



BARC Newsletter

Volume 33, Issue 8

February 2013

Diary Dates

February 8th Social Meeting

February 22nd Business Meeting

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Club Net Frequencies

Due to interference to the HF net on 28.450 MHz the following procedure has been adopted. If 28.450 MHz is not available, the first clear frequency in the following list will be used, 28.445, 28.440, 28.455, 28.460 (i.e. down 5, down 10, up 5, up 10) The starting time is 8:00 pm. On Wednesday nights the normal frequency of 439.950 MHz will be used, This is a repeater and an input of 434.950 MHz will be used. The starting time is 8:00 pm.

Editorial

This is the start of a new year for the Brisbane Amateur Radio Club. The previous six months have seen many changes especially the shift to the Rochedale Scout Hall and the set up of facilities to operate a station from the site. There are many more changes to occur so please join in and come along to the club house

What's New

The Club resumed activity after the Christmas break with the return of the Monday night HF Net and the Wednesday night VHF/UHF net.

The nets were not attended by many members in fact the response could only be said to be a poor representation of club member activity.

The first business meeting was held on Friday 25th January with the club secretary still out of the country on holidays so you will have to excuse the content of the minutes as I had to write them myself.

It was decided to hold another social event similar to our Christmas Breakup on **Sunday 10th March starting at 11:30 am.**

Please try to come along with your family if possible and join in on the social event. It is an excellent opportunity to meet the other club members especially all our new members since our shift to Rochedale. More details will be provided in the next edition of this newsletter

COMMITTEE MEMBERS

PRESIDENT

Kevin Dibble VK4ZR

VICE-PRESIDENT

Kevin Dalton VK4WA

SECRETARY

Peter Holtham VK4COZ

ASSIST-SECRETARY

Keith Adams VK4XAK

TREASURER

Les Parker VK4SO

LIBRARIAN

Peter Holtham VK4COZ

PROVIDOR

Jim Kelly VK4HJK

REPEATER OFFICER

Kevin Dalton VK4WA

STATION MANAGERS (VK4BA)

HF

Bill Scheele VK4TWS

Les Parker VK4SO

PROJECTS CO-ORDINATORS

Ron Everingham VK4EV

AWARDS & QSL MANAGER

To be selected

PUBLICITY & LIASON

To be selected

WICEN REPRESENTATIVES

To be selected

QSP NEWS EDITOR

Kev Dibble VK4ZR

CLUB EQUIPMENT OFFICER

Les Parker VK4SO

W.I.A. ACCREDITED EXAMINERS

Les Parker VK4SO

BARCFEST COMMITTEE

Les Parker VK4SO

CLUB MEETINGS

Meetings are held on the 2nd (social) and 4th (business) Fridays of each month at Rochedale Scout Den. 21 Rochedale Road Rochedale

No meetings are held on the 2nd Friday of January or the 4th Friday of December.

Visitors are most welcome to come along and Sample our hospitality.

MEMBERSHIP SUBSCRIPTIONS

Subs fall due on the last day of August and must Be paid by the 4th Friday in September

Current Standard Membership fee is \$20.00 (Subject to any changes prior to 31st August)

CORRESPONDENCE

All correspondence (except for items for the Club newsletter) should be addressed to:

The Secretary
Brisbane Amateur Radio Club Incorporated
P.O. Box 6106
Upper MtGravatt 4122 Qld.

Club Web Site <http://www.qsl.net/vk4ba>

Items for the Newsletter may be sent by mail to:

QSP Editor
. P.O. Box 6106
Upper Mt Gravatt, 4122 Qld..

or, by Email to:

vk4ba@qsl.net

Deadline is 5pm Monday prior to the 2nd Friday
Each month except January.

CLUB STATION NETS (VK4BA)

28.450 MHz. SSB Mondays 2000 hrs Local
439.950 MHz. FM Wednesdays 2000 hrs Local

Brisbane Amateur Radio Club

Business Meeting 25th January 2013

The meeting was opened at 7:35pm by the President VK4ZR. Eight members were present VK4ZR VK4SO VK4TWS, VK4TNT, VK4ATC, VK4XAK, VK4HJK and Paul Ferguson. Welcome to Paul who joined tonight. He will be sitting for his foundation licence next week so hopefully he will soon have a callsign

Apologies

Frank VK4XK and Peter VK4COZ

Minutes

The minutes of the last business meeting in November 2012 were read by Kevin as Peter VK4COZ, the Club Secretary is still on vacation overseas.

Business Arising

None

Financial Report

The Treasurer Les VK4SO tabled his report. The opening balance at 1st January was \$xxxx.xx There were some membership payments plus a cheque of \$xxx from the WIA as the club was successful with its application for a club grant. This money was for the club to purchase a laptop computer. Expenses were for the computer, mouse and toner for a laser printer donated to the club by Les. The closing balance was \$xxxx

Correspondence

The usual magazines have been received, AR CQ and QST. The copies of QST that were miss posted have now turned up. A letter from the WIA informing the club of our success in the club grant was also received.

Reports

10metre Net Bill, VK4TWS reported the net was officially started after the Christmas break and only five members participated down on previous nets of 2012.

70cm Net Les VK4SO reported that the net started on 146.550 MHz. Kevin and Les listened and called on 439.950MHz but got no reply. 5 minutes later Kevin VK4WA called on 70cms and was advised that the net was still on 2 metres. Keith VK4XAK called and advised that he had been listening on the BARC repeater frequency but did not hear anything. No other club members were heard. The result was very disappointing.

General Business

Les reminded the members present at the meeting that the club had made a commitment to assist with the naval event on Monday 8th April 2013. The club to arrange to make a recording in morse of the first ship to shore radio communication in Australia. Renato VK4TNT said he would obtain a copy of the text and see if he could make it sound like a spark transmitter broadcast. He will contact Les for further details. Details of this event appeared in previous copies of QSP late last year

Publicity & Liaison

The Club urgently needs a publicity and liaison officer.

It has been pointed out that there has been no mention of BARCFEST 2013 in the WIA news on Sunday while other clubs festivals are being advertised. The Club needs to receive mention in as many media outlets if BARCFEST is to be a success

If any member is interested in helping with this problem please contact one of the committee members. In the mean time Stuart VK4MSL will be contacted to urgently get the information to the editor of the WIA news.

Les VK4SO will send a email to the Amateur Radio magazine Editor to place an advertisement of one page into the April edition of the magazine

Social Event

As the Christmas break up was such a success it has been decided to hold another similar event in March once again on a Sunday afternoon. The club has to contact the Scouts to check on a free Sunday before the final date can be announced. Bill VK4TWS will contact the Scout Master and select a suitable date. Please prepare to make arrangements to attend with your family so that this coming social event can be a success and enjoyable by all.

Monday and Wednesday nets

The format of these nets were discussed and it was decided that they should be more informative so that members who cannot attend a meeting can find out what is the latest details of what is happening within the club. The Net Controllers will attempt to provide a brief summary of latest developments at the start of the net so that members who are unable to attend club meetings can stay in contact with the latest developments. Please try to take advantage of these facilities.

Interesting and Informative talks

A discussion as to what can be done to attract more members to attend meetings was held with suggestions of who could participate in these talks. The club members could provide talks about their activities and problems encountered so that other club members could offer suggestions as to how to find solutions.

These talks could take the format of a discussion with the opportunity of anyone participating so if you have a problem and think that another club member could help with the answer come along and see if the members can solve it.

A number of impromptu discussions took place and it was surprising how many members joined in so much that the formal meeting continued until 8:30 pm.

WIA News broadcast in digital format

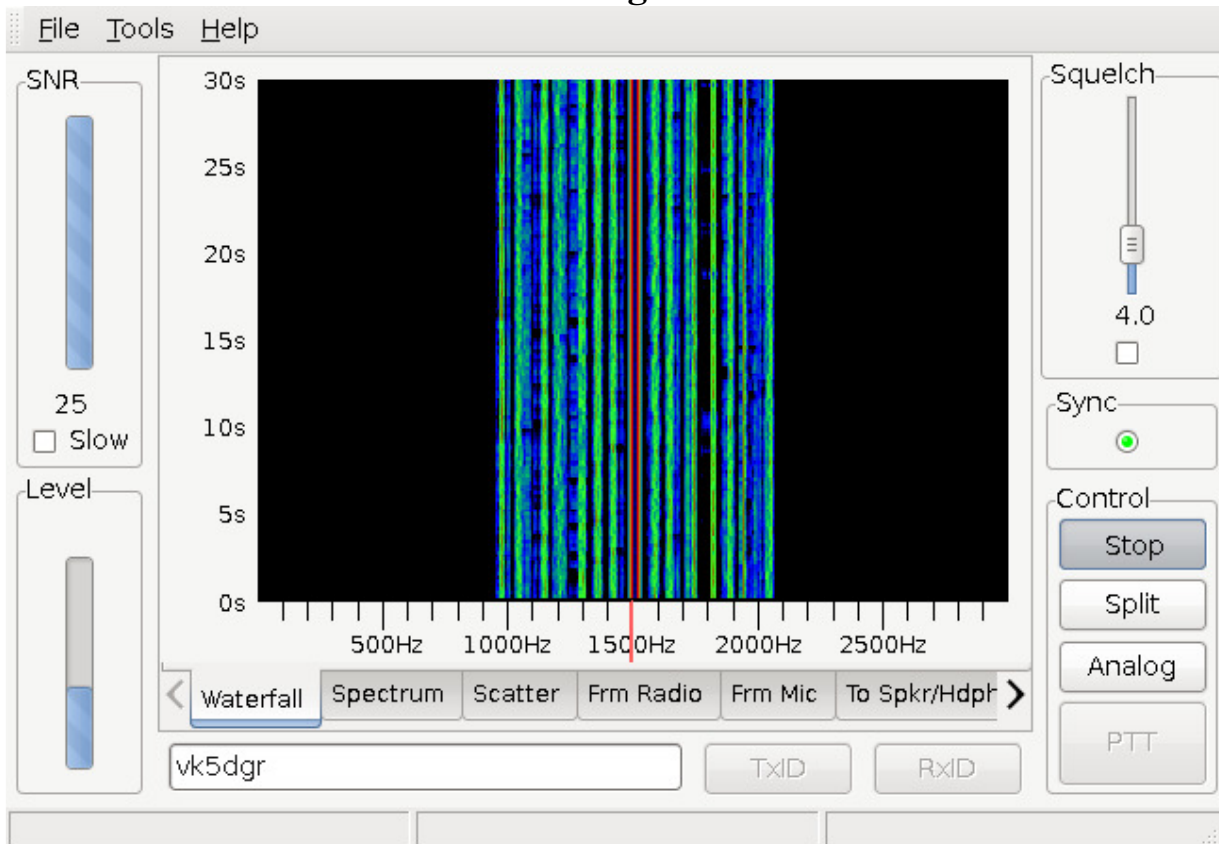
I have been told that the WIA news has been transmitted in a digital format. The program used to listen to the broadcast is **freedv**.

I did a search on the internet and found the following article explaining how to download the computer program and interconnect to a HF Transceiver with a simple interface. It should be quite simple to just listen to the broadcast by a simple connection from the audio out of the receive to the line input on the Audio card of the computer with allowance for the level and impedance difference.

Transmitting a digital signal and the push to talk facility may involve a more detailed interface. Up to date I have not had the time to try this out so I have just copied all the details from the web site as an introduction.



FreeDV: Digital Voice for HF



Introduction

FreeDV is a GUI application for Windows and Linux (MacOS and BSD are in testing) that allows any SSB radio to be used for low bit rate digital voice.

Speech is compressed down to 1400 bit/s then modulated onto a 1100 Hz wide QPSK signal which is sent to the Mic input of a SSB radio. On receive, the signal is received by the SSB radio, then demodulated and decoded by FreeDV.

FreeDV was built by an international team of Radio Amateurs working together on coding, design, user interface and testing. FreeDV is open source software, released under the GNU Public License version 2.1. The FDMDV modem and Codec 2 Speech codec used in FreeDV are also open source.

Why FreeDV?

Amateur Radio is transitioning from analog to digital, much as it transitioned from AM to SSB in the 1950's and 1960's. How would you feel if one or two companies owned the patents for SSB, then forced you to use their technology, made it illegal to experiment with or even understand the technology, and insisted you stay locked to it for the next 100 years? That's exactly what was happening with digital voice. But now, hams are in control of their technology again!

FreeDV is unique as it uses 100% Open Source Software, *including* the audio codec. No secrets, nothing proprietary! FreeDV represents a path for 21st century Amateur Radio where Hams are free to experiment and innovate, rather than a future locked into a single manufacturers closed technology.

Demo Video

[Watch this video](#) of a FreeDV QSO.

Here is what you need:





- A SSB receiver or transceiver
- FreeDV software (Windows is ready, Linux coming)
- A Windows or Linux PC with one (receive only) or two sound cards.
- Cables to connect your PC to your SSB radio.

Download

1. Windows:

- [Windows binary files \(v0.91 beta\)](#) 

2. Fedora Linux. Mike, N0SO, has kindly produced some Fedora 17 Linux RPMS:

- [32 bit README](#)  and [32 bit \(i686\) Fedora 17 Linux](#) 
- [64 bit README](#)  and [64 bit systems \(x86 64\) Fedora 17 Linux](#) 

Quick Start Guide

Several start-up guides are available

- [Microsoft Windows Users](#)
- [Video Guide for Microsoft Windows Users](#)
- [Video Quick Guide to Microphones](#) 

Useful Frequencies

USA, 14.236 MHz

Support

Please post your questions to the "Digital Voice" Google group: [digitalvoice at googlegroups.com](http://digitalvoice.at.googlegroups.com)

Design & Key Features

Design:

- Codec 2 voice codec and FDMDV modem
- 50 baud 14 QPSK voice data
- 1 Center BPSK carrier with 2x power for fast and robust synchronisation.
- 1.125 kHz spectrum bandwidth (half SSB) with 75 Hz carrier spacing
- 1400 bit/s data rate with 1375 bit/s open source Codec 2 voice coding and 25 bit/s text for call sign ID
- No interleaving in time or FEC philosophy resulting in low latency, fast synchronization and quick recovery from fades.
- 44.1 or 48kHz sample rate sound card compatible
-

Key Features:

- Cross platform, runs on Linux or Windows (ports underway for MacOS and FreeBSD)
- Open source, patent free Codec and Modem that anyone can experiment with and modify
- Waterfall, spectrum, scatter and audio oscilloscope displays.
- Adjustable squelch
- Fast/slow SNR estimation
- Microphone and Speaker signal audio Equaliser
- Control of Transmitter PTT via RS232 levels
- Works with one (receive only) or two (transmit and receive) sound cards, for example a built in sound card and USB headphones.

Credits

FreeDV was coded from scratch by David Witten (GUI, architecture) and David Rowe (Codec 2, modem implementation, integration).

The FreeDV design and user interface is based on FDMDV, which was developed by Francesco Lanza, HB9TLK. Francesco received advice on modem design from Peter Martinez G3PLX, who has also advised David on the FDMDV modem used in FreeDV.

Mel Whitten, K0PFX has contributed greatly to the design, testing and promotion of several Digital Voice systems, including FDMDV. This practical experience has led to the current design – a fast sync, no FEC, low latency system that gives a “SSB” type feel for operators. Mel and a team of alpha testers (Gerry, N4DVR; Jim, K3DCC; Rick, WA6NUT; Tony, K2MO) provided feedback on usability and design of FreeDV.

Bruce Perens has been a thought leader on open source, patent free voice codecs for Amateur Radio. He has inspired, promoted and encouraged the development of Codec 2 and FreeDV.

Source Code

SVN repository for FreeDV:

<https://freetel.svn.sourceforge.net/svnroot/freetel/fdmdv2>

Instructions for compiling are in README.Linux and README.Win32

FreeDV is built with cross platform open source libraries including [wxWidgets](#) and [PortAudio](#).

There is a free, if somewhat old, wxWidgets book that you can download [here](#).

Useful Frequencies

USA, 14.236 MHz

Links

[Windows binary files \(v0.91 beta\)](#)
<http://groups.google.com/group/digitalvoice>
[FDMDV Digital Voice Resource Page](#)
[Codec 2 Voice Codec](#)
[FDMDV Modem](#)
[Why Open Source Digital Voice Is Important](#)

FAQ

Q1: Is there any way to save the screen settings when you drag the tabs to multiple windows on the main screen?

A1: No, as we can't work out how to support saving and restoring this information with wxWidgets.

GOTCHAS

1. Starting FreeDV first thing this morning resulted in a dialog with an error message:

```
../src/msw/bitmap.cpp(846):assert "image.IsOk()" failed in  
CreateFromImage(): invalid image
```

Solution: manually remove all FreeDV values in the Registry.

This is obviously not a great solution. But for those who encounter this, the key to remove is:

HKEY_CURRENT_USER\Software\CODEC2-Project and everything under it in the heirarchy. It will be recreated when you reopen the program. You will have to reconfigure your sound card and PTT settings.

2. The Tools - Record/Play file feature doesn't work with my wave file!

Currently the "Play File - Mic In" feature only supports 8 kHz sample rate, 16 bit integer samples. Try converting your wave file to that format.

FreeDV Beta release Task List

Linux package

(done)This Wiki Page

(done)One Pager HowTo/QuickStart

(done) v0.9 Beta text on about and window name

(done) explanation of Scatter diagram

(done) remove (#ifdef out) TXID/RXID buttons for now as they don't work

(done) PTT rig control on Linux

(done) v0.91 Change full to half duplex for VOX PTT control

FreeDV Features TODO List

EQ way to export/import filter params as a text string for sharing

EQ Window floating such that user can toggle PTT without closing filter window

RSID's RXID/TXID

Improved click tune acquisition range

FDMDV style Waterfall option with red line indicating expected spectrum

Play File To Radio Feature

Better names for record/play file features

Record/Play files at different sample rates

Determine if new version is available via HTML

Waterfall ID, optionally send ID signal that renders as image on waterfall display

Limit waterfall/spectrum x axis to 200-2800Hz to block of low end noise from Signal link boxes

(done)Half duplex mode to mute tx audio on Rx, un mute on PTT (v0.91)

(done)Uncheck squelch when in analog mode (v0.91)

When FDMDV is in focus, space bar control of PTT (toggle of TX/RX)

Consider reducing varicode character set to reduce induced errors

Speex noise suppression on mic input option

FreeDV Minor bug list

Crashes when waterfall size reduced to very small values

Blue-green-red waterfall display shows black at maximum signal, as it does at minimum signal.

Support 96 kHz sample rates, make sure rate selection and max internal max 12kHz, the "Record 2s" button

Review receiver input level bargraph "Too High" setting

Call sign not preserved between re-starts

Setting record time on Windows

Position of loop and record time controls on play/record dialogs

Try smaller FIFO buffers to reduce latency

Try to reduce number of empty buffer events, e.g. with thread priority

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BARC Involvement with digital Transmissions

I will endeavour to get my equipment set up to be able to transmit on the HF Bands using the digital method just described and provide a report for the next edition of the Newsletter.

It may be possible to change our mode of transmission over to digital for the Clubs HF net on Monday night. This will have to be discussed with Bill VK4TWS who is our Net controller for the net on 28.450 MHz.

Bill is very active with Digital TV so his interface he is using should be able to be used for the freeDV program. I have not had the opportunity to talk to Bill about this proposal so I cannot make any more comments at this stage.

This subject will be part of the general Business to be discussed at the next Business Meeting so we should be able to see the members ideas as to whether the club progresses into this venture or not.

Special Event April 2013

Copy of Email received from Grant VK4JAZ

I have been asked by the St.Mary's Committee to help arrange a ham radio event to coincide with the 110th anniversary of the first shore to ship radio communication that took place on 9 April 1903. I believe someone on the committee has already talked to members of your club about this.

I have spoken to the WIA for the call VK4NAVY, and they have sent me the application form. Seems that it is best to be applied for from a registered club. Our idea is to set up a special event station at St Mary's on the day, but have a station on air for that week, possible located at the Maritime Museum (on the Diamantina?). Special Event QSL cards would also be printed and distributed after the event though the buro.

Would you be interested in taking this idea further? We would obviously need operators to man the shack. I think we could also apply to Icom to loan us equipment.

Looking forward to hearing from you in due course,

Grant McDuling VK4JAZ

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Special Event 8th April 2013

The Club urgently needs a proficient operator who can send morse code at 20 words a minute to attend this event.

Copy of Email received from Les VK4SO

Earlier this year I was contacted by the Holland Park RSL re an event happening on 8th April 2013. I was invited to attend one of their meetings which I did attend .I then passed this information on to club members and it was agreed that we would participate in the event.

The event is a celebration of the 130th anniversary of the first ship to shore communication by radio in Australia. This coincides with an Australia wide reunion of naval personnel and will be a national event. What is required is a display of radio equipment and to send that message via Morse code throughout the morning and to contact other hams on the day.

What is required by us is to provide a cw operator and people to attend the display. The event will be held on 8th April 2013 from around 8am onwards. **The operator must be able to send morse code at 20 words per minute**

As this is a national event maybe we should apply for a special callsign for the day such as VI 130 or similar and maybe qsl cards for the event.

This event will take place at the Holland Park RSL hall or the adjoining Girl Guide hut

.The original Girl Guide hut was the building where the first message was received but was replaced with another building some time ago.

Please give this some thought and help to make this an event to promote amateur radio

Les VK4SO

This was discussed at the January Business Meeting and Renato VK4TNT is looking into the possibility of making up a suitable recording to be played on the day.

The Club also needs volunteers to attend on the Monday to set up an Amateur Radio Station so that some contacts can be made.

Any interested members please contact Les.

Club Activity on Saturday afternoons

There are lots of activities that can be undertaken on Saturday afternoons at the Rochedale Scout Hall.

There is a need to reinstall the VHF Antennas so that the Transceiver can be used on VHF and UHF As well as maybe fitting some low loss cable to improve the repeater even better that it is at the moment.

The HF mast can be raised to increase the height of the Tri-band Yagi. There is some rearrangements to be made to achieve this.

I will send out an email to all members each time there is some activity proposed for Saturday afternoon so that those members who cannot attend on an evening can enjoy some time at the club house.



The February Edition of QST is now available for loan from the Brisbane Amateur Radio club library