far beyond Wrocław.

And when we put down our microphones, there was still plenty to talk about. A shared dinner, żurek (sour rye soup), a bonfire, more stories, ideas and plans... Natalia, Arek, SQ6XL Arkadiusz Zając, SP6ZHP "RadioAktywni" Scout Communications Club SP6ZHP RadioAktywni and the Scouts – thanks for the tremendous work and the atmosphere we created together!

This meeting showed us something important: SP0PYL is not just history. It is people, emotions, friendships, a shared passion and a radio that can still provide incredible fun.

We return with heads full of ideas and the feeling that completely new perspectives are opening up before us.



And most importantly – we welcome every YL! It does not matter whether you have been on the bands for decades or just made your first contact. It does not matter which bands you work on or which mode you like best. If radio is your passion – contact us! We want to meet more YLs, hear your stories, meet up, collaborate and above all, hear each other on the bands.

SP0PYL is a place for YLs – let us create it together! Join us, write, shout out on the band. See you there! 73 & 88!



Peru - Young Ladies OA Operate from the RCP (Radio Club Peruano)

Once again, a group of Young Ladies OA members gathered at the RCP shack Saturday 12 September 2026 starting at 17:00 to operate using their own call signs and make contacts with other stations, aiming to build confidence and gain experience while working at the radio equipment.

Marcela, OA4ELC; Erika, OA4EJB; Ambar, OA4EKZ; Diana, OA4EIW and Andrea, OA4EKI accompanied by Monyka, OA4DYD and Sonia, OA4DEM, were active on the 40-metre band and via the R1 repeater, making local and national contacts as well as connecting with stations in neighbouring countries.

Each of them successfully established contacts with other stations, receiving helpful advice to build

the necessary experience with every QSO. They were also supported by Diego, OA4DKN; Oscar, OA4AMN and Raúl OA4EFI. Amidst conversations and radio contacts, they enjoyed a pleasant day, demonstrating how amateur radio fosters learning and camaraderie. We congratulate our Young Ladies OA on this initiative and look forward to future gatherings that create wonderful moments of fellowship through radio.
18 Sept 2026 Bolen Semanal OA - Radio Club Peruano.



Space Exploration and Amateur Radio

Space exploration is one of humanity's greatest scientific and technological adventures. From Sputnik to OSCAR. From Apollo to the ISS. From the Moon to the future challenge of Mars. Amateur radio demonstrates that the great adventure of space has not belonged solely to astronauts, scientists and agencies.

Radio amateurs have played a part in it, too. Because space exploration has not only been observed. It has also been heard.
https://www.facebook.com/groups/S.A.R.A.CE/
About 8 Sept 2026. Servicio Auxiliar de Radioaficionados de la Armada (SARA)

Germany - Astronaut Rabea Rogge, LB9NJ (Norway) and KD3AID (USA)

Rabea Rogge, LB9NJ, the first German woman in space, drew a large crowd and was a highlight of the trade fair. The interview at the DARC meeting was followed by a book signing for her book “A (Little) Space for Everyone.”

As part of the privately funded SpaceX space mission “Fram2,” Rabea Rogge flew in a polar orbit around the Earth. During the four-day Fram2 mission, she fulfilled the role of pilot. She conducted the first amateur radio contacts from aboard a SpaceX Dragon capsule. Rogge used a battery powered Icom IC-705 aboard the flight. During the mission, she transmitted images via slow-scan television (SSTV) on 437,550 MHz for a youth amateur radio competition called Fram2Ham.

The name Fram2 refers to the famous Norwegian expedition ship Fram, with which polar explorers such as Fridtjof Nansen and Roald Amundsen carried out their expeditions.

She made history as the first German woman to complete a space mission. Thanks to the collaboration between ARISS (Amateur Radio on the International Space Station) and the DARC (Deutscher Amateur-Radio-Club), she was a guest this year at HAM RADIO 2026 in Friedrichshafen, Europe's largest exhibition for radio amateurs. There, she gave lectures about the Fram2Ham mission, signed her book and spoke about the combination of space travel, robotics and amateur radio.

Rabea Rogge LB9NJ/KD3AID is a German electrical engineer, robotics researcher and radio amateur. She gained international fame when she became the first German woman to fly into space in April 2025 during the private Fram2 mission aboard a SpaceX Crew Dragon capsule. The mission was also the first manned spaceflight in a polar orbit, circling the Earth at both poles.

Rabea Rogge succeeds in bringing three worlds together: space travel, science and amateur radio, which is why her visit made such an impression. She inspired young and old to look beyond the horizon, both literally and figuratively.

Interview Under the Tower #91: Astronaut Rabea Rogge, LB9NJ, at Ham Radio. Auto-dubbed



12.33 mins. https://www.youtube.com/watch?v=4vAKlIms_sw&t=14s



Jackie Blumer, KC9LEH Appointed as ARISS Associate Director

4 August 2026 - ARISS-USA is pleased to announce that Jackie Blumer, KC9LEH, has been appointed Associate Director of ARISS-USA (Amateur Radio on the International Space Station). Jackie is a nationally recognized science educator with an emphasis on space education.

In her work as an educator, she has often incorporated amateur radio into her curriculum as a teaching tool. In addition to her many responsibilities at ARISS-USA, Jackie has recently served as Business Development Coordinator and Logistics Manager for ARISS-USA.
4 August 2026 ARISS News Release No. 26-44

YLRL - ARRL award YL Harmonics Newsletter

Young Ladies' Radio League, Inc. 15 August 2026 Congratulations to YL Harmonics! We are thrilled to share that the Young Ladies' Radio League newsletter, YL Harmonics, has been honoured with an ARRL award for Best Newsletter for a Specialized Audience — Global Audience.

Young Ladies' Radio League, K4LMB club call — YL Harmonics, Edited by Kathleen Houlihan, WA5DUC. This wonderful recognition celebrates the dedication, creativity and hard work that goes into keeping YLRL members around the world informed, connected and inspired. A very special congratulations and thank you to Kathleen, WA5DUC, for her outstanding work. Special thanks also to our previous newsletter editors for laying the foundation for our publication. Your commitment to YLRL and to sharing the stories of women in amateur radio truly shines.

We are proud to see YL Harmonics — and YLRL — recognized on the global stage!
Congratulations, Kathleen and congratulations to YLRL! YLRL website: http://www.ylrl.org

Radio Club of America (RCA) recognizes Women of Achievement in the Wireless Industry

Dr Grace Hopper invented what is the base for nearly all technology and definitely wireless. While a United States Navy rear admiral, she helped develop COBOL - one of the first high-level programming languages - and invented the first compiler, a programme that translates programming code to machine language.

Hopper earned a Ph.D. in math from Yale in 1934. Only 1 279 math PhDs were awarded in the 72-year period from 1862 - 1934.

She is credited with coining the terms "bug" and "de-bug" as related to computer errors. One day a computer failure stumped Hopper and her team until she opened the machine and found a moth inside. Taping the moth into her logbook, she wrote, "first actual bug found."

Nicknamed "Amazing Grace" by her subordinates, Hopper remained on active duty for 19 years.

Hopper believed that the major obstacle to computers in non-scientific and business applications was the dearth of programmers for these far from user-friendly new machines. The key to opening new worlds to computing, she said in a 1983 interview with "60 Minutes," was the development and refinement of programming languages - languages that could be understood and used by people who were neither mathematicians nor computer experts. It took several years for her to demonstrate that this idea was feasible.

She was a big believer in mentorship, once saying, "The most important thing I have accomplished, other than building the compiler, is training young people. They come to me, you know and say, 'Do you think we can do this?' I say, 'Try it.' And I back 'em up."



At the age of 79, Hopper retired as a rear admiral. She was the oldest serving officer in the US Armed Forces. That same year she went to work as a senior consultant in public relations at the Digital Equipment Corporation, where she worked up until a year before her death in 1992. After her "60 Minutes" interview, Hopper was promoted to Commodore. Combined with her other titles, she was buried with full military honours as Admiral Hopper in Arlington National Cemetery.

Silent Keys

Maureen Bellingham, ZR1MYB went silent on 2 January 2026.

Melanie de Jager, ZR6ME. It is with deep regret that we announce that the key of Melanie de Jager, ZR6ME, went silent after a battle with cancer. Melanie was a member of the West Rand Club who completed her RAE in 2023. She will be remembered for her motivation, drive and pleasant personality.

Contact

yl.beam news: Editor Eda (Heather) zs6ye.yl@gmail.com

The newsletters can be found at https://wrarc-anode.blogspot.com/; Italian Radio Amateurs Union: QTC URI www.unionradio.it/qtc-la-rivista-della-unione-radioamatori-italiani/ and Ham Yl www.facebook.com/ham.yls.

The Tinus Lange 7066 Technical Excellence Award



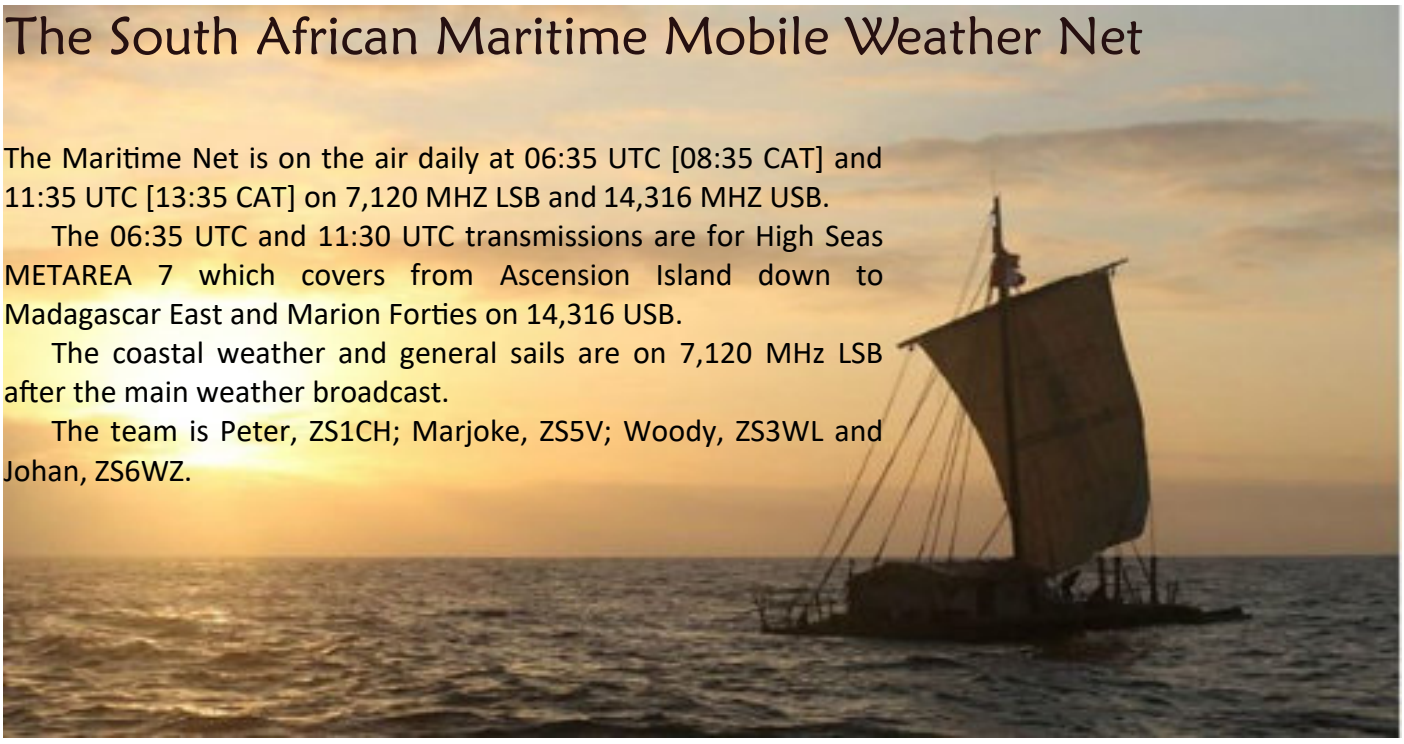
Do you enjoy building pieces of equipment to use in or outside the Shack? Or software to use for amateur radio? Well then how about entering for the Tinus Lange 7066 Technical Excellence Award?

The award is bestowed annually on the League member who submits a technical project in any of the following categories – a) the design and/or construction of projects such as a pre-amp, SWR bridge, patching unit, automatic ID'er, practical antenna ideas, mast, portable gear, power supplies, etc., or b) any software for use in Amateur Radio.

The submission must include the actual items (if size and mass allow) or photographs (particularly in the case of antennas, masts, etc.) And a complete write-up in article form with illustrations/ pictures, ready for publication in Radio ZS.

The Award is a framed certificate and a cash award of R1 000. The closing date for entries is midnight on Sunday 31 January 2027 and must be sent to secretary@sarl.org.za.

The South African Maritime Mobile Weather Net



The Maritime Net is on the air daily at 06:35 UTC [08:35 CAT] and 11:35 UTC [13:35 CAT] on 7,120 MHZ LSB and 14,316 MHZ USB.

The 06:35 UTC and 11:30 UTC transmissions are for High Seas METAREA 7 which covers from Ascension Island down to Madagascar East and Marion Forties on 14,316 USB.

The coastal weather and general sails are on 7,120 MHz LSB after the main weather broadcast.

The team is Peter, ZS1CH; Marjoke, ZS5V; Woody, ZS3WL and Johan, ZS6WZ.

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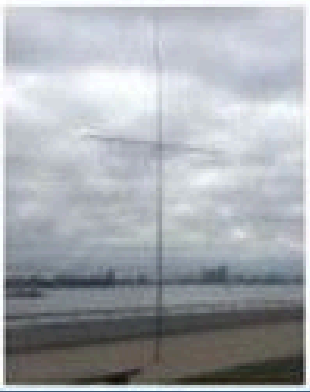
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Meeste van die reeks tans in voorraad

The October RAE at the Pretoria ARC

Martie Venter, ZS6MV



RAE day is always a special occasion, but at the Pretoria Amateur Radio Club (PARC), it is something we look forward to with particular pride. Once again, we were fortunate to have a strong group of candidates ready to take the next step in their amateur radio journey.

The training centre was prepared, the exam room was ready, and even the urn seemed to know its duties, coming to the boil just as we walked through the door. Clearly, some things at PARC run like clockwork!

As our aspiring amateurs began arriving, the atmosphere was unmistakable. There was excitement, anticipation and just enough nervous energy to remind us that, despite the studying and preparation, this was the day that really mattered.

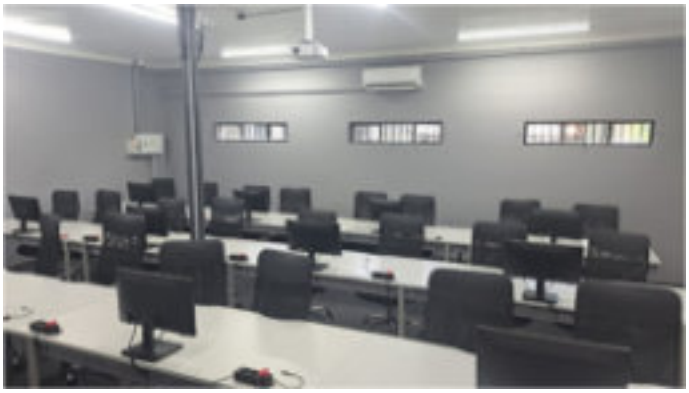
We were also pleased to welcome Guy Eales, ZS6GUY President of the South African Radio League (SARL), and his son Cameron, ZS6CYE who spent the morning with us. Their presence was much appreciated and added to the significance of the occasion.



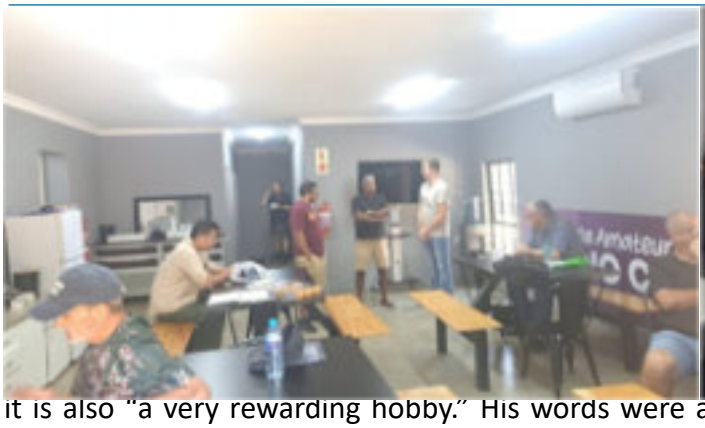
When the time came, everyone moved from the chill area to the examination room, where the pre-exam formalities were completed according to procedure.

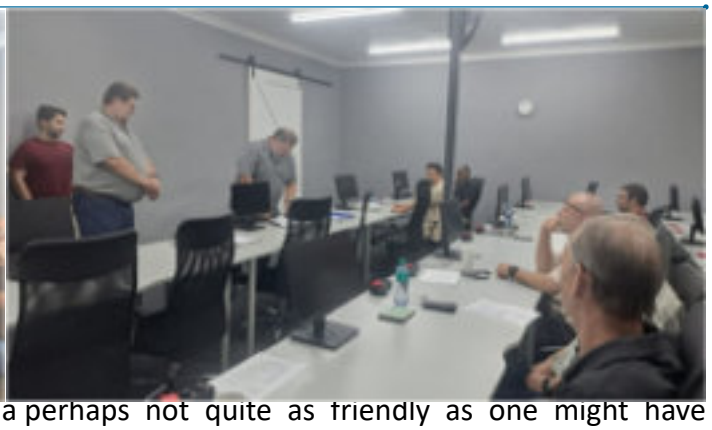
Guy took a few moments to address the candidates, expressing his appreciation for the invitation and his admiration for what PARC is doing. Describing the club's efforts as “absolutely fantastic”, he highlighted the importance of bringing new people into amateur radio and, just as importantly, encouraging and supporting them along the way.

He acknowledged that amateur radio has a great deal to learn but reminded the candidates that









it is also "a very rewarding hobby." His words were a fitting reminder of why we invest so much time and effort in training the next generation of radio amateurs. Then it was time for the candidates to put their knowledge to the test.



For the next while, the room outside the examination hall was noticeably quieter. Those of us who have been through an exam ourselves know that there is very little anyone can do at that point except trust the preparation, take a deep breath and get on with it.

Then, one by one, the candidates began emerging from the exam room. Their faces told their own stories: relief, cautious confidence, and that unmistakable expression of someone who has finally been able to exhale after holding their breath for far too long.

The mood outside soon changed. The quiet gave way to animated conversations, exchanged impressions and the inevitable discussions about questions that were either easier than expected or perhaps not quite as friendly as one might have hoped!

And just like that, another RAE day at PARC was behind us.

For those of us involved in training, days like these are a reminder that the RAE is about much more than an examination. It represents months of learning, questions, practice and perseverance. It is also about the people who give their time to teach, encourage and guide others into a hobby that has connected people across distances, generations and borders for decades.

Now comes the waiting for the results — and, hopefully, the pleasure of welcoming new callsigns into our logs.

To all our candidates, well done for reaching this milestone. Whatever the results may bring, you have already taken an important step towards becoming part of the amateur radio community.

At PARC, we look forward to hearing you on the air. After all, every new callsign represents another voice, another story and another potential contact waiting to happen.





AMSAT Youth Initiative Featured in Florida News

The following article was published in the Main Street Daily News of Gainesville, Florida on 12 October 2026 under the headline, "2 Alachua County schools develop student-built technology to communicate with satellites"

Two Alachua County schools are developing hands-on science, technology, engineering and mathematics (STEM) programmes that could give students the opportunity to communicate with satellites orbiting Earth and, potentially, astronauts aboard the International Space Station (ISS).

At the 44th annual conference of the Radio Amateur Satellite Corporation (AMSAT), held in Jacksonville, local educator Gordon Gibby presented the schools' efforts on 9 October, according to a North Florida Amateur Radio Club (NFARC) press release. Students at Gainesville Christian Community School (GCCS) and The Rock School are learning the technical skills needed to build satellite-tracking systems and establish radio communications with spacecraft.

AMSAT is a nonprofit, volunteer organization dedicated to advancing amateur radio satellite technology and education. Its resources and activities help make satellite communications a practical learning opportunity for students.

Gainesville Christian Community School Expands Technology Curriculum

At GCCS, mathematics teacher John Seppala is teaching a class of 16 students, primarily at the middle-school level, using a textbook developed by the school that covers a broad range of practical technologies.

The curriculum explores systems and skills used to maintain a home and vehicle, including electricity,



Frank Karnauskas, N1UW, AMSAT Vice President – Development, who heads up the youth educational initiatives, giving a talk about their free available materials for youth. (Photo courtesy of the North Florida Amateur Radio Club.)

electronics, 3D printing, small engines, plumbing, amateur radio and computers.

Seppala is preparing to take the multiple-choice examination required to obtain his Federal Communications Commission (FCC) amateur radio license. Many of his students are expected to pursue licenses as well, potentially allowing them to participate in radio communications experiments and satellite operations.

The Rock School Students Build Satellite-Tracking Station

At The Rock School, 10 high school students have formed an Amateur Radio Satellite Club. Organized into six overlapping teams, the students are developing a robotic antenna-control system and radio station designed to track and communicate with low-Earth-orbit satellites and the ISS.

The project combines electronics, mechanical engineering, computer programming and fabrication. Students are assembling a robotic control board, learning to solder electronic components and preparing to use a 3D printer to manufacture gears for the antenna's elevation and rotation mechanism.
Future steps include building the antenna support system with aluminium masts, U-bolts and high-gain antennas. Students are also studying independently for the FCC examinations required to obtain amateur radio licenses.

"This is exciting!" said Lacy Basford, the school's academic adviser, in the release.

Rather than purchasing a commercial antenna-rotator controller, students plan to build their own system using an Arduino Nano microcomputer and a custom-designed printed circuit board. They will adapt open-source software written by a U.S. amateur radio operator, manufacture mechanical components and assemble the system themselves.

The project will bring together mathematics, electronics, software and mechanical design, allowing students to see how those disciplines work together in a functioning system.

Potential Opportunity to Communicate With Astronauts

Gibby hopes both schools will eventually be ready to apply to host a scheduled radio contact through Amateur Radio on the International Space Station (ARISS), an international educational initiative that connects students with astronauts through amateur radio.

If selected, students could have the opportunity to ask questions of crew members aboard the ISS through a radio link. The process requires an educational proposal, technical preparation and formal selection and both schools are in the early stages of developing their programmes.

Preparing for a potential contact involves more than learning to operate a radio. Students must understand orbital motion, radio-wave propagation, antenna direction, electronics and the challenges of maintaining a reliable communications link with a fast-moving spacecraft.

Students Learn to Track Satellites and Account for Doppler Shift

At the Jacksonville conference, participants demonstrated a life-sized, operational simulator of small amateur radio satellites. The simulator replicates aspects of a satellite radio system, including the Doppler shift that changes a signal's apparent frequency as a satellite approachs and moves away from a ground station.

The equipment can simulate several types of amateur radio satellites, including those that handle digital data, repeat voice transmissions and relay Morse code.

The simulator could help students learn to recognize and compensate for Doppler shifts while tracking satellites overhead, maintaining communications as their apparent signal frequencies change. The experience connects classroom physics to a practical engineering challenge in satellite communications.

Looking Beyond the International Space Station

The conference also featured a presentation by Frank Bauer, an engineer and geologist who serves as ARISS executive director. Bauer discussed the organization's work supporting educational radio contacts with the ISS and its engagement with the future of human spaceflight.

Communications with future space stations and, eventually, lunar facilities offer a longer-term source of inspiration for students learning radio technology. AMSAT Vice President Frank Karnauskas also discussed educational materials developed by AMSAT for young people.

For students in Alachua County, the immediate goals are to build a functioning satellite-tracking station, earn amateur radio licenses and develop the technical and educational foundation needed to pursue an ARISS contact.

Resources Available for Other Schools

According to the release, Gibby said the projects could serve as models for other schools interested in incorporating practical engineering and space communications into their STEM programmes.

With volunteer support, open-source software, affordable microcomputers and student-built components, schools can offer meaningful technical experiences without relying entirely on expensive commercial systems.

Resources for schools interested in amateur radio satellite communications and ARISS educational opportunities are available through the local Amateur Radio Emergency Service website at https://www.nf4rc.club/ariss-satellite-resources/.

[ANS thanks the Main Street Daily News of Gainsville, Florida for their kind permission to re-publish this article. See the original at https://www.mainstreetdailynews.com/education/alachua-county-schools-develop-student-built-technology.]

AMSAT News Service, ANS-298 – 25 October 2026. ANS is a service of AMSAT, the Radio Amateur Satellite Corporation, 712 H Street NE, Suite 1653, Washington, DC 20002. AMSAT is a registered trademark of the Radio Amateur Satellite Corporation.



HAMgpt Launches as a Personal AI Copilot built specifically for Amateur Radio

https://daily.hamweekly.com/2026/07/hamgpt-launches-personal-ai-copilot-amateur-radio/

New platform combines an operator's license, station, location and live band conditions to answer a practical question, "What can I do with my radio today?"

HAMgpt, a new AI assistant created specifically for amateur radio operators, is now open to the public at hamgpt.co.

Unlike a general-purpose chatbot, HAMgpt is built around the real operating situation of each amateur. It can consider the operator's license class, country, grid square, radios, antennas and operating history, then combine that station profile with live propagation, space weather, DX activity and current on-air conditions. Its main purpose is to answer one deceptively simple question, “What can I do with my radio today?”

Amateur radio offers an enormous range of possibilities: local repeaters, HF DX, satellites, digital modes, POTA, emergency communications, antenna building, contesting and experimentation.

For many newly licensed operators, however, the first experience is much less exciting. They pass the exam, buy an HT or an entry-level rig, turn it on, hear static or silence and do not know what to try next.

HAMgpt was built to help with that exact moment.

“Many new hams do not leave the hobby because they lack information,” said Rodrigo Vazquez, AK6FP/LU6ERV, creator of HAMgpt. “They leave because nobody tells them what to actually do with the radio in their hand. HAMgpt is not trying to out-explain a general chatbot. It is trying to be the reason someone gets on the air instead of putting the radio back in the box.”

A Personal Digital Elmer

In amateur radio, an experienced operator who helps others learn the hobby is traditionally known as an Elmer. HAMgpt is designed to work like a personal digital Elmer that already knows the operator's station.

Users can save their license class, location, exact radio models and antennas. HAMgpt reuses that information across conversations, so the operator does not need to explain the same setup every me. That context changes the quality of the answer.

A general explanation of repeaters may be technically correct, but a new amateur with an HT usually needs something much more practical:

which nearby repeater is likely to be reachable,

what offset and tone to use,

how to program that specific radio and

what to say when making the first call.

An HF operator may not need another generic explanation of propagation. The useful answer is which bands are active right now, which ones are covered by the station's antenna, what paths are currently open and where it may be worth calling CQ.

HAMgpt is designed to connect those pieces.

Personalized to the Operator and the Station

HAMgpt uses a persistent station profile that can include:

License class and country.

Maidenhead grid locator.

Multiple radios, including exact makes and models.

Multiple antennas and the bands they cover.

Operating history and imported logbook data.

Every answer can be adjusted to the user's actual station and legal privileges. For example, HAMgpt can help:

Identify repeaters that may realistically be worked with a particular HT or mobile rig.

Suggest HF bands based on live conditions and the antennas installed at the station.

Recommend satellite passes that fit the operator's equipment.

Find nearby POTA parks to activate.

Explain how to configure a specific rig for FT8, Winlink, APRS or satellite work.

Provide antenna dimensions and construction guidance for the operator's target band and available space.

This is what separates HAMgpt from a generic amateur radio Q&A system. The goal is not merely to answer, “What is a repeater?” or “What is an inverted-V?” The goal is to answer, “What should I try with my station right now?”

Powered by Live Data from DXLook

HAMgpt is the sister project of DXLook, the live amateur radio propagation and activity platform also developed by Vazquez. The two projects divide the problem clearly:

DXLook shows what is happening on the air right now.

HAMgpt helps an individual operator decide what to do about it.

HAMgpt uses DXLook's live data services for band conditions, propagation, space weather and on-air activity. This allows it to go beyond textbook answers about how a band normally behaves.

Instead of saying that 10 metres can be good for DX when conditions improve, HAMgpt can use current data to explain whether 10 metres is active now, what paths appear open and whether the operator's own antenna and rig are suitable for taking advantage of it. DXLook acts as the live sensor layer. HAMgpt acts as the personal decision and guidance layer on top of it.

Designed for Trust in a Regulated Hobby

Accuracy matters in any technical field, but amateur radio has an additional complication: it is a regulated service.

Wrong information about frequency privileges, transmit power, band plans, repeater settings or operating rules can cause more than confusion. It can put an operator outside the privileges of the license. HAMgpt is therefore built around a “deterministic-first” approach.

Critical information such as license privileges, official exam questions, live band data and verified technical values is obtained from structured tools, official sources and rule-based systems whenever possible. The AI reasoning layer is used where interpretation is actually useful, such as troubleshooting a station, explaining an analyser reading, planning an antenna build or combining several pieces of information into an operating recommendation.

The product also applies multiple accuracy checks intended to prevent invented frequencies, incorrect tone or offset values and advice outside the operator's license privileges.

License class is treated as a hard constraint throughout the product, not as an optional profile detail.

What HAMgpt Can Do Today

HAMgpt is already live with a broad set of features intended for both new and experienced operators.

Live operating guidance

HAMgpt provides a live view of band conditions, space weather and recent DX activity.

Recommendations can be filtered through the operator's own radios and antennas, helping identify which bands are not only open, but actually usable from that station.

It can also provide:

Repeater suggestions based on location and equipment.

Satellite pass predictions with direction, elevation and timing.

Nearby POTA parks for activation.

Local net and APRS activity.

Band-opening and solar-flare locations.

Antenna design and building help

HAMgpt includes a complete antenna-building layer rather than acting only as a calculator. Operators can request build sheets for:

Dipoles.

Inverted-V antennas.

Verticals.

Yagis and beam antennas.

Moxon antennas.

Magnetic loops.

The system can provide element lengths, spacing, boom dimensions, feed and matching options, expected performance, material suggestions and safety information. For magnetic loops, it can also calculate tuning capacitance, expected bandwidth, efficiency and capacitor voltage requirements.

To-scale diagrams can be generated directly in the chat.

HAMgpt can also help with practical construction tasks such as winding a choke balun, building a 49:1 transformer, choosing wire or tubing, weather-proofing feed points and trimming an antenna to resonance.

NanoVNA and image analysis

Operators can upload a NanoVNA.s1p file and receive an SWR-versus-frequency plot showing the resonant point, usable bandwidth and the 2:1 SWR line, together with a plain-language explanation of what the sweep means.

HAMgpt can also analyse photos of:

Radio displays.

SWR meters.

Antenna analysers.

Smith charts.

Antenna installations.

Station wiring.

For exact measurements, a NanoVNA data file remains the preferred source, but photo analysis can be useful for identifying what an instrument or rig display is showing.

Radio-specific help

HAMgpt recognizes a growing range of popular rigs from manufacturers such as Yaesu, Icom, Kenwood, Elecraft, FlexRadio, Xiegu, Apache Labs and others.

Operators can ask model-specific questions about setup, features and common operating problems, including:

Menu and operating setup.
Digital-mode conurbation.
CAT, PTT and audio troubleshooting.
Tuner and antenna compatibility.
Satellite and full-duplex capability.
Common problems and error conditions.
Help selecting a rig for a particular operating goal.

Winlink Express setup

HAMgpt includes dedicated step-by-step help for Winlink Express, one of the most useful but sometimes difficult pieces of amateur radio software to configure.

It can guide an operator through:
Account creation and registration.
VARA HF and VARA FM setup.
Digirig, SignaLink and CAT cable connections.
COM ports, PTT and audio levels.
Sending the first message.
Troubleshooting failed connections.

Learning and exam preparation

HAMgpt includes the official NCVEC practice question pools for all three-US amateur radio license classes: Technician, General and Amateur Extra.

The quiz system automatically selects the appropriate pool based on the operator's current license, while still allowing the user to choose any exam level.

Logbook and station history

Operators can import an ADIF logbook and receive a summary of their own on-air activity.

HAMgpt also keeps searchable conversation history, making it easier to return to previous antenna designs, setup instructions, trouble-shooting sessions or operating plans.

International and Multilingual Support

HAMgpt is not designed as a US-only system. It currently provides full license-class-aware support for operators in: the United States, Canada, the United Kingdom, Australia, Japan and Argentina.

Guidance follows the relevant license classes, band plans and power limits for each supported country.

HAMgpt can also help with reciprocal and temporary operating questions, including CEPT, IARP, visitor permits and call sign requirements while traveling.

The assistant supports English, Spanish, Italian, Portuguese, French, German and additional languages, allowing operators to ask technical questions in the language they are most comfortable using.

Built by a Working Ham

HAMgpt and DXLook are independently built and operated by Rodrigo Vazquez, AK6FP/LU6ERV, an active amateur radio operator.

The project grew from a simple observation - amateur radio does not suffer from a shortage of information.

The hobby already has excellent manuals, databases, clubs, forums, videos, band plans, documents and specialist tools. The harder problem is turning all of that into a useful next step for one specific operator, using one specific radio and antenna, under current band conditions.

“The rig someone owns, the antenna they installed, their license privileges, their grid and what the bands are doing right now all mater,” Vazquez said. “Without that context, an answer can be technically correct and still not help the operator get on the air.”

Availability

HAMgpt is available now at hamgpt.co.

A free, ad-free er is available with daily usage limits. HAMgpt Plus offers higher limits, additional live-data lookups and deeper personalization based on the operator's station and logbook. There are no ads on either plan.

About HAMgpt

HAMgpt is a personal AI copilot for amateur radio operators. Instead of providing only generic explanations, it combines an operator's license class,

location, radios, antennas and logbook with live band conditions and on-air activity to provide practical, station-specific guidance.

HAMgpt is the sister project of DXLook, a live amateur radio propagation and activity platform. Both products are built and operated by Rodrigo Vazquez, AK6FP/LU6ERV.

Website: https://hamgpt.co
DXLook: https://dxlook.com
Press contact: qso@dxlook.com

SARL HAMNET WC searches for a PLB in the Phillippi area - 17 and 18 October 2026

Michael Taylor, ZS1MJT



At 11:47 on Saturday 17 October, the Aeronautical Rescue Coordination Centre (ARCC) requested SARL HAMNET's assistance in locating a Personal Locator Beacon (PLB) which had been detected as active in the area around Phillippi, Cape Town. SARL HAMNET members were activated and from the locations received, tried tracking the beacon in the Kommetjie area and in the direction of Phillippi. No beacon was heard from either location.

After an hour of waiting at the high site to hear the beacon, a decision was made to move closer to the GPS coordinates received from ARCC. Driving round the area on the R300, we were able to hear the beacon with a strong signal as we approached the Heinz Park area. Some direction findings gave some good landmarks to start the search. South African Police Services (SAPS) were called in, and we were then able to start searching in the area we identified as most obvious.

As most of the structures were made from corrugated iron, there was a lot of reflection, and we were driving and walking around the area as the signal was extremely strong. As dusk approached, we called off the search and headed home.

On Sunday morning, 18 October, we resumed the search starting with some more triangulation. This time, all triangulation pointed to 1 double storey building and we again requested the services of SAPS before entering the area. We went straight to where the signals were strongest and started on foot. Unfortunately, SAPS requested that we make quick as they had some calls to attend to. We requested a drive around the block and were then able to locate the beacon. It was found in the glove compartment of a vehicle.

Once we retrieved the unit, we were able to switch it off and then informed ARCC as to the serial numbers and details of the unit.

I would like to thank SAPS for their help in escorting us to the area, ARCC for their patience during the search and Shawn, ZS1LED for his help and time in making this search a success.



The World above 40 MHz

VHF and UHF SSB in South Africa — Let us bring the Bands to Life

Derek Gravett, ZS5Y

There is a huge amount of radio spectrum available to South African radio amateurs above 30 MHz, yet much of it remains remarkably quiet.

For many amateurs, VHF and UHF means FM, repeaters, simplex contacts and perhaps the occasional digital contact. But there is another side to these bands that deserves far more attention in South Africa - SSB.

VHF and UHF SSB can provide some of the most exciting operating available to an amateur radio operator. It combines weak-signal operating, antenna experimentation, propagation, tropo, meteor scatter and long-distance contacts — often with surprisingly modest equipment.

Why SSB?

Unlike FM, SSB is designed for weak-signal communication. You do not need a strong, full-quieting signal for a QSO to take place.

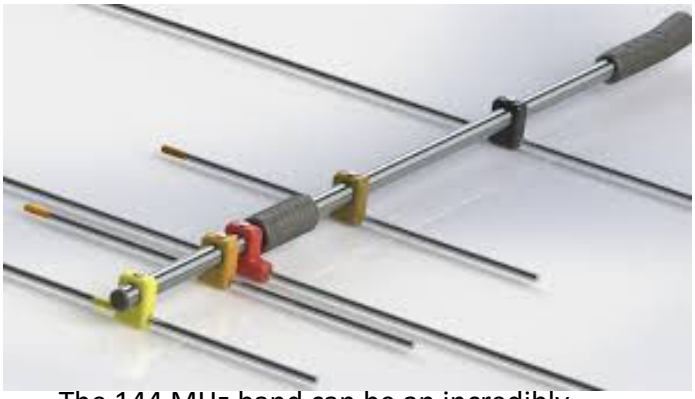
That makes SSB particularly attractive for:

- Long-distance VHF/UHF contacts
- Tropospheric propagation
- Meteor scatter
- Aircraft scatter
- Rain scatter at microwave frequencies
- Sporadic-E on 6 metres
- Moonbounce (EME)
- Weak-signal terrestrial work
- Portable and hilltop operation

And perhaps most importantly, SSB gives us another reason to experiment.

2 metres is not just an FM band





The 144 MHz band can be an incredibly interesting weak-signal band. A horizontally polarised beam antenna, a reasonable mast height and an SSB-capable transceiver can transform 2 metres into something completely different from the typical repeater experience.

Contacts of hundreds of kilometres can become possible through enhanced propagation, while specialised operators can work considerably farther using meteor scatter, aircraft scatter and EME. The important point is that you do not necessarily need a huge station to get started.

A small Yagi, low-loss coax and a transceiver capable of 2 m SSB can be enough to discover what is happening beyond your local FM coverage.

And then there is 70 cm

The 432 MHz band offers another fascinating world. UHF SSB is particularly rewarding because antenna gain becomes easier to obtain as frequency increases. A relatively compact Yagi can provide significant gain, while larger antenna arrays can produce impressive performance.

For operators interested in weak-signal work, 70 cm offers opportunities for:

SSB
CW
Digital weak signal
Meteor scatter
Tropo
EME

It is also an excellent stepping stone toward the microwave bands.

Do not underestimate propagation

One of the great attractions of VHF and UHF SSB is that you never quite know what might happen. A band that appears completely dead can suddenly come alive.

Tropospheric conditions can extend communication well beyond the normal radio horizon. Aircraft can produce useful scatter paths. Meteors can create brief ionised trails capable of reflecting VHF signals over hundreds or even thousands of kilometres.

And during suitable conditions, 6 metres can produce spectacular openings through Sporadic-E. This is what makes weak-signal VHF/UHF so addictive. You are not simply talking to somebody nearby. You are experimenting with the atmosphere.



South Africa has enormous potential

South Africa is particularly well suited to experimentation. We have large distances between population centres, mountainous terrain, extensive coastlines and relatively low population density in many areas.

That creates an excellent environment for investigating different propagation mechanisms. Imagine stations around South Africa regularly monitoring the VHF and UHF SSB segments and reporting their contacts.

We could start building a much better picture of:

- VHF/UHF tropo across the country
- Long-distance coastal paths
- Mountain and terrain effects
- Meteor scatter opportunities
- Aircraft scatter
- Seasonal propagation
- 6 m Sporadic-E
- Possible long-distance UHF paths

But this requires one thing - Activity.

The biggest problem is an empty band

One of the biggest obstacles to VHF/UHF SSB activity is the same problem experienced by many specialised amateur-radio modes - “There is nobody there!”

A station listens.

Nothing is heard.

The operator assumes the band is dead.

The radio gets switched back to FM.

The problem is not necessarily propagation.

The problem may simply be a lack of operators listening.

If more South African amateurs equipped themselves for SSB and established regular listening periods, the situation could change dramatically.

Start simple

You do not need to build a massive EME station to participate. Start with what you have.

A 2 m or 70 cm transceiver with SSB capability, a small directional antenna and a decent location can be enough to begin.

Even better, get a few local operators together and agree on regular activity periods. For example, “Every Sunday morning — VHF/UHF SSB activity.”

Turn the antennas horizontal. Tune around the agreed weak-signal frequencies. Call CQ. Listen. Try different antennas. Compare signal reports. Record your contacts. And see how far you can get.

Horizontal polarisation matters

One of the simplest changes an FM operator can make when moving into SSB is to think about antenna polarisation.

VHF/UHF SSB weak-signal operation traditionally uses horizontal polarisation, whereas most FM repeater and simplex operation uses vertical polarisation.

This means that simply connecting an SSB radio to a vertically polarised vertical antenna isn't necessarily the best way to experience the potential of the mode.

A small horizontal Yagi can make an enormous difference.

Digital modes can help too

Modern weak-signal software has completely changed what is possible on VHF and UHF.

Modes such as Q65 and other digital weak-signal modes allow amateurs to decode signals that would be extremely difficult to copy by ear.

That does not make SSB obsolete. Quite the opposite. SSB, CW and digital modes can complement each other.

A station equipped for weak-signal work can monitor several modes and take advantage of whatever propagation happens to be available.

The ultimate challenge — EME

For those who want to take things further, there is Earth-Moon-Earth, or moonbounce.

The concept is simple:

Transmit a signal toward the Moon.

The signal travels approximately 384 000 km to the Moon, reflects from its surface and travels another 384 000 km back to Earth.

The total path is roughly 768 000 km.

And amateurs do this on VHF, UHF and microwave frequencies.

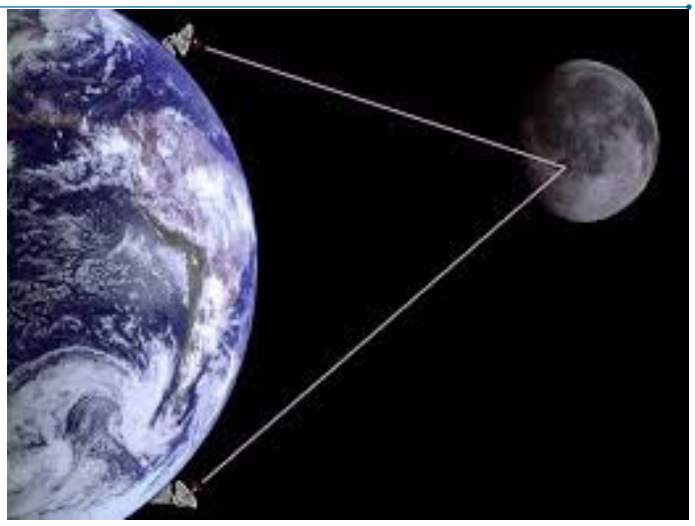
South African amateurs have already demonstrated that EME is possible from ZS. Stations operating on 23 cm, 3 cm and other microwave bands show just how far experimentation can go.

But you do not have to start there.

SSB on 2 m and 70 cm can be the beginning of the journey.

Let us create more VHF/UHF activity in ZS

South African amateur radio has a strong tradition of experimentation. We should not allow VHF and UHF to become simply “the repeater bands.” There is an enormous amount of fascinating radio waiting to be explored.



So, if you have an SSB-capable transceiver sitting in the shack, connect a beam antenna, turn it horizontal and start listening. If you have never tried VHF SSB before, find another amateur who is interested and arrange a contact.

If you are already active, encourage another operator to join you.

Build a small Yagi.

Try a hilltop.

Experiment with propagation.

Try meteor scatter.

Try digital weak-signal modes.

And eventually, perhaps, try EME.

The challenge to ZS amateurs

Let us put more signals on the VHF and UHF SSB portions of our bands.

Let us make them worth listening to.

Let us create regular activity.



Let us experiment with propagation rather than simply waiting for somebody else to make the first contact.

Because the next great South African VHF or UHF contact may not require a new radio.

It may simply require two amateurs to turn their antennas sideways and start listening.

VHF and UHF are not dead.

They are waiting for us.

Discovering Amateur Radio Via Moonbounce

Amateur radio demonstrations typically focus on the value of amateur radio in emergency communications or the fun of talking around the world without relying on wired infrastructure. But Paul Sobon, NOØT, takes a different approach, introducing the public to amateur radio through one of its most esoteric modes, moonbounce.

Paul is also an amateur astronomer and president of the Deep Space Exploration Society, which hosted its 11th annual open house on Sunday 11 October 2026, at its 18-metre radio telescope located outside Haswell, Colorado. “Visitors,” said the club’s announcement, “can hear their own voice bounced off the surface of the moon via Earth-Moon-Earth (EME) contacts on 1 296 MHz.” The announcement added that the society’s club station, KØPRT, would be on the air on HF and VHF and that optical telescopes would also be available.

“EME is a great way to introduce young kids to amateur radio since it is so unique from how they communicate today,” Sobon told The ARRL Letter.

“It combines science, outer space and communications for a totally different experience. After hearing their own voice come back from space, they look at the moon very differently now.”

In the week, Sobon said, two dozen home schoolers visited the society’s classroom “to learn more about our solar system and what lies beyond. This is the only place in southeastern Colorado that these students get to see firsthand science at work. It’s pretty cool.” Sobon noted that the group’s community outreach over the past few years had resulted in growing interest in amateur radio and that a VE team had been lined up to start offering license exams next year.



The Deep Space Exploration Society’s 18 metre dish at the Plishner Radio Telescope Site outside of Haswell, Colorado. [Photo courtesy Deep Space Exploration Society]

Free entrance in the DMR world with a Windows computer

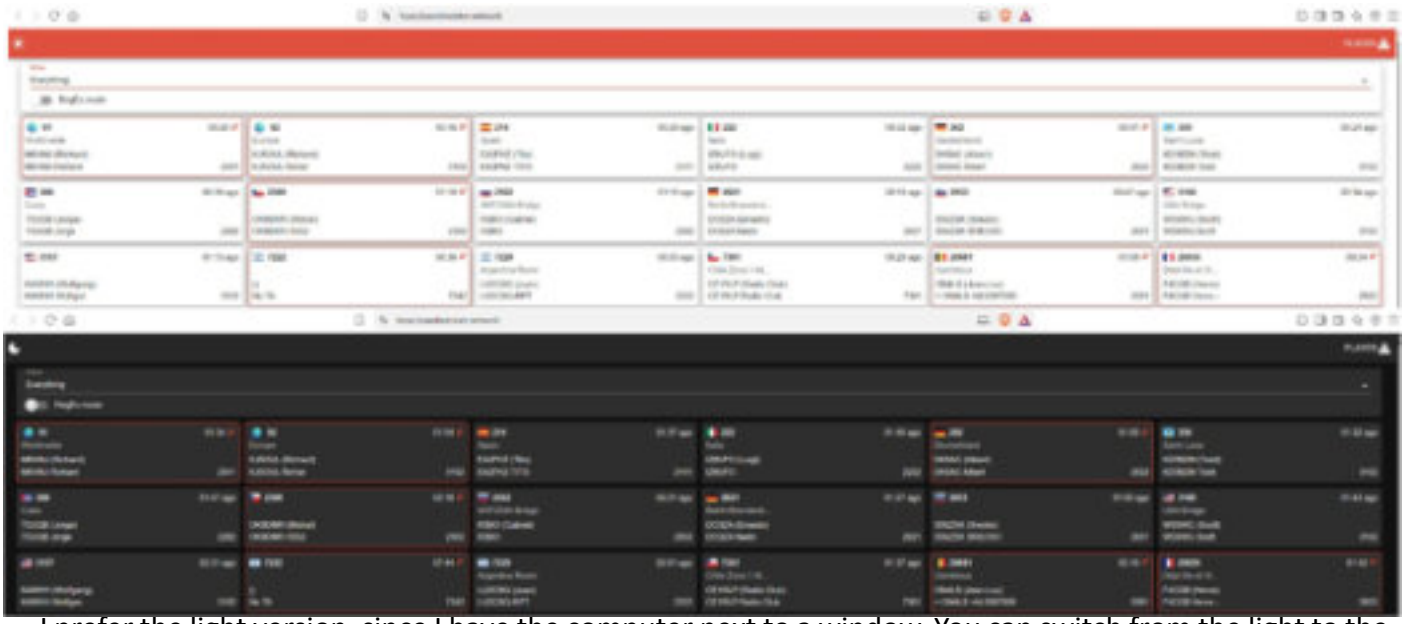
Daniel Romila, VE7LCG

In this article I suppose you have a Windows computer which does not remain behind you whenever you type something. It does not need to be a gaming computer, it does not need to be a recently bought one, in the last several years, but it does need to be a comfortable computer on which you can browse the Internet and watch videos on YouTube fluently, without chopping.

The above tells you more than eventual specs; any i5, i7 processor from the second generation and above and more than 8 giga RAM, even the old DDR3 would do. It might work with even less resources.

Everybody can have immediate access to listening DMR without any ID, without any password. It is enough to use a web browser (same procedure on Windows, Mac, tablet, cell phone) at the address: https://hose.brandmeister.network/

You will get the light version or the dark version:



I prefer the light version, since I have the computer next to a window. You can switch from the light to the dark version of this Internet page by clicking on the upper left corner, where there is a drawing either of the Moon, or of the Sun.

This already solved your reception for DMR and you can have fun with this page, which also allows you to listen to all DMR conversations in the world, because it has a built-in player. You do not need any ID; you do not need any password.

Most probably, whenever you open the DMR Hoseline webpage, you will see on the left upper corner the TG91 (Talk Group, International) active.

If we click on an active Talk Group (TG) we practically add that TG to the PLAYER. The player is on the upper right corner and it looks like this:



I believe it is self-explanatory. In this screenshot I saw TG3020 (Canada) was active and after I clicked on it, I went at the player. The computer speakers were playing already the voice of Bryan, VO1MXZ from Newfoundland.

Like with any player, we can stop by pressing the black square, play again by pressing on the arrow, or completely eliminate this Talk Group from what is played. It is possible to listen at the same time to more Tgs.

This finishes the reception only part of this article. I was surprised many DMR users never use the webpage DMR Hoseline, some even never heard of it. This DMR dashboard is a very important tool and should always be used to verify if you indeed transmit what you think you transmit and with what quality. Those of you practicing foreign languages (like I do) already understood that one can have this visual DMR Hoseline webpage spread on one monitor, see what is active, which country – and in this way getting an idea about of the used language in that Talk Group – and decide if to jump in or not. No more blind trials, just jumping/scanning talk groups one after another, just to find somebody to talk with in the desired language.

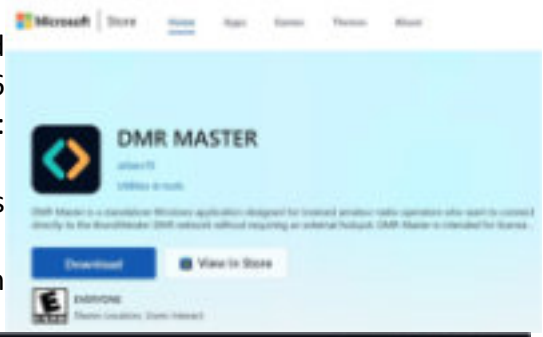
For the next part, Rx/Tx in DMR, we need:

A transceiver, hardware or software – we will go with a legit software version, from the Microsoft Store, free.

A DMR ID, which can be obtained from: https://www.radioid.net/account/register

A password, which can be obtained by registering on BrandMeister https://brandmeister.network/#/. Somewhere up, right, on the red ribbon, there is “Register”.

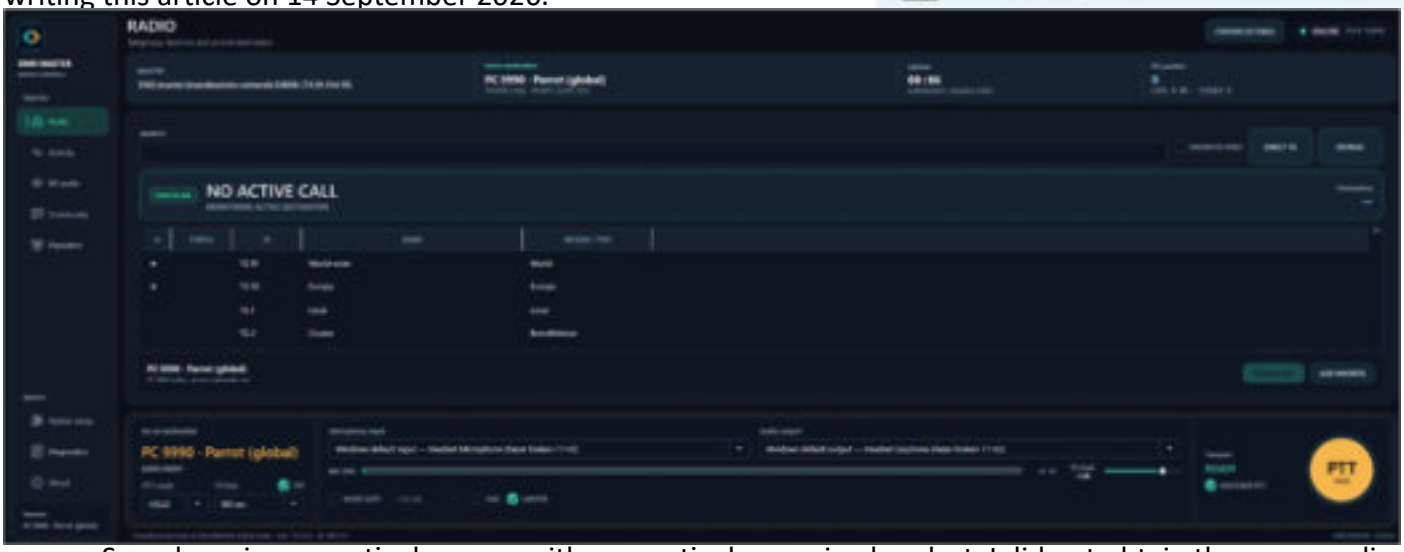
Only after having a DMR ID and a password we can get further, to put in function a DMR transceiver, either hardware or software. In this article we go with a legit free programme, called DMR Master, which can be downloaded from the Microsoft Store. Other option from the same Microsoft Store is QSO One, a more complicated programme, which knows more modes, not only DMR. But let’s keep it simple for now and I will come back later. The page where from you download it shows this.



I cannot go on and explain in many pages the full installation and first QSO making because it would be incredibly long. But there is 6 minutes and 48 seconds video explaining everything on YouTube: https://www.youtube.com/watch?V=zzuxC4b75bo.

The software is well done and once somebody guides us through the interface and settings it becomes comfortable to use.

The programme was last updated on 11 September 2026. I am writing this article on 14 September 2026.



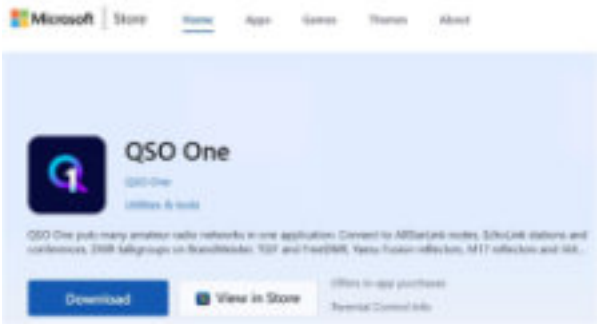
Somehow, in my particular case, with my particular gaming headset, I did not obtain the same audio quality for transmission as I obtained with other programmes. When I say I did not obtain the same quality, please take it as written, “not the same,” because some correspondents like it very much how I sounded through DMR Master. (In DMR we have a Talk Group TG9990 which acts like a parrot when set as “PRIVATE.” We push Tx and speak, wait several seconds and whatever we said is played back and we can hear our own transmission in DMR and eventually adjust settings.)

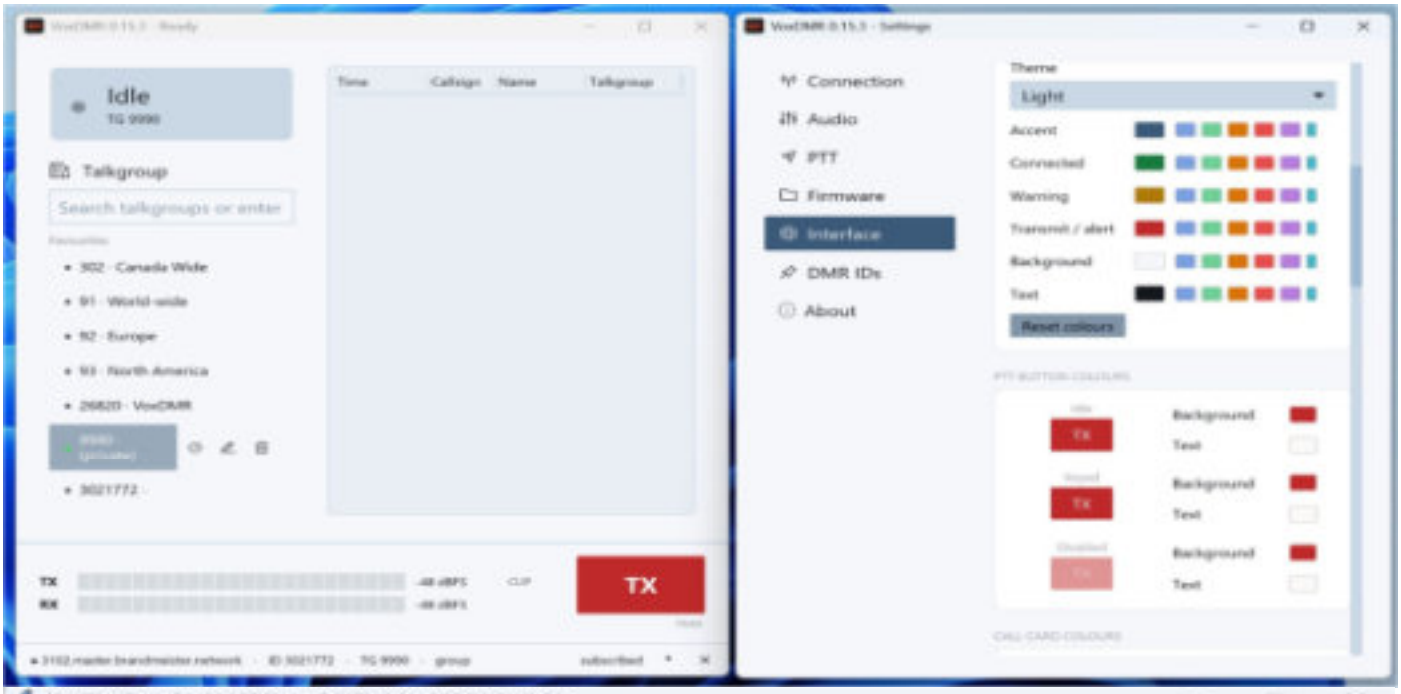
Also from Microsoft Store, also free, there is the programme QSO One, which knows DMR, but also AllStar, YSF, M17 and can also know to search for net groups happening on that moment or immediately starting. Cool.

QSO One obtains the best audio quality for my computer and my gaming headset. Up to now I presented to you only software that nobody can challenge they are legit, since they are posted free on Microsoft Store.

A very similar programme with DMR Master, similar interface, is Vox DMR. If you know the interface of DMR Master, you will be at home with Vox DMR. I like Vox DMR mostly because it allows me to choose between a light and a dark interface. I have the desk near a Window and I am really pissed QSO One and DMR Master always show very dark screens.

I took a screenshot of the Vox DMR programme, in which I also opened on the right the settings window. I repeat that in my case it gave me a slightly better audio quality than DMR Master.







A less known in North America is the Korean programme KUSRP but well known in Asia.

The scary thing about it is that an initial search for KUSRP results in only several Korean mentions, in Korean language and writing. It has Windows and Android versions, downloadable from https://ds5qdr-dv.tistory.com/643 or http://usrp-mst.ipdisk.co.kr:8100/list/HDD1/Home.usrp/kUSRP/

The last releases were made on 25 September 2026, the same day in which I continue writing this article. The user manual, available in English, too, can be found at http://dvsw.ddnsfree.com/manual/kUSRP_Manual_Windows.html. Somehow those applications are allowed and not banned how it was DroidStar and DudeStar. DroidStar is a small compact application meant to run on Android and DudeStar is its version for Windows. They were made somewhere in 2020, initially. Being open source many people interfered with those applications and some became bad. They all look the same and they sound so different, they adjust so well or so badly.

I just verified on 25 September 2026 and even the DroidStar version available on Google Play has (now) in it the vocoder. DroidStar is the only programme that it works with an acceptable quality in D-Star, too. DMR is much better, with DroidStar, than D-Star, also with DroidStar. Just go at Google Play and install that version – that is the best to use.

If you really want to look into other versions those awesome applications, I recommend to you:

- Dudestar_x64.exe, the uygamateur version, from 14 December 2023, for Windows
- DroidStar-5368b41-md380emu-android-arm64.apk, from 26 July 2026 for Android

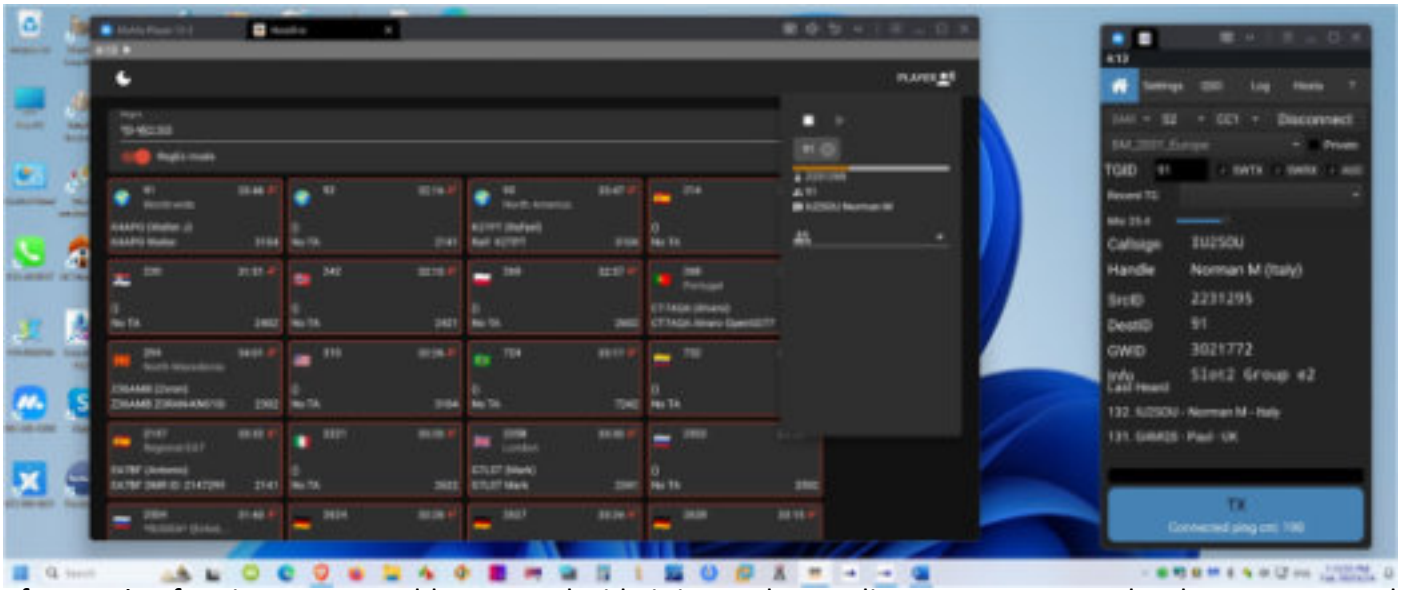
You have all information above to search for the software yourself on the Internet. The Android version also knows IAX, that means you can also connect to AllStar nodes with it. I have no clue why those initial two pieces of software were blamed and today most users have them. There is a 16-minute tutorial about them on YouTube, posted in 2021: https://www.youtube.com/watch?V=JbgggSeDckI.

VU3LVO made a version that works in Apple phones, too.

I simply think the attitude about accessing DMR only with hotspots (hardware) and not with software changed in the last 6 years and accepted the reality some 95% of DMR users have the software installed and ready to use, even if they also have the DMR hardware.

So, sitting in your chair, in front of your computer, you can have on the screen DMR Hoseline webpage, see which Talk Groups are active and jump in the conversation with your small software transceiver. Plenty of activity, day and night, no money spent and it can go on forever. No propagation problem, no lack of people to talk with.

DudeStar/DroidStar were never matched by other applications in term of being easy to use, have control about connection/disconnection and multitude of modes. The audio quality is surpassed only by QSO One.



After getting free into DMR world one can decide it is worth spending money on DMR hardware. As a word of caution and to avoid disappointment I have to tell you the hardware versions of DMR will never get you the same audio quality as the software transceivers do. As you understood from this article, the software

DMR transceivers are connected directly on the Internet, directly on the DMR BrandMeister/Hoseline. In the moment you would go hardware, the chain will be longer.

There will be a hotspot connected to the Internet. This hotspot will transmit/receive digital radio and face the interference and loss of packets between your hotspot and DMR radio. You want DMR communication, that means the radio you will buy will have to know DMR, which is more expensive. This radio will not know YSF, P25, M17, AllStar and so on. You want another digital mode - you take again money out of your pocket.

But – at least – you would have the satisfaction of filling your room with toys. The software versions, especially when ran on strong computer, have an obvious difference in sound quality and huge difference in the speed of commuting from Rx to Tx. When I want to verify if my correspondent has a software transceiver, even if he/she declares he/she has a hotspot, I do several short and fast communications, just several words. If he/she follows without any problem, it is clear we both use software, not hardware. When talking with people having DMR hardware we must wait 4 seconds between Rx and Tx, which is also recommended to keep, to let the network have a clear switch Rx/Tx. I am in Canada and often I use brandmeister access in the Netherlands or Belgium and I can switch without any problem from Rx to Tx, very fast, like using a shortwave transceiver Yaesu FT-710 on the 14 Mhz band.

The hardware solutions are based on a chip named AMBE3000 and its versions. It is a misconception that going with AMBE3000 would give a fast hardware coding/decoding. Actually, AMBE3000 is a dedicated DSP processor running a programme in its memory. It is up to you to imagine how fast can be ran the programme in what it is practically a dedicated microcontroller, in comparison with a computer/cell phone memory, running at thousands Mhz. The cheap version of AMBE3000 cannot be upgraded, because the programme is permanently burned into the ROM. The more expensive version can be updated.

AMBE-3000R: The ROM-based version. In this variant, the AMBE+2 voice compression firmware is permanently “masked” or hardcoded onto the chip’s internal ROM during manufacturing, reducing unit cost and power requirements.

AMBE-3000F: The Flash-based version. This version stores its operating firmware on internal flash memory, allowing for potential features or updates that the ROM version lacks.

HF Update

Dennis Green, ZS4BS

Word to the Wise

Make sure you know what is going on! There is always something happening in the world of amateur radio contesting, so make sure you know what is happening! It can become easy to miss fun contests, neat presentations and other goings-on. Resources like the contest calendar, various contest-related mailing reflectors and this newsletter are great ways to make sure you and your friends are up to date on the latest happenings.



Operating Tip

Practice your typing. This may sound odd, but being a good typist will help improve your accuracy in contesting. Being able to type fast helps with high-rate runs and being able to type without looking down at the keyboard lets you shift your focus away from typing and onto maximizing your me on the radio.

For your All Africa Award

Tanzania, 5H. Maurizio, IK2GZU will once again be operating as 5H3MB from 18 October until 18 November. He will be active from 80 to 10 metres using CW, SSB and digital. Also, on the QO-100 satellite. QSL via Club Log, LoTW or via home call. Maurizio is a volunteer at the Ikelu hospital in the South Highlands.

Guinea, 3X. The Belgian Rockall DX group’s (Marc, ON4AMX; Filip, ON4FF; Patrick, ON4HIL; Luc, ON4IA; Pascal, ON5RA; Karel, ON5TN; Marc, ON6CC; Wim, ON6DX; Franky, ON7RU and Ronald, PA3EWP) next destination is Guinea. The team will be active as 3X4U between 11 and 23 November. Operation from



160 to 6 metres using CW, SSB and digital with 5 stations, hexbeams, phased verticals and a foursquare. QSL via M0URX OQRS. https://rockall.be/

Tanzania, 5H. Chas NK8O will once again be active as 5H3DX during November. Chas mentions, *'I will be returning to Tanzania in November to host guests from Dartmouth College. We will potentially have an influx of students and residents from a consortium of medical schools in the Northeast.*

Senegal, 6W. The Italian DXpedition Team has announced their next trip to Senegal between 28 October and 9 November. Look for Elvira, IV3FSG; Tony, I2PJA; Oscar, IK2AQZ; Alfeo, I1HJT; Silvano, I2YSB; Franco, I1FQH; Stefano, IK2HKT and Angelo, IK2CKR will be active as 6W/I2YSB (CW, SSB and RTTY) and 6W/IK2HKT (digital). Operation with 4 stations on all modes and frequencies. QSL via I2YSB direct and OQRS. https://www.i2ysb.com/idt/

Lesotho, 7P. Wolfgang, HB9CCS will be active as 7P8EA between end October and end November. Operation mainly on 15 metres using CW and SSB. QSL via LoTW.

Mozambique, C9. The Czech DXpedition group will be active as C8K between 10 and 19 November from 160 to 6 metres using CW, SSB and digital with several stations. Also, the QO-100 Satellite. Club Log livestream, QSL via OQRS or via OK6DJ. https://www.cdxp.cz/

The Gambia, C5. Alan, G3XAQ will be operating as C56XA from 17 November until 1 December. Operation holiday-style using CW and digital. An entry in the CQ WW CW contest is included. QSL via LoTW. OQRS via G3SWH.

The Gambia, C5. Billy F4GJE will be active as C5H from 27 December until 3 January. Operation from 40 to 6 metres using SSB and digital with a vertical and a long wire. QSL via home call, logs will be uploaded to Club Log and LoTW.

Burkina Faso, XT. From early January 2027, XT2MAX will again be on air using an IC-7300, vertcal and OCF dipole antennas. Power: 100 w; modes: CW, SSB and digital. QSL via DK1MAX. LoTW uploaded daily free of charge. This will not be a 24/7 activity, says Max. Check QRZ page for further updates.

Somalia, 6O. The DX-adventure Team will be active as 6O6X during February 2027. Team leader Max ON5UR mentions, "*On 14 February 2026, our local contact was invited to the Ministry of Information and Communication Technology in Hargeisa, where Minister Jamaal Mohamed Jama personally handed over the official licence. During the DXpedition, we will be active under the call sign 6O6X ("six oscar six x-ray"). Although the Belgian government still advises against travel to Somalia, several reliable sources confirm that Somaliland, located in the northwest, is the safest region of the country. The safety of the team is the top priority, which is why we have deliberately chosen to organise our activities in this area. On average, the country receives barely 500 visitors per year.'* A Belgian-Dutch-American team with Paul, N6PSE; Marc, ON4AMX; Patrick, ON4HIL; Max, ON5UR; Karel, ON5TN; Marc, ON6CC; Wim, ON6DX; Franky, ON7RU; Geert, ON7USB; Francis, ON8AZ; Casper, PA7DX and Ronald, PA3EWP will be active on HF and perhaps QO-100 and EME. Website under construction.

Ivory Coast, TU. The EIDX group next DXpedition will be as TU7EI (pending) sometime in March 2027. More to follow.

African Islands

Cape Verde, D4. Giovanni, IZ2DPX will be active D44PX from Boa Vista between 4 and 11 November. Operation from 40 to 6 metres using SSB and digital. He will use a combination of dipoles and verticals with a FT-891. QSL via home call, OQRS.

Rodrigues Island, 3B9. Kazu M0CFW will once again be operating as 3B9KW during the CQ WW CW contest (28 and 29 November). Operation before and after the contest as 3B9/M0CFW between 22 November and 2 December. QSL via LoTW.

Seychelles, S7. Rudi, OLK2ZA and David, OK6DJ will be active as S79/OL1T between 28 December and



8 January 2027. Operation on various bands and modes. More to follow. QSL via LoTW.

Youth

Christmas Island, VK9. The Pacific Islands DXpedition Group (PIDXG), in partnership with Youth on the Air (YOTA), is proud to announce a DXpedition to Christmas Island between 16 November and 4 December that will be planned, led, and operated by the next generation of DXers. For the first time, the veterans are the support crew. The eight-operator on-island team is composed entirely of operators under the age of 25, led by Max Freedman, N4ML. Veteran DXpeditioners Glenn Johnson, W0GJ and Gregg Marco, W6IZT join the team as on-island advisors and mentors. Confirmed team members include Connor Black, W4IPC; Tyler Schroder, NT1S; Lukas Bartkus, LY7J and Urgent Jere, 7Q6UJ, several of whom cut their DXpedition teeth on 3D2Y and PJ6Y, first from the remote side and now leading in the DXpedition. We will be rounding out the team over the next few weeks. Operation from 160 to 6 metres with 4 local stations and 2 remote stations. An entry in the CQ WW CW contest is included. QSL via M0OXO.

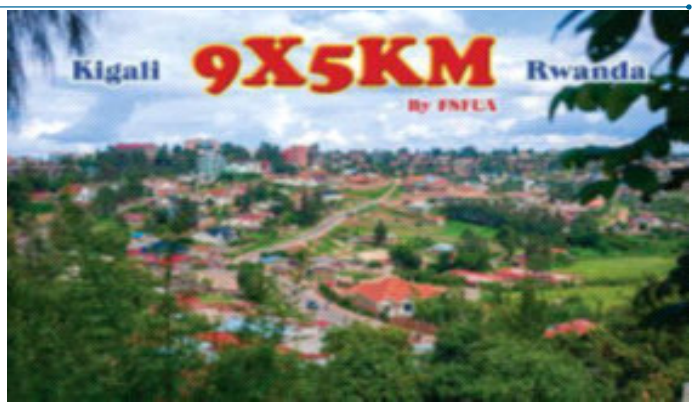
Other DX

Belgium, ON. The ONZ Oostkust Radioclub (ON6HC) will be active on all bands and modes as OR82CLM between 16 October and 15 November to commemorate the 82nd anniversary of the liberation of the region of Knokke-Heist by Canadian troops in 1944. QSL via eQSL. A certificate will be available: https://www.onz.be/or82clm-award-request/

American Samoa, KH8. A team that previous activated T2C, C21MM and V6D will now be operating as KH8A between 29 October and 13 November. The team includes nine operators DJ9KH, DK5WL, DL1KWK, DL2RNS, DL4SVA, DL6KAC, DL6KVA, DL7JOM and DL7VEE. We are planning to operate 4 stations 24/7 from 160 to 6 m using CW, SSB, RTTY and digital. https://kh8a.mydx.de/

St Kitts, V4. Jon, W5JON will once again be operating as V47JA from 28 October until 6 November.





Operation from 160 to 6 metres using SSB and digital with a Yaesu FT-3000D and Elecraft KPA500 amplifier. Antennas: Mosley MP-32N beam for 10/15/20m, 33' vertical for 10 – 160 m and a 6m Yagi. QSL direct to W5JON or via LoTW.

Antigua, V2. Look for JA3FHL, JA3PJL, JH3UHG, JJ2RCJ and JA0JHQ as V26JJ between 30 October and 6 November. Operation on HF using various modes. QSL via Club Log. https://oba.to/V26JJ/

Greenland, OX. Nadia, OZ7AM will be operating from Kangerlussuaq as OX7AM from 23 November until 7 December. Operation on HF using CW only. An entry in the CQ WW CW contest is included. QSL via OZ1ACB and LoTW.

Brish Virgin Islands, VP2V. Rikk, WE9G will once again be operating as VP2V/WE9G from 29 November until 7 December. Operation as SO3R covering from 160 to 6 metres. QSL via home call direct, Club Log search and LoTW.

Wallis and Futuna, FW. Gavin, GM3GAV will be active as FW3GT from 31 October until 14 November. Operation from 40 to 10 metres using CW with some digital (perhaps 60 and 80 m). QSL via M0OXO.

Tonga, A3. The Tongan Paradise Contesters will be active as A31W during the CQ WW CW contest in November. More to follow.

Cook Islands, E5. Hrane, YT5A will be operating as E51A from Rarotonga between 14 and 22 November. Operation holiday-style using CW and digital. The goal of this activity is to prepare for a DXpedition to North Cook Islands (Manihiki) in the period 25 September to 10 October 2027.

Saint Martin, FS. Look for team TO9W with more operators and new equipment from 29 November until 11 December. An entry in the CQ WW DX contest is included. Updates will be posted on their Facebook page.

Saint Martin, FS. Philip, K0CD will be active as FS/K0CD during the CQ WW CW contest (28 and 29 November). Some activity before the contest also. QSL via home call, LoTW.

Honduras, HR. Gerard, F2JD will once again be operaing as HR5/F2JD from 23 November until 15 March 2027. Activity on various bands using CW, SSB and digital. QSL via LoTW or F6AJA. https://lesnouvellesdx.fr/voirlogs.php.

Sint Maarten, PJ7. Garry, KC9EE will be active as PJ7EE from 18 November until 2 December. An entry in the CQ WW CW Contest is included. Outside the contest he will focus on HF using digital towards Asia and 6 meter digital to NA.

Palau, T8. Noburo, JH1OLB will once again be active as T88DT from 26 November until 2 December. Activity from 160 to 6 metres using CW, SSB and digital. An entry in the CQ WW CW contest is included. QSL via home call.

Micronesia, V6. Kenji, JH3AIU and Masa, JR3RIUwill be active from Chuuk Island as V6AIU and V63JX between 26 November and 1 December. Main goal is the CQ WW CW contest. QSL via LoTW.

Grenada, J3. From 22 November to 2 December, a team of six operators will be active from Grenada. They will have several J3 call signs available throughout the visit, with activity planned across the HF bands on CW, SSB and digital modes. A particular call sign to look out for is J38W, which will be used during the CQ Worldwide CW Contest (28 and 29 November) in the Mul-Two category. The team consists of: Jamie, M0SDV; Marn, GW4XUM; Dave, G3NKC; Paul, G4PVM; Mike, G3WPH and Rich, NN3W.

Mariana Island, KH0. Ken, JO1VRK will once again be active as KH0/AJ6VJ from 29 December until 3 January 2027. Operation on 40, 20, 17, 15, 12 and 10 metres. QSL via LoTW, Club Log.

Solomon Islands, H44. Bernard, DL2GAC is once again active from the Solomon Islands as H44MS during the following periods - until 20 November 2026 and 5 February to 7 May 2027.

Peter 1 Island, 3Y0. The 3Y0L DXpedition is scheduled for February 2027. A team with 19 operators will spend approximately 20 days in the vicinity of the island. https://3y0l.com/#Peter-I-DXpedion



Monaco 3A, Rikk, WE9G will be operating as 3A/WE9G between 2 and 9 March 2027. Operation from 80 to 6 metres using CW, SSB and digital. QSL via LoTW, Club Log or home call.

Bahamas, C6. Eric, K9GY will be operating as C6AYM between 18 and 23 February. Operation from 80 to 10 metres using CW only. An entry in the ARRL DX CW contest is included. QSL via LoTW.

Malpelo, HK0. Last active in 2012 (by HK0NA who still maintains the second highest ever QSO count for a DXpedition), the Colombian League of Radio Amateurs (HK3LR) and its Board of Directors has announced its main goal – to stage a DXpedition to Malpelo island, SA-007. It is hoped for a February 2026 activity, but this is not yet confirmed. Stay tuned for more info in the coming weeks.

Antarctica, DL_ant. Felix, DL5XL expects to be active again as DP1POL from the Neumayer Station III, Antarctica (AN-016) between November and February 2027. He operates mainly CW on the HF bands, with some digimode and SSB activity. QSL via DL1ZBO.





Meteor Scatter Communications on 6 Metres Using MSK144

AMSAT-SA and the Southern Africa VHF group

Amateur radio operators looking to expand beyond traditional local or HF modes can use meteor scatter propagation to make contacts over distances from 400 to 2 000 kilometres. As Earth moves through space, millions of meteors enter the upper atmosphere at altitudes of 80 to 120 km, creating short-lived ionized trails that reflect VHF radio signals. While activity in southern Africa has historically lagged compared to active regions in North America and Europe, techniques using modern digital modes make this propagation path highly accessible.

How Meteor Scatter Works

Because meteor trails persist for only milliseconds to a few seconds, traditional voice communication is generally impractical outside of major annual meteor showers (such as the Perseids or Geminids). Instead, operators use specialized digital protocols:

Mode: MSK144 (Minimum Shift Keying at 144 baud), designed specifically for efficient meteor scatter communications within software like WSJT-X.

Transmission Cycles: Stations exchange short data bursts using synchronized 15-second transmit/receive intervals.

Frequency: The primary calling frequency on the 6-metre band is 50,260 Mhz.

Interference-Free Operation: Because meteors enter the atmosphere at random angles across a shared sky area, multiple stations can operate on the same frequency simultaneously without interfering with one another.

Recommended Equipment & Station Setup

Setting up a station for MSK144 meteor scatter requires minimal specialized hardware:

Transceiver: A 50 Mhz (6-metre) radio capable of moderate power (typically 50 to 100 W, though higher power increases contact speed).

Antenna: A horizontal directional antenna (such as a 5- to 7-element Yagi) is strongly recommended over a vertical antenna to properly spread the signal horizontally across the reflection zone.

Software: A computer running WSJT-X connected via a USB interface for CAT control, audio input/output, and PTT timing. Accurate PC clock synchronization (via an internet time server like Dimension 4) is critical to maintain precise 15-second sequencing.

Operating Tips for Success

Timing: While meteor scatter occurs 24/7, success rates improve significantly in the early morning when atmospheric meteor activity peaks, or during dedicated annual shower windows.

Patience: Pings may be brief, and completing a full QSO can take several minutes or longer depending on trial density and geometry. Operators monitor real-time spotting via platforms like PSK Reporter to coordinate active sessions.

Perseids Meteor Shower [Credit: AMSAT-SA]



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GET ON THE AIR!

A GUIDE TO SPARK PLUG ANTENNAS



★ SMALL SIZE. BIG PERFORMANCE ★

Spark plug antennas are a popular choice for ham radio operators who want a low-profile, inexpensive, and effective antenna solution. They are easy to build, durable, and work surprisingly well—especially on HF bands.

AFFORDABLE
Low cost, high value

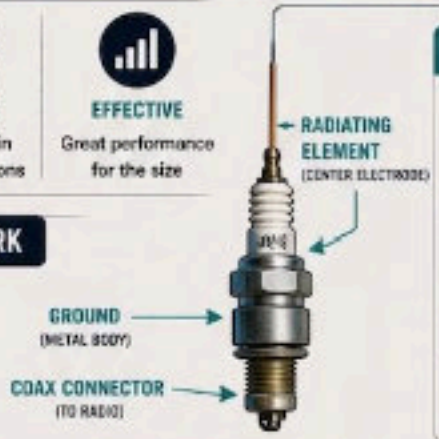
EASY TO BUILD
Simple materials & setup

DURABLE
Built to last in tough conditions

EFFECTIVE
Great performance for the size

HOW SPARK PLUG ANTENNAS WORK

The spark plug acts as a radiator.
The center electrode is the radiating element. The metal body is the ground.
The length of the electrode determines the frequency.



COMMON FREQUENCY GUIDE

BAND	APPROX. LENGTH OF CENTER ELECTRODE
40 m (7 MHz)	31 mm (1.22 in)
20 m (14 MHz)	16 mm (5/8 in)
17 m (18 MHz)	13 mm (1/2 in)
15 m (21 MHz)	11 mm (7/16 in)
10 m (28 MHz)	8 mm (5/16 in)

*Lengths are approximate. Tuning may be required for best results.

POPULAR WAYS TO USE SPARK PLUG ANTENNAS

1. BASE STATION

Great for indoor or outdoor use. Easy to mount and tune.

2. PORTABLE / FIELD

Perfect for QRP, SOTA, POTA, and outdoor adventures.

3. MOBILE / VEHICLE

Low profile and rugged—ideal for mobile operations.

4. EXPERIMENT & LEARN

Affordable way to experiment and learn about antennas.

TIPS FOR BEST PERFORMANCE

- Always tune using an antenna analyzer.
- Use a good ground plane or counterpoise.
- Keep coax short and use quality connectors.
- Weatherproof your connections.
- Experiment with different lengths and locations.

MATERIALS YOU'LL NEED

- Spark plug (NGK recommended)
- Copper wire or welding rod
- SO-239 or coax connector
- Coax cable
- Mounting hardware
- Heat shrink / electrical tape

WHY OPERATORS LOVE THEM

- Simple & inexpensive
- Works on multiple bands
- Easy to tune & customize
- Great for travel & emergencies
- Proven by hams worldwide

KEEP IT SIMPLE.
KEEP IT EFFECTIVE.
KEEP MAKING QSOs!

BUILD IT. TUNE IT. ENJOY THE AIRWAVES.

73 & GOOD DX!
★ ★ ★ ★ ★

Analysis of the Influence of Coronal Mass Ejections on the Ionosphere using amateur radio equipment

Wolfgang Kaufmann, DL1WKA first published in QEZ, November/December 2026

40-metre WSPR time-distance density maps track changes in F2-layer propagation and D-region absorption during geomagnetic disturbances, including the May 2024 storm.

By using WSPR radio beacons and applying a suitable analysis method to the reception reports, the state of the ionosphere can be recorded in detail and its reaction to coronal mass ejections from the sun can be examined.

Introduction

If the Earth is hit by a coronal mass ejection (CME), this can lead to a coupling of solar plasma into the terrestrial magnetosphere, which not only leads to a disturbance of the terrestrial magnetic field (geomagnetic storm), but also significantly reduces the electron density in the F2 layer. In contrast, an increase in electron density at 70 to 80 kilometres altitude (D region) can be found [1]. These ionospheric effects are referred to as ionospheric storms. The ionospheric disturbances persist for several days after geomagnetic activity has normalized. This is a well-known phenomenon for radio amateurs. However, is it possible to make a more quantitative statement than simply “the path is open/closed?”

Method

The methodological approach described here examines the state of the ionosphere by transmitting radio signals and then analysing the reports received. For this purpose, the WSPR beacon protocol developed by Joseph H. Taylor, K1JT, was adopted. To obtain sound results from the reception reports of worldwide radio stations, meaningful parameters and an evaluation method must be found. The question of which amateur radio band is best suited for such investigations also needs to be clarified.

In the summer of 2024/25, the critical frequency, *fo*, of the F2 layer fluctuated around 7 MHz during the day over Europe. Radio waves of this frequency are still noticeably attenuated when passing through the D region. This means that the 40-metre band should react very sensitively to any change in electron density in the F2 layer and D region, making it well-suited for the study.

In case of a single ionospheric reflection, the distance between a TX and an RX station defines the angle of incidence of the radio waves on the D region and F2 layer. Thereby, the angle of incidence determines the extent of attenuation in the D region (the flatter the angle of incidence, the longer the path through the absorbing D region) and diffraction in the F2 layer (the steeper the angle of incidence, the higher the ionization required for reflection). The electron densities in both layers therefore control the distances within which radio contact can be established. Hence, TX-RX distance appears to be a suitable measurement parameter for the state of the ionosphere if the distances of all RX stations to the TX location are plotted as a function of time and a density map is created using a suitable statistical method. This should provide an accurate picture of the ionospheric state prevailing at any given time.

Measuring Campaign

The digital radio beacon protocol WSPR [2] was used as a measuring tool. With the help of the WSPR database, www.wsprnet.org, our WSPR transmissions can be tracked world-wide. For this study, only the reports of our own transmitted WSPR signals were used for analysis. This ensured that the same technical TX conditions were always used. It also allowed the entire transmission planning to be tailored to the requirements of the intended investigation. The TX location was Algermissen, northern Germany (locator JO42XG). Local time is UTC + 1 hour. The WSPR beacon signals were transmitted about every 10 minutes by an Icom IC-7300 in the 40-metre band. The EIRP was about 5 W. The antenna used was a loaded broadband antenna (Diamond BB6WS). Earlier experience with this antenna suggests an approximately horizontal omni-directional characteristic, while higher vertical elevation angles are to be expected due to the low installation height relative to the wavelength.

The observation periods are listed in Table 1. Reports were downloaded from WSPR Live [3]. Only reports from RX stations in a radius of more than 100 kilometres and less than 4 000 kilometres were used to exclude ground wave reception and undefined multi-hop reception (see Figure 1). It was possible to

Start UTC	End UTC	Number of Reception Reports	Solar Flux (10,7 cm) [s.f.u.]
2024-05-10 17:00	2024-05-16 16:00	38,822	212 – 228
2024-07-24 19:00	2024-07-31 02:00	55,217	172 – 230
2025-06-14 08:00	2025-06-28 17:00	86,405	121 – 166

Table 1. Date and time for the measurement periods in the 40-metre band include the extremely strong solar storm of 11 May 2024, in the measuring campaign.

Additional Data

Disturbances of the Earth's magnetic field and ionospheric disturbances are caused by the same solar outburst event.

Luckily, geomagnetic activity can be measured directly and provides information about the strength of the influence of a CME on the Earth (and on the ionosphere). The linear 3-hour Ap index, Ap(3h), was chosen as a measure of geomagnetic disturbance. The numerical 3-hour values of the Ap index and the daily solar flux as a measure of solar activity were taken from the GFZ Helmholtz Centre for Georesearch [4]. A list of X-ray flares was compiled from the National Oceanic and Atmospheric Administration/National Weather Service Space Weather Prediction Centre [5]. The critical frequency of the F2 layer, *foF2*, as well as its minimum frequency, *fminF2*, were taken from the Global Ionosphere Radio Observatory [6]. The Belgian ionosonde in Dourbes was selected due to its central location within the RX station sites.

Results and Discussion



Figure 1. Geographic positions of the WSPR receiving stations in the 40-meter band whose reports were used in this study. [Figure courtesy of OpenStreetMap, www.openstreetmap.org/copyright]

The role of the E layer with a critical frequency of roughly 3 MHz is negligible in these measurements. Firstly, the take-off angle must be less than 25° for a 7 MHz radio wave to be reflected at all. This means a long path through the D region, where the absorption is an exponential function of the distance travelled [1]. Secondly, the proportion of flat radio waves radiated by the chosen antenna is small compared to their radiation at medium and higher elevation angles.

The results of the three measuring

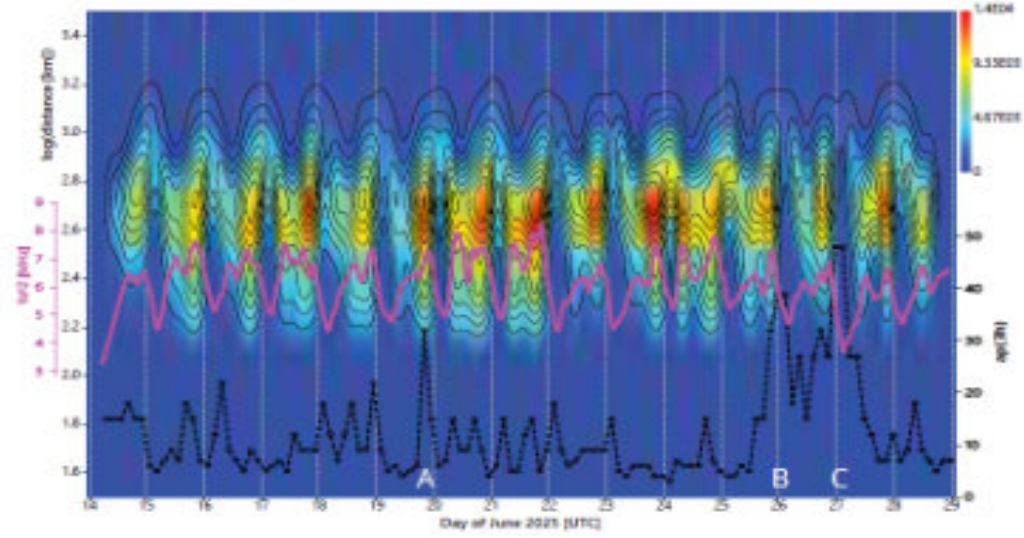


Figure 2. Density map of the logarithmic TX-RX distances as a function of time in June 2025. The critical frequency of the F2 region, foF2, is shown in purple. The curve of the 3-hour Ap index, Ap(3h), is dashed and shown in black. Three weaker increases in the Ap(3h) index are marked with the letters A, B, and C. Local time is UTC + 1 hour.

campaigns are presented in the form of kernel density diagrams [7]. Using a triangular kernel (mathematical function), a two-dimensional density map was calculated from the logarithm of the TX-RX distance and the time (as a fraction of each day) of the individual WSPR reports. This form of representation made it possible to recognize significant changes in the time- and distance-dependent report density. Each density diagram was superimposed by the curve of the Ap(3h) index and the smoothed curve of the *foF2* from the ionosonde.

Characterization of the General Diurnal Pattern

First, some kind of standardization must be created. Therefore, two measurement periods with small, short-term ionospheric disturbances were selected. They originate from two consecutive summers with different solar fluxes. They were analysed to find out how the method works.

Figure 2 shows a recurring distribution pattern depending on the time of day in June 2025. It was the result of the interaction of the daily variation of the electron density of the D region and F2 layer in combination with the geographical distribution of the RX stations. Let us first look at the daily course of the upper contour in Figure 2, which is characterized by the long-distance connections. We have the longest radio links at midnight. The distances then decrease until midday and then increase again. This curve is an absorption effect of the D region, as longer radio links with their flat angles of incidence of the radio waves experience greater attenuation during the day. The sinusoidal curve is due to the fact that although the D region vanishes after sunset, this progresses from east to west, so that all radio paths are only in darkness at midnight. At any time, the ionization of the F2 layer was sufficient for successful reflection at the flat angles of incidence of the radio waves.

The course of the lower contour in Figure 2 is determined by the short-range connections. Here we find the shortest radio connections during the day, which are then gradually lost at night in favour of ever longer distances. This is a direct effect of the electron density in the F2 layer. If you look at the purple curve in Figure 2, which shows the daily progression of *foF2*, this correlation becomes clear: the higher the *foF2*, the shorter radio distances are possible. The attenuation by the D region only plays an insignificant role due to the steep angle of incidence of the waves.

This diurnal interaction of the D region and F layer led to two characteristic density gaps. One is defined by the time of the dip in the number of short-range connections, *tsr*, at about 03:00 UTC, when the ionization of the F2 layer is lowest. The other is specified by the time of the dip in the number of long-range connections, *tlr*, at about 1200 UTC, when the absorption of the D region is highest.

Looking at the medium-range radio links in Figure 2, there is a direct correlation between the height of the critical frequency, *foF2*, and the density of the connections. D absorption and F2 reflectance interact here. The higher the refractive index of the F2 layer, i.e., the higher the *foF2*, the higher the chance of a successful reflection at an inhomogeneous F2 layer for a given frequency near *foF2*. With the same TX power and the same distance, stations with lower RX sensitivity or higher noise levels are reached more often. The frequency of received reports per time unit increases, which is reflected in the density map in the corresponding colouring.

Figure 3 shows a similar pattern in July 2024, although the long-haul connections extend to greater distances. Looking at the lowest usable frequency of the F2 layer during night, we find it to be lower in the 2024 measuring period than in 2025 (see Figure 4). This may be attributed to a lower amount of absorption, boosting flat-angle radio waves. Also, the number of short-distance connections is increased, which is reflected in a more intense colouring of the density map. This is due to the generally higher *foF2*.

In summary, it can be said that there is very good agreement between the diurnal critical frequency *foF2* from the ionosonde measurement and the density distribution from the reception reports. We now know how the method represents the state of the ionosphere in density diagrams.

Impact of Weak Solar Events

Now, we will focus on the impact of solar events on the ionosphere. In both Figures 2 and 3 we find some smaller events, discernible by a steep rise of the Ap(3h) index. In Figure 2, three comparatively weak events (letters A, B, and C) occurred during the measurement period. Event A occurred during the daily

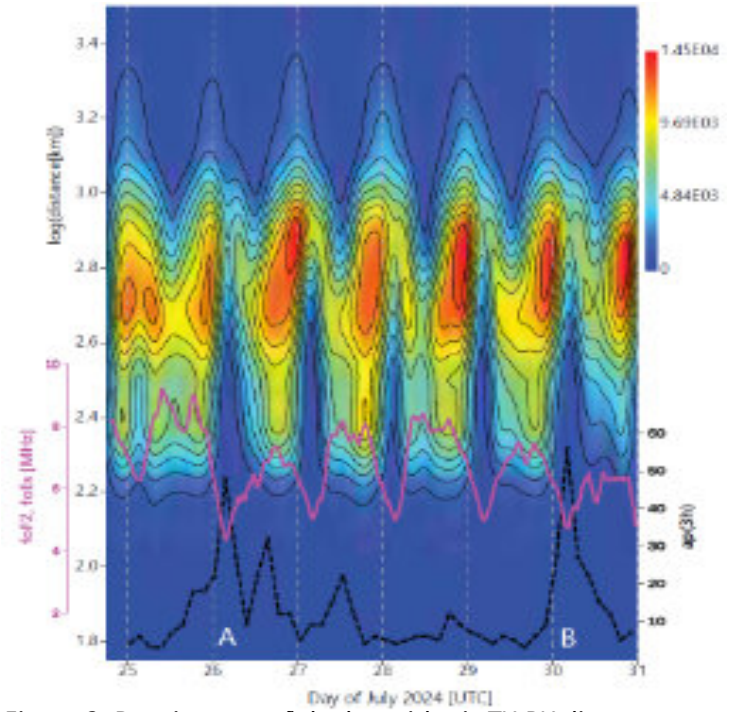


Figure 3. Density map of the logarithmic TX-RX distances as a function of time in July 2024. The critical frequency of the F2 region, foF2, is shown in purple. The curve of the 3-hour Ap index, Ap(3h), is dashed and shown in black. Two weaker increases in the Ap(3h) index are marked with the letters A and B. Local time is UTC + 1 hour.

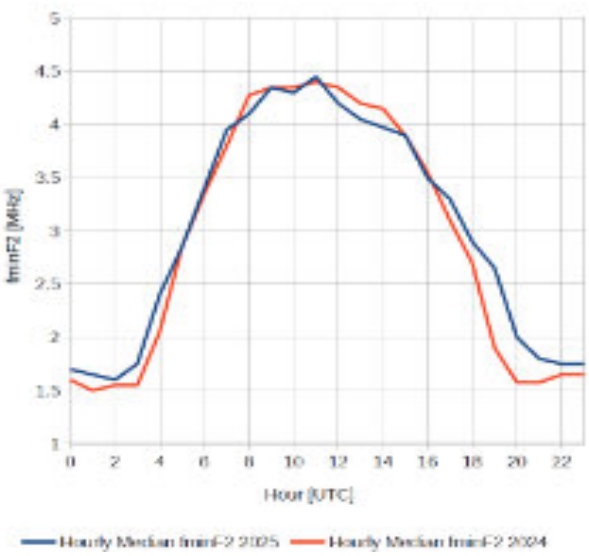


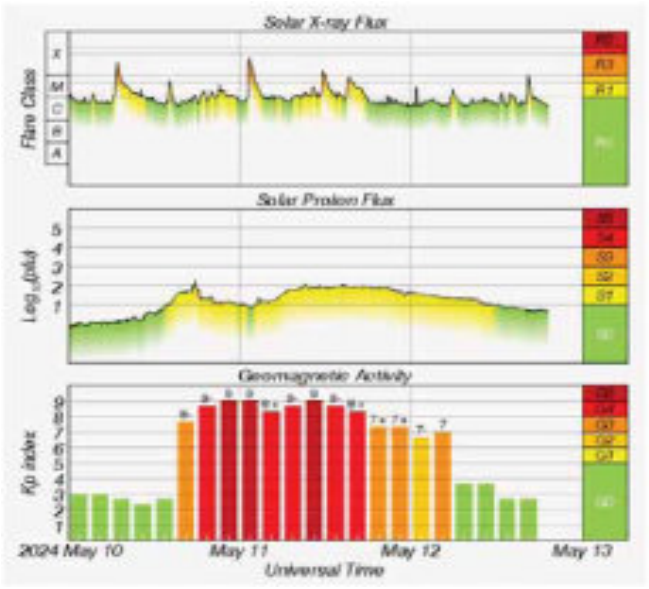
Figure 4. Mean value per hour of fminF2 over all days of the respective measurement periods. Local time is UTC + 1 hour.

ionization maximum of the F2 layer. The effect on the strongly ionized F2 layer was only slight. The situation is different for events B and C, which occurred during the daily ionization minimum. Here, the short- and medium-range connections were completely lost, especially for event C. The effects on the already weakly ionized F2 layer are clearly visible here. In Figure 3, the effects of the two events (A and B) are hardly noticeable, although they took place during the daily minimum of *foF2*. Due to the generally higher solar flux, the minimum values of *foF2* were significantly higher than in Figure 2, so the influence on the ionization of the F2 layer was not as pronounced.

Impact of an Extreme Solar Event

The next step will be an analysis of the situation during the extremely strong geomagnetic storm on 11 May 2024. Figure 5 shows the prevailing conditions of space weather at that time. Figure 6 displays the density diagram for this period.

The most striking phenomenon was the almost complete radio blackout on May 11 during the extremely high Ap(3h) index (Figure 6, letter A). The diagram shows a temporary decrease of the Ap(3h) index in the morning, which allowed for some middle-distance radio connections. With decreasing Ap(3h) index in the evening again, a small number of middle-distance connections could be realized. This pattern is assumed to be a combined effect of strongly reduced (or temporarily non-existent) ionization of the F2 layer (no short paths) and enhanced D-region ionization (no long paths). The gap in the curve of *foF2* could be found also in the records of the ionosonde at Juliusruh, so it is not a failure of the ionosonde at Dourbes. Obviously the automated ionogram analysis could not find *foF2* reflections.



In addition, two smaller geomagnetic disturbances of short duration were observed (Figure 6, letters B and C).

Figure 5. Space weather conditions in May 2024, courtesy of the National Oceanic and Atmospheric administration / National Weather Service's Space Weather Prediction Centre.

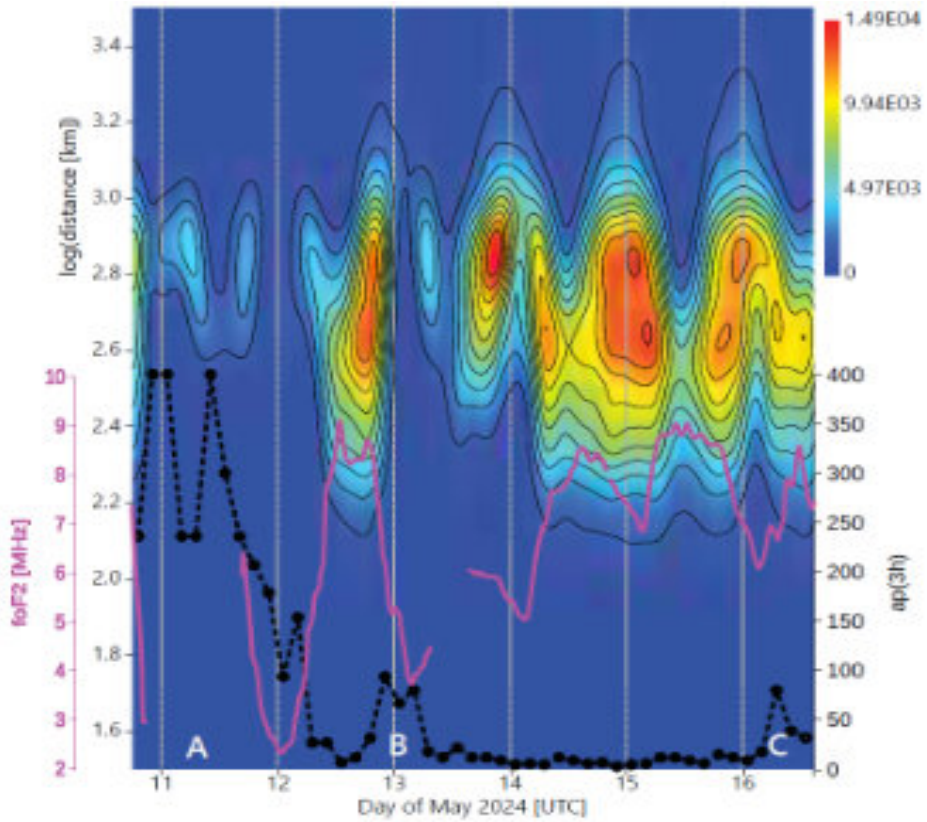


Figure 6. Density map of the logarithmic TX-RX distances as a function of time in May 2024. The critical frequency of the F2 region, foF2, is shown in purple. The curve of the 3-hour Ap index, Ap(3h), is dashed and is shown in black. One extremely high increase and two smaller increases in the Ap(3h) index are marked with the letters A, B, and C. Note that the scale of the Ap(3h) index is very different from Figures 2 and 3. Local time is UTC + 1 hour.

As already described above, the effect of the nocturnal event B on radio propagation is very pronounced, while the event C at midday is not very noticeable. This is also illustrated by the *foF2* curve in Figure 6. Three days after the storm, on May 15, the density gap of the short-range paths at *tsr* was non-existent (Figure 6). The evening report density centre on May 14 was extended not only to the early morning hours of May 15 but also towards shorter radio paths. This can be interpreted as a consequence of a high nocturnal ionization of the F2 layer. This assumption is confirmed by the ionosonde measurement (see the purple curve in Figure 6). Statistical analyses of the course of ionospheric storms [1] show that such one-off increases in ionization density beyond the normal state occur in the recovery phase of the ionosphere.
A series of X-class X-ray bursts occurred during the mea-surement campaign. They led to brief radio blackouts during the daylight hours. However, these short-term events had no significant effect on the density maps.

Summary

Europe, with its dense network of amateur radio and SWL stations, was a good place to conduct this study. It could be shown that transmitted WSPR beacons in the 40-meter band together with a suitable analysis tool can provide a finely resolved representation of ionospheric state changes that are in complete agreement with the results of ionosonde measurements. The influence of the F2 layer and the effects of the D region become visible.

Acknowledgement

The author thanks Joseph H. Taylor, K1JT, and contributors for providing *WSJT-X* and the operators of WSPRnet and all the WSPR RX stations who contributed with their reports.

This paper uses data from the Juliusruh Ionosonde, which is owned by the Leibniz Institute of Atmospheric Physics Kuehlungsborn and from the ionospheric observatory in Dourbes, owned and operated by the Royal Meteorological Institute (RMI) of Belgium. The Ap index is taken from the GFZ German Research Centre for Geosciences.

Notes

[1] J. K. Hargreaves, *The Solar-Terrestrial Environment*. Cambridge, U.K.: Cambridge University Press, 1992.

[2] WSJT, “Weak Signal Communication Software.” [Online]. Available https://wsjtx.github.io/wsjtx/index.

html
[3] WSPR.Live, “WSPR Downloader.” [Online]. Available: https://wspr.live/wspr_downloader.php
[4] GFZ Helmholtz Centre for Geosciences, “Kp index data.” [Online]. Available https://kp.gfz-potsdam.de/daten
[5] NOAA/NWS Space Weather Prediction Centre, “Space weather data archive.” [Online]. Available www.spaceweather.gov
[6] Lowell GIRO Data Centre, “Global Ionospheric Radio Observatory.” [Online]. Available https://giro.uml.edu/
[7] Ø. Hammer, D. A. T. Harper, and P. D. Ryan, “PAST: Paleontological statistics software package for education and data analysis,” Palaeontologia Electronica, vol. 4, no. 1, p. 9, 2001. [Online]. Available www.nhm.uio.no/english/research/resources/past/index.html

Wolfgang Kaufmann, DL1WKA, obtained his license in 2023. He has been involved with electronics and measurement technology since his youth. He earned a diploma and a doctorate in biology from Friedrich-Alexander University Erlangen-Nuremberg, Germany. He works in nature conservation for the government. Wolfgang spends his time observing atmospheric phenomena using visible light and radio waves. He is interested in developing measurement techniques for recording and analysing these observations.



Hallicrafters

From Wikipedia, the free encyclopaedia



The Hallicrafters Company manufactured, marketed and sold radio equipment and to a lesser extent televisions and phonographs, beginning in 1932. The company was founded by William J. Halligan and based in Chicago, Illinois, United States.

In 1966 Halligan sold the company to the Northrop Corporation and Halligan family involvement ended. Northrop ran the company until the early 1970s, but by this time, fierce Japanese competition was putting pressure on the US domestic electronics market. Northrop sold the company name (but kept the factory, by then located in Rolling Meadows, a Chicago suburb) in 1975, bringing non-military electronics production to an end and turning the plant into part of Northrop Corporation's Defence Systems Division.



Hallicrafters founder William J. Halligan depicted in a 1944 magazine ad

History

William J. Halligan (1898 – 1992), founded Hallicrafters Company in Chicago in late 1932. Prior to this, he had been involved in radio parts sales for some years but decided the time was right for a handcrafted amateur radio receiver - the company name being a combination of Halli(gan) and (hand)crafters.

The new company was located at 417 North State Street and immediately ran into patent difficulties when RCA decided to sue them for building radio sets without an RCA patent license. An opportunity came to purchase the concern of Silver-Marshall Inc. in 1933 and, with it, an RCA patent license as the most valuable asset.

To meet their financial obligations, Hallicrafters produced radios for other manufacturers until they were financially able to begin production of their own line of communications receivers, starting with the SX-9 'Super Skyrider,' in late 1935.

By 1938, Hallicrafters was doing business in eighty-nine countries and manufactured the most popular sets in the USA. That year, the company began to produce radio transmitters. With the outbreak of World War II, the company prepared for wartime production and was responsible for new designs and



Hallicrafters received Army-Navy 'E' Awards for its war-time contributions

innovations for use by the U.S. troops; probably the best-known were the HT-4/BC-610 and related equipment used in the military SCR-299 communications package.

Production of Ham radio gear and other items was suspended until 1945. After the war, focus was again on consumer electronics, including radio phonographs, AM/FM receivers, clock radios and televisions.[1]

The boom years for Hallicrafters were from 1945 to 1963, during which the company produced equipment considered by many to be superbly designed, including the famous S-38 receiver, which received a cosmetic "makeover" by industrial designer Raymond Loewy.

In 1952 Hallicrafters' main plant in Chicago housed general offices and the factory and was a block long. In addition to the main plant was a 3-story building of 6 700 m^2 two blocks away, a 1-story coil plant of 1 100 m^2 on Chicago's north side and 14 000 m^2 of production and storage space in three other buildings within a five-mile radius of the main plant. The company employed 2 500 people.[1]

During the Cold war era, the company took active participation in the Blue Streak (UK) and Atlas (US) missile projects, helped to develop capability for many areas of electronic warfare and in missile field, including code translator data systems, ground support equipment, electronic counter-measures testing and antenna systems, infrared homing techniques, also company provided tactically deployed maintenance and technical support teams for mentioned missile systems,[2] it supplied airborne target simulator system for Nike Zeus,[3] electronic countermeasure systems for Douglas EB-66E and Boeing B-52 aircraft.[2] Its R&D divisions (Manson Laboratories in Wilton, Connecticut,[4] and Military Electronics Division in Chicago) developed penetration aids for intercontinental ballistic missiles and participated in various other classified programs.[5] In the words of its advertising sloganry, the company supported "America's defence umbrella."[6]

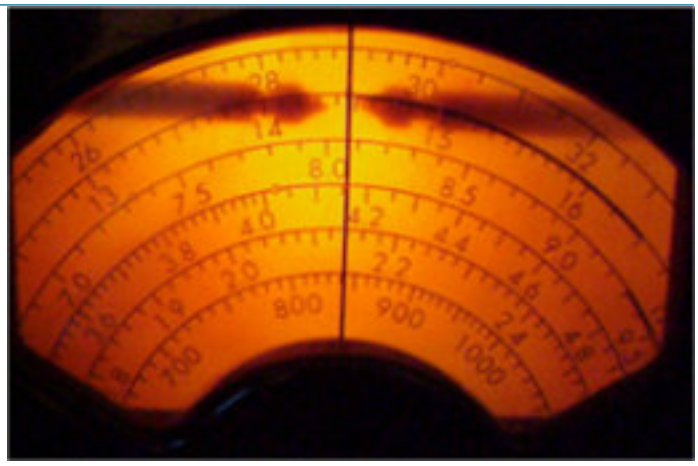
In 1966 Halligan sold the company to the Northrop Corporation and Halligan family involvement ended. Northrop ran the company until the early 1970s, but by this time, fierce Japanese competition was putting pressure on the US domestic electronics market. Northrop sold the company name (but kept the factory, by then located in Rolling Meadows, a Chicago suburb) in 1975, bringing non-military electronics production to an end. The Hallicrafters plant became Northrop Corporation's Defence Systems Division.



1942 ad for Hallicrafters S-20R

The name and assets of Hallicrafters were traded over the following years, even though there were no products bearing the name. Since around 1988, the remaining assets and rights to the Hallicrafters' name and logos have been held by court-appointed trustees.[7] (Note: one known 1980s product bearing the Hallicrafters name does exist - a 4-line plus intercom telephone.[8])

Hallicrafters equipment remains in use by collectors and vintage amateur radio enthusiasts. [9,10,11,12]



Hallicrafters SX-28 tuning dial

Equipment

Pre-war

Some of the more well-known Hallicrafters' equipment from the pre-war period include:

- Super Skyrider, model SX-9 (1936), equipped with a large German silver tuning dial and one of the first receivers to use the new "all-metal" vacuum tubes.
- Ultra Skyrider, model SX-10 (1936), able to tune what were then sometimes referred to as "UHF" bands (frequencies above 30 megahertz).
- Skyrider Diversity (1938), actually two complete multi-tube receivers' side-by-side. This enabled the operator to connect two different antennas to the set and counteract the effects of fading. A huge set and today, one of the most sought-after models.
- HT-4 Transmitter (1938), an efficient high-performance transmitter for the Ham bands, later became famous in World War II as the BC-610. It sold well into the late 1940s.
- Model S-19 Sky Buddy (1938), an octal tube version of the Hallicrafters 5-T receiver.[13]
- Skyrider 23, model SX-23 (1939), is famous for its innovative "art-deco" cabinet design.
- Super Skyrider SX-28, (1940 – 43) and SX-28A (1944 – 46), one of the most popular Hallicrafters receivers. Its design was state of the art for the time and featured excellent external styling. The SX-28 was notable for audio that sounded better than many expensive home receivers. It is still easy to find today and remains a favourite of collectors.

Wartime

- SCR-299/399 (1942), complete mobile HF station on frequencies from 2 - 8 MHz (and 1 - 18 MHz using conversion kits), entire unit came in a K-51 truck except Power Unit PE-95 which was in a K-52 trailer.
- SCR-543/593 (1944), also sold after the war as the model BC-669-B, a medium-range (25 – 100 nm) portable vehicular and ground set for CAC.[14]
- SCR-593 was a portable receiver.[15]
- S-36A Ultra High Frequency communications receiver. Covering 27,8 to 143 MHz in AM or FM[16]

Post-war

Postwar Hallicrafters models include:

- Model S-38 (1947), a "beginner's" receiver. Simple and inexpensive, yet it introduced many to shortwave listening, case designed by Raymond Loewy.
- Model S-38A (1948) Used regenerative IF to serve as a BFO, eliminating a dedicated BFO tube.[17]
- Model S-40 (1946) A multiband single conversion radio with 455 kHz IF. Covered Broadcast Band (Medium Wave) to 44 MHz.[18,19]
- Model SX-42 (1948), a massive receiver featuring the new FM band. It, too, was popular for its appearance, styled by the famous industrial designer Raymond Loewy. The SX-42 was a dual-purpose receiver; it provided not only shortwave reception, but standard AM broadcast and FM reception.
- Model SX-62 (1949), an updated version of the SX-42, with improved circuitry and cabinet styling.
- Model S-77 (1950), an Amateur-Receiver with the ability to receive AM radio signals.
- Model SX-73 (1952), a professional receiver aimed mainly at the military market, but also available on the civilian market. It was Hallicrafters' answer to the Hammarlund SP-600 Super-Pro.
- Model HT-20 (1952), an all-purpose shortwave transmitter, featuring multi-band switching.
- Model S-85 (1954–5), general coverage (560 kHz - 30 MHz/4 bands), single conversion),



Hallicrafters S-38C receiver, c.1952

amateur band spread (10 – 80 m), dual tuning dials, RF and audio gain controls, beat frequency oscillator (controllable frequency), transmit/receive switch, sold for $119.95 at Sears, Roebuck and Co.

- Model SX-88 (1954), at the time, the finest commercial receiver available. The SX-88 was designed for the operator for whom cost was not a concern and featured outstanding performance and appearance. Less than 100 are known to exist, as such they are highly prized by ham radio operators.
- Model SX-96 (1954–5), general coverage (560 kHz - 30 MHz/4 bands), double conversion, S-meter, crystal filter, amateur band spread (10 – 80 m), dual tuning dials, RF and audio gain controls, beat frequency oscillator (controllable frequency), transmit/receive switch, sold for ~$169.
- Model HT-30 (1954), The first single-sideband transmitter made by Hallicrafters.
- Model SX-100 (1955), a double conversion superhet general coverage receiver with SSB capability and band spread tuning for the 10 - 80 metre amateur bands.
- Model SX-101 (1956), the first ham band only receiver built by Hallicrafters [20]
- Model HT-32 (1957), the most popular SSB transmitter made by Hallicrafters
- Model HT-37 (1959), a lower cost version of the HT-32, using phasing type SSB generation. A well-designed transmitter and many are still in service today.
- Model SX-110 (1959–1962) A large receiver for the Amateur Radio (Ham) market.
- Model HT-40/SX-140 (1960) The new "Hallicrafter Twins" were a budget-minded transmitter and receiver for the Novice/Technician market offering 75 watts from 80 - 6 metres AM and CW, crystal controlled; offered as a kit or fully assembled.
- Model SX-115 (1961), yet another large receiver for the Amateur Radio market. It featured a huge central dial and is another model prized by collectors.
- Model S-119 (1961), commemorative Sky Buddy model celebrating the 100th receiver model produced since the original S-19.[13]
- Model SX-117 (1965), triple conversion receiver, covered 10 - 80 metre amateur radio bands with added 10 MHz WWV.
- Model HT-44 (1962), transmitter with continuous wave (CW) and single-sideband (SSB) capability on 10 to 80-metre amateur radio bands. The HT-44 was the matching transmitter for the SX-117 receiver.

References

1. Chuck Dachis, The History of Hallicrafters.
2. Hallicrafters World Wide "Btue Streak" Project. Aviation Week & Space Technology, Mid-December 1960, v. 73, no. 27, p. 189.
3. Contracts. Missiles and Rockets, June 5, 1961, v. 8, no. 23, p. 46.
4. Names in the news. Missiles and Rockets, September 14, 1964, v. 15, no. 11, p. 88.
5. Contracts and procurements. Missiles and Rockets, November 23, 1964, v. 15, no. 21, p. 38.
6. Helping to guarantee a vital "something" for a rainy day. Aviation Week & Space Technology, Mid-December 1959, v. 71, no. 27, p. 185.
7. Dachis, Chuck (1999). Radios By Hallicrafters. Schiffer Publishing, Atglen (USA).



Hallicrafters receiver SX-115, circa 1961

8. Hallicrafters 412 Line Desk Phone
9. "Classic Exchange -- A Vintage Radio Contest". arrl.org. American Radio Relay League.
10. "Northrop Grumman, Defensive Systems Division - Rolling Meadows, IL." bmpcoe.org. BMP Center of Excellence. The 1950s were the most successful years for the company. Many of its amateur radio products became classics including the HT-32 and the SX-101. Much of this equipment is still used today and sought after by nostalgia buffs and collectors.

11. Vernon, Tom (13 December 2017). "Happy Memory: The Hallicrafters SX-42 Communications Receiver". radioworld.com. Radio World. The SX-42 was a landmark receiver... it is still sought out by collectors and radio amateurs
12. Clayman Andrew (6 November 2019). "Hallicrafters Company, est. 1932". The Made-in-Chicago Museum.
13. Burch, Chuck. "The Hallicrafters Sky Buddy Receivers" (PDF). New Mexico Radio Collectors Club. NMRCC.
14. SCR-543/BC-699 Radiomuseum.org
15. TM 11-859 Radio Set SCR-593-A, 1943 United States War Department; Army Signal Corps
16. "S-36A Commercial Re Hallicrafters, the; Chicago, IL and Arlington | Radiomuseum".
17. Erb, Ernst. "S-38A". radiomuseum.org. The Radio Museum.
18. Radio Museum. "S-40".
19. "S-40 Original Advertisement". Pinterest.
20. George J. Misic, KE8RN (June 2020). "The Hallicrafters SX-101." QST. 104 (6). American Radio Relay League: 92 – 93. ISSN 0033-4812.

Sources



Hallicrafters S-119 Sky Buddy II, circa 1961-1962

- de Hensler, Max. The Hallicrafters Story. Charleston, West Virginia: ARCA Press, 1988
- Moore, Raymond. Communications Receivers, Fourth Edition. La Belle, Florida: RSM Communications, 1997
- Osterman, Fred. Shortwave Receivers Past and Present. Reynoldsburg, Ohio: Universal Radio Research, 1998

External links

- Hallicrafters Virtual Museum
- Hallicrafters rigs
- Hallicrafters Radio IO Group



More Than the Summits

Theuns du Randt, ZS4TDR

Two months before the expedition, I spoke to Brandon, ZS6LZ. I was retiring and had many questions about what this next stage of life would hold. He invited me to join the SOTA expedition through Lesotho and the Eastern Cape. It was a wonderful surprise and I was very excited. I have always tried to give more than a hundred percent to whatever I do. Now I also want to learn to be content, to appreciate what I have and, hopefully, to mean something to other people. This journey gave me an opportunity to explore all of that.

My first SOTA activation was Ben Macdui, ZS/EC-001. Getting there was an experience in itself. Watching Brandon negotiate the rough road and large rocks, I was amazed at what he could get through.

We made 49 contacts: 40 on 40 metres, four on 20 metres and five on 15 metres. A special highlight was speaking to Christian, F4WBN, in France, exchanging 59 reports both ways. Making that contact during my first SOTA activation was something I will always remember.

There were magnificent landscapes, music we enjoyed along the road, and friendships growing as we travelled together.

Sani Stone Lodge was a particular highlight for me. The corrugated-iron building was old. The kettle was old too, with a makeshift wire handle on its lid and the gas stove had seen better days. But the food and coffee were goo, and I slept well on a mattress under plenty of blankets.

I found peace there. I remember telling someone that, to me, this place was more beautiful than the finest house in Sandton. Its simplicity felt worth more than all the riches life could offer. I realised that I did not need the best of everything to be happy.

Sometimes you must travel a rough road - or walk one - to reach somewhere beautiful. “The road less travelled by.”

Later, at KwaDuma, the journey brought a different experience.

I had dropped off my fellow SOTA operators and was staying on a farm near Rhodes when an inReach satellite message arrived. An electrical storm and the weather had changed their plans and they asked me to collect them the following morning.

I slept very little that night. I was worried about my friends and kept thinking about the route back. Should I return over Naudé’s Nek Pass, or take the longer road through Barkly East, Ugie and Maclear? The longer route could save time and getting to them sooner was what mattered.

Seeing them safe again was one of the highlights of the expedition. I was relieved, and I felt proud that I had fulfilled my responsibility to my friends. Being able to help them gave me a sense of purpose.

On 8 October 2026, I also completed my first POTA activation at Grasslands National Park, ZA-0184, making 14 contacts. The wind blew my mast over twice, so even this activation had its challenges! Thank you to Rudi for registering the park.

Along the way, several people asked me what we were doing. Looking back, I realise that amateur radio offers me far more than a SOTA activation. It gives me a chance to step away from the rush of everyday life, find peace, enjoy simple things and make new friends. It also reminds me to be grateful for our health and the opportunity to experience the wonders of nature and God’s creation.

As I enter retirement, I am still looking for meaning. This expedition reminded me how much it means to be there for others. I still want to give my best, while learning to recognise when what I have is more than enough.

Thank you to my fellow travellers, Brandon, ZS6LZ, and Johan, ZS4A, for the experience. Thank you also to the people in the safety WhatsApp group and ZS3WL for the regular weather reports. Enjoy every moment, and make time for your family, friends and God. Life is shorter than we think.



CQ Hou Koers 2026 – ZS1ZSG en die Riversdal Voortrekkerkommando

ZS Link Netwerk Groep, ZS1ZSG



Op Saterdag 17 Oktober, het die ZS Link Netwerk Groep en die Riversdal Voortrekker-kommando kragte saamgesnoer vir die Voortrekkers se nasionale CQ Hou Koers-dag. Dit was die eerste keer dat dié twee groepe die geleentheid saam aangepak het, en wat ’n lekker ervaring was dit nie! Daar is reeds weke voor die tyd begin beplan en reëlings tref om seker te maak dat alles vlot verloop en die Verkenners ’n dag vol nuwe ervarings en radio pret kon geniet.

Die oggend se bedrywighede



Saterdagoggend, omstreeks 08:00, het vier lede van die ZS Link Netwerk Groep by die Tolhuis in Garcia-pas, net buite Riversdal op die R323, by die Voortrekkers aangesluit. Die groep het bestaan uit 13 Verkenners en drie offisiere wat vir die naweek daar gekamp het.

Daar is vinnig ’n 40 m-antenna opgeslaan, die radio’s uitgepak en die toetsfase het begin. Die opstelling het uitstekend gewerk en almal was gereed vir die dag se bedrywighede.

Teen 09:00 het Gerhard, ZS1TG die Verkenners bymekaargekry en hulle meer vertel van CQ Hou Koers, terwyl Jasper, ZS1WT die veldstasie verder getoets het. Die nasionale CQ Hou Koers-geleentheid bied aan Die Voortrekkers die geleentheid om die fassinerende wêreld van amateur radio eerstehands te beleef. Dit is ’n wonderlike voorbeeld van hoe tegnologie en die Voortrekkers se kernpilare — Kultuur, Avontuur en Natuur — bymekaar kom.

Van radio teorie tot die mikrofoon

Gerhard het die Verkenners bekendgestel aan radio spraak en die fonetiese alfabet. Daarna is hulle in vier kleiner groepe verdeel, elk onder begeleiding van Gerhard, ZS1TG, Madelene, Jasper, ZS1WT en Vivian, ZS1VIV.



Die groepe het eers onderling radio spraak geoefen en daarna met hand radios met mekaar kontak gemaak. Só kon almal geleidelik gemaklik raak met ’n mikrofoon in die hand en leer hoe om oor die radio te kommunikeer.

Toe almal gereed was, het die groot oomblik aangebreek: die oorskakeling na die HF-veldstasie en die geleentheid om met ander stasies oor die lug kontak te maak!

Al die Verkenners het die kans gekry om met ander Voortrekkers, JOTA (Jamboree op die Lug) en ander radio amateurs te gesels. Van hulle het selfs ’n tweede beurt agter die mikrofoon geneem — ’n goeie teken dat die ervaring hulle sommer gou beetgekry het!

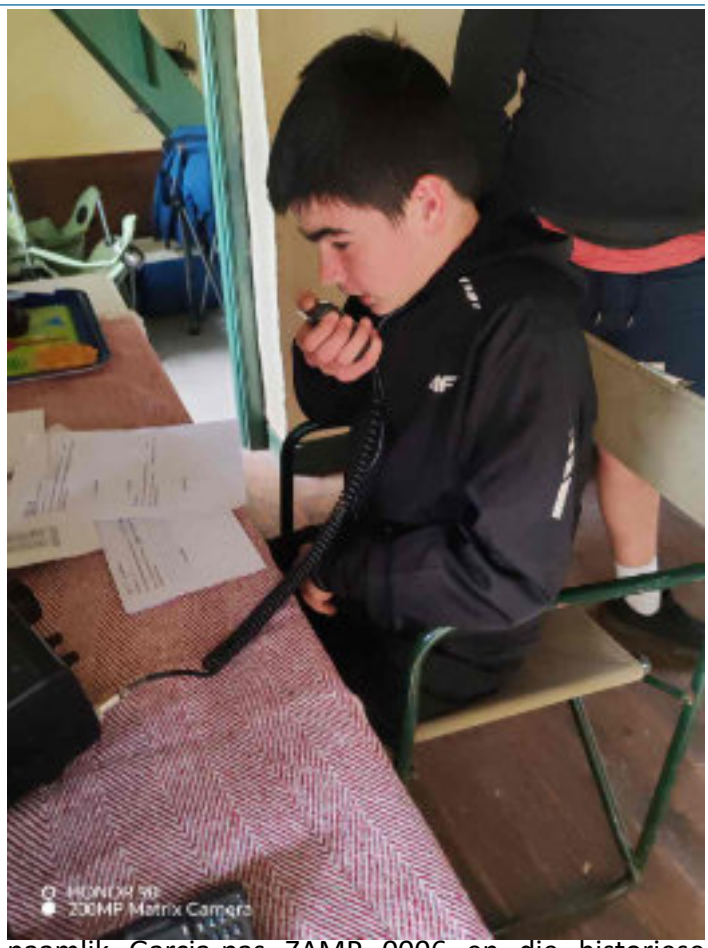
Daar is onder meer lekker gesels met die Kaapkus Radioklub, ZS1CCR in Plettenbergbaai, die JOTA-stasie, asook Corne, ZS1COR van George en veral Johan, ZS1RX van Gaansbaai.

Johan, ZS1RX, wat self vir baie jare CQ Hou Koers aangebied het, het die Verkenners sommer vinnig op hul gemak laat voel agter die mikrofoon. Baie dankie aan Johan vir sy vriendelike deelname en aanmoediging!

Geskiedenis en amateur radio kom bymekaar

Die dag het nóg ’n besondere dimensie gehad: twee Erfenis op di Lug (HOTA) punte is geaktiveer,





naamlik Garcia-pas ZAMP 0006 en die historiese Tolhuis ZAHB 0085.

Garcia-pas https://en.wikipedia.org/wiki/Garcia%27s_Pass, wat deur die bekende pas-ingenieur Thomas Bain ontwerp is, se bouwerk het in 1872 begin en die pas is in 1877 amptelik geopen.

Die Tolhuis is as deel van die pas se geskiedenis gebou. Die eerste tolwagter, Jimmy Luyt, het volgens die historiese aantekeninge in 1877 daar ingetrek. Die Tolhuis het van 1879 tot 1918 as tolgeriewe gefunksioneer.

Om hierdie twee historiese plekke terselfdertyd met CQ Hou Koers te kon verbind, was werklik ’n besondere voorreg. Dit het tegnologie, plaaslike geskiedenis en jeugontwikkeling op ’n unieke manier saamgebring.

’n Oggend vol nuwe ervarings

Teen ongeveer 11:40 is die laaste radiokontak gemaak en het die span begin oppak. Dit het egter nie beteken dat die kuier verby was nie! Daar is nog omtrent ’n uur lank lekker saam gekuier en gesels voordat almal uiteindelik hul pad huis toe gevat het.

’n Opregte dankie

Baie dankie aan die Riversdal Voortrekker-kommando dat die ZS Link Netwerk Groep deel kon

wees van hierdie spesiale geleentheid. Dankie ook aan die Verkenners en offisiere vir julle entoesiasme, deelname en bereidwilligheid om iets nuuts te probeer.

Aan Gerhard, ZS1TG, Jasper, ZS1WT, Vivian, ZS1VIV, Madelene en almal wat gehelp het om die dag moontlik te maak: baie dankie vir julle tyd, moeite en betrokkenheid.Ons hoop van harte dat hierdie eerste samewerking die begin sal wees van vele meer geleenthede waar ons jongmense aan die wonderwêreld van amateur radio kan blootstel.

Een frekwensie. Duisende verbindings. Waar radiogolwe vriendskappe bou!

73 en tot die volgende verbinding!

Een gemeenskap, een netwerk, een passie.

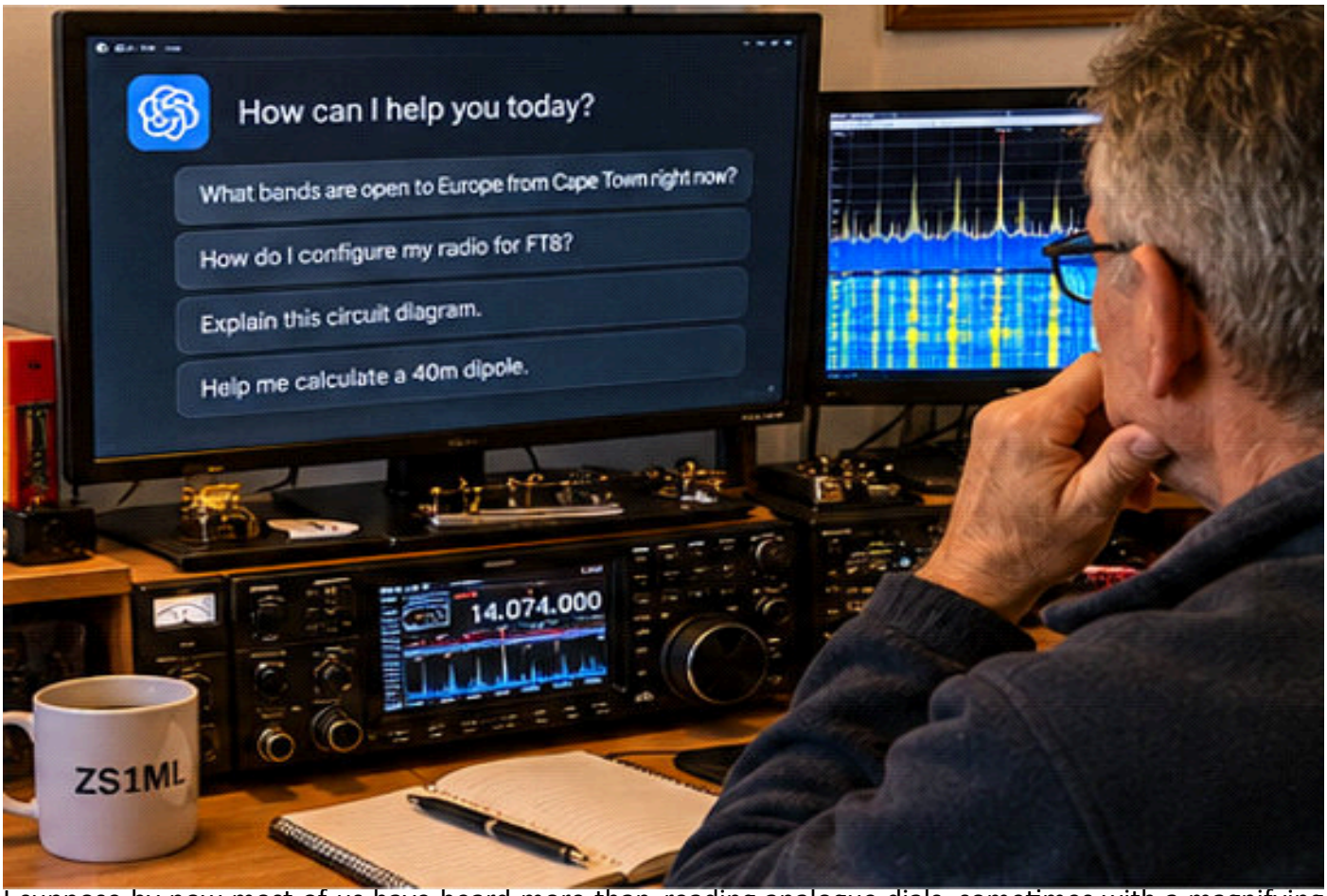






AI and Amateur Radio – Is It Really Worth Our Attention?

Marius Lubbe, ZS1ML



I suppose by now most of us have heard more than enough about Artificial Intelligence, or AI as everybody calls it. You can hardly switch on the television, read the news or browse the Internet without somebody telling you how AI is going to change the world.

Some people seem to think it will solve every problem known to mankind, while others are convinced it will eventually take over everything. Personally, I think we should look at it a little more practically.

What can AI actually do for us as radio amateurs and is any of it really useful?

I have been playing around with AI quite a bit, particularly in connection with my radios, computers and various projects. And I must say, although it certainly has its shortcomings, I am finding it a rather useful companion in the shack. Let me explain what I mean.

We have been through changes before

Think back a little. Some of us remember when having a digital frequency display on a transceiver was quite something. Before that, we were carefully reading analogue dials, sometimes with a magnifying glass!

Then came computer-controlled radios, electronic logging, packet radio, digital modes and eventually software-defined radio. I remember when computers first started appearing in amateur radio shacks. There were quite a few operators who wondered why on earth anyone would want a computer connected to a perfectly good radio. Today, of course, many of us would not dream of operating without one.

Look at FT8. Whether you like the mode or not, it has certainly changed amateur radio. I happen to enjoy it, particularly because it allows me to see what is happening with propagation, even when the bands sound completely dead.

AI, I suspect, will follow a similar path. Some of it will be genuinely useful, some will be little more than a gimmick and some will probably disappear altogether.

Having a knowledgeable friend in the shack

This is probably where I have found AI most useful so far. We have all been there. You are trying to get a radio to do something, or you are investigating a strange fault and you end up spending half the

afternoon searching through manuals, old forum discussions and YouTube videos.

These days, I often start by asking an AI assistant. For example, I might say, “I’ve got a particular radio with very low transmit audio on UHF, but VHF seems fine. Where should I start looking?”

Instead of simply giving me a list of websites, it can discuss the problem with me, suggest possible causes, explain the relevant circuitry and help me work through a sensible testing procedure. If I have the service manual, I can give it that as well. I can even show it photographs of the radio, circuit boards or test equipment.

It is rather like having another technically minded amateur sitting beside you, except this fellow never gets tired of answering questions! Mind you, he can also be confidently wrong. I have caught AI making mistakes, sometimes quite spectacular ones. So, I certainly wouldn’t recommend following every suggestion without checking it first. But as somebody to bounce ideas off, it is extremely useful.

What about propagation?

Now here is something that really interests me. Those of us who spend time on HF know how unpredictable propagation can be. You can switch on the radio in the morning and find 10 metres wide open. Come back an hour later and there is hardly a signal to be heard.

We already have some excellent tools available. VOACAP remains a useful propagation prediction programme. PSK Reporter allows us to see where digital signals are actually being received. WSPRnet gives us another fascinating look at how signals travel around the world using very little power. The Reverse Beacon Network provides information about monitored CW and other activity. None of these needs AI to work.

But here is where things get interesting. Imagine asking your computer, as I have started doing myself, “I’m sitting in Cape Town with 100 watts and my particular antenna setup. Which band gives me the best chance of working Europe on FT8 over the next couple of hours?”

Instead of spending time jumping between several websites, checking propagation predictions, solar conditions and FT8 activity reports, I can ask my AI assistant to bring the information together and help me make sense of it. And the nice thing is that I can continue the conversation. I might ask, ‘What about 10 metres? It was quite lively yesterday morning.’ Or ‘Would my 40-metre loop be a better choice than my random wire?’

It is almost like discussing propagation with another amateur who has the time and patience to look through the available information with me. Of course, there is a catch: the AI must actually have access to current information. Otherwise, it could



give me a very convincing answer based on yesterday's conditions! It does not make the contact for me, or guarantee that Europe will hear me. It simply helps me decide where to start looking.

Getting rid of some of that awful noise

Now, if there is one thing that can spoil an otherwise enjoyable afternoon on the radio, it is electrical noise. Some of us have neighbours with solar inverters, switching power supplies, LED lights and all sorts of electronic equipment that seems determined to wipe out half the amateur bands.

We have had noise blankers, notch filters and DSP noise reduction for years. AI introduces another approach. RM Noise, for example, uses machine learning to help separate wanted SSB or CW signals from unwanted noise. It is worth investigating and I intend to cover it properly in a separate article.

AI is already being used to transmit speech

Have you heard of FreeDV? It is an open-source digital voice system for HF and its newer RADE mode uses machine learning as part of transmitting and receiving speech. In simple terms, it uses clever processing to get understandable speech through under conditions where ordinary SSB might be difficult to copy, using roughly 1,5 kHz bandwidth.

What appeals to me is that this is not just another commercial black box. Radio amateurs can download FreeDV, experiment with it and learn something about the technology. That, to my mind, is what amateur radio is all about.

Can AI help us build and repair things?

Absolutely and this is another area where I have been experimenting. Let us say you are building a common-mode choke for 2 metres or 70 centimetres. You have a few ferrite cores lying around, some coaxial cable and perhaps a NanoVNA.

You can ask AI to help calculate a suitable arrangement, explain differences between ferrite materials and suggest how to measure the finished choke. Take measurements, feed the results back into the discussion and ask why it is not performing as expected. The same goes for antennas, baluns, matching networks and filters.

I have found that the real value is not necessarily getting a perfect answer immediately. It is being able to discuss a problem, try something, report the results and work out the next step. That is very much how two amateurs would approach a project together. Your NanoVNA, multimeter and actual on-air results must always have the final say!

What about our SDRs?

Many of us now use software-defined radios and one of the great advantages is being able to see large portions of the spectrum at once. But what if the software could also help identify what we are looking at? Imagine an SDR recognising FT8, identifying RTTY activity or pointing out an unusual transmission that was not there yesterday.

Machine learning is already being researched and used for signal recognition. I would not suggest that every radio amateur can install a program today that will identify every signal perfectly. We are not quite there yet. Nevertheless, it could become useful for tracking down intermittent interference: 'What unusual signals appeared between six and eight o'clock this evening?'

And what about logging?

I know some amateurs still enjoy writing their contacts into a traditional logbook. Good for them. There is something satisfying about paging through an old log and remembering contacts made many years ago. But electronic logging has become the norm for many of us.

AI could help analyse logs, identify patterns in propagation, work out which countries we have not contacted and organise operating notes. Some of these functions are already available through ordinary logging software, without AI. Not everything involving a computer suddenly becomes Artificial Intelligence!

A few tools worth investigating

Not all of these are AI tools. Some are established services that provide exactly the sort of information an AI assistant can help us interpret. And you do not need a brand-new transceiver or an expensive computer to start experimenting.

Will AI eventually operate our radios for us?

I suppose technically it could, at least to some extent. We already have software that can control radios, change frequencies, transmit digital signals and log contacts with little intervention. But would that really be amateur radio as we know and enjoy it?

Personally, I have very little interest in sitting back while a computer makes contacts on my behalf. Where's the fun in that? For me, the enjoyment is in

experimenting with antennas, chasing a difficult contact, working out why something isn't performing properly and occasionally being surprised when a supposedly dead band comes alive. I don't want AI to take that away. I want it to help me do those things better.

Where do we go from here?

Imagine sitting down at your transceiver and asking, "Well, what's happening on the bands this morning?" Your assistant checks current conditions, recent signal reports and your antennas and suggests a band worth trying. You still decide what to do.

Or perhaps you're struggling with a piece of equipment and can describe the symptoms, show the circuit diagram and have a useful technical discussion before picking up the soldering iron. That is the sort of AI I would welcome in my shack: not something that replaces the operator, but something that makes the hobby more enjoyable and helps us learn.

Amateur radio has always been about experimenting. Many developments we take for granted started with somebody trying something unusual in a small workshop or radio shack. I wouldn't be surprised if some of the most useful AI applications eventually come from amateurs themselves rather than the big manufacturers.

My final thoughts

I am certainly not suggesting that every amateur should rush out and embrace AI. If you are perfectly happy with your existing station and the way you operate, there is no reason to change anything. But I would encourage you to have a look at what is available. Try an AI assistant. Ask it a technical question. Give it a problem you have been struggling with. You may be pleasantly surprised.

Just remember that AI is not infallible. It can get things wrong and it does not always know when it is wrong either! Keep your manuals handy, trust your measuring instruments and do not abandon the knowledge you have gained through years of experience.

We have managed to enjoy amateur radio for well over a century without Artificial Intelligence. I do not think we need AI to enjoy it for the next hundred years either. But if it helps us make better use of our equipment, learn a few new tricks and spend more time enjoying the hobby, I am all for giving it a chance.

And who knows? Perhaps the next interesting development will come from an old amateur, a slightly outdated computer, a length of wire and an AI assistant helping him work out an idea. That sounds rather like amateur radio to me!



2026 Lesotho/EC SOTA Expedition - Part 1: Planning

Brandon ZS6LZ/7P8LZ

Dedicated to Neels ZS1OB, SK, for his tireless commitment to chasing SOTA.



My most enduring memories of this expedition will have little to do with peaks activated, contacts made or SOTA points racked up. I will remember the camaraderie, overcoming adversity, the trust, generosity and new friendships - and the sense of belonging in a very special team. Whatever successes we enjoyed belong to everyone who supported us.

By June this year, I was craving an adventure. Coming off the high of the 2025 Lesotho SOTA micro-Dxpedition (superbly supported by Matt ZS6MDV), I had let half of 2026 slip by with only a single activation over the SOTA Autumn weekend. And that was a drive-up with my field amp - my boots had not even got dusty.

Expedition goals

Kwa Duma ZS/EC-017 and the 10-peak challenge

The SARL's SOTA Vertex Voyager award, which has yet to be claimed, is for activating the highest peak in each of South Africa's ten SOTA regions. These regions are essentially our nine provinces, but with the Eastern Cape divided into two and the EC lowlands treated as a separate region.

I had done eight of the ten peaks, leaving only Kwa Duma, EC-017 on the Lesotho/EC border and Seweweekspoortpiek, WC-001 in the Cape Fold Mountains. WC-001 is a hard mountain, but it is only a two-hour drive from George, with accommodation near the base. Kwa Duma's remoteness made it the greater logistical challenge and I was keen to get it done.

Kwa Duma was the key mission objective.

[There is a corresponding SARL Summit Sentinel award for chasing all ten peaks. Before our expedition, five chasers had already logged seven of the ten.]

Mountain Goat – 1 000 SOTA points

I had accumulated 864 points, most of them in 2023 and 2024. Only legends Sid, ZS5AYC and Adele, ZS5APT had achieved Mountain Goat status in South Africa, and I was taking my sweet time getting over the line. I needed another 136 points, reduced later to 130 after a little run up GP-024 before the expedition.

Lesotho peaks around Sani

My 2025 on-foot traverse from Sani Pass to Giant's Castle had missed three obvious 7P peaks in the Sani area. Sid and Adele had worked tirelessly to get Lesotho registered for SOTA, but confirmation came too late to change the plans.

I wanted to tick those off, along with whatever else could reasonably be activated en route. We'd also catch the end of the winter activation window, when these 3 000 m-plus peaks carry a three-point bonus. And I needed to find a lot of points!

To share the experience

Until this expedition, I had done all my "hard" SOTA activations solo. The memories of raw, untamed beauty, tough ascents, technical rock challenges, difficult set-ups, gale-force winds, electrical storms and headlong flights off peaks resided in my head alone. I struggle to do them justice on paper or in photographs. When someone asks how your trip was, "great" and "spectacular" do not really mean much.

I wanted to share these experiences with someone who not only appreciated the mountains but was part of the radio challenge too.

The team

We needed at least three people on the ground: two activators on the mountain and a reliable operator running base support and logistics. Behind us

would be a remote team overseeing safety, communications, weather and propagation.

On-the-ground base support - Theuns du Randt ZS4TDR



I met Theuns in 2024 while demonstrating a linked-dipole build to freshly minted operators from the Sandton RAE course. He introduced himself with a big, disarming smile “Ek is ’n boer - van Bethlehem.”
I contacted him later that day about access to peaks in his area. We became friendly and he joined the Sandton team for the spring Field Day that year, which we won. We later did a QRP contest together near Clarens in the Eastern Free State.

In April this year, Theuns told me that he and his brothers had decided to sell their farms and that he was effectively retired. Theuns is an outstanding farmer, well respected in his community and his sense of self centres on that identity. He was grappling with finding renewed purpose and asked for my views.

I had been grappling with a few questions of my own and the immediate panacea seemed to be a SOTA trip to dwell on them. Theuns agreed immediately - without knowing what he was signing up for.

Finding an activator - Johan Leslie ZS4AA

I know plenty of good portable operators and several very competent mountaineers. The challenge was to find someone who was both, with the strength, endurance and character for a trip like this.

Johan had arrived quietly on the SOTA group, asking intelligent questions, respectfully and with humility. I unashamedly “stalked” him and picked up on his military career in signals, including work with some elite units.

As we got talking, I discovered that he teaches outdoor learning in Bethlehem and does marathon-distance trail runs in the Eastern Free State mountains. He was also developing his CW skills and had started activating physically harder peaks such as Generaalskop in Golden Gate.

Our conversations gave me the confidence to invite him along, even without having met him. It took some logistical rearranging on his side, but by late July he was in.

Theuns and I were born in 1971, Johan in 1972. We were all much the same vintage! [Youngsters! Ed.]



Remote support

Graham, ZS6GL and Christi, ZS4CGR would lead the remote team, supported by Sid, ZS5AYC, Adele, ZS5APT, Matt, ZS6MDV and Mark, ZS6MDX. Everyone I approached agreed to help.
Their first responsibility would be safety: following our progress, keeping track of changes and coordinating information between the mountain team and Theuns. They had our plans, emergency

contacts and protocols and could help coordinate plan revisions and rendezvous arrangements.

This support would be critical. We would frequently have no mobile signal and often Theuns at base would have none either. Keeping information flowing between us would require several people and more than one way of communicating.

The team would also relay activation details through the WhatsApp spotting and alerts groups and via SOTAwatch. Weather and time constraints could mean short activations, brief exchanges and quick QSYs. Chasers would need accurate information to be at their radios at the right time and on the right frequency – often easier said than done.

Woody, ZS3WL would supply invaluable weather information, through the team and directly to Theuns, that would underpin important decisions.

Planning

Planning can be a chicken-and-egg situation: do you identify key peaks and work the route around them, or have settled route and find peaks along the way? Kwa Duma and the Lesotho goals gave us the anchor points. The rest had to fit around those, with enough peaks and seasonal bonuses to give us a reasonable margin for setbacks on the 1 000-point goal.

The road route

I would leave Johannesburg on 1 October, collect the team in Bethlehem and enter Lesotho via Caledonspoort, eventually exiting via Sani Pass.

From there, we would travel through Underberg and Matatiele to Tabase, near the Eastern Cape border with Lesotho. Theuns would dump Johan and me at the start of our four-peak traverse and continue to Rhodes, where we hoped to rendezvous three days later.



The return journey would take us through Zastron and Fouriesburg to Bethlehem, with me due back in Johannesburg on 11 October.

The points maths

130 points is a big ask, especially when allowing for weather, equipment problems, health/injury and access complications. Once I started fitting the peaks together, fifteen 10-pointers looked like an ambitious but do-able target, given the driving, road conditions, hiking, scrambling and operating time.

Ten peaks with seasonal bonuses would yield 130 points and five ordinary ten-pointers another 50. That gave us 180 points to aim for, with a margin of 50. We could miss three or four summits, depending on which ones and still reach the 1 000-point Mountain Goat threshold.

Without the bonuses, we would need more activations to give ourselves the same margin.

Finding a way up

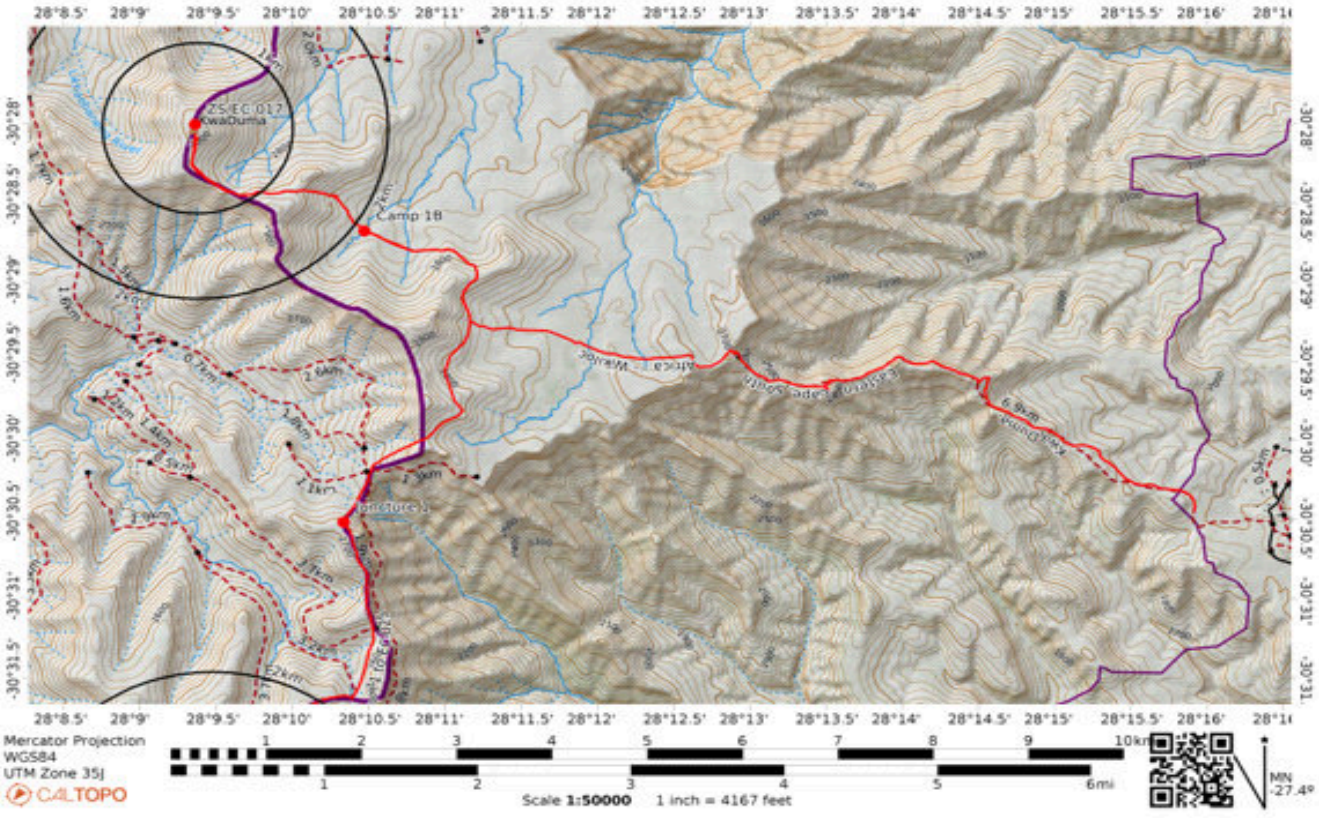
I selected peaks according to their location, technical feasibility, proximity to a road drop-off site and the likelihood of securing access permissions. Twelve of the fifteen would be first activations.

Most had no hiking paths or route guides and little information existed about climbing them. Many were on private land. I started in Google Earth, using its 3D views to build GPS tracks that avoided unnecessary ascent and descent, cliffs and difficult vegetation. This helped me assess whether a route looked feasible and whether the distance and climbing were reasonable, particularly on days with multiple activations.

I exported the tracks to Garmin Explore and synced them to our GPS units, watches and phones. We also used CalTopo to produce paper and offline electronic topographical maps. Good contour maps can be more useful than the standard maps on a GPS, especially when a proposed route doesn't make sense from the ground and you need to improvise.

Land access permission and finalising the schedule

Gaining permission to access private land is one of the Dark Arts of SOTA and an underestimated skill. With the right approach, I had always managed to get approval. This trip brought my first ever refusal, forcing us to scratch Kinmel mountain near Rhodes and find a replacement. The landowner there also ran



a guest lodge, but we were already booked at Alpine Swift. The owner at Alpine had already done a great deal to help us and we were not going to cancel our booking.

Gear and equipment

One could write a chapter on this, but we had two distinct types of activation to equip for.

For day trips, we would leave base and descend the same day, carrying day packs, safety gear, water and enough food for the outing. This allowed us to take the heavier Yaesu FT-891 and a larger battery for 40 – 100 W operation. Getting out to chasers took priority while the weight remained manageable.





The high-altitude traverse was a different proposition. We would be carrying 70-plus-litre packs with everything needed for three days above 3 000 m in potentially severe weather. The radio equipment, including batteries for four activations, had to be kept light. We chose the Elecraft KX2 with correspondingly smaller batteries. Even with the QRP rig, our packs would weigh about 20 kg each.

For both types of activation, our primary antenna would be a linked dipole for 40, 30, 20, 15 and 10 m, with a small EFHW as backup. We would carry a single 6 m pole and 12 m of RG-58. The coax was longer than strictly necessary but gave us more flexibility about where to put the antenna and where to operate from.

We would each carry a VHF/UHF HT to communicate with Theuns where possible and with each other if we had to split up. I would also carry a Garmin inReach Mini - glitchy at best - for satellite messages to the remote team. Our message-relay arrangement would depend on someone with an internet connection at the other end.

The vehicle deserves a mention too. What is not immediately obvious about a “portable” expedition is how much gear it all adds up to. Between the different packs and radio options, clothing, mountain food and Theuns’ base-camp equipment, the Toyota was fully loaded, with four ammo boxes on the roof rack.

Much of the driving would be on dirt roads of variable quality, potentially in very muddy conditions.



CHASER'S DIARY

PLANNED ACTIVATIONS
2 - 11 OCTOBER 2026

Fifteen SOTA summits are planned over nine operating days, including 12 first activations.

Brandon **ZS6LZ** and **Johan ZS4AA** will operate as **7P8LZ and 7P8JL** while in Lesotho. Theuns **ZS4TDR / 7P8TR** will be active from the Lesotho base and on POTA activations along the route, and will join Brandon and Johan on the two previously activated drive-up summits.

Date	Planned summit	SOTA ref	Points	Activation status	Operators
Fri 2 Oct	Baneising	7P/SB-001	13	Previously activated	7P8LZ · 7P8JL
Sat 3 Oct	KaNtuba	7P/BB-005	13	First activation	7P8LZ · 7P8JL
	Mqatsheni	7P/BB-014	13	First activation	7P8LZ · 7P8JL
Sun 4 Oct	Bitso Lebe	7P/BB-017	13	First activation	7P8LZ · 7P8JL
Mon 5 Oct	Kwa Duma	ZS/EC-017	13	First activation	ZS6LZ · ZS4AA
Tue 6 Oct	Thaba-Kholo	ZS/EC-025	13	First activation	ZS6LZ · ZS4AA
Wed 7 Oct	Sekibinyana	ZS/EC-019	13	First activation	ZS6LZ · ZS4AA
	Dooiemanskrans	ZS/EC-020	13	First activation	ZS6LZ · ZS4AA
Thu 8 Oct	Ben Macdhui	ZS/EC-001	13	Previously activated	ZS6LZ · ZS4AA · ZS4TDR
	Scobell's Kop	ZS/EC-029	13	Previously activated	ZS6LZ · ZS4AA · ZS4TDR
Fri 9 Oct	Bell Kop	ZS/EC-099	10	First activation	ZS6LZ · ZS4AA
	Eagles Crag	ZS/EC-088	10	First activation	ZS6LZ · ZS4AA
Sat 10 Oct	Aasvoëlberg	ZS/FS-006	10	First activation	ZS6LZ · ZS4AA
Sun 11 Oct	Ventersberg	ZS/FS-029	10	First activation	ZS6LZ · ZS4AA
		ZS/FS-217	10	First activation	ZS6LZ · ZS4AA
TOTAL (15 SUMMITS)			180	12 first activations · 3 previously activated	



PLEASE LISTEN OUT

Activation times are intentionally not published at this stage. Weather, terrain and progress between summits will determine when we reach each activation zone, particularly during the three-day Eastern Cape traverse. Alerts will be refined closer to the expedition and the Sandton ARC support team will assist with live spotting and updates on SOTAwatch.

LIKELY HF BANDS

40m · 30m · 20m · 15m · 10m

CALLSIGNS

Lesotho: 7P8LZ · 7P8JL · 7P8TR
South Africa: ZS6LZ · ZS4AA · ZS4TDR

AN INITIATIVE OF THE SANDTON AMATEUR RADIO CLUB
ZS6STN

SUPPORTING SUMMITS ON THE AIR AND PARKS ON THE AIR

73 and see you on the frequency!



Some approaches would involve steep and eroded jeep tracks, with one particularly demanding technical drive-up. Alongside the Toyota's four-wheel drive and winch, we would carry traction boards and basic self-recovery gear.

Somewhere to sleep

We planned two nights at Sani Stone Lodge in Lesotho - basic but comfortable - followed by a night at the Royal Courtyard in Matatiele. Johan and I would then spend two nights in tents at altitude while Theuns continued to Alpine Swift in Rhodes. We would join him there for another three nights.

The return leg would include a night at Vultures' Lodge in Zastron and a final night at Meiringskloof in Fouriesburg.

To be continued…

Part 2 - The Expedition - follows in December.

SARL HAMNET Western Cape Koeberg NNR 2026 Exercise

Danie van der Merwe, ZS1OSS

Part of the compliance requirements for the Koeberg Nuclear Power Station (KNPS), 20 km north of Cape Town CBD, includes an annual exercise with all disaster management agencies to show evidence of preparedness for any incident that may require evacuation of residents within varying radii and direction of Koeberg. The purpose of the exercises is:

- For the various agencies to practise the roles they each play
- To test their equipment and processes
- And to also practise their teamwork with the other agencies.

An annual station exercise is held in which only the local agencies take part, under the control of the City of Cape Town's Disaster Risk Management Centre (DRMC). Eskom's KNPS feeds in the simulated situation as it unfolds, along with the prevailing weather conditions, while practising its own containment measures. The wind determines which way any simulated radiation plume may be travelling, and disaster management agencies need to plan accordingly. So, if the wind is blowing from the NNW side, then a Mass Care Centre (MCC) cannot be set up on the southern side of KNPS. Sites are already identified for MCCs on the northern, eastern and southern directions from KNPS.

An MCC will receive members of the public, who will be screened for exposure to radiation, and if necessary, pass through decontamination showers. There is a lot more that goes into an MCC though, as:

- Buses are part of transporting people to the correct MCC
- Traffic roadblocks are set up at predetermined locations
- The SPCA is present to receive animals
- Ambulances and EMS (Emergency Medical Services) staff are present to assist with any injuries
- The police and SANDF are present for crowd control and law and order
- The Department of Agriculture as well as Health and others assist with food bans that may have to be imposed in the rural areas
- Ablution facilities need to be set up

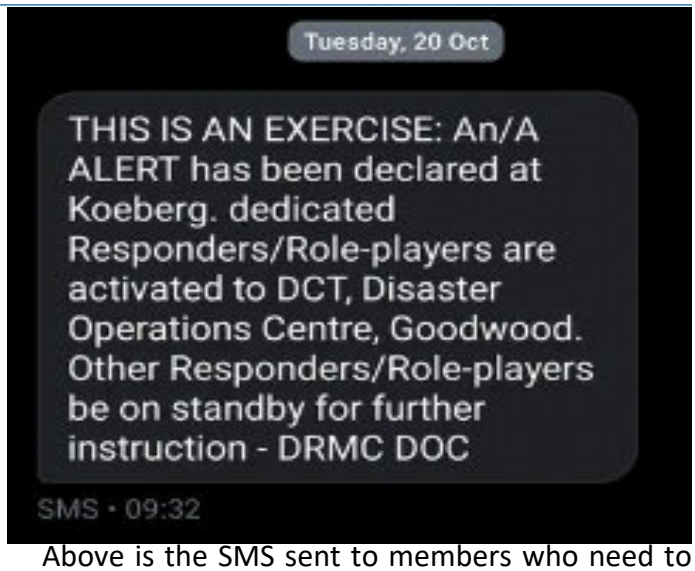
- And all this needs to be coordinated at each location.

There are also other activities further away from the MCCs that involve warning maritime shipping, possible evacuation of Robben Island, media communications via radio stations, and a lot more.

The DRMC has robust communications in place for this coordination and even keeps a drone in the air to visually monitor what is happening at the MCC.

Communication is vital for decision-making and for deployment of resources. SARL HAMNET, as the emergency communications division of the South African Radio League, has the responsibility to monitor for any communication issues that may arise. If primary communications fail between KNPS and the DRMC in Goodwood, or between the DRMC and, say, an MCC or roadblock, then SARL HAMNET would deploy its members to fill the gap and relay messages between the locations.

On Tuesday 20 October 2026, a biennial NNR exercise was held. This exercise is overseen by the National Nuclear Regulator, and the scenario is controlled by them. So, our local teams have no idea when it will actually commence, or even which way the wind will be blowing, until the NNR feeds that information into the exercise. The NNR also determines what sort of incident will be simulated at KNPS. So, both Eskom and all disaster management agencies have to take their cue from the NNR. Local and international observers also attend NNR exercises.



Above is the SMS sent to members who need to deploy to the Goodwood DOC (Disaster Operations Centre). Other members get deployed to the roadblocks and the MCC as the situation develops. Every message and alert during the exercise is preceded by the words “THIS IS AN EXERCISE”. Further SMS messages are sent out as the alert levels change, as well as a final message informing agencies that they can stand down.

Below is an example of the message sheet that every agency completes and e-mails to the DOC. Or if communications fail, they will complete the paper form and submit afterwards to the DOC so it is always captured and a full record of communications is kept.

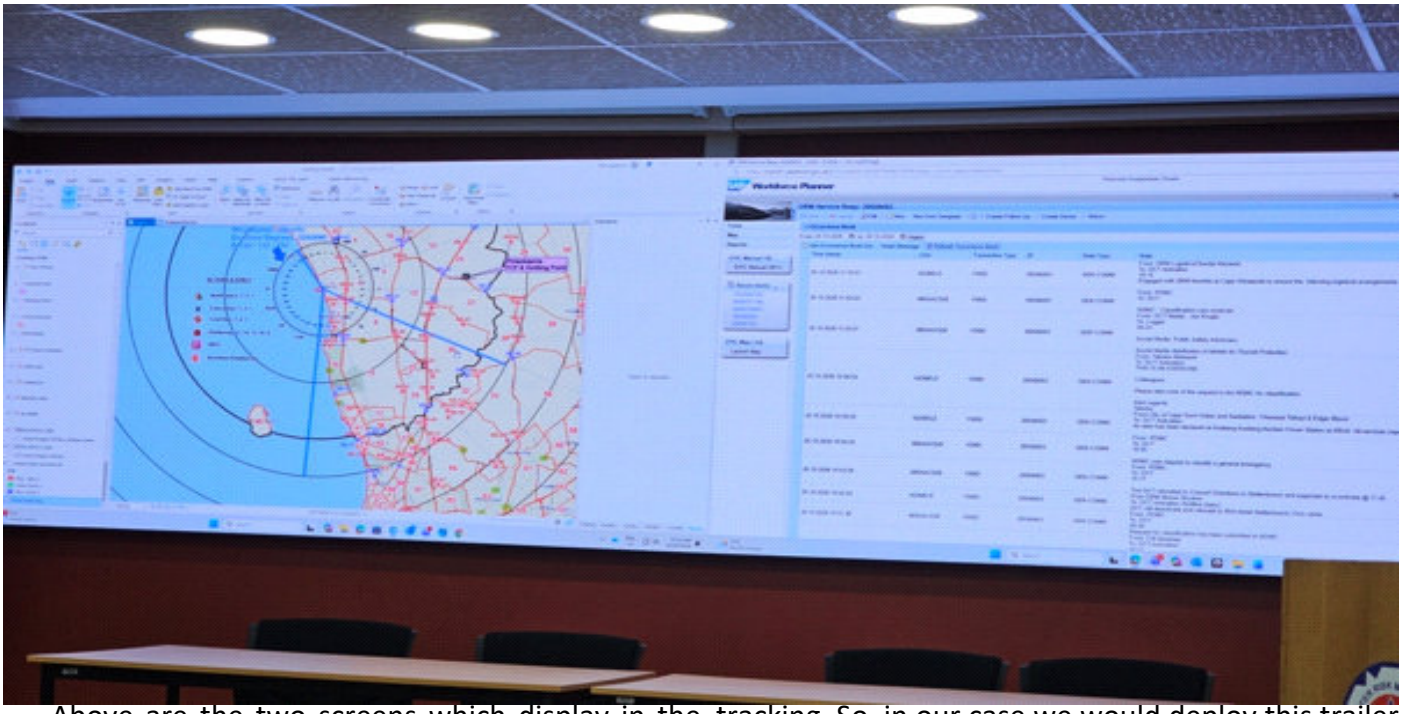
CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

DISASTER RISK MANAGEMENT · CAPE TOWN

THIS IS AN EXERCISE
MESSAGE SHEET

Utilise Tab key to Navigate to the "blue" cells in order to populate - once completed email to @capetown.gov.za

DATE		20-Oct-26	DCT ACTIVATION KNPS NNR EXERCISE 20 OCTOBER 2026
TIME		09:33:00	
FROM	Dept./Org/ Role	HAMNET	
	Name of rep	Danie vd Merwe	
TO		Goodwood DOC	
MESSAGE			
THIS IS AN EXERCISE - Message #001 - HAMNET received deployment SMS and dispatching memebers to Goodwood DOC.			



Above are the two screens which display in the upstairs auditorium at the Goodwood DOC. These show the status as the situation unfolds.

There is also a short video clip showing the drone's live eye-in-the-sky view that Goodwood DOC can see at https://links.gadgeteer.co.za/koebergnnr2026.

As the exercise unfolded, we soon realised that the NNR had planned a few extra curveballs to throw at the agencies. The wind was simulated to be blowing from the NNW at about 20 km/h and the radiation plume meant that firstly we would have to deploy the new site at Mamre, which was north of KNPS. Then the evacuation area expanded, and a second MCC was to be opened at Malmesbury to handle the overflow. The second MCC was simulated, which meant it was not physically set up, but each agency had to go through the motions and communicate what they would be doing.

Then came the ultimate curveball… we were informed that the simulated radiation plume was now threatening the area where the DOC was, and we'd have to relocate the DOC as well. We simulated this as well, but that meant estimating the travel time to a backup location at Stellenbosch, and during this time we could only use phones or whatever we'd have in our vehicles.

Although SARL HAMNET has a fully equipped dedicated radio room at the Goodwood DOC, we also have a mobile trailer equipped with VHF and HF radios, digital communications, and APRS location tracking. So, in our case we would deploy this trailer with us, as part of our relocation to the backup DOC.

This was definitely one of the more eventful exercises we have all had to perform. But the whole point of exercises is to be prepared and to know how to work together with others. It is all about teamwork and knowing what everyone else does, and what resources are available across the teams. After every exercise there is also a debriefing session with all agencies where we share challenges we had, and suggestions for improvement. Not a single debriefing has gone by without a few changes or improvements being suggested, and in this way our preparedness improves with every exercise.

We received the stand-down SMS from the Duty Coordinator at 14:21.



Present from SARL HAMNET were Danie, ZS1OSS; Dave, ZS1DFR and Johan, ZR1JL. Shawn, ZS1LED also joined us for the early part of the deployment.



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