



Western Suburbs Radio Club Inc.

July 2019 Newsletter

ZL1AC, Branch 03 NZART 3000 Great North Road New Lynn,
 PO Box 15-122 New Lynn WAITAKERE 0640
 President: Ian Sangster ZL1RCA, Vice President – Grant Manning ZL1GSM.
 Secretary: Andrew Mitchell, ZL1AF, Treasurer Merv Thomas ZL1SK,
 Newsletter Editor – John Neill ZL1NE.
 VHF Club Net Wednesday 08:30pm 146.525 MHz,
 HF Club Net Fridays 08:00pm 3.650 MHz
 Website <http://www.amateurradio.co.nz/>

Club Calendar 2019

Saturday	27 th	July	Committee Meeting 9:00am
Saturday	27 th	July	Club Meeting 10:00am – Show and Tell
Saturday	27 th	July	Whangarei ARC Used Equipment Sale. Clubroom Heritage Park http://zl1am.org.nz email admin@al1am.org.nz
Wednesday	31 st	July	Informal Meeting at the Clubrooms 9:30am
Wednesday	7 th	August	Informal Meeting at the Clubrooms 9:30am
Wednesday	21 st	August	Informal Meeting at the Clubrooms 9:30am
Saturday	24 th	August	Committee Meeting 9:00am
Saturday	24 th	August	Club Meeting 10:00am – Topic to be Announced
Saturday	31 st	August	Hamilton Branch 12 Market Day, 1024 Gordonton Road, Buyers 10:00am
Sunday	1 st	September	Fathers Day
Wednesday	4 th	September	Informal Meeting at the Clubrooms 9:30am
Wednesday	18 th	September	Informal Meeting at the Clubrooms 9:30am
Saturday	21 st	September	New Plymouth Junk Sale, 0800 Vendors, 1000 Buyers. Mangorei Memorial Hall Corner SH3 and Kent Road www.zl2ab.com/
Saturday	28 th	September	Committee Meeting 9:00am
Saturday	28 th	September	Club Meeting 10:00am – Topic to be Announced
Wednesday	2 nd	October	Informal Meeting at the Clubrooms 9:30am
Wednesday	16 th	October	Informal Meeting at the Clubrooms 9:30am
Saturday	26 th	October	Committee Meeting 9:00am
Saturday	26 th	October	Club Meeting 10:00am – Topic to be Announced
Monday	28 th	October	Labour Day
Wednesday	30 th	October	Informal Meeting at the Clubrooms 9:30am
Saturday	2 nd	November	WSRC Used Equipment Sale – Date and Venue to be confirmed
Wednesday	6 th	November	Informal Meeting at the Clubrooms 9:30am
Wednesday	20 th	November	Informal Meeting at the Clubrooms 9:30am
Saturday	23 rd	November	Committee Meeting 9:00am
Saturday	23 rd	November	Club Meeting 10:00am – Topic to be Announced
Wednesday	4 th	December	Informal Meeting at the Clubrooms 9:30am
Wednesday	11 th	December	Christmas Dinner – Date and Venue to be confirmed
Wednesday	18 th	December	Informal Meeting at the Clubrooms 9:30am
Tuesday	24 th	December	Christmas Eve
Wednesday	25 th	December	Christmas Day
Thursday	26 th	December	Boxing Day
Tuesday	31 st	December	New Year's Eve
2020			
Wednesday	1 st	January	New Year's Day

Meeting Agendas

If you have a topic that you would like to present at a club meeting, could you please contact the President or Vice President prior to meetings so that the item can be programmed for a future date.

July Meeting

The July meeting on 27th will be a show and tell. If you have something that you think may interest other club members, then bring it along and talk about it. If you would like to show pictures then also bring them. We can plug in almost anything to the TV and show it to the audience, so your options are open. If we have too many show and tell's turn up on the day, then we may have to hold some over to another meeting.

June Meeting

The June club meeting was a discussion on Software Defined Radio (SRD). Ian, ZL1RCA, Andrew, ZL1AF, and Tony, ZL1TLC, gave us a very interesting session on SDR.

Andrew concentrated on the process that is SDR and how an inexpensive USB SDR Dongle is connected to an antenna and a computer and the software that decodes the received signal. He also outlined KiwiSDR. Andrew's slides from the presentation are below in *Figures 1 to 5* and explain the basis of Software Defined Radio.

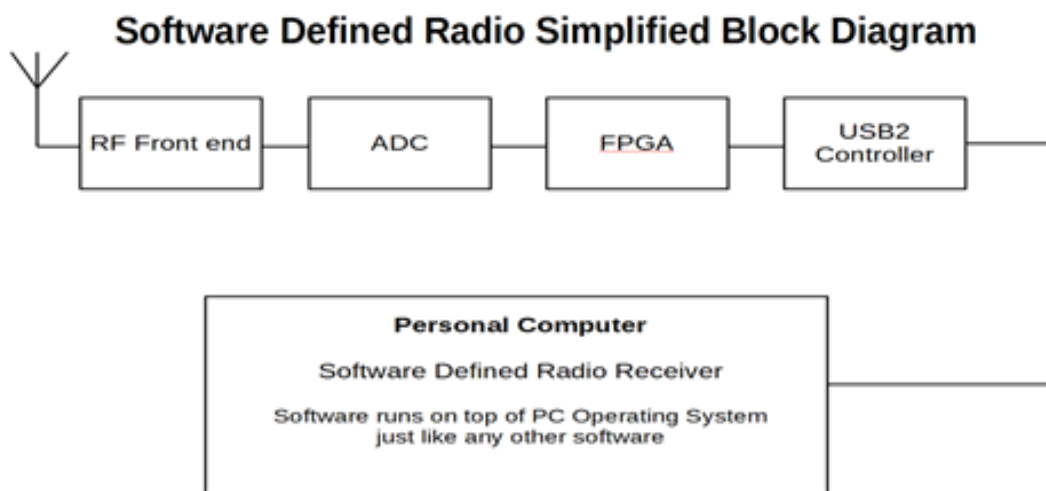


Figure 1: Block Diagram of SDR

KiwiSDR: Wide-band SDR + GPS cape for the BeagleBone Black



Figure 2: Kiwi SDR Receiver

- Samples are taken from two points of 90 degree difference, so the wave can be viewed as a spiral
- This makes it easier for the existing chipset in the PC (sound and graphics use vector processors) to demodulate the signals of interest.

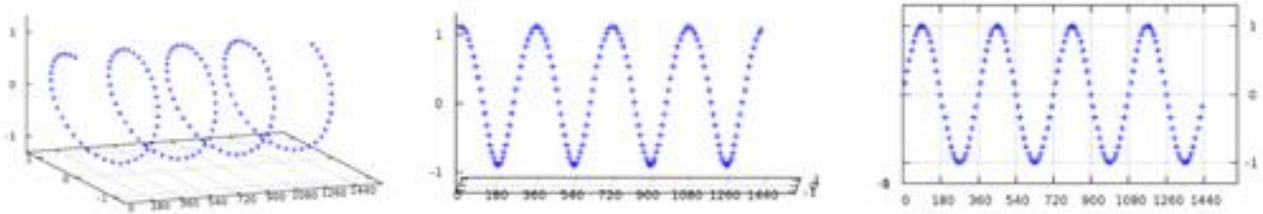


Figure 3: Decoding the Received Signal

The [KiwiSDR](#) is a software-defined radio that attaches to a [Seeed BeagleBone Green \(BBG\)](#) embedded computer. It is available as the board alone or a more complete version including [BBG](#), [GPS](#) antenna and enclosure with the software pre-installed on the [BBG](#).

The Kiwi is different from other [SDRs](#). It is a [standalone](#) device that attaches to your local network and is optionally accessed through the Internet. A browser is used to connect to the user interface. Most other [SDRs](#) generate raw IQ data and need to be connected directly to a PC or laptop running OS-specific, installed software.

Figure 4: [KiwiSDR Basics](#)

1. True general coverage
2. Work one frequency and still monitor the band
[Panadapter](#)(regular vision vs rifle scope!)
3. Filters! (brick-wall envelopes... software adaptability / update ability)
4. Audio and IF Digital Signal Processing ([DSP](#))
5. Harness the power of your existing PC
6. Multiple [VFOs](#)
7. Record large bandwidths
8. Record/playback of audio
9. Special purpose receiver:
[WX](#) satellites, aircraft monitoring, digital stations, TV, [lonosounds!](#) etc etc
10. Can you ever have too many receivers? 😊

Figure 5: Features of SDR

Ian gave a presentation on KiwiSDR as outlined by Andrew. KiwiSDR is making use of a receiver located in someone else's Ham Shack and connected to the world via the internet. There are receivers all over the world and anyone with a computer and an internet connection is able to make use of them for listening to signals from all over the world.

Tony talked about two software packages that are available free on the web to be downloaded and installed on a PC. The basic programme is SDR-Sharp. This is a good all round program and is reasonably easy to use and so is a good starting point. It has its limitations so Tony also demonstrated HSDR. This is more complex but worth persevering with as you have far greater control of the signal processing and the results are generally better. A screen snapshot from SDR-Sharp is in *Figure 6* and from HSDR in *Figure 7*. Both diagrams are tuned to 100.6 MHz and indicate the signal being received and adjacent signals which are being ignored.

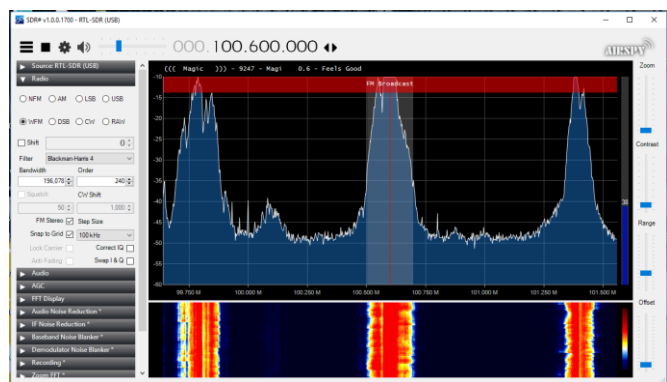


Figure 6: SDR-Sharp

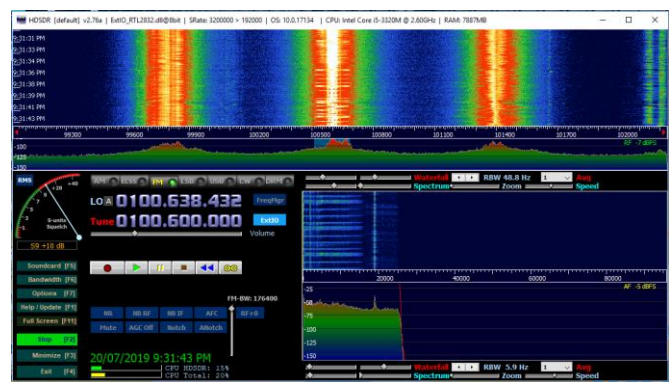


Figure 7: HSDR

One of the better dongles to purchase is the RTL-SDR V3. This is available from Trade Me for \$25.95 and is pictured opposite in *Figure 8*. This is a good entry level SDR and with the addition of free software from the internet you will be receiving radio quite quickly.



Figure 1: RTL-SDR Dongle

Intentional interference on Amateur systems

From time to time, we can be plagued with intentional interference on our systems – recently, it has been bursts of music on the National System. We are not the only ones to suffer from this – it was a major problem for Police for a while and also the South Island Mountain Radio Service amongst others.

The most important reaction to these transmissions is to totally ignore them and not react or refer to them on air. If you listened to the music, you would hear it break every so often, that's the perpetrator checking to see if he is creating reactions. They only do it to create reactions and upset people. If they can't get reactions, they quickly get bored and head away to try something else.

Please pass around at branch meetings; the important point – ignore and don't react. **DO NOT PASS THIS INFORMATION ON THE AIR – ITS RED RAG TO A BULL FOR THE PERPETRATOR AS HE KNOWS HE IS CREATING A REACTION.**

Informal Wednesday Meetings

These are continuing every first, third and fifth (if there is one) Wednesdays of the month. Attendance is good so do come along for a relaxing morning chat.

Club Nets

VHF Net 146.525 MHz at 8:30pm every Wednesday.

26-Jul-19	ZL1LK	Romy
2-Aug-19	ZL1BAK	Graeme
9-Aug-19	ZL1NE	John
16-Aug-19	ZL1AF	Andrew
23-Aug-19	ZL1RCA	Ian
30-Aug-19	ZL1LK	Romy
6-Sep-19	ZL1BAK	Graeme
13-Sep-19	ZL1NE	John
20-Sep-19	ZL1AF	Andrew
27-Sep-19	ZL1RCA	Ian

HF Net 3.650 MHz at 8:00pm every Friday.
+/-10 KHz if QRM/QRN is a problem.

All are welcome to check in on the nets.

The HF Net roster is opposite. The full HF Net Roster can be found on: <http://www.amateurradio.co.nz/>

PLAY WITH A MAC!

Merv, ZL1SK and Mr Spreadsheet to us all, has generously donated a working Apple Mac towards Club funds.

Details are:

- Operating System 10.5.8
- Hard Disk 75Gb
- RAM 512Mb
- CPU 1.6 GHZ PowerPC G5

A donation of \$50 will secure this beastie for you. On display at next club meeting.

Maritime Radio

Ian ZL1BYI has suggested that Club Members may be interested in exploring the Maritime Radio Website listed below. This site has details of all new Zealand marine radio stations.

<http://maritimeradio.org/auckland-radio-zld/>