

June 2024

ZS1I Garden Route HUB Network, Mossel Bay, ZA



See article on Page 36

This Newsletter is published by the Port Elizabeth Amateur
Radio Society

P.O. Box 10402, LINTON GRANGE, 6015

Editing by Ashley Goosen ZS2AG

**QSX-PE - Newsletter for the discerning
Radio Ham**

Next PEARS Monthly Meeting will be on Tuesday,
18th June at the Italian Club.

From the Chair



Greetings to all fellow club members. Firstly thank you to all the members that braved the cold and wet weather to attend our Annual General Meeting and electing me to serve as your chairman for the next year. I would like to thank Donovan, ZS2DL for serving as our chairman for 3 and a half years. He has done a fine job

in running the club and will remain on the committee.

The Club will be having a meeting this month on the 18th of June at the Italian Club. Please come and join us at 19h30. There will also be a Foxhunt on Saturday the 22nd of June at the Walmer Scout Hall. Please be there by 10h00 for the briefing. After crowning the champion we will have a social bring and braai. So get your handhelds and yagi antenna's ready, or team up with a fellow member if you would like to learn how it is done. It promises to be a fun filled day. The winner might just walk away with something special...

A reminder that the PEARS bulletin is every Monday evening at 20h00, so please listen out and say "hello". Even if you just

call in and sign. Then we at least know you were listening. The bulletins are preceded at 18h30 with a rebroadcast of the SARL News in Afrikaans followed by Amateur Radio Today.

Looking forward to seeing you at the next meeting. Keep safe and stay warm.

PEARS, WE LIKE BEING YOUR CLUB!

73,

Kevern, ZR2BK

FROM THE EDITOR

Here's hoping you enjoy reading this edition of QSX. If you have an article or two that you would like published in future copies of QSX, please let me have your contribution by email to qsx.zs2ag@gmail.com.

Please do not send me QSX material on WhatsApp as I am inundated with WhatsApp messages and I will miss your material.

Thank you for your continued support of QSX and the articles you have submitted for this issue.



96 years young ...Happy Birthday

Gus Winter ZS2MC . He was the auditor for PEARS for many years. Now in East London. 96 today!

Minutes of PEARS Monthly Meeting

Held at the Italian Club on the 21st May 2024

Welcome:

Chairman Donovan ZS2DL welcomed all present. Specially Johan Harmse, the guest speaker. Also Brendan and Steven the RAE candidates from the past Saturday.

The meeting held a moments silence for Jimmy ZS2JIM

Attendance:

Approximately 20 attendees. As per Register.

Apologies:

ZR2NT, ZR2BK, ZS2PDS, ZR2AS, ZS2JS, ZS2JD,

Acceptance of previous meeting's minutes:

Proposed: ZS2RT

Seconded: ZS2VR

Matters arising:

None

Finances:

Mike has reported that all is in order.

Expenses were the licenses, these are all paid.

General:

ZS2DL

AGM coming up 1st June. Slight change in arrangements, the meeting will be held in the morning, with a lunch time braai. Boot sale at 10h00, meeting at 11h00, braai at 12h30. We have to be out of there by 17h30. Bring a friend, bring family, bring meat, bring drinks! Motions were sent out with the AGM notices. Please look over them and come prepared to vote (if a member)

Events – Tony gave an update on the Great Zuurberg Trek cancellation. Relay medical network covers the area better than radio hams can. We have done very little as comms providers there in the last two years. So we have opted out. We are now involved in the MUT in George on the same weekend. If needed by GZT we will return next year.

What other events are likely to also disappear? Possibly the Herald MTB race, in the same area, but it is a much larger event in terms of competitor numbers. Regional rallies don't have the funds to use our services. National rally is in July, we will still be involved there. Trans Elands MTB race is in June. Trans Baviaans is still a firm booking, since we do man checkpoints for them. Without events, the club is in a predicament. Subs will need to be looked at...

Thanks to Ashley for a great edition in May

Jamtin and Scout Hall – Paul ZS2PS will be the liaison between us and the Walmer Scout Group. Also to act as control of the Jamtin. ZS2G's remote no longer works the gate, ZS2PS will organise us access via GSM. Jimmy has paid the container rental until March 2025. From there on, the club will foot the bill. The MOU is still to be concluded. Barbara (ZS2JIM XYL) would not like the Jamtin to fall flat.

ZS2SG and ZS2VR will take over presenting the RAE classes. Thanks to them.

Closure:

Meeting ended at 19h55

Johan Harmse then gave a talk on the MTN network and its technicalities.

Next meeting AGM – 1st June, and normal monthly meeting 18th June 2024.

CHAIRMAN

SECRETARY

DONOVAN VAN LOGGERENBERG (ZS2DL) CHRISTOPHER SCARR (ZS2AAW)

PEARS 2024 Annual General Meeting Minutes

1 June 2024 @ 11h00

QTH – Walmer Scout Hall, Fordyce Rd

1. Welcome

The Chairman ZS2DL welcomed all present. 35 persons seated

2. Present and apologies

All present were asked to sign the attendance register.

Apologies tendered before the meeting:

ZS2PTY, ZS2LLD, ZS2AV

Apologies noted from the floor:

ZS2R, ZS2AQ, ZS2U, ZS2W, ZS2EZ

31 signatures, with 2 apologies noted in the attendance register.

3. Silent Keys

ZS2ACP assisted in commemorating the following amateurs who had passed since the last AGM:

- Jimmy de Scande ZS2JIM
- Quintus Moolman ZS2KU
- Otto van Rooyen ZS2Q

4. Minutes of the AGM 10 June 2023

These were circulated to all members via email as part of the official AGM Notice, and in the May edition of QSX

Proposed: ZS22AG

Seconded: ZR2TX

5. Matters arising

None

6. Treasurer's report

The financial statement was made available to members prior to the meeting via link on the AGM notice email.

The treasurer ZS2MIC explained the income and expenses statement as circulated. Overall balances were explained to the meeting. A positive balance was achieved at the end of the financial year.

No questions from the floor.

Proposed: ZS2EC

Seconded: ZS2RT

PEARS AGM minutes 2024-06-01.docx

7. Chairman's report

The chairman tabled the past year's report.

Friends running a club is never easy. There are so many facets to it. As a result it cannot be done without an outstanding group of people that make up a committee. I cannot single out anyone in specific because the group I have had the privilege to lead at PEARS is simply a fantastic group of guys with a common cause. I would however like to thank them wholeheartedly for their continued contribution to the well-being of the club.

And of course the committee will really battle if they do not have the support of the entire club membership.

There are however a few external factors that we have no control over that sometimes is very challenging for anyone to cope with. I think of the theft and vandalism of high sites specifically. The cost in replacing the stolen items the cost of renovations of the site and the cost of time to the members tasked with the repair to these sites. We have had to take difficult decisions about repeaters and sites because of this South African problem and as a result are faced with the reality that our communications network is not what it used to be.

Or indeed what it could be. It is my and the committee's hope that this will change in time and I call on everyone that is able to offer their as-

sistance in the work that lay ahead. Especially when we attempt to get lady Slipper Up and running again.

Another factor that has really impacted us this year again is the Italian Club and their internal problems. We have moved the meeting to the Scout Hall, and when we do we get promised that all is sorted and we can come back to the Italian club and every time we are let down. We have as a committee decided to call a meeting with them so that we can get some form of assurance before we commit again.

Moving on - the Club is the members and activities that keep the members interested are vitally important.

Tony ZR2TX continues to guide the various events that the club partakes in and certainly keep those that are able, entertained. Long may this continue.

The RAE was written on 18 May and sadly we only had 3 candidates write. ZS2BTO and ZS2NM are now licensed. After 16 Years of running the RAE I have decided to step back and allow someone else to take up this responsibility. I have calculated that during this time I have had in excess of 250 people pass the exam here in Port Elizabeth. It has been fun most of the time but circumstances dictate that I need a break. I trust that Shaun ZS2SG and Vaughn ZS2VR that have agreed to take on this challenge, will find it as rewarding as I have. I will be available to assist incumbents for the next session so they will not be dumped in the deep end, so to speak.

Then also on this note I will also be bowing out as Chairman of PEARS after 3.5 years also believing that the club will be in good hands going forward. I encourage all of you to support the incoming Chairman and his or her committee as much as you can. I look forward to seeing everyone at the monthly meetings and various activities in the future. One event being our FOX hunt coming up, date to be confirmed.

In closing remember you are the club. All we want is for someone to say hello. I heard you. You need that, PEARS needs that, Ham radio needs that! Club meetings have a similar need. Without you making

the decision to be part of something it will never happen, it can never happen. So it is my challenge to you the member of PEARS today. Make it happen. All it takes is a call in after a bulletin or monthly meeting and you are doing just that!

Once again this year we have decided to keep the annual membership at R200 for ordinary members and R100 for pensioners. I do believe this is very fair, however no ham gets left behind and if there is someone that cannot afford this, come and speak to me! I would much rather have you as a member than not at all.

Thank you to each and every one of you for the role, large or small you play in the life of this club.

Get involved, get radioactive!

Remember you are the CLUB!

Then I wish the new committee well in their endeavours. I trust PEARS will enjoy a great 2024-2025.

And I trust you all will enjoy the rest of this AGM with us and make at least one new friend before you go home.

73

Donovan

ZS2DL

PEARS AGM minutes 2024-06-01.docx

8. Motions

Two motions were submitted for discussion and voting at the AGM. Chairman invited Dave ZS2DH to explain the reason for the changes.

1. PEARS Constitution update – Postal voting and notices of meetings.

a. Introduction

To update the relevance of the PEARS constitution and rules regard-

ing the use of the postal service.

b. Background

There are several references to outdated methods and unless updated these could lead to a deadlock. The postal service is no longer a viable way to send information and alternative electronic ways need to be used.

c. Proposal

The following wording changes are suggested:

It is proposed that the wording of paragraph 5.1.3 change from “a general postal ballot of all members of the Society shows that not fewer than two-thirds of the members participating in the ballot favour the dissolution.”

To

“a general electronic ballot of all members of the Society shows that not fewer than two-thirds of the members participating in the ballot favour the dissolution.”

It is proposed that the wording of paragraph 13.1.1 change from “Notices shall be posted to all members at least thirty days before an annual general meeting or ten days before a special general meeting and shall specify the date, place and hour of the meeting and, except in the case of ordinary meetings, the nature of the business to be transacted. It is not necessary to serve notice of ordinary meetings that are held at the customary venue on the customary day of the month.”

To

“Notices shall be sent by electronic communication to all members at least thirty days before an annual general meeting or ten days before a special general meeting and shall specify the date, place and hour of the meeting and, except in the case of ordinary meetings, the nature of the business to be transacted. It is not necessary to serve notice of ordinary meetings that are held at the customary venue on the customary day of the month.”

It is proposed that the wording of paragraph 15.1.1 change from “To this end, the secretary shall post voting papers to all Society members, clearly indicating the question at issue and requesting the return of the voting papers to reach the secretary by 16:00 on a date not later than seven days before the next ordi-

nary meeting of the Society or, if that date is deemed to be not practical, the following ordinary meeting.”

To

“To this end, the secretary shall send by electronic communication instructions on where, when, and how to vote to all Society members, clearly indicating the question at issue and requesting the votes be cast in time to reach the secretary by 16:00 on a date not later than seven days before the next ordinary meeting of the Society or, if that date is deemed to be not practical, the following ordinary meeting.”

It is proposed that the wording of paragraph 18.1 change from “In the event of ambiguity or uncertainty regarding the provisions, or any matter not provided for, in this Constitution or the Rules, the decision of the Committee shall be final unless and until the Society decides the question otherwise at any annual or special general meeting or by general postal ballot.”

To

“In the event of ambiguity or uncertainty regarding the provisions, or any matter not provided for, in this Constitution or the Rules, the decision of the Committee shall be final unless and until the Society decides the question otherwise at any annual or special general meeting or by general electronic ballot.”

It is proposed that the following definitions be added to the definitions paragraph of the rules.

“1.1.6 “electronic ballot” shall mean an electronic communication indicating a choice or options for a voting process. This could include voting via a website, or via any other electronic method as is acceptable to the committee from time to time.”

“1.1.7 “electronic communication” shall mean a communication sent electronically. This could be by way of email, SMS, WhatsApp or any other means acceptable to the committee from time to time.”

d. Recommendations

That should the motion be approved, that the Secretary be mandated to update the Constitution and Rules.

The first motion was carried unanimously

2. PEARS Constitution update – Proxy voting.

a. Introduction

To grant the proxy submitter the right to grant carte blanche if he/she so wishes. This does not invalidate the proxy submitters right to submit specific instructions should they feel so inclined.

b. Background

Currently a member submitting a proxy must give written instructions on each matter and cannot grant the proxy holder the right (on any or all) matters to use their own discretion. Often when a motion or matter is discussed at the AGM it becomes clearer and the proxy submitter might not have a clear understanding or be “in two minds” about a matter, but as it is currently any proxy granting carte blanche is invalid.

c. Proposal

The following wording changes are suggested:

It is proposed that the wording of paragraph 17.1.1 change from

“The instrument appointing a proxy shall be in writing under the hand of the grantor, in a form acceptable to

the Committee, and shall be valid for only one meeting or any adjournment thereof. It shall reach the secretary at least thirty minutes before the commencement of the meeting and indicate clearly how the grantor wishes his vote to be recorded in regard to each matter to be discussed. A proxy granting carte blanche to the person acting as proxy shall not be acceptable.”

To

“The instrument appointing a proxy shall be electronic or in writing, in a form acceptable to the Committee, and shall be valid for only one meeting or any adjournment thereof. It shall reach the secretary at least thirty minutes before the commencement of the meeting and indicate clearly how the grantor wishes his/her vote to be recorded in

regard to each matter to be discussed. A proxy without instructions on individual or all matters to be discussed will grant the holder of the proxy the right to vote as he/she deems fit on such matter(s).”

d. Recommendations

That should the motion be approved, that the Secretary be mandated to update the Constitution and Rules.

The motion was carried unanimously

9. General

- ZS2GLP:

Updating the website – offered assistance. Gratefully accepted.

- ZS2GS:

Fox hunt – date to be determined as the Italian Club is not available on the wanted date. Avoid the 6th July as it is the national rally. Use a different venue, or investigate using the Scout Hall again. ZS2PS is the new custodian of the Scout Hall liaison, so he will identify a date that the Scout Hall is available. Saturday mornings 9-2pm.

ZR2CRS will assist Paul to fix a date. Dates are 22 or 29 June, 27 July. ZR2CRS investigated and the meeting agreed on 22 June as planned before, but the venue being back at the Scout Hall.

- ZS2EC

Jamtin – what will happen with it now? Will it still be available? ZS2PS said if he is in town, he will open the container on some Fridays... ZS2G suggested alternate uses for the Jamtin, such as a workshop with soldering station, test equipment etc. He felt there was not enough space for both station and workshop. ZS2JV asked who will benefit from each option? Currently only 2 or 3 members use HF at the moment. Investigate the workshop option and discuss it at the general meetings.

- ZS2PF

Repeaters are underutilized, is it worth spending money on them? Uitenhage is not really needed. ZR2NT will investigate a more robust

container option. ZS2GV also reminded the meeting of the offer from ZS2NT. ZR2BK updated the meeting on the security situation on Slipper, things have improved. ZS2AAW mentioned the need for 145.700 for the upcoming National Rally, so a plan would be made.

- ZS2DL

Increase in subs is required. Monthly expenses are not covered by subs. Proposed increase to R300 per annum, R350 for +spouse, R80 for students, R150 for pensioners. ZS2JV recommended smaller annual increments (more regularly, rather than a big jump). Club needs to cover costs. Johan proposed approving a regular percentage increase, and propose a motion at the next AGM that the increase be an annual percentage and be allowed to take effect in the CURRENT club financial year.

Meeting supported the increase proposed by ZS2DL unanimously

10. Awards

The Chairman handed out the following 2024 PEARS Awards:

2024 AGM Awards

SARL AGM Awards handed out:

Radio ZS 4m floating trophy

- Al Akers ZS2U
- Andre Botes, ZS2ACP
- Shaun Gilbert, ZS2SG

Hammies awards

- ZS2OK, ZU2DN

Joseph White Plaque

- ZS2BK

Icom Excellence award

- ZS2BK

Appreciation Award: (Certificate)

Made in appreciation of services rendered to the benefit of the Society or its members, at the discretion of the committee. Can be presented at any appropriate occasion. The recipient need not be a member of PEARS.

- ZR2NT - Clearing around the repeater
- ZR2NT, ZS2DH, ZS2GS, ZS2PTY - Participation in the ZS2VHF event in Kouga Wildernis
- ZS2AG - Continues to generate QSX for the club sometimes with very little assistance with articles. It is truly a thankless job Ashley does very well. The time and effort that Ashley puts into the QSX is highly appreciated.
- ZS2BL - For being the only volunteer to read the PEARS Bulletin
- ZS2PS - for always been happy and prepared to help and share knowledge
- ZR2TX - For pushing events and Meshtastic. Tony is active on the meshtastic WA group and offers help and in general drives the hobby wrt events and meshtastic. Tony has spread the word about Meshtastic and has managed to grow the number of users in the club. Tony also continues to conduct research and is very active in sharing information with members and giving advice. Tony has managed to get members excited and involved in something new.
- ZS2G - Andrew has come to PEARS rescue on several occasions with monthly meeting talks.

Continues behind the scenes work on Hamnet at the jamtin and finds time to dabble on the radio too.

He is one of the older statesman in the club now but his enthusiasm and willingness to help anyone remains a hallmark of his.

Achievement: (Certificate)

Made in recognition of a special or outstanding achievement in the context of amateur radio, at the discretion of the committee. Can be

presented at any appropriate occasion. The recipient must have been a PEARS member during that year.

- ZS2BK - Became only the 3rd ZS to achieve DXCC on satellites. and only the second to do this on geo orbiting non stationery sats. it has taken Andre in excess of 30 years and deserves recognition as a massive achievement.
- ZR2GW - Most motivated operator in trying conditions

Merit: (Certificate)

Made to persons who have made an exceptional contribution to the society. At the discretion of the committee, and presented at the AGM. The recipient must have been a PEARS member during that year.

- ZR2TX - The co-ordination with event organizers to ensure an income stream for the club. Without this contribution from Tony, the club's finances would not be in the position they are today.
- ZS2AAW - Chris' communication is always professional and the important role of a good secretary is crucial for the promotion of any club. I consider Chris as an excellent secretary.
- ZS2SG - Shaun has over several years not only displayed enthusiasm for the hobby and PEARS but has now also started to act as mentor to some of the newer members. He continues to assist with RAE classes and Transceiver tests, while still finding time for operating. He also has assisted without fanfare at events offering radio communications in the public eye bringing good publicity to the hobby and indeed PEARS.

Ou Toppie Award: (Certificate)

This is to certify that has not only reached the ripe old age of 80 years, but has managed to retain all his/her senses in spite of his/her close and lengthy association, both in person and over the air, with men and women of the Port Elizabeth Amateur Radio Society and other hams around the world. PEARS salutes him/her on this fine achievement.

- ZS2RT Clive Fife (5 December 1943)
- ZR2AX – Hans Rohwer (16 April 1944)

ZS2OB DX Trophy: (Cup + Certificate)

Applications and nominations to be considered by the committee, and awarded to the person whom the committee considers most deserving.

- ZS2PS - Paul Continues to be very active on the bands and has managed some pretty impressive totals up to now. He is currently probably the most active ZS2 on HF DX.

ZS2AB Constructor's Trophy: (Cup + Certificate)

Applications and nominations to be considered by the committee. In deciding, the committee shall take recognition of the number of construction projects undertaken, their complexity and the quality and appearance of the finished product/s. The recipient must be able to display the items at the AGM where the award is made, or as soon as possible thereafter. The recipient must have been a PEARS member during that year.

- ZS2VR - In Recognition of the Fox hunt Yagi Kit he manufactured en mass for Club Members and assistance in technical presentation and assembly workshop. For his work in constructing quality antennas

W. Watson VHF Trophy (one for both 2m and 6m): (Cup + Certificate)

Awarded by the committee for commendable achievements on VHF. The recipient must have been a PEARS member during that year.

- ZS2BK - DXCC on sat along with a SARL award

DF Hunt Trophy: (Cup + Certificate)

To be decided by the committee and awarded to the person who performed most successfully during DF hunts that took place during the year. The recipient must have been a PEARS member during that year.

- ZR2BK - For the rapid response, liaison with SAPS, tracking and

retrieval of the Emergency Personal Identification Rescue Beacon triggered in the Jeffreys Bay area.

Ham Spirit Trophy: (Cup + Certificate - Cup donated my Marge, ZS2OB)

The award to be decided by the committee in confidence. The award to be made in recognition of those qualities which make a good all-round Ham, viz willingness to help, activity on the air, friendliness, courtesy to his/her fellows and participation in the activities of the Society.

- ZR2BK - Its Kevern. Need I say more. Always willing to help with the repeaters wherever they are. Kevern is always prepared to help, even though it often means he must come all the way from Jeffrey's. His help with the repeaters, checking on repeaters sites is noteworthy.

QSX Contributor Trophy: (Cup + Certificate)

Awarded to the person that provided the most contributions in terms of articles for the monthly newsletter QSX. At the discretion of the editor and committee. Recipient does not have to be a PEARS Member

- ZS2JIM – for his many articles reporting on the Jamtin.

The trophy was received by Colin ZR2CRS for delivery to the de Scande family

The vice chairman then took the stand and handed out the following awards:

Merit: (Certificate)

- ZS2DL - ZS2DL's passion for PEARS and willingness to chair the club makes him a good candidate for this award.

Appreciation Award: (Certificate)

- ZS2DL - Donovan - for 16 years of RAE classes. This is no small

achievement and he has facilitated the entrance of many into the hobby/sport for many PEARS members, myself included. Because I appreciate all the work and help he had put into the HAM community. He is motivated by doing good for other hams and did a lot getting young people involved in doing the RAE and also enjoying the hobby as we do. For 16 years of teaching the RAE and keeping education alive in the Ham world of Port Elizabeth.

PEARS Merit Cup: (Cup + Certificate)

A floating trophy initiated in 2001, to replace the certificates.

- ZS2DL - Receiving the Willie Wilson Gold Badge award from the SARL, one of the highest awards bestowed upon an amateur by the SARL

The Chairman handed out the last award:

HRO/PEARS Ham of the year: (Cup + Certificate)

Awarded to a deserving member for their contribution to the hobby in general

- ZS2JIM - As an acknowledgement for all that Jim had done since becoming a ham. For his passion the Jamtin. While certainly not the most technical member of PEARS, Jimmy was always willing to help where he could. This includes making the jamtin (and often his radios) available to others. Jimmy was always on the air and telling people about it, operating DX from the Jamtin and a regular on the post bulletin net. Jimmy's willingness to encourage young people at Scouts to pop their heads into the Jamtin to listen to him making HF contacts around the world. Plus ensuring the facilities were open to all when required.

The trophy was received by Colin ZR2CRS for delivery to the de

Scande family

The Chairman then thanked the outgoing committee for their dedication. He mentioned that the entire committee has offered their services for the coming year. The floor was opened for nominations for committee

- ZS2VR nominated by ZS2DH Seconded by ZS2SG

Donovan stood down as chairman, and was not available for re-election, so he could preside over the election process for a new chairman.

11. Election of chairman

- ZR2BK nominated by ZS2DL, Seconded by ZS2G

No further nominations were received, ZR2BK assumed chairmanship from ZS2DL, who stood down.

12. Closing

The chairman thanked the attendees and called the meeting closed at 12h40. Unfortunately, the braai was called off due to inclement weather.

SIGNED:

Chairman: Kevern Burger ZR2BK

Secretary: Christopher Scarr ZS2AAW

The ZS2 QSO PARTY

From Kevern ZR2BK

Did you know that PEARS is the sponsoring club of the ZS2 QSO Party? This means that PEARS receives all the logs, does the log checking and then publishes the results. Please support the ZS2 QSO Party as all other divisions will be hunting for ZS2 contacts, and is also a great way to gain contacts for your Work All ZS Awards. Below is an extract out of the SARL Blue Book:

The ZS2 QSO Party will take place on Sunday the 21st of July 2024 from 14:00 UTC to 15:00 UTC. It is a phone and CW contest on the 40 meter band. The exchange is a RS or RST report and your provincial or country abbreviation. This is a fun activity to promote contacts between radio amateurs in the Eastern Cape and radio amateurs in Southern African countries. The aim for stations outside ZS2 is to work as many ZS2 stations as possible!

Please refer to page 49 of the Blue Book for all the rules.

Upcoming Events: (As per the SARL Diary of Events)

- 18 June – The PEARS Monthly Meeting
- 22 June – The PEARS Foxhunt
- 29 to 30 June – the ARRL Field Day
- 1 July – October RAE Registration Opens
- 6 July – the SARL Newbie Contest
- 7 July – the ZS5 QSO Party
- 13 to 14 July – the IARU HF Championships
- 16 July – the PEARS Monthly Meeting
- 20 July – the Winter QRP Contest
- 21 July – the ZS2 QSO Party

What is Meshtastic?

By Danie van der Merwe ZS1OSS

Submitted for publication in QSX by Dave ZS2DH

Meshtastic is an open-source project that allows you to use inexpensive LoRa (**Long Range**) radios to create a long-range, off-grid communication network. It offers several unique features, making it ideal for various situations requiring decentralized and resilient communication. It is a developing project with new features being added regularly.

LoRa uses a digital modulation called Chirp Spread Spectrum which allows for decoding signals well below the noise floor. This makes receivers ultra-sensitive which allows for long range communication at low power.

It takes only two connected nodes to be able to communicate directly with each other. If you are out hiking with three people who have battery powered Meshtastic devices, messages posted from one device can be relayed through the second device, and received by the third device. If the devices include GPS modules, then the range and direction of each node can be seen in the mobile app (similarly to how APRS beaconing locations are used).

It is primarily a message posting service, with a public channel, and a number of private channels which you can create. The radio communications between the nodes are encrypted with AES256 encryption.

Telemetry data (<https://meshtastic.org/docs/configuration/module/telemetry/>) can also be transmitted across the network. Apart from weather, air quality, battery level, etc. Meshtastic also provides a built-in "Generic Telemetry" feature designed for sending custom data over the mesh network. This could be used where Meshtastic devices are installed at traffic lights, for example, and could transmit backup battery State of Charge levels back to a central point. Or they could be used for water levels, diesel levels, or any other data that needs to be monitored remotely. There is already interest within the Karoo region to see how this telemetry can be used to track their sheep, and to warn about potential predators.

It is ideal for disaster scenarios too, where a few Meshtastic nodes across a city, can keep residents in contact with each other when there is no Internet or cellular communications. A channel can also be made fully private and encrypted, requiring a password to access it, and this is ideal if privacy needs to be ensured when dealing with injured patients etc.

In South Africa with heavier stage of load shedding we've seen many cell

towers, and even Internet provision, losing their connectivity after two or three hours without grid power, leaving these areas without communications. In January 2024 a storm also left some towns in the Karoo (<https://www.dailymaverick.co.za/article/2024-02-06-four-days-and-counting-central-karoo-towns-in-critical-scramble-for-water-generators-after-storms-kill-power-supply/>) without communications for nearly two weeks. With a town or city, all the Meshtastic nodes will keep vital messaging working. If just one Meshtastic node still has Internet access, it can have MQTT connectivity active which will enable messaging to and from a Meshtastic channel globally e.g. to a Cape Town or a South Africa channel on Meshtastic.

There is also integration with CalTopo / SARTopo desktop applications (<https://meshtastic.org/docs/software/integrations/integrations-caltopo/>) for sharing of APRS location data for rescue or similar operations. This just requires a laptop with the software, and a USB cable linked to the Meshtastic device. This gives a similar view to that which ham radio operators see with APRS location data on SARTrack.

Meshtastic also has an integration (<https://meshtastic.org/docs/software/integrations/integrations-atak-plugin/>) with the ATAK-CIV Android app (Android Team Awareness Kit – Civil Use - https://play.google.com/store/apps/details?id=com.atakmap.app.civ&hl=en_US&gl=US). ATAK is an Android smartphone geospatial infrastructure and situational awareness app. It allows for precision targeting, surrounding land formation intelligence, situational awareness, navigation, and data sharing. This functionality is often used for coordinating public safety agencies during exercises, planned events or disasters.

Meshtastic is not a replacement for regular Internet messaging apps – It does not do file transfers, audio voice calls, or video. It is intended to be used where there is no Internet such as during disasters, prolonged electrical outages where cellphone tower communications have been lost, in wilderness areas when hiking or doing rescue work (two nodes with GPS can see each other's direction and range from each other). It can also fulfil a type of role that CB radio used to, which is being able to make contacts and friends across your geographically local neighbourhood. It is also a great way to find new friends when travelling – go to a high area and see what nodes you can make contact with. It does also NOT provide any facility to browse Internet web sites or do e-mail.

All you need is a Meshtastic radio and your mobile phone (with the Meshtastic mobile app installed).

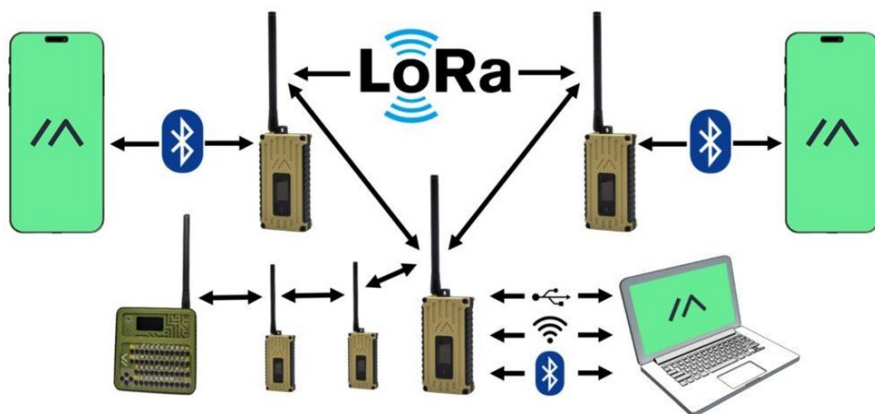
Definitions

When you see mention of Meshtastic mesh, or mesh RF, referred to below, that is referring to the physical Meshtastic radio devices that are connected locally by radio to each other.

A node is just an end device that has a radio connected to the mesh. Your Meshtastic radio is a node. Sometimes the word “peer” is also used to describe a node.

“Mesh” means they interconnect with all other devices they can reach by radio, and they will forward messages onto other radios that can be reached through additional connected nodes. There is no central server or radio repeater used. Each node on a mesh is a repeater as well.

You may also see the word “hops” used. To come back to the hiking example above, the connection from the message sender to the second hiker is one hop, and the relay from the second hiker on to the third one is another hop. So that was two hops to reach its destination. A node defaults to just sending across 3 hops to find a destination, but this can be adjusted.



Above: Meshtastic nodes each connecting via radio. Laptops and phones connect with serial, Bluetooth or Wi-Fi to their local node to communicate send/read messages on that node

Key Features

Mesh Networking: Devices relay messages to each other, extending the network's reach beyond the range of individual radios. A few meshed nodes can stretch across a city, and even link up with nearby towns.

Low Power Consumption: Ideal for battery-powered applications where minimizing energy usage is crucial. Most devices will work with a single Li-Ion 18650 battery for around 24 hours. Some smaller devices can run even longer with their lower power consumption.

Long-Range Communication: LoRa technology enables communication over several kilometres in ideal conditions, depending on terrain and obstacles. The current record is just over 100 km.

Offline Messaging: Some experimental modules, like Store & For-

ward, allow storing messages for offline delivery when recipients come back online.

Peer-to-peer Communication: Messages are directly sent between devices, bypassing centralized servers. Because these frequencies are line of sight only, additional peers nearby will help messages reach around hills and other obstacles.

Open-source and Community-driven: Offers flexibility and customization, with a vibrant community contributing to its development.

No Radio License Required: The 868 MHz band in South Africa is free to use at this low power output (up to 100 mW). Anyone can use this.

Getting Going

You'd buy an inexpensive **Meshtastic compliant hardware** device (<https://meshtastic.org/docs/hardware/> - best to choose from the recommended hardware, and always ensure it states that it contains the SX1262 radio. The Semtech SX1262 transceiver is newer than the SX1276 and provides increased receive and transmit performance. Do not buy the older T-Beam v.0.7 or V1.1). Some portable versions of the hardware come in a palm sized case that already contains an antenna and a battery, for example the Lilygo T-Echo. For home use you may want to get an external 868 MHz antenna, and power the device using USB power. An example of cost is a Heltec V3 with SX1262 radio and it's mini-antenna costs about R515 in South Africa (no case, no battery). A Lilygo T-Echo will cost just over R1,300 inc shipping.

For South Africans (and other Region 1 users e.g. the EU) there are two frequencies that can be used:

1. **868 MHz is license free** so anyone can use it without requiring an amateur radio or other license, and is dedicated to LoRa network. Transmission power is limited to a max of 100 mW (+27 dBm ERP - <https://meshtastic.org/docs/overview/radio-settings/>). This choice is the most popular one.
2. **433 MHz for this purpose is license-free** but is in use for other purposes as well, and you are limited to only around 10 mW (+10 dBm ERP). A licensed ham can lift the power limit in the software if `is_licensed` is set to true (but encryption is then disabled, and you need to set your ham radio callsign too). The biggest downside is this frequency is not in broad use in South Africa for Meshtastic.

Connect the antenna before applying any power to the device (battery or USB power). The radio can be quickly damaged if no antenna is connected when powered on.

Devices are powered by either a USB-C cable or with a 18650 Li-Ion battery (or equivalent voltage).

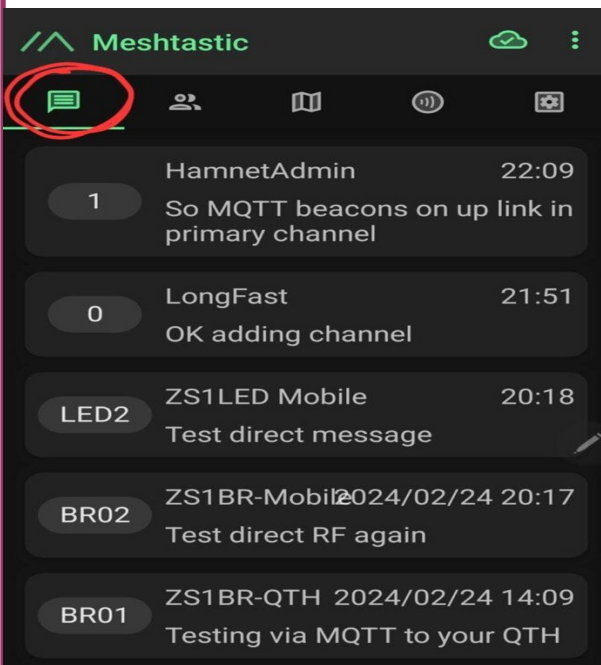
Flash the Meshtastic firmware to the device (<https://meshtastic.org/docs/getting->

[started/flashing-firmware/](#)). Tick the option to do a full erase and install on the first flash, otherwise you'll find the web interface does not display properly from a web browser. This video at <https://youtu.be/HzddKyeqxA?si=kvFINcTjptPQo98> will also help explain flashing to various devices. Updates don't work between major versions either, and you must do a full reinstallation. You can use the mobile app to export settings, and then import them after the upgrade.

Install the **Meshtastic mobile app** on your Android or iOS phone. You'll use the app to connect with the Meshtastic device (much like you'd use the WhatsApp, Telegram or Signal messaging apps).

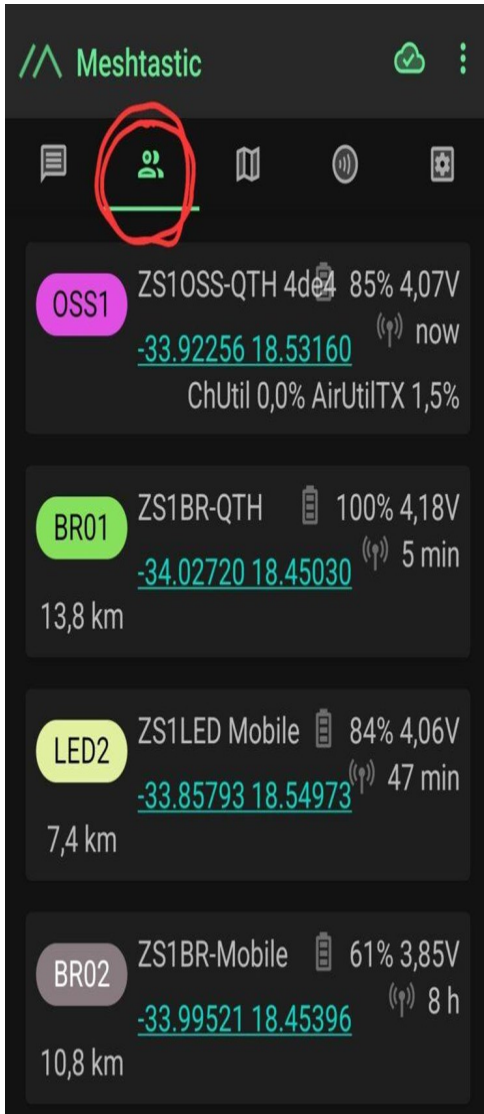
Connect the mobile app via USB-Serial, Bluetooth or Wi-Fi to the device. You can now configure the Meshtastic settings using the app (or web interface for the device by going to its IP address in a browser).

Use the mobile app to see what other nodes are reachable, as well as for sending/reading text messages.

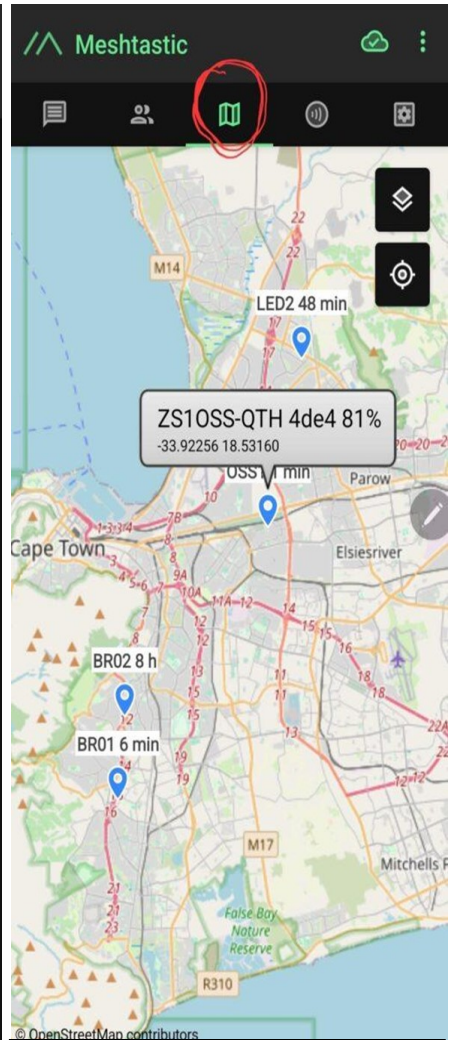


Text message posts happen inside channels, and there is AES256 encryption between the different nodes which relay the messages. The LongFast channel is an open one which talks to everyone, a bit like calling CQ over the radio, or calling on CB radio's Channel 19. You can also create your own private channels and set a password to join them – posts in these channels will only be seen by others who can join the channel. Clicking on a peer (another visible radio node) will also give the option to send a direct message (or to do a traceroute to see what route the nodes are connecting through). These direct messages are routed

Above: This is what the channel list looks like in the mobile app. LongFast is the public one, the Hamnet Admin is a private channel, and the others are direct message chats



Above: The list of peers or radio nodes showing their distance, signal strengths and battery levels. Pressing on one will give some options such as a direct message, requesting location, a traceroute, etc



Above: The map view in the mobile app showing the location of radio peers or nodes that have either live GPS or fixed locations set – it will be great to fill Cape Town with more nodes, especially at higher altitude locations such as Newlands, Platteklouf, etc!

Where can you buy Meshtastic hardware in South Africa?

South Africa has a major handicap when it comes to buying locally, unlike the EU or the USA, where lots of options are available. There are very limited options locally so I'll list some options that may help you to get going. But otherwise, Amazon, LilyGo, or AliExpress (Be wary of ordering more expensive items from AliExpress as they invariably end up at the SA Post Office, and there is a good chance they go missing) are going to be your friends, along with the wait times and additional shipping costs. Right now, in early 2024, there is a global shortage of Meshtastic hardware as the surge in demand combined with the Chinese New Year, had depleted stocks.

Micro Robotics (Online, Stellenbosch, Centurion) – for 868 MHz antennas, IPEX to SMA antenna pigtailed (check whether you need male or female for your specific antenna), Heltec ESP32 S3 LORA 868MHz Module V3 (about R515 without GPS or screen), generic cases, LMR400 coax. Note regarding GPS that the Meshtastic mobile app can also send the phone's GPS location via the radio, so a built-in GPS is not essential if you have the mobile app connected.

Communica (Online, Centurion, Pretoria, Cape Town) – TTGO LORA32 868MHz SX1276 ESP32 OLED Display Bluetooth Wi-Fi LORA Development Module Board (about R590, but SX1276 is not as good as the SX1262 radio). They also have IPEX to SMA antenna pigtailed and generic cases.

RS Online – 868 MHz antennas.

PiShop for SX1262 LoRa HAT for Raspberry Pi, external antennas, TTGO T-Beam (but with SX1276 radio)

DIY Electronics – had 868 MHz antenna

There is also a South African channel on the Meshtastic Discord server at <https://discord.com/channels/867578229534359593/1222305177311252600>.

Typical Parts List

Metastatic device:

[LilyGo T-Beam](#)

[Heltec V3](#) if you can import this is an option from <https://heltec.org/project/wifi-lora-32-v3/> with a case and screen

[LilyGo T-Deck](#) has screen and QWERTY keyboard

[LilyGo T-Echo](#) is portable with case (should all state SX1262)

[LilyGo T-Watch-S3](#)

[RAK Wireless WisBlock](#) is a modular device with optional Ethernet capability

ity, solar charger capability, POE, GPS, etc. This device can also have firmware flashed via the Ethernet cable (instead of nearly all other devices requiring the USB-C cable to be plugged in)

Device for Linux which is a WaveShare SX1262 LoRa HAT for Raspberry Pi with a SMA and IPEX antenna connectors

Case – if you cannot get a made-to-fit one and your device comes without a case, you may want to consider a generic plastic case which you can drill holes to hold the antenna, thread power through, etc. Some 3D designs can be bought online, if you have access to a 3D printer.

868 MHz antenna – some devices do come with a small stubby antenna which is good for mobile use, but you get 10 cm bendy ones, or 150 cm external ones too (remember to put weatherproof tape around the coax connector if you put the antenna outside – stretch the tape first to activate it). An external antenna will likely also require a 10cm or so pigtail to connect the antenna to the device. On the Meshtastic device side it is an IPX or IPEX connector. Pay attention to the male/female connectors as an SMA antenna with a male connector, needs a pigtail with a SMA female (or SMA-RP) connector to connect to it.

LMR400 Coax – if you want the device to be near you, with the antenna outside or in the roof. LMR400 coax has a much lower signal loss than RG58 at this frequency (LMR400 is around $\leq 0.126\text{dB}$ per metre @ 868Mhz and bear in mind these devices only put out about 21 to 25 dBm - <https://paradar.co.uk/products/lmr-400-nm-smam>). You'll also need a pigtail adaptor with N connector (depending on what antenna you have) possibly to IPEX. 3m or 5m is usually a good length as these radios have weak signals so longer lengths of coax are not recommended. LMR400 coax is stiffer than RG58 so do not try and bend it at sharp 90 degree angles. RF400 is possibly a suitable alternative to LMR400 for this use too.

USB-C power cable or 18650 Li-Ion Battery – you can use a battery, with a separate battery holder if one is not included on the rear side of the device already. Most of these devices manage the charging of such batteries automatically.

Because these are mesh radio devices you may even just get away with using a small portable version. If you have a neighbour less than a kilometre away with a Meshtastic device, all you need to be able to do, is to reach their node, and they will relay your messages further. One neighbour with a slightly higher location or antenna, can help many others get connected around them. Or if you have set up a device in your roof, you can use a smaller mobile Meshtastic device to work through (relay) your static one in the roof.

My Actual Parts List



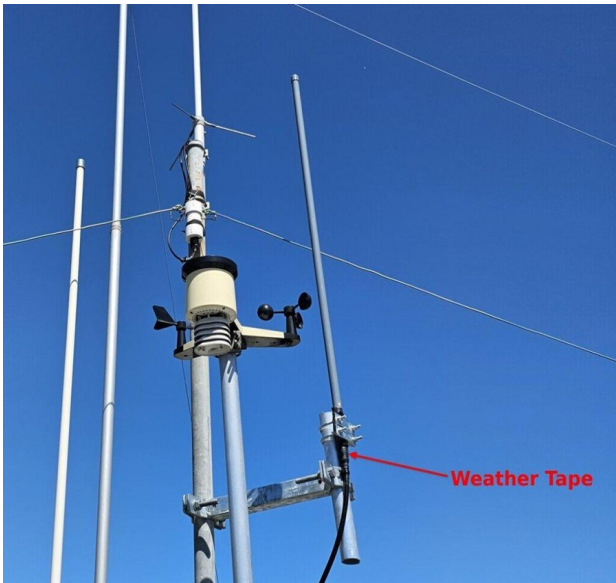
For the above these are the following parts I used:

Generic case from Communica = about R50

Heltec Wireless Stick Lite ESP32 S3 LORA 868Mhz Module V3 = R515.20

Coax – LMR400 N Female to RP-SMA Male RF Cable – 5M (note SMA side is female actually) = R446.20

Pigtail – SMA to UFL Adapter Cable (note SMA Male) = R20.70



For the antenna these are the parts I used (but note again, you can also just use a stubby or a 10cm flex antenna screwed straight onto the SMA connector on the case):

Antenna – Yetnorsen
Fiberglass Antenna

868Mhz 8dBi – 110cm for
R615.25

Clamp – Parallel Clamp
300mm for R430.00

Weatherproof Tape –
Sellotape Self Fusing
Tape – Black (3000 x 18 x
52mm) R59.00

LilyGo T-Echo Radio



Left is my LilyGo T-Echo radio – this cost just over R1,300 to import from LilyGo inc shipping to the door. It is all self contained with a case, GPS, battery, display and antenna. All you have to do is power it up, open the Meshtastic app on your phone, and connect to it with Bluetooth. The e-ink screen is very light on battery use but at least shows what nearby nodes you are connected to, as well as any incoming message (all can also be seen in the phone app).

To update its firmware, you just connect it with its USB cable to your PC, press button 2 twice to get it to mount as a USB drive, then drag-and-drop the firmware file across the device. It reboots, and it is updated.

It is an ideal type of device for a non-technical first-time user.

Situation in Cape Town

As mentioned above it just takes just a few Meshtastic nodes with better reach to cover larger areas, and get more people connected, even though the other users may be using smaller devices with the stubby antennas. Higher sites like Newlands, Platteklouf, etc will provide greater range, and will help act as a relay between two nodes that cannot see each other directly be line of sight.

In fact Sybrand ZS1L from the Somerset West side of False Bay, and Ian ZS1BR at Tokai have managed to get a direct single hop RF link across 39 km with just a standard wire antenna on Sybrand's side. Shawn ZS1LED is busy negotiating to see if we can place a node at a strategically high site above Cape Town.

Many people are disillusioned when they turn on their device to find no-one they can connect to. A few HAMNET radio amateurs in Cape Town have now bought Meshtastic devices and are establishing some nodes across Cape Town. Hopefully this will provide some momentum if others can see nodes they can connect to. Many larger cities in the USA and Europe have got good coverage already with 100's of devices, and they don't have all the communications challenges that South Africa has with load shedding.

The idea is to use all these meshed nodes to keep messaging communications working across the City, even if pockets experience communications

blackouts. We are hoping to also get our City and Provincial Disaster Risk Management agencies on board too. The plan would be to have a Meshtastic channel configured for Cape Town only, and to connect that with MQTT to the Internet. If one or more nodes are publishing this channel's messages to the Internet, it will mean that Disaster Management can monitor the communications to see where assistance is required, or where water tankers need to be deployed to, etc.

With the involvement of radio amateurs, they in turn also have radios which can be easily used to reach other South African cities, or even internationally. Meshtastic devices will allow all users within a neighbourhood to stay in contact, and the theory is that participating neighbourhood watch members and radio amateurs close by, can be contacted if needed. Jacques ZS1TL, who is very involved with neighbourhood watch, is busy negotiating for a high site near Melkbosstrand to cover the suburbs around the Koeberg Nuclear Power Station, and we are planning for Shawn ZS1LED's high site node to connect the Melkbosstrand area to the central and Eastern areas of Cape Town as one larger mesh network.

And of course, just building social relationships with your own neighbours, businesses, etc is also always a good and fun thing to do too. Any ham radio operators with 5m + height Meshtastic antennas can also help connect their fellow citizens in their vicinity.

Cape Town has doubled its number of nodes from 5 to 10 in March 2024. Many locations have two devices (a home and a mobile device), but the map at <https://meshmap.net/> will show all Meshtastic nodes which are reporting their locations via the default Longfast channel.

When it becomes Busy

We're a way from this still in Cape Town, but when we do have a lot of nodes, this type of network can become congested with beaconing, telemetry, etc as everything uses the same frequency. In the early stages it's fine to beacon regularly as nodes need to find each other, and others need to see what is available where.

But at some point it will be wise to tweak some settings to reduce the network traffic, especially if we see messages are not getting through reliably:

Settings/Device Config/Rebroadcast node: 900 secs (15 mins) for quiet area, 1800 secs (30 mins) for busy area, 18000 secs (5 hours) for congested area. Traffic passing through your node will still make your node known.

Settings/LoRa Config/Hop limit: Default is 3 but if you have set it to the maximum of 7, every node 7 hops away is replying to you with a

packet to acknowledge. Even on 3 your node will try find the most effective path, through nodes with a low RSSI, to reach a further node.

Using Traceroute does involve each radio along the route, so use it rather only when you're checking a faraway radio as a special circumstance.

Don't spam the LongFast channel repeatedly with the same test message. Give it a chance to be delivered first.

ChanUtil percentage for your node indicates how busy that channel is. 25-30% is fine, but over 50% is indicating it is starting to get congested.

MQTT

The MQTT protocol (just like a protocol that connects e-mail, or connects a phone to a cell tower) bridges different mesh networks via a common MQTT broker/server on Internet. See <https://meshtastic.org/docs/software/integrations/mqtt/>.

A Meshtastic device connects through a Wi-Fi network it has access too, or via the Phone app that it is connected with, to a Meshtastic MQTT server/broker on the Internet. You can think of that MQTT server/broker as a service that synchronises messages between two or more different Meshtastic mesh networks, for a particular channel that the users have subscribed to.

It is much the same as a WhatsApp/Telegram group that you have subscribed to, and no matter who posts a message in that group, the WhatsApp/Telegram server (like a MQTT server/broker) synchronises the group so that everyone sees the message and any replies posted to it. Meshtastic goes a step further, if the downlink is enabled for the channel, then that node will rebroadcast messages and replies over the Meshtastic mesh locally for others to read in the channel, even if they do not have MQTT enabled, or don't have Internet access. So, everyone does not need to enable MQTT on their devices.

Using the MQTT root (top level / global) topic msh/ and having a busy global channel like LongFast with downlink enabled, is not a good idea as it will flood the mesh radio network (which is a slow network). The msh/ global topic is much the same as the DMT Talk Group 91 which is a worldwide talk group.

If the default root topic is used then the device will publish its MQTT state as online/offline to `msh/2/stat/USERID` where USERID is node ID of the device connecting to MQTT.

For each channel where uplink/downlink is enabled, a topic will also appear such as `msh/2/c/CHANNELNAME/USERID`.

There are 3 places for MQTT configuration settings in the Meshtastic mobile app:

Module MQTT – enable toggle (entirely disables/enables the MQTT module), and its config, encryption (if MQTT server supports it – the default official mqtt.meshtastic.org server can handle encrypted packets), root topic (msh/ will show all MQTT subscribers globally, but using a custom sub-topic like msh/ZA will filter to just those that have set this topic), TLS (if server supports it), JSON enable (not encrypted – for external systems to use the data). The toggle for 'Proxy to client enabled' is to allow the device to send/receive packets over the web via the phone's Internet connection (in other words, Network Wi-Fi is then not required).

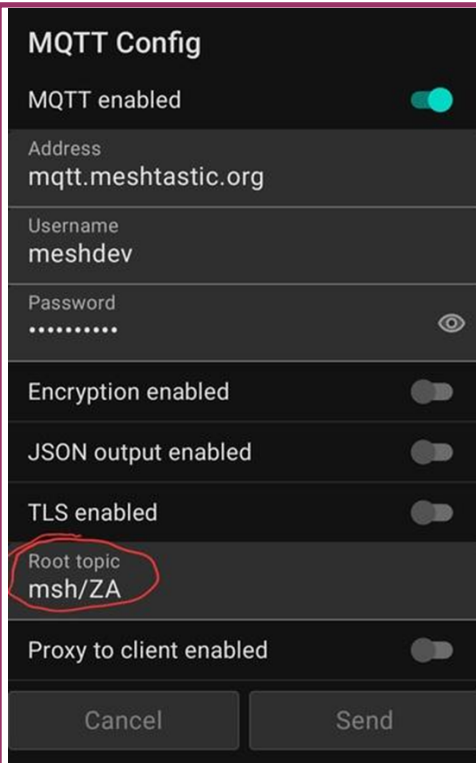
LoRa – 'Ignore MQTT' toggle: Setting this to option to 'true' means the device will ignore any messages it receives via LoRa that came via MQTT somewhere along the path towards the device (in other words that originated from MQTT and are broadcast over the mesh radio).

Channel – per channel toggle MQTT Uplink and Downlink: This effects messages received via MQTT for that channel being sent out over mesh RF, and sending any mesh RF messages up to MQTT.

uplink_enabled will tell the device to publish mesh packets to the MQTT broker/server (which also sends your location to the Meshtastic map, so disabling this toggles means you won't be seen on the map).

downlink_enabled will tell the device to subscribe to all messages from the MQTT broker/server, and forward any packets from there onto the mesh radio network locally (disabling this will mean you won't see channel messages via MQTT for this channel, nor will you see any peers advertised via MQTT on your mobile app). Having it enabled though for a busy MQTT channel (like msh/) can flood the local mesh radio network though.

So, if you want to work on mesh RF only being visible (only seeing actual radio nodes nearby with what is being sent from MQTT via the Internet to you), but still want to be seen on the map, then disable downlink, and enable uplink, in channel settings. Messages you post in the channel will still go to the MQTT broker/server, but you'll only receive via mesh RF in the channel, and only see peer updates via mesh RF. If receiving station has same settings, they won't receive your message via MQTT, and only will receive via mesh RF is connected via mesh. A third party with downlink enabled on the channel, will be able to see both sides posting to the channel, even if they do not have mesh RF connection. [This paragraph is really for those who want



Left: To help South Africans find each other a bit easier, we are setting our MQTT topic to msh/ZA. This is similar to a DMR radio being tuned to DMR Talk Group 655 for South Africa.

Channels

Think of them as chatrooms or group chats. Devices have a default primary channel preconfigured as channel 0, shown as #LongFast-1 (Long range / Fast) with a default PSK as AQ==. Periodic broadcasts like position and telemetry are only sent over channel 0 (the primary channel). Uplink enabled (to MQTT) on this channel will also send your location to the mesh network, as well as the Meshtastic map.

You can also create a new Channel and share the details with your group. The group is private and only those who have the details can join the group and see the messages. A PSK encryption key can be

set (and shared) with your group to keep that channel private. A 32-byte PSK key will create AES256 encryption for the channel. So, you can create a new channel and name it as your suburb or any other name. A new user wanting access to the channel must have the identical channel name and PSK key set.

Changing the Channel name will break communications with your group, i.e. if you change your settings without sharing the new details with the group. Note also that you cannot have DISABLED channels in-between active channels such as PRIMARY and SECONDARY. Active channels must be consecutive.

There is a good video at https://youtu.be/2Z8_-EVwizw?si=SRGwKqxoYSxqtQiF giving some more detailed explanation about channels.

Further Information and Tips

I have created a webpage at <https://gadgeteer.co.za/hamradio/meshtastic-in-south-africa/> which includes more details, links, as well as hints and tips which are periodically being updated as we learn more about Meshtastic.

South African channel on the Meshtastic Discord server at <https://discord.com/channels/867578229534359593/1222305177311252600>

References

Meshtastic website: <https://meshtastic.org/>

ATAK - <https://www.civtak.org/atak-about/>

My own non-technical video introduction to Meshtastic on YouTube - <https://youtu.be/tNZdVxIIQ58>

Meshtastic mobile apps - <https://meshtastic.org/docs/software/>



[The Mountain Ultra Trial \(MUT\)](#) took place over the weekend of 24 - 26 May 2024. The World Renowned Mountain Ultra Trail (44 amazing events around the world) or MUT by UTMB is a festival of trail running in the George area of South Africa. George is situated half-way between two major cities, Cape Town in the Western Cape and Port Elizabeth in the Eastern Cape. At the foot of the magnificent Outeniqua mountains there is an abundance of trails and mountain walks in unspoiled indigenous forests for all nature lovers to enjoy, with the Indian Ocean on its doorstep! George is set in the very centre of the spectacular Garden Route - surrounded by oceans, mountains, forests and farmlands – making it a sought-after holiday destination and the perfect location for the MUT by UTMB®.

What does the race entail? Running a 100 miles over varied terrain is a true test of human endurance. Match that with the spectacular playground which the Outeniqua Mountain Range provides and you will get the MUT Miler. This route is for those athletes seeking, that sense of belonging - the stillness of belonging to the wilderness. You will start with the Vertical Kilometer climb

to George Peaks and follow some of the most sublime mountain trails to descent via the original Cradock Peak route to the base of the old Voortrekker pass aka; Cradock pass consisting of the longest climb of the route. From here you will dip down into the infamous Pass to Pass route and cross the Outeniquas into Champherskloof. Here you will experience the fynbos of the Klein Karoo and off course the heat!

Next up a welcoming stop on the famous Montagu Pass before you start your ascent over the mountains again. Your lunch stop might come back to haunt you as you negotiate Dizzy Heights Climb to the top. On the top, you will encounter mountain ridge running with 360° views all the way down to the George Dam.

From here you will leave the 60km route and cross the mighty Kaaimans river to the Groenkop Nature Reserve. You will enter the picturesque Groeneweide Trails to exit the indigenous forest at Saasveld. From the Saasveld Aid station you will leave the 100km route and start to make your way to the beaches of Wilderness.

After a dip in the ocean you will make your way back to the Garden Route dam where you will join up with the 100km route to run along the banks of the Garden Route Dam and make your way back up to Tierkop where you will re-join the 60km route to make sure you do not miss out on the favourites like The Wall and Tonnelbos. The last thorn in the flesh will be old Henry's Hill to signal the home coming.

UTMB® World Series is the world's ultimate trail running circuit that allows all runners to experience the UTMB adventure through the best, leading international events. Built on the values of fair play, solidarity, protection of our environment and delivering an exceptional local experience, the UTMB World Series gives runners the chance to live the UTMB adventure close to home and to begin their quest to HOKA UTMB Mont-Blanc and the UTMB World Series Finals.

Now this event rely on good logistics, organization and infrastructure. Amateur Radio played a major roll during this event in providing radio communications. Amateur Radio Communications were provided by three amateur radio clubs. Lets take a closer look at the involvement of Amateur Radio during the MUT in the George and surrounding areas.

Amateur Radio Clubs Involved:

1. Port Elizabeth Amateur Radio Society (PEARS) ZS2PE
2. Suid Kaap Amateur Radio Club ZS1SKR
3. Eden Amateur Radio Club ZS1ERC

Amateur Radio Joint Operational Centre (JOC):

An amateur radio JOC was established at the Outeniqua Stadium. The following radio amateurs were stationed at the JOC. Corne ZS1COR, Michael ZS1MMB, Jimmy ZS1RB, Eddie ZS1EGS and Keverne ZS1ABU. The JOC was manned day and night as from the 24 - 26 May 2024 under the auspice of the Eden Amateur Radio Club and Suid Kaap Amateur Radio Club.

The function of the JOC in short was to act as a control center to relay times, messages, emergencies and other race information visa versa to and from three other field stations.

Amateur Radio Field Stations:

Three field stations were setup for this event by members of PEARS.

1. Montagu Pass - Operator Tony ZR2TX
2. Herold Wines - Operator Kevern ZR2BK
3. Bergplaas - Operator Paul ZS2PS

The function of field stations were to relay times, messages, emergencies and other race information visa versa to and from the JOC and amongst each other.

The field stations were manned day and night as from the 24 - 26 May 2024 under the auspice of the Port Elizabeth Amateur Radio Society (PEARS).

General information:

1. Amateur Radio was used in the absence of cell phone coverage.
2. The 145.700 Mhz George Repeater was used.
3. Cross Band Repeat Function was used where there was no repeater coverage.

Finally: The involvement of amateur radio during this World Renowned Mountain Ultra Trial (MUT) once again proved that amateur radio plays a vital roll in providing radio communications in the absence of cell phone coverage or other means of communications in areas. A big thank you to all those involved in providing the necessary amateur radio communications during the race.







Above: Scenes from the MUT (Mountain Ultra Trail) held recently in the George area.

Fox Hunt

The Port Elizabeth Amateur Radio Society will be having a fox hunt on Saturday 22 June 2024 at the Walmer Scout Hall in Port Elizabeth. Everyone is invited, so please come and join us to see who this year's champion will be. Those participating need to be at the venue at 10:00 for the briefing. The hunt will start at 10:30. Afterwards there will be a social braai, wood and fireplaces will be provided.

B-VITAMIN



B1



B2



B6



B12



B-KOMPLEX

Birthdays and Anniversaries

Birthdays

June

19 Neville Bowden ZS2N
22 Kelly Cummings ZS2KC
29 Vaughan Rizzo ZS2VR
30 John Ashworth ZS2GB

July

02 Mario Tiran ZS1AMT
05 Nico Oelofse ZS4N
07 Chad Jackson ZS2CJ
07 Aldrin Baker ZS2AGB
10 Mitch Rundle ZS2DK
11 Marius Rautenbach ZS2JR
11 Joao Pereira Da Silva ZS2DS
11 Gert Schoeman ZS2GS
13 Cyril Hislop ZS2EJ

14 Alex Gogos ZR2T

Spouse Birthdays

June

17 Adele van Biljon Andre ZS2PL
19 Louisa Rautenbach Marius ZS2JR
23 Beverley Higgs David ZS2DH

July

08 Ronel Du Plessis Basie ZR2BA
12 Sandra Bowden Neville ZS2N
29 Jacqui Ryder Peter ZS2PR

Anniversaries

June

26 Keven Eugenie Burger ZR2BK

July

01 Gerrit Laetitia Rautenbach ZS2XD

DISCLAIMER

Please note:

The Editor, nor any PEARS club member shall be held liable for errors and/or omissions in any article and/or drawing contained in this newsletter. Furthermore, any view expressed is not necessarily that of the Editor, any committee member or other members of the Club. The material contained in this newsletter is not meant to defame, purge, humiliate and/or hurt someone's person or feelings.

If copy is unintentionally infringed, we apologise. The newsletter is published as a free service to Amateur Radio Operators and friends.

Sunday SARL and Monday Evening PEARS Bulletins

PEARS provides a local reading of the SARL bulletin every Sunday morning at 8:15 in Afrikaans read by Kevern ZR2BK and at 8:30 in English read by Rory ZS2BL, transmitted through the Town Repeater on 145.650 MHz.

PEARS Bulleting are transmitted on Monday evenings at 20H00 through the Town Repeater 145.650MHz 88.5Hz Narrow, which is coupled to the Longmore Repeater 145.625 MHz 88.5Hz Narrow.

Bulletin Roster

17th Jun	Chris	ZS2AAW
24th Jun	Mike	ZS2MIC
1st Jul	Donovan	ZS2DL
8th Jul	Ashley	ZS2AG
15th Jul	Paul	ZS2PS
22nd Jul	Vaughan	ZS2VR
29th Jul	Rory	ZS2BL
5th Aug	Kevern	ZR2BK
12th Aug	Dave	ZS2DH

<http://www.zs2pe.co.za/bulletins.html>

HAM RADIO OUTLET-SOUTH AFRICA cc

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Our 2024/2025 PEARS Committee

These committee members can be reached as a group by sending email to [committee\[at\]peham.co.za](mailto:committee[at]peham.co.za)

PORTFOLIO	NAME	CALLSIGN	EMAIL	CONTACT No
Chairman, Technical support & maintenance	Kevern Burger	ZR2BK	k.burger[at]stfrancislinks.com	083 401 9587
Vice Chairman, SARL liaison, Hammies, Youth, Contest Scoring	Dave Higgs	ZS2DH	on[at]zs2dh.co.za	082 387 5657
Treasurer	Michael Steenkamp	ZS2MIC	zs2mic[at]jigen.co.za	082 523 5677
Secretary, Repeaters, QSX emailing, club database	Christopher Scarr	ZS2AAW	christopher[at]peham.co.za	082 925 6367
RAE Administrator	Donovan van Loggerenberg	ZS2DL	zs2dl[at]hamradio.co.za	082 852 4885
Technical/repeaters, Search and Rescue & Emergency comms	Glen Cummings	ZS2GV	glenvanessa[at]gmail.com	082 411 2743
QSX Editor	Ashley Goosen	ZS2AG	qsx.zs2ag[at]gmail.com	082 372 6696
Public relations, special events displays, Scouts interface, "Jamtin"	Paul Schoeman	ZS2P5	paul.costcutters[at]gmail.com	083 582 9660
?	Vaughan Rizzo	ZS2VR	vaughan[at]netaddress.co.za	082 882 6555

CO-OPTED POSTS

PORTFOLIO	NAME	CALLSIGN	EMAIL	CONTACT No
Contest Liaison Officer	Theunis Potgieter	ZS2EC	zs2ec01[at]gmail.com	064 901 8079
Events & Rally organising	Tony Allen	ZR2TX	tony.zr2tx[at]gmail.com	082 956 2920
Website renewal and updates	Graham Pearson	ZS2GKP	gpearson[at]bjsmedical.co.za	082 321 4798

(Please note: The "@" sign has been replaced with "[at]" in the above addresses to try to prevent spamming)

PEARS' VHF/UHF, Packet & Other Services

Local Repeaters: These repeaters form a separate sub-net in the PE - Uitenhage - Despatch area.

Town VHF	Longmore	Uitenhage	Town UHF	<---- IRLP available on this subnet
145.050/650 88.5Hz, Narrow 12.5k	145.025/625 88.5Hz, Narrow 12.5k	145.075/675 Wide 25k	431.050/438.650 Wide 25k	
Cockscomb 431.000/438,600 Add 88.5Hz for squ tail	Viewlands 431.075/438.675 Add 88.5Hz for squ tail	<---- These form linking hubs for events, hence no tail	DMR 430.675/438.275 QTH: ZS2VA	D-Star 145.175/775 QTH: ZS2N

Cape Linked System Repeaters:

These form the PEARS long-range 2-metre repeater system, in conjunction with the Border, Southern Cape and WCRWG systems. See www.zs2pe.co.za/Repeaters/repeaters.htm for more details.

Lady's Slipper 145,100/700 88.5Hz, Narrow 12.5k	Grahamstown 145,150/750 Wide 25k	Cradock 145,050/650 Wide 25k	Noupoort (link only) 438,750 / 438,675 Wide 25k
Colesberg 431,075/438,675 Wide 25k	Kareedouw 145,125/725	Plett 145,175/775	Brenton 145,075/675

APRS/Packet network:

ZSONTP Node Lady's Slipper 434,800 1200bd 439.850 9600 bd	ZS0KDK APRS Digi Mount Road 434,800 1200bd	ZS0KDB APRS Digi Longmore 434,800 1200bd	
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VHF Beacon: 50,007 MHz FSK – ZS2X, 25 Watts into 2 element Yagi beaming north.

Banking details (for subs & donations): NEDBANK SAVINGS ACCOUNT No. 221 252 7594, Bank code 121217, A/C name: Port Elizabeth Amateur Radio Society. **Please use call signs as a reference.**