



Committee

President: Gary Landon ZL1WGL

Vice President: Peter Henderson ZL1PJH

Secretary: Tom McDonald ZL1TO Ph. 09 238 8580

with: Mike Jane ZL1UOM, Ted Doell ZL1BQA, Durlene Griffin ZL1ULK, and Mike Lee ZL1MFL.

Examiners: Ian ZL1PZ, Tom ZL1TO.

Web page: www.qsl.net/zl1sa/

MEETINGS: The club meets on the third Tuesday each month, in the clubrooms, Stadium Drive Pukekohe, 7.30 pm. Visitors welcome.

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

Subscriptions \$20.00, family \$30.00.

Nets every Sunday at 9.00 am on 3.700 MHz (controller ZL1UOM) and 9.30 am on the 146.900 MHz repeater (controller ZL1PZ). Other 2 metre frequencies are 145.775 MHz, 146.625 MHz, and 146.900 simplex if repeaters off air.

Newsletter: Editor Tom ZL1TO tom.mcdonald@xtra.co.nz
A copy is sent to members and clubs in the Auckland area. Sent free of obligation by e-mail to anyone interested.

Ian ZL1PZ

Club members will be aware that one of our highly respected Life Members has been in the wars. Ian ZL1PZ had a fall mid November and is recovering from broken ribs. Ian has asked that we advise his new digs - Room 359 Possum Bourne Village, phone 2380815. Ian is getting set up with a VHF radio and is recommissioning his computer for Zoom conferences. Our best wishes go to Ian, for a full recovery.

Hyperlinks

In this issue of QUA the Editor has been experimenting by putting in hyperlinks to external references. If you come across text in blue then odds are that if you put the mouse over that text, and click, you will be connected to the source material. This all depends on your having been reading the newsletter online. The aim is to make articles relatively short, but with the option to expand if you wish. Thanks to Peter ZL1PJH for help with finding a suitable PDF writer.

Seasons Greetings

We are all looking forward to a year where Covid is less of a hindrance. Do have a Happy Christmas and a good New Year.



NEWSLETTERS FROM OTHER BRANCHES

03. Dinner at Titirangi RSA 15 December. Constructing a cat tracker.

29. Christmas party a video conference on Teams, 6 December. Jock White Memorial Field Days – a plea for members to participate. Time-out disabled on 670 repeater. Playing with HF data modes. Lunar eclipse photo.

65. December meetings on Teams. Club broadband dipole completed. Batteries – a lesson with a difference. Dart

Club Notice Board

Annual General meeting, Tuesday 21 December

The annual general meeting is being held one month later than normal due to the Covid lockdown. We meet at the clubhouse at 1930 hours, with Covid pass and masks required. The agenda will follow the pattern of previous years, with the 2020 AGM minutes printed in the Members edition of November 2021 QUA.

The meeting will be followed by a general meeting and supper.

This year supper will be simple – tea or coffee with cake and biscuits, but no strawberries and icecream.

Jock White HF Field Days, 26-27 February 2022

A decision on the venue for Franklin's team ought to be made at our December meeting. There is a possibility that we will be able to enter the contest for the Montgomery Cup by including a CW operator or two.

experiment to nudge an asteroid off course. Installing Linux in a ham shack. Tilt over tower for sale.

66. Cover – replacing cable trays on Klondyke tower. Meeting 13 December – informal Christmas gathering. Working bee 12 December. Work toward linking 690 and 670. Talk on programming Baofeng with Chirp software, and Tait programming. AGM held by Teams 8 November. History of the regulator. 23 cm beacon at Maddens Plains. Donations towards repeater licences, Klondyke refurbishment, Klondyke maintenance.

80. Planning an outside BBQ for early 2022. Works schedule for KiwiSAT project.

86. 100 years since first radio broadcast from Dunedin. Improvements around the clubhouse.



Minutes of Franklin Amateur Radio Club (Inc) General Meeting held on 690 repeater, 16 November 2021

President Gary ZL1WGL opened the meeting at 1930 hours.

Check ins on 690 repeater: ZL1WGL, ZL1TO, ZL1PJH, ZL1LL, ZL1ULK, ZL1AQS, ZL1TGP, ZL1UOM,

Apologies ZL1MFL and ZL1PZ (in hospital 2 days after fall today). ZL1WGL / ZL1TO

Minutes of the October meeting. The report in November QUA was approved. ZL1WGL / ZL1TO

Correspondence:

Inward - Newsletters from Branches as listed in November QUA.

Outward - Response relating to late return of annual report to be written to Registrar of Incorporated Societies delayed due to problem registering with RealMe.

The correspondence report was received. ZL1TO/ZL1WGL

Finance:

Income: Nil

Expenditure: Contact Energy \$43.27

We remain in credit with Watercare.

The finance report for the annual general meeting has been circulated with November QUA.

FMG bill for insurance of Clubhouse \$72000 and contents

\$3000 is due for payment before 22 November \$671.06 This sum is below the committee spending limit of \$700 but approval is sought at this general meeting.

The report was received and insurance bill was approved for payment. ZL1BQA / ZL1TO

Reports:

It was agreed that the Annual General Meeting will be on Tuesday 21 December. Perhaps a vaccine passport will be required of those attending. If Covid-19 rules prevent the meeting then the December AGM meeting can be postponed again.

General Business:

The chain across the driveway between the club and the skate park has now been separated from the post at the skate board park twice in the last few weeks. Mike ZL1UOM and Tom ZL1TO have each made a repair. There are spare screws with 10mm hex heads available at the top table inside the clubhouse if further repairs are needed. Three members reported the fence was safe and sound after their last visit.

Two 2.4 m 100 mm square posts are in the clubhouse near the cushioned seats at the rear if needed for a short fence between Carls Junior and the clubhouse.

Nominations for office will close 14 days ahead of the AGM.

The meeting closed at 1945 hrs

A Zoom meeting followed and was attended by ZL1PJH, ZL1LL, ZL1TO, ZL1WGL, ZL1TGP, ZL1MFL, ZL1AQS, ZL1UOM, ZL1BQA. The conference ended at 2120 hrs.



Minutes of Franklin Amateur Radio Club (Inc) Committee Meeting held at the clubhouse 19 Stadium Drive, Pukekohe, 7 December 2021.

President Gary ZL1WGL opened the meeting at 1935 hours.

Attendance: ZL1WGL, ZL1TO, ZL1PJH, ZL1ULK, ZL1UOM, ZL1BQA

Apology: ZL1MFL accepted ZL1TO / ZL1PJH

Minutes of the November meeting. The report in November QUA was approved. ZL1BQA / ZL1PJH

Correspondence:

Inward - Newsletters from Branches as listed in November QUA, plus from Branches 03,29, 65, 80, 86.

FMG Post

Email from Panuku asking for access along driveway. Reply sent. Agreed all formal email correspondence from the Secretary should request automatic acknowledgement.

The Treasurer is still not able to get in to Real Me and the Registrar of Incorporated Societies.

The correspondence report was received. ZL1TO / ZL1WGL

Finance:

Income: Nil

Expenditure: FMG Clubhouse insurance \$671.06 paid, Contact Energy \$49.13 paid, in credit with Watercare.

The report was received and Contact Energy payment is ratified. ZL1TO / ZL1BQA

The Secretary was asked to put discussion of a donation to Branch 66 on the AGM agenda.

Reports:

The Annual General Meeting will be on Tuesday 21 December in the clubhouse. A vaccine pass will be required of those attending. If Covid-19 rules change and prevent the meeting then the December AGM meeting can be postponed again. Masks will be compulsory. Members observed that many pharmacies will print out the Covid pass if a person is not capable of printing or downloading the pass to a mobile telephone.

Nominations for office. Nomination forms are available. All except ZL1MFL are willing to go on the committee again. Peter ZL1PJH is willing to become Editor of QUA.

General Business:

Ted ZL1BQA expressed second thoughts about putting a fence across one end of the ally between the clubhouse and Carls Junior. Ted now thinks that it would be better opened at the street end. Mike will take off the fence palings of the short section of wall. Both Gary ZL1WGL and Tom ZL1TO spoke in favour of planting climbing rose at the skate park end of the ally. The chain across the driveway between the club and the skate park has now been separated from the post at the skate board park at least three times in the past month.

There were reports on the progress of Ian Sexton ZL1PZ who is in Middlemore recovering from broken ribs.

Notice of AGM was included in November QUA. Seating for AGM will be set out with social distancing.

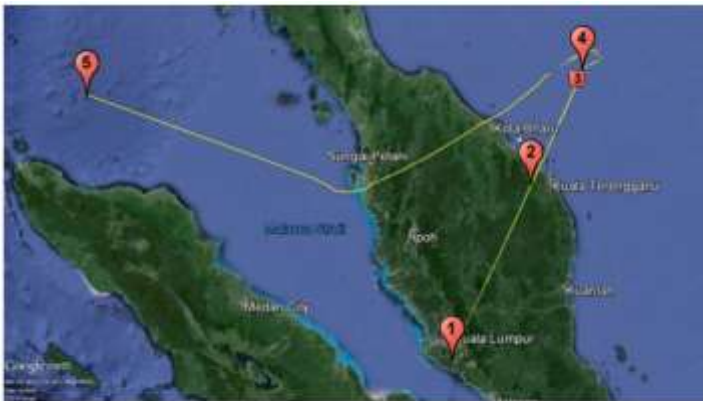
The meeting closed at 2105 hrs

Can Amateur Radio help find MH370 ?

Flight MH370 was a Malaysian Airlines Boeing 777-200ER scheduled to fly Kuala Lumpur to Beijing on 7 March 2014 with 12 crew and 227 passengers on board.

The aircraft departed Kuala Lumpur at 1642 hrs UTC and all appeared normal up to the last ACARS report at 1707 hrs when the aircraft was at 35000 feet and about to cross the Malaysia coast to the South China Sea. The onboard ADS-B transponder was turned off at 1721:13 hrs with the aircraft still on its correct track, halfway across the sea to Vietnam.

Days later, analysis of radar systems showed that primary radar tracked the aircraft further as it turned left, crossed Malaysia southward and then right to head out the Strait of Malacca. The First Officer's cellphone registered with a tower on Penang Island. The last military primary radar contact showed the aircraft 230 miles northwest of Penang.



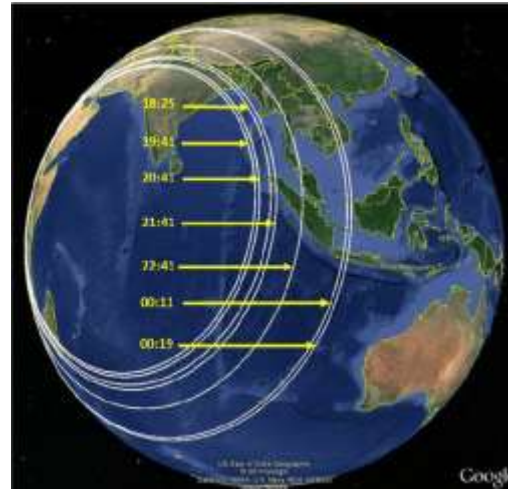
1 Chronological sequence of events in MH370 disappearance. 1 = Take off; 2 = Final ACARS transmission; 3 = Final radio contact; 4 = Final Mode S transmission; 5 = Final primary radar detection

Air and sea searches, the latter using sonar, were unsuccessful. It is theorised that the pilot deliberately disabled the other crew and passengers and flew as far from civilisation as his fuel would take the aircraft. The searches concentrated on a segment of the "seventh arc". But, as there was no position line available to cross the arc, the search area was necessarily long and narrow. Floating wreckage from MH370, found washed up 18 months later at Mauritius and Madagascar is consistent with known drift patterns in the Indian Ocean.

Now, here in 2021, is where amateur radio comes into the picture. A technique developed years later utilises reports of WSPR (weak signal propagation reports) between amateurs to put together a track of the missing aircraft. The technique, using Global Detection and Tracking of Any Aircraft Anywhere (GDTAAA) software has been developed by [Richard Godfrey](#), a British aerospace engineer.



Initial reports of sightings in the South China Sea proved to be unwarranted. Analysis of radio handshakes between the Inmarsat-3F1 satellite and the aircraft suggested that it had turned into the Indian Ocean heading southward. These seven handshakes have been processed to infer [arcs](#) on the earth's surface where the aircraft was located (derived from the BTO – burst timing offset, in the radio path between satellite and aircraft) and a speed (derived from the BFO – burst frequency offset, which is a doppler shift). There were also pings to the [SDU](#) for an unanswered satellite phone contact, and a text message from the airline office. Five of the arcs correspond to once per hour automatic handshakes. Two handshakes were initiated by the aircraft, at times when an electric power outage was put right; with the second of these being when the auxiliary power unit started as the main engines ran out of fuel.



At left the yellow lines connect the observed time with its arc. Inmarsat-3F1 is stationary over the Indian ocean.

Can extra position lines be found to cross the arcs?

Basically the new technique looks at aircraft scattering anomalies in the radio path between pairs of amateur stations. An aircraft may well be present at the point where the two great circle paths (of contacts between four stations) intersect at the same time. WSPRnet is helpful, as late as 7 years after the event, because the WSPR reports are collected at two minute intervals and stored in a database. Analysis of WSPR data suggests that the position of MH370 was pinpointed several times during the last six hours of its journey. Some sections of the amateur community have expressed [doubts](#) of the WSPRnet interpretation by Mr Godfrey.



In researching this article the author has not come across any reports that OTHR (over the horizon radar) installations had identified flight MH370. The [Jindalee](#) system (at left) would have had coverage of only a small part of the presumed track.

There is the potential for amateurs to experiment with passive over the horizon radar techniques. One possibility involves using the signals from WWV and WWVH which have been reported as probing ionosphere structure for paths of up to 1500 km.

Tom McDonald (ZL1TO)

Learn to Morse: CW Academy

Peter Henderson (ZL1PJH)



David (ZL1DK) and Rob (ZL1RJS) started to send out National System broadcasts of text at 5 words per minute in March this year. After almost a year of tuning in 4 days a week, I have learned to copy 13 words per minute on CW and this is only a little short of the speed of a majority of amateur operators. I also started to make contacts with other Morse hobbyists on the 80 and 40 metre bands. I now decode most of the messages they send me. Even when I do not recognise all they send, I can usually craft a reply that makes me appear to have understood their over.

Stan (ZL3TK) taught me 'express' mode a few weeks ago, which helps me get even more satisfaction out of CW conversations. In 'express' mode, operators each take responsibility for transmitting their own call sign at least once within the 15 minute legal requirement. This allows us to avoid those repeated *yourcallsign-mycallsign* strings at the beginning and end of an over. Simply put, in 'Express'

their website. ([CW Academy pages](#))

1. High speed broadband internet access
2. Access to Windows PC or Windows operating system
3. Computing device (desktop, laptop)
4. Webcam (camera, microphone) either built-in or USB add-on
5. Key paddle (single lever or dual lever)
6. Keyer with sidetone or radio with built-in keyer and sidetone
7. Dedication to 60 minutes of daily practice
8. Comfortable understanding and speaking the English language



mode you begin and end each over with 'bk' (back to you). You continue with 'bk' for as many overs as you want. When you need to meet your 15 min legal call sign requirement, you inset 'de' and your own call sign leaving your QSO partner to do the same. In CW, where keying energy must be conserved this considerably speeds up any QSO. Many thanks to Stan.

So where to from here?

American Radio Relay League (ARRL) offer free training for amateur CW operators that take you from whatever level you have reached so far to a faster, more proficient capability. The training is free but you have to commit to some specific requirements. Not wanting to misrepresent the Academy, I copied these 'minimum essentials' directly from

CW Academy have four start levels: beginner, basic, intermediate and advanced. Courses run three times a year, usually in the same time zone, meeting on Zoom or Skype twice a week for eight weeks. I applied for intermediate level (10 WPM) and a week ago received word I will start in a Jan-Feb 2022 course. That gives me two months in which to get familiar with a paddle key. What information I have seen on ham sites so far tells me a paddle is just as easy as a straight key to learn but we will see. Paddles allow course CW Academy tutors to record student sending and instantly decode this. This is because paddle sent code has its spacing 'smoothed' through a key controller. I have only used a straight key until now so I have some work to do learning paddle.

Two of the desired code skills are HEAD COPY and RECOGNIZING WORDS AS SOUNDS. I can recognise some words already as sounds - *the*, *and*, *who*, *net* and *will* for example. However, my efforts to collect words in a sentence in my head generally lead to a semantic black hole. Let's hope I can make some 'head'way on that. The course also offers experience of a range of Morse QSOs. On our first day, we listen to a QSO without writing it down. Our tutor would like answers to some basic questions: Who sent CQ? Who answered? What rig did the operators use? What was the weather like? All just from listening to a series of dots and dashes!

If you want to hear some of my dots and dashes, you are welcome at 8.30 Wednesday nights on 3545 kHz.

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