Promotional ideas and checklists for clubs

How to succeed with Amateur Radio Open Days

Justin Giles-Clark VK7TW, President REAST

The COVID-19 pandemic has seen many amateur radio organisations across Australia reporting increasing numbers of people studying for and sitting their amateur radio licence exams. To capitalise on this growth in interest, here are a number of avenues for creating a wider interest and engagement with the community by building greater interaction, promotion and awareness.

The Radio and Electronics Association of Southern Tasmania Inc (REAST) committee discussed what they could do to most effectively showcase our hobby and invite people to become involved in local activities. The result was the holding of Open Days on 5 December 2020 and 30 January 2022 at the heritage-listed 1912 Coast Wireless Station on top of the Queen's Domain in Hobart. This is a well-known landmark in Hobart and is easily accessible, yet is usually not open to the public.

The Open Days were aimed at the wider community, including those who may not know very much about radio and amateur radio, or have nurture preconceived ideas about amateur radio being some old grey nerdy dudes talking on their radio in the cellar! Let's face it, we have all seen those images of amateur radio and it is these myths that we need to actively work to dispel. To this end, the committee actively resisted having an amateur radio car boot sale as part of the day – which did disappoint some amateurs!

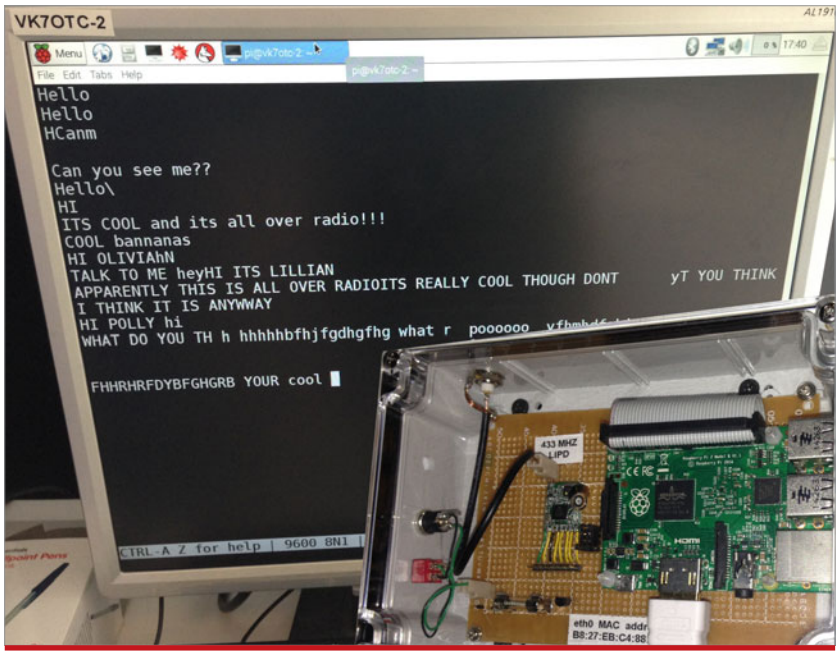
Activities and checklists

The following is a checklist for various activities, some being hands-on. A *presentation focus* for each activity is included, for clubs to follow. REAST is happy to share design information and internet sources for many of these activities. You may have other areas of focus within your club. Use them.

Earth-Moon-Earth – Moonbounce

- If lunar cycles and libration permit – an EME station setup to communicate via WSJT-X with a station overseas via the moon.
- 10 GHz Az/El 1800 mm Dish / Power Amplifier / Transverter / RasTrack Tracking the Moon.
- 10 GHz Az/El 600 mm Dish / Power Amplifier / Transverter.
- 10 GHz Az/El 600 mm Dish and K3NG GPS-locked Az/El Controller – tracking the sun.
- K3NG GPS Locked Az/El Controller.
- Presentation Focus: Demonstration of the impressive feat of bouncing a radio signal off the moon travelling the 769,000 km round trip with a 2.6 second delay!

Earth-Moon-Earth display – an attention getter (photo VK7TW).



Connected terminals to send messages back and forth (photo VK7TW).

Amateur Radio Direction Finding / Fox Hunting

- ARDF fox – mini-transmitter (thanks to VK7HSD) would be hidden in the compound.
- ARDF receivers and measuring tape Yagis – people direction-find the hidden transmitter.
- Presentation Focus: Fox hunting uses radio frequency to track a static or moving fox with directional antennas.

Other activities

The other activities were mainly static displays, including:

Presentation Screen – main room

- ALARA interview.
- REAST AR in 2020 presentation.
- WICEN Tas (Sth) presentation.

Radio communications between computers

- Two RF connected RaspberryPi terminals.
- People could type messages to each other between the terminals.
- Presentation Focus: Analogy is WiFi operating up on microwave radio frequencies.

Optical communications

- Two Wall-E optical communicators – people line-up the red light-beams across the room and talk to each other.
- Presentation Focus: Light is also an electromagnetic signal, way up in the light spectrum.

Morse code communications

- Two Arduino based Morse Code Decoders – as you keyed morse code the Arduino would decode and display it.
- Presentation Focus: Morse code is one way that amateur radio operators communicate; this provides a challenge to write something on the display.

Wall-E optical communicators (photo VK7TW).

Digital curiosity: Arduino-based Morse decoders (photo Michael Pope).

- Presentation Focus: Display the broad range of amateur radio activities that are available.

Microwave communications displays

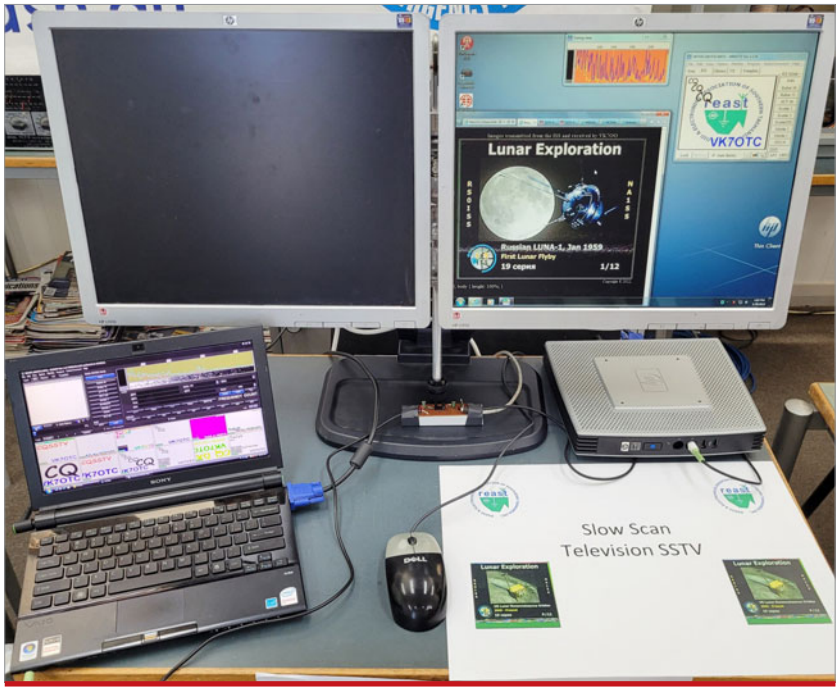
- 1.2 GHz WSJTX – QRA64 link from Launceston to Hobart using an IC-9700 and PC with WSJTX.
- 1.2 GHz Power Amplifier / Transverter.
- 2.4 GHz Power Amplifier / Transverter.
- 3.4 GHz Power Amplifier / Transverter.
- 5.7 GHz Wideband AV Link dishes enabling the public to see and hear each other across a microwave link.
- Presentation Focus: Microwaves similar to your kitchen microwave can be used for novel communications modes.

Emergency, portable and community event communications

- WICEN Tas (Sth):
  - Wind-up Mast Trailer.
  - Aluminium portable mast with Yagis.
  - 9m Fishing Poles, vertical antennas with tape measure groundplanes.
  - ICOM Repeater.
  - Portable equipment.
- Presentation Focus: Demonstrates the portable and emergency readiness elements of the hobby when all other communications infrastructure fails.

Wideband microwave (5.7 GHz) demonstration (photo Michael Pope).

WICEN display – to show in-field deployment (photo VK7LAG).



Slow Scan TV display – a screen with changing images always attracts attention (photo Michael Pope).

Satellite communication

- Weather Satellite reception using RTL-SDR and Moxon antenna.
- Presentation Focus: A huge numbers of satellites are orbiting above us and this demonstrates the use of weather and amateur radio satellites; demonstrates simple and cheap reception using RTL-SDR and open-source computer programs.

Slow Scan Television

- Slow-scan TV (SSTV) station setup transmitting and receiving SSTV pictures over an infrared LED/photodiode link throughout the day.
- Presentation Focus: Another mode demonstrated that enables the sending of pictures via amateur radio, including from the International Space Station.

ADSB Communications

- ADSB receiver showing plane locations and presentation.

- Included listening to air traffic channel whilst you were waiting for your coffee.
- Presentation Focus: Simple and cheap reception using RTL-SDR and open-source software to decode aircraft location data (ADSB) from passing aircraft.

Summits on the Air/ World Wide Flora and Fauna

- SOTA equipment.
- SOTA Brochures.
- SOTA VK7 Associations Manuals.
- Notebook running Google Earth flying through all 695 VK7 summits.
- SOTA Flag.
- Presentation Focus: Demonstrates combining bushwalking with amateur radio and fun from activating a mountain or a National Park.

Presentation screen with ALARA President talking to recent Foundation Licence candidates (photo VK7TW).

HF digital communications demonstration (photo Michael Pope).

Digital Amateur TV studio – demonstrating leading-edge technology (photo Michael Pope).

Australian Ladies Amateur Radio Association (ALARA)

- Information brochures.
- Membership forms.
- Rolling display showing ALARA activities.
- Presentation Focus: Demonstrates and emphasises that this is not just a male hobby and there is an interest group for women run by women.

High Frequency Digital Communications

- Club HF station VK7OTC (FT-991A).
- Notebook running FT8 and FT8 global display website.
- Over 400 callsigns were heard on FT8 on 15m.
- Presentation Focus: Demonstrates the digital modes and that the HF bands are certainly not 'dead', plus you do not need a lot of power or a huge antenna!

Digital Amateur Television

- DATV Studio was open and running.
- Chroma-key screen showing different backgrounds.
- People could be news readers at the studio desk.
- Presentation Focus – Demonstrates another mode of using digital television transmission and reception – the same as people have in their homes!

Amateur Radio Training and Assessment

- Foundation Licence Manuals for sale.
- Training information brochures.
- Presentation Focus: Enables and promotes the conversation about what a person needs to do to become licensed and what the club can offer in this area.

All these displays and equipment were clearly labelled with descriptions about the equipment, mode and usage. This allowed the public to browse the displays and for the helpers on the day to assist

Displays and hands-on activities inside the clubroom (photo Michael Pope).

people in answering their questions.

Having a prepared playlist with key, easy-to-understand messages for the public for subject matter experts and helpers was certainly a learning from the days.

Promotion

REAST used Facebook to promote the day through a Facebook Event and paid additional dollars to have Facebook target people around the Hobart area in their Facebook feeds.

We did a promotional piece on local ABC Radio publicising the Open Day. Other avenues to consider are commercial radio, community radio and community TV stations. Community diaries need to be notified 1-2 weeks prior to the event and radio interviews performed 1-2 days prior to the event.

If your club has good relationships with the local Hacker and Maker Spaces and Radio Controlled (RC) Flying and Boating Clubs, then this is another opportunity to build on. Getting the local Hacker / Maker Spaces and RC group involved in the Open Day and linking the common radio frequency experimentation elements raises awareness of the many applications that all use the radio frequency spectrum.

The range of practical activities that can be on display at an Open Day will vary with each club and the interests of members in that club. One of the key elements to presenting the hobby in a positive light is to choose presenters with interesting topics, passion and good people skills.

Summary

Did we meet our aim of getting a broader range of people interested in the hobby of amateur radio? The simple answer is *yes!* Unpacking that simple answer is a slightly more complex picture.

Facebook reported that we had over 60 event responses with over 3000 people reached for the first Open Day, and over 80 event responses with over 4000 people reached with the second Open Day. The peak demographic reached was 34-54 year-olds, with 14.8% women and 85.2% men. The cost per event response was about 0.70 cents, which the REAST committee considered was money well spent.

The observation on the first day was that there were many young couples who took a look at what amateur radio is all about. We gave out many amateur radio and REAST information sheets to people as they came through.

The second day saw more families and younger people come through. People liked to talk with amateur radio operators who demonstrated a passion for the hobby and to find out what the equipment and displays meant and how they were used.

Linda VK7QP, President of ALARA, added eight women to her contact list, and Reg VK7KK, who is the REAST Learning Organiser, had at least 12 people leave their details with interest in the next Foundation Licence Training and Assessment day.

The Sausage Sizzle sold out both days. The real barista-made coffee was a hit, along with the lovely Greek desserts made by Tony VK7VKT. The addition of good food and real coffee was a real winner on the day.

A video of each Open Day was taken and is available at the REAST YouTube Channel in the events playlist, at: www.youtube.com/c/ReastHobart

I hope amateur radio clubs around Australia can use this information when planning an Amateur Radio Open Day. It would be fantastic to see more people in this great hobby!

Real coffee, sausage sizzle and yummy desserts always attract people to an event!