QUA FARC

Franklin Amateur Radio Club Inc. NZART Branch 10

Secretary: Tom McDonald ZL1TO Ph. 09 238 8580

Committee Members: Mike Jane ZL1UOM, Ted Doell

ZL1BQA, Gary Landon ZL1WGL, Frank Male ZL1AMQ,

Meetings: Club meetings are on the third Tuesday each

month in the clubrooms, 19 Stadium Drive, Pukekohe, at

President: Peter Henderson ZL1PX

Vice President: Steve Doell ZL1TZP

Examiners: Tom ZL1TO, Peter ZL1PX

Web page: http://www.qsl.net/zl1sa

Steve Spring ZL1SPR

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7.30 PM. Visitors welcome.

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

Subscriptions: individual \$20, family \$30, due December See club secretary for bank account number

Nets: HF Sunday 9 AM, 3.700 MHz (Mike ZL1UOM); VHF Sunday 9.30 AM, 146.900 MHz (Peter ZL1PX); DMR on TalkGroup 5301, Wednesday 7.30 (Steve ZL1TZP)

QUA editor: Peter ZL1PX pjh@teachlit.com QUA is sent by email to members and anyone interested. Copy permission freely granted if you include authorship.

Junk Sale

We hold our annual Junk Sale in the clubrooms at 7.30 PM on 16 July. All welcome. There is no entrance fee but we do offer tickets to a produce raffle drawn at the end of the sale. Car parking is available on the street and weather permitting there is grass parking at the rear of the club.

Some top bench items on offer at the sale...

Yaesu FT-501 Transceiver complete with Power Supply. (Untested as is)

Yaesu FL-2100B linear amp (Untested as is) Pic below.



Yeasu YO-100 monitor scope (Untested as is) KW 109 Super Match Ant Tuner 800W (Untested as is) Kenwood Multimode VHF/UHF TS-780 transceiver Vendor said working OK – pic below.



Icom IC-ZIE dual band handheld transceiver. Bench tested OK, battery repack required

Kenwood 2M 7050 FM transceiver - Was working when removed from vehicle.

Icom IC-290H multi-mode VHF 144m Tested Works OK DSE Commander 2M Transceiver (Untested as is) Several PSR transceivers tested and in good working condition

August General Meeting

Our August general meeting will be held on Tuesday 20 August starting at 7.30PM. Our speaker for the night is Philip Sharp ZL1PSH. His topic will be *"how to get more people activating parks, summits, lakes and other outdoor features in the Auckland region".*



Upcoming Events

On Sunday 18 August, we will open a CW radio station alongside the Communications Centre at the Museum of Transport and Technology (MOTAT) in Western Springs. Visitors to the event will be invited to learn how to key their name in Morse code and then transmit their name on air. Transmission will be on the 40M band at 7030 kHz. We have two experienced CW operators, Neil ZL1NZ and Paul ZL1AJY, listening to the transmissions who will respond by sending back each name they copy.



MOTAT 2023: young female visitor sends her name in Morse.

Lithium Battery Ignition

Vance Rowe talked on lithium combustion at our June meeting. Vance is a member of the Australia Federal Government standards committee on lithium combustion and made his presentation through Microsoft Teams.



Vance plays video of lithium battery ignition in charge station

Causes of lithium battery failure

Lithium battery failure can occur as a result of an internal or external short circuit or through battery management system failure.

Internal Short Circuit

Internal short circuit can occur due to mechanical abuse such as penetration of a metal object, pinching or bending of a cell. If there is a large enough path of conduction, the rapid flow of current within the battery will cause a temperature rise and trigger thermal runaway. The issues may begin in the vicinity of the abuse site and quickly spread to the remainder of the cell.

External Short Circuit

An external short causes the battery to discharge at a high rate and at significant currents, resulting in rapid heat generation in the external short-circuited wiring and within the battery. Heating of the battery due to an external short circuit can also lead to battery thermal runaway similar to internal short circuit fault.

Battery Management System Failure

The impact of having an under-performing or no Battery Management System (BMS) is that cell failure is a significant risk. The BMS is designed to prevent these conditions and to respond quickly by providing notification of a compromising situation to the application or the users.

Safety Risk

Lithium ion batteries stored and operated within the recommended limits have a very low risk of failure. Stationary batteries in electrical storage systems for example are unlikely to undergo mechanical abuse when in use. Portable devices and vehicles, on the other hand, may be subjected to collisions, and so protection from mechanical abuse becomes more important.

Risk of Fire

If a BMS is used with lithium ion batteries, then the risk of failure is reduced. Unfortunately accidents can happen, systems can fail, and if a battery does get into a thermal runaway condition a fire can result. The heat generated within a cell can cause a pressure rise due to gas generation causing the cell to burst. With heat, oxygen combined with flammable gases, violent flaming can result.

If one cell goes into thermal runaway, it can cause neighbouring cells to heat up. Once a critical temperature is reached, it can cause the neighbouring cell to also go into thermal runaway. If flaming of a cell is initiated, the process is sped up. It can only be reversed with a drop in temperature – usually achieved by immersion in water.

In case of an emergency

If safe to do so, move the device away from anything that could catch fire, call 111 from a safe location and keep away from the device.

Charging your lithium ion batteries



Consider the following when charging your lithium ion batteries:

1. Charge personal mobility vehicles and batteries away from access or egress routes (corridors, stairwells, fire doors etc.) and any combustible materials.

2. To mitigate the risk of fire inside, consider charging personal mobility vehicles outside of your building/dwelling, where possible.

3. Ensure the charging system can stop or limit the flow of current to the battery after the battery is fully charged to prevent it from over-heating and catching on fire.

4. Ensure batteries are supervised and monitored when on charge, where possible.

5. Keep lithium ion batteries at room temperature.
6. Do not charge lithium ion batteries at temperatures below (0°C) or above (40°C).

Our thanks go to Vance for reminding us of the risks that come with lithium battery technology.

Amateur Radio Connects Family Members during Utah Boating Emergency Reprinted from ARRL

On June 5, Isaac Stiles, KJ7FAY, and his 3-year-old son were involved in a boating accident. Their canoe had tipped over at the Lost Dog Confluence to the Flaming Gorge Reservoir. The initial emergency call was made by Stiles' wife, Kendal. She had to drive to nearby campsites until she found someone with a phone and then made the call to the Green River Fire Department (GRFD). She told them the pair were in the water but could not be seen or found. Emergency responders rushed to the scene.

The fire crews were able to find Stiles and his son on the opposite side of the river. They were rescued by a Sweetwater County Sherriff's Department boat. Stiles' son needed ambulance transportation to a waiting Air Med Helicopter, which would then take him to Primary Children's Hospital in Salt Lake City.

Stiles said that once his son was loaded into the ambulance to meet the helicopter, he needed to call his mother to take care of his other son... but there was no cell phone service. So, he tuned his mobile ham radio to a local repeater and was able to reach Zach Gunyan, KE7WYG.



Zach Gunyan KE7WYG (left) and Isaac Stiles KJ7FAY

Gunyan made telephone contact with Stiles' mother and relayed critical information. He also went a few steps further and stayed on the phone to help calm and assure Mrs. Stiles that everything was going well. He took the rest of the day off from work, kept monitoring the repeater until Stiles was back in the area, and then went to the scene of the accident to help recover the boat and equipment.

After the telephone conversations with Gunyan, Mrs. Stiles thanked him for his help, to which he replied, "This is why I originally got into ham radio, to help just one person in an emergency."

Stiles had a hard time finding the words to thank Gunyan. "He's always been a dependable person and helped in many amateur events," said Stiles. "We are fast becoming good friends!" Gunyan said he keeps his radio on most of the time, except when he is moving between locations and servicing computer networks. "I lose signal as I move from building to building," said Gunyan. "But on the day of the accident, I just happened to be at the right place, where I could hear the call for help."

Stiles' son is now out of the hospital and on track to make a full recovery.

Gunyan is an ARRL member and the current president of the Sweetwater Amateur Radio Club (SARC). He is an Emergency Management volunteer with the Sweetwater County Sheriff's Office. Stiles, secretary of the SARC, is now working on a way to recognize Gunyan for his efforts during the accident.





Use Front Panel to add Analog Repeater to Anytone 878 Peter ZL1PX

Some useful info if you are on vacation and don't have code-plug equipment available. Please let me know if you find errors in these instructions.

Step 1. Create a Zone with at least one channel.



Press Menu Highlight and select Zone Select Add Zone Select Edit Name Type and confirm name Select Edit Chan Select Add Chan Select an analog repeater already in the menu Select Back Select Save

(Navigate to check your zone shows on the main menu with one Analog Repeater)

Step 2. Add a new repeater



Navigate to your new Zone Press Menu then Select Settings Select Chan Set Select New Chan Confirm Input Chan Num Type Name of repeater Press down and then up Press Select twice to save

(Navigate to check your repeater shows in zone)

Step 3. Add RX, TX and tone (if needed) for your repeater



Navigate to your new channel from Step 2 Press Menu and Select Settings Select Chan Set Select Rx Freq Confirm Rx Freq Press Delete twice to exit Select Tx Freq Confirm Rx Freq Press Delete twice to exit Select TCDT for Tone Select TCDT for Tone Select Tone number Press Back, Back, Back to exit.

(Test your new Analog Repeater)

Extra Info

 All frequencies must show eight digits – just add zeros
 Hash character next to Zero (#) will cycle upper case/lower case/number

3. These instructions require at least one analog repeater is already in the menu.

4. If there is no analog repeater in menu, use a talk group to create the new zone but then change Channel Type in Settings/Chan Set from D-Digital to A-Analog before adding New Chan.

4. To delete an analog repeater, navigate to the channel on front panel, then press Menu, Settings, Chan Set and choose Delete Chan. Confirm by pressing select.

5. To delete a zone, navigate to any other Zone, Press Menu, Go to Zone you want deleted, Press Select, Use up/down to find 'Delete Zone', Press Select to confirm.

To test your AnyTone, try Franklin Amateur Radio Club DMR net, TG 5301, Wednesday 7.30 PM OR Bombay Repeater net, 146.900 MHz, Mon – Sat, 8:30 AM

Frustrated by HF QSB and Noise

Peter ZL1PX

Having a tough week on HF? There are a huge number of places where you can still get your ham radio fix. I typed 'amateur radio nets' into my DuckDuckGo computer browser and was rewarded with a big range of options. I summarize a few of them for your interest below.

World Wide Friendship Net

A collection of more than two hundred nets. Each net has a separate page detailing times and access points. There is also a page detailing nets by mode, a very useful idea. For example, Mid Lanarkshire Amateur Radio Society is available in DMR TG 23550 on Wednesdays between 8 and 10 AM. USA Boredom Breaker Net is available on Echolink by clicking N5XQK-R daily at 5 PM. There are an additional five alternative ways to access USA Boredom Breaker so you will get through.



Boredom Breaker net in USA can be accessed through six different digital modes.

EchoLink Nets

A PDF document opens to reveal a range of nets available on EchoLink and All Star. Some interesting topics in this document – EG, - AMATEUR RADIO UFO NET, The Pet Net, Disaster Communications Forum Net, BOREALIS NET, NATIONAL HISTORY NET and many others.

Extended Freedom Network

These are Nets which can be accessed by a comprehensive range of communication media. These include All Star, EchoLink, DMR, SIP Phone System, YSF Reflector, HamShack HotLine, TGIF Digital Network, Hams Over IP and TeamSpeak. All you need is a computer of some kind and a call sign to register. You will spend hours finding a net you like but then settle into a comfortable rag chew with someone compatible that may continue for years.

Amateur Radio Digital Nets

A guide to nets mostly accessed on DMR which will provide an enjoyable and full week of amateur radio discussion and entertainment.

This is only a small sampling of one search by DuckDuckGo. So what if HF is tough at this end of the planet and you can't reach your usual local net? There are other hams you CAN reach who could potentially set you on to an entirely new interest. It's also essential for the brain to get out of its comfort zone every now and then. Broaden your bandwidth! Transmit from your computer.