

# QUA FARC

Franklin Amateur Radio Club Inc. NZART Branch 10



# APRIL 2024

VOLUME 32 ISSUE 4

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Examiners: Tom ZL1TO, Peter ZL1PX  
Web page: <http://www.qsl.net/zl1sa>  
Webmaster: Steve ZL1TZP

Meetings: Club meetings are on the third Tuesday each month in the clubrooms, 19 Stadium Drive, Pukekohe, at 7.30 PM. Visitors welcome.

## Next General Meeting and 2024 Speakers Program

Our next meeting will be held on Tuesday 16 April at 7.30 PM in the clubrooms located at 19 Stadium Drive, Pukekohe. The speaker will be Graham Anderson from Auckland Museum of Transport and Technology (MOTAT).

Our Program for the year so far: April - Graham Anderson speaks to the club on Auckland Museum of Transport and Technology (MOTAT), May – Selwyn James will address the issues involved in providing audio services at large and small events. Selwyn was the sound engineer at last year's Franklin Positive Ageing Expo in Pukekohe. It is likely June meeting will be taken up with setting out for the July junk sale.

## Practical Training Sessions

Due to a growth in demand, we have started practical training sessions in the clubhouse. Our last session was a 'taster' on learning Morse led by Peter ZL1PX.



Morse 'taster' session: Tue 12 March - Left to right: Gary ZL1WGL, Steve ZL1SPR, Peter ZL1PX, Frank ZL1AMQ, Steve ZL1TZP (Photo by Tom ZL1TO)

DMR specialist Steve ZL1TZP will hold a further training session on Tuesday 9<sup>th</sup> April at the club house starting at 7.30 PM. This is a chance to revise your code plug and pi-

Committee meets on the first Tuesday of each month (excepting January) at 7.30 in the clubrooms.

Subscriptions: individual \$20, family \$30, due December  
Bank Number: 02-0404-0157944-000

Nets: HF Sunday 9 AM, 3.700 MHz (Mike ZL1UOM); VHF Sunday 9.30 AM, 146.900 MHz (Peter ZL1PX); DMR on Talkgroup 5301, 2<sup>nd</sup> & 4<sup>th</sup> Tuesdays 7.30 (Steve ZL1TZP).

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star skills and pick up some new ideas. Bring your DMR radio, laptop and hotspot. All welcome.

## Digital Audio Broadcasting

Dr David Black ZL1MZ attended the club at our last general meeting on Tuesday 19 March and addressed club members on the topic of Digital Audio Broadcasting.



David ZL1MZ speaks to our March general meeting on DAB

Digital Audio Broadcasting (DAB) is a digital radio standard for broadcasting digital audio radio services in many countries around the world, defined, supported, marketed and promoted by the WorldDAB organisation. The standard is dominant in Europe and is also used in Australia and in parts of Africa and Asia. As of 2022, 55 countries are actively running DAB broadcasts. At present, New Zealand does not have any active DAB broadcasting or any plans to develop it.

DAB is generally more efficient in its use of spectrum than analogue FM radio and thus can offer more radio services for the same given bandwidth. DAB is also more robust with regard to noise and multipath fading for mobile listening although DAB reception quality degrades rapidly when the signal strength falls below a critical threshold (as is normal for digital broadcasts).

DAB was the result of a European research project and first publicly rolled out in 1995, with consumer-grade DAB receivers appearing at the start of this millennium. Initially it was expected in many countries that existing FM services would switch over to DAB, although the take up of DAB has been much slower than expected. As of 2023, Norway is the first country to have implemented a national FM radio switch-off, with others to follow in the next years. In recent years, DAB has become the most popular radio listening platform in Norway, Switzerland and the UK and has become a requirement for all new cars sold in the EU.

Our thanks go to David for such a detailed and comprehensive account of DAB. We always enjoy David's presentations and hope we have many more visits from him in the future.

### DMR "BlackSpot"

Peter ZL1PX

A number of radio amateurs have purchased DMR handhelds recently and I am one of them. To use my new AnyTone 878 DMR radio, I needed a hotspot or a DMR repeater. There is no DMR repeater within the Franklin area, so I would have to use a hotspot. What is a hotspot? It is a device that links a DMR radio to the Internet. As I didn't have a hotspot and didn't have knowledge of how they worked, Steve ZL1TZP kindly loaned me one of his on the understanding I could use it until I made up one of my own. Great! I could now use my 878 to talk to the world.



My hotspot connected on WiFi to local IP address 192.168.1.13

Most of our club use a Pi-Star Zero with an MMDVM 'hat' mounted above it for hotspot duty, a cheap and well proven option. There are plenty of them on AliExpress. You can see mine in the picture above. It runs on a couple of hundred milliwatts so is unlikely to drain the 2500 mAh lithium battery I have attached through the green C-Type plug at bottom right. I have it configured to communicate through my home WiFi but it can also accept an Ethernet feed through a second C-Type connection. When I am on the move, it can be attached to Internet through my mobile phone.

If you have read this far, you could be excused for asking why this article is entitled 'BlackSpot' and not 'HotSpot'? Simply put, I bought a replacement for Steve's hotspot so I could return it to him and it didn't work. I had all the same parts but could not talk or listen to anyone.

So indulge me a while as I show you how a hotspot ought to work. In the picture below, you can see the dashboard page for my hotspot. When you see an IP address on the small screen on the hotspot case, you can type that address into a browser anywhere in your home network and it will show you this page. In my case, I could type 192.168.1.13 into the address bar and there it is.



Pi-Star dashboard page as it should display

In the example above, you can see *Gateway Activity* and *Local RF Activity*. *Gateway Activity* displays call signs and the TalkGroup each amateur uses. *Local RF Activity* displays the radio that is in contact with the hotspot. You can see my ZL1PX call sign inside the *Local RF Activity* box.

The hotspot I built myself did not do this. When I had soldered in the contacts that connected the MMDVM hat to the Zero board, it showed a different view. *Local RF Activity* did not show any stations.



No RF Activity entry on my hotspot.

This led to a lot of detective work to diagnose what was wrong with my new hotspot. I wish I could report this detective work as mine but it was done by our club DMR maestro Steve ZL1TZP. Steve knew there had to be a mismatch between the frequency of my DMR handheld and the frequency of my hotspot. He used the 'Calibrate' page within the Digital Voice Dashboard utility to compensate for this mismatch.

To fully understand what Steve had done – after he had explained it to me – I logged in to a hotspot with the admin credentials. I next navigated to the 'Configuration' page



Pi-Star Calibration: BER adjusted to near zero

and clicked 'Calibrate' which opens the calibration tool shown above. After I pressed 'Start' on the left of this page, the red globe beside it turned green and I selected DMR which also had a red globe beside it that turned green. With the calibration tool running, I tuned my DMR radio to a Parrot channel and pressed PTT a number of times. Following each PTT transmission, I adjusted the frequency up or down until the BER (bit error rate) approached zero. You can adjust frequency in 25, 50 or 100 Herz increments. With this adjustment made, I was careful to click 'Save Offset' within Calibration and then to click 'Apply changes' within the Pi-Star Configuration page. I knew my hotspot would not be a 'blackspot' after that.

My thanks to Steve for his yo detective work and his explanation which I hope I have faithfully reproduced here. Now my DMR radio and hotspot are on speaking terms, I can check in to TalkGroup 91 once more and create a pileup when I give my NZ call-sign. It's nice to be wanted!

### Papakura Morse Training

Papakura Club have decided to pull the plug on CW training this year. This excellent training was intended to last from March to November and take learners from 6 WPM to 14 WPM. The schedule planned was for broadcasts on HF (3755 kHz) and Zoom on Mon, Tue, Thu and Fri. However, with too few newcomers showing up, it had become demotivating to continue working on the venture.

For those willing to work on CW alone, the editor has copies of the 2023 Papakura training files which can be pasted into the TeachMorse software package. The TeachMorse package is available [here at NZART](#). These files were run between March and November in 2023. If run on a regular basis, they will support newcomers up to a speed of 14 WPM. The files are in Windows Notepad format (.txt) and are available for download at the following links.

- [01MarApr](#)
- [02MayJun](#)
- [03JulAug](#)
- [04SepOctNov](#)

Enjoy!

### Franklin Amateur Radio Club 75th anniversary

Committee are collecting thoughts about a celebration of the club's 75th anniversary in 2025. Ideas so far are a celebratory dinner for past and present members and their families, a publication of the club's history and perhaps an award event.

### Constitution

Largely thanks to Ted ZL1BQA, committee have begun to look at changes to the constitution to bring it in line with MBIE changes to incorporated societies. Committee will be bringing these ideas to general meetings.

### Franklin Amateur Radio Club (Inc) Committee Meeting held at the clubhouse, Stadium Drive, Pukekohe 5 March 2024

Chairperson Steve ZL1PX opened the meeting at 1930 hours and welcomed all. 1930 hours and welcomed all.

Attendance: ZL1PX, ZL1TO, ZL1TZR, ZL1AMQ, ZL1WGL, ZL1SPR, ZL1BQA, ZL1UOM

No apologies.

Minutes of the February meeting. Approved ZL1 / ZL1

### Correspondence

Newsletters received from Branches 03, AREC Northern Region Manager visited 24 January.

Ted Doell – re Proposals for Club Constitution and Bylaws.

Peter Henderson – re Steel and Wheels, 14 April.

The correspondence report was accepted ZL1TO/ZLULK

### Finance

Income Interest \$101.78 (4 March)

Expenditure Power bill for March \$57.79 (due 5 March)

Oncall account GROSS CR Interest \$0.84, Exempt INT \$0.84, \$385.11 CR.

The finance report was approved. ZL/ZL

### Reports

AREC. Tom ZL1TO attended an Auckland area AREC meeting at North Shore on the evening of 22 February.

MOTAT. Peter ZL1PX has reported MOTAT would like to see us again in August 2024 for a similar activity to 2023. 75th anniversary.

### General business

Protocol around free membership for new hams has been advised at our February General Meeting. The proposed bylaw on this topic reads: New Members "Shall not be required to pay a subscription for the financial period that they have become a member and shall enjoy the same rights and privileges as other members. Their first subscription shall fall due after the next AGM subsequent to their joining."

In relation to this clause financial period means, the

period between Annual General Meetings.

Topics at coming general meetings. March: David Black ZL1MZ on digital audio broadcasting (DAB), April: Graham Anderson from MOTAT with Mark Vincent.

CW Project Night is scheduled for Tuesday 12 March to be led by Peter ZL1PX.

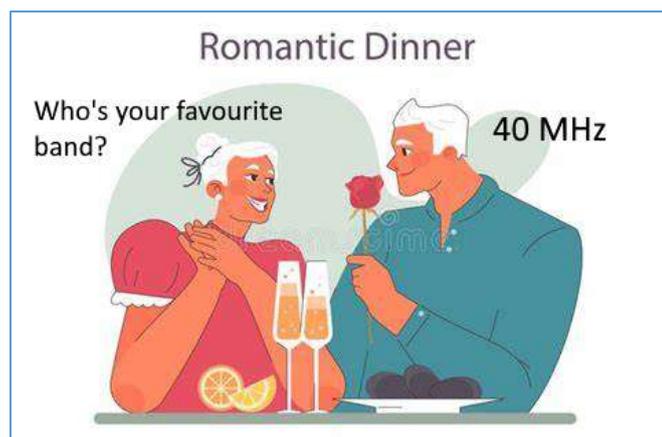
Jock White Field Days 2024. Over the course of the 18 hours contest 12 amateurs came to the Branch 10 field day station and all had an opportunity to do a spell on the radio. More stations were up on both bands: 80 m phone 31 multipliers (cf 22 maximum possible 2023), and 40 m 29 multipliers (cf 22 maximum possible 2023). It looks as though we will score in the middle of the phone only field (behind ZLKO and ZL1VK). Our score looks to be 131580 points. Photographs have been posted on the FARC FaceBook page.

Jock White Field Days Scores

Entry Category or Section: (see rule 7)		Phone only		
Operators				
Callsign	Name	Callsign	Name	
ZL1PX	Peter Henderson	ZL1AMQ	Frank Male	
ZL1TO	Tom McDonald	ZL4FJ	Francois Combrink	
ZL1TZP	Steve Doell	ZL1SPR	Steve Spring	
ZL1ULK	Durleen Griffin	ZL1WGL	Gary Landon	
ZL1UOM	Mike Jane	ZL1JRW	Jason Woodger	
ZL1RP	Cliff Reynolds			
ZL1GCQ	Greg Quaille			
Contact Points:				Club Branch Multiplier Points:
Band/Mode	No. of Contacts	Points per Contact	Contact points per Band/Mode	Band/Mode
80m Phone	318	3	954	31
80m CW	0	5	0	n/a
80m Overseas	0	10	0	n/a
40m Phone	393	3	1179	29
40m CW	0	5	0	n/a
40m Overseas	6	10	60	n/a
Totals	717	n/a	2193	60
Claimed score: Total Contacts Points x Total Branch Club multiplier Points =				131580

Junk sale - Franklin Junk sale will proceed in its normal date, third Tuesday of July, 15 July 2024

The meeting closed at    hours



**Minutes of Franklin Amateur Radio Club (Inc) General Meeting held at the clubhouse, Stadium Drive, Pukekohe 19 March 2024**

Chairperson Peter ZL1PX opened the meeting at 1935 hours and welcomed all.

Attendance: ZL1PX, ZL1TO, ZL1AMQ, ZL1WGL, ZL1BQA, ZL1UOM, ZL1LL, ZL1MZ, ZL1TZP, ZL1SPR, ZL1BXA, ZL1HOG, ZL4FJ, ZL1PSH, Phil Davis, ZL3AQT, ZL1ACK  
 ...Apologies: ZL1GAC, ZL1MFL, ZL1JRW, ZL1ULK  
 ...Minutes of the Feb meeting approved true and correct.

Correspondence

Further to March QUA report  
 - Newsletters received from Branches:  
 03: ZL1RCA to talk on Queen Victoria voyage 23 March.  
 65. DXpedition to Christmas Island. SpaceX test flight.  
 Field day report.

The correspondence report was accepted.  
 ZL1TO / ZL1BQWA

Finance

Income: Interest \$101.78 (4 March)  
 Subscription \$20 (6 March)  
 Expenditure Power bill for March \$57.79  
 The finance report was approved. ZL1TO / ZL1PX

Reports (as in March QUA plus...)

MOTAT Peter ZL1PX reported that MOTAT have confirmed 18 August for the CW event. Operations will be on 40 m. 75th anniversary on track for the middle of 2025. Steel and Wheels, Waiuku Date is 15 April. ZL1PX is unavailable due to travel.

General Business (as in March QUA plus...)

Topics for future meetings are set  
 April: Graham Anderson MOTAT  
 ...May: Sound technician Selwyn James who was last seen in action at Positive Ageing 2023 July: Junk sale  
 ...Facebook with 70 members is going well.  
 Project nights on second Tuesday of the month have been:  
 February: DMR programming code plugs  
 March: CW using Teach for the first characters Q, 7, Z  
 April: Follow up of DMR programming  
 JW Field day

Twelve operators came along. We have scored in the middle of the phone only section.

CW training on air

Six participants were in the clubhouse Tuesday 14 February. Four were on HF or Zoom last night. The meeting closed at 1948 hours  
 Then followed a talk by Dr David Black ZL1MZ. See above.

We were honoured by the visits of former NZART Northern Councillor Howard Buxton ZL1BXA, new Councillor Terry James ZL1HOG and former Break-In Editor Philip Sharp ZL1PSH.