



*** QDG DIGIPEAT January 2016 ***

Digipeat is the Official Newsletter of the Queensland Digital Group
Incorporating 'Amateur Eye', the Official Newsletter of the
South East Queensland Amateur Television Group

January QDG Meeting

The Next QDG general meeting will be held on Friday January 15 at the Redcliffe club rooms.
Doors will open at 7:00pm for a meeting start of 7:30pm.
The club is located at MacFarlane Park in Klingner Rd, Kippa Ring.(UBD Map 91 Ref G 1)
<https://plus.google.com/106119512431582251982/about?gl=au&hl=en>

Editorial

A very happy new year to you all. I hope the festive season saw you unpacking your shiny new radio toys. I hope your new year's resolution is to be more active in digital modes, this includes digital TV.

Alan VK4NA

NEWS FROM THE SEQATV GROUP

New web site

Please check out the new Web site for the latest information and contact details.
<http://seqatv.org/>

Microwave Dish

Do you need a dish for microwave activity?

There is one (1) only, Mitec 600mm prime focus spun aluminium dish available for pick up from Stanthorpe; **free** to a QDG member if you promise to use it; if you are not a member please join, also free.

Alan Wills VK4NA

qdg@qdg.org.au



New Tracker / DSP TNC

Shortwave APRS and much more in an even better package

SCS now presents the redesign of its time-tested Tracker / DSP TNC in a new beautiful housing and equipped with the improved firmware 1.4. The new Tracker also has a GPS connector with a fused 5 V output to supply external GPS devices (e.g. a GPS mouse).

The device incorporates a 24/56-bit DSP and combines a full AX.25 TNC (The Firmware-compatible RPR, 300 and 1200 Bd AFSK, 9600 and 19200 Bd FSK) with a universal APRS tracker. The new SCS Tracker also provides Robust Packet Radio Modulation (RPR), thus enabling extremely reliable shortwave APRS worldwide – a unique feature. See also <http://robust-packet.net>. The device is capable of various dual-modulation modes (RPR, AFSK 300 Bd), enabling maximum flexibility in shortwave APRS tracking and 300 Bd FSK APRS network compatibility.

The high-quality hardware has a fully isolated USB connector and a TCXO time base for the DSP. The Tracker has a mini-DIN transceiver connector which is compatible with the Packet Radio standard.

<http://www.scs-ptc.com/news/new-tracker/new-tracker-dsp-tnc>

The Kentucky Packet Network

"Packet Radio never died, it just evolved." WA4ZKO

The Kentucky Packet Network, KYPN for short, is a loosely organized group of Kentucky ham radio operators interested in packet radio. The group was started in 1992 and has its roots in the Northern Kentucky area. In 2012 KYPN became more formally organized and obtained the club callsign of K4KPN.

<https://kypn.wordpress.com/>

HAMSOFT

Linux Software for the Hamradio Community

PACKET Software

<https://radio.linux.org.au/?sectpat=packet>

FLDIGI Users Manual 3.22

FSQ, Fast Simple QSO, is an Incremental-Frequency-Keyed mode using an offset differential modulation scheme similar to DominoEX, and Thor. It is a unique mode for fldigi users in that it is a line by line transmission rather than character by character. FSQ uses 33 tones spaced by 3 times the 3 baud symbol rate or 8.8 Hz. The offset rotation of the IFKP sequence offers improved performance under NVIS conditions, because the rotation significantly reduces the risk of adjacent symbols causing inter-symbol interference.

http://www.w1hkj.com/FldigiHelp-3.22/fsq_page.html

FSQ was introduced a few months ago by Con Wassilieff ZL2AFP with the assistance of Murray Greenman ZL1BPU

<https://www.youtube.com/watch?v=j4qZJuWDcM>

Amateur Radio WB8NUT

Pierce Township - Cincinnati, Ohio - United States of America

Digital Modes Information Page

Join the Fun!!

Communication technologies that are specifically designed to improve "live" HF keyboard operation can now be achieved which were previously only theory, too complex, or too costly to implement to be practical. Thanks to the generosity of radio amateurs (hams) with programming knowledge, and to the Internet, new and powerful communications tools are available to all hams. The evolution and wide spread use of the Personal Computer that include a digital sound card for Digital Signal Processing (DSP), is allowing radio amateurs to use these tools to develop new modes of digital communication. The distinguishing features of live HF digital operation today are the use of lower power, compact or indoor antennas and courteous operating techniques. This reverses the trend of several years ago.

Confusion over band space is the obvious down-side as new and old modes compete for space on the HF bands. Crowding on a single band like 20 meters is partly to blame for this issue. Fortunately, the new modes like MFSK16, are designed to improve performance for a wide range of operating conditions. This should allow for increased amateur radio band usage to relieve crowding and extend contact opportunities as propagation changes to favor different bands. These are really exciting times for all radio amateurs the use and enjoy all these new digital modes!

<http://wb8nut.com/digital/>

Digital Modes Samples

This page will help you identify a mode you've heard.

<http://www.kb9ukd.com/digital/>



GET A FAST START WITH SLOW SCAN TV!

With these tips and info you can get into the fun of sstv fast!

<http://www.hamuniverse.com/sstv.html>



SSTV and other radio related information

<http://www.gohwc.com/>

VK3NM VK6DC

Links of interest on 160 Metre web sites and some photos

<http://www.qsl.net/vk3nm/160mt.html>

HELITRON

DV4mini USB Stick for D-Star and DMR

DV4mini is a tiny but powerful USB stick that can change any PC into a HOTSPOT for the modes D-Star and DMR (C4FM Fusion is being prepared). It contains a powerful 32-bit micro controller as well as a complete 70cm transceiver and modulator/demodulator for GMSK and 4FSK (including raised cosine) as well as a USB interface. It does not require its own power supply as it is powered through the USB interface. Thanks to a power saving voltage transformer even older USB interfaces will suffice. It will be shipped with a comprehensive but simple to use software package which allows for the linking with DCS reflectors for both D-Star and DMR reflectors.

http://www.helitron.de/shop/product_info.php?language=en&products_id=81

DMR Users

digital radio discussion

<http://www.dmrusers.co.uk/viewtopic.php?t=335>

Australian latest 2 metre band plan

Please note the changes which have been adopted for frequencies between 144.700 and 145.800 MHz.

These changes include rearrangement of simplex channels and the provision of extra repeater allocations for

use in cases where none of the regular channels is available.

<http://www.wia.org.au/members/bandplans/data/documents/Australian%20Band%20Plan%20m%20150729.pdf>

A PRACTICAL EVALUATION AND COMPARISON OF SOME MODERN DATA MODES

as applied to THEIR POTENTIAL FOR UK-WIDE AMATEUR EMERGENCY DATA BROADCASTS

Steve Richards B.Sc. (Hons), M.I.B.S., G4HPE

<http://www.qsl.net/zl1bpu/MFSK/datmodes2.pdf>

Radio sounds

Below are examples of sounds from digital radio modes on short wave. More info on most of these modes is provided further down on this page. These recordings can be used to test your digi-mode decoding software and receiver-PC interface.

<http://www.nonstopsystems.com/radio/radio-sounds.html>



JOTA-JOTI is the largest Scouting event in the world. In 2014 over 1.3 million Scouts participated across 157 countries. The event is held the third weekend of October; for 2016 the Jamboree takes place on 14th, 15th & 16th October. This is the official World Organization of the Scout Movement's website for JOTA-JOTI (Jamboree on the Air – Jamboree on the Internet).
<http://jotajoti.info/>

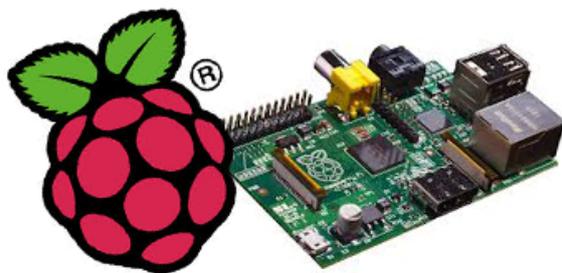
ONE SIXTY METER CROSSBAND RADIO

Stay tuned to this spot for the latest information on the regular one sixty meter crossband transmissions from vk3ase.
<http://crossbandradio.com/>

Australian Old Time Radio Recordings

Recordings from the 1930's to the 1990's
<http://crossbandradio.com/ozradioarchives.html>

Ham Radio and the Raspberry Pi

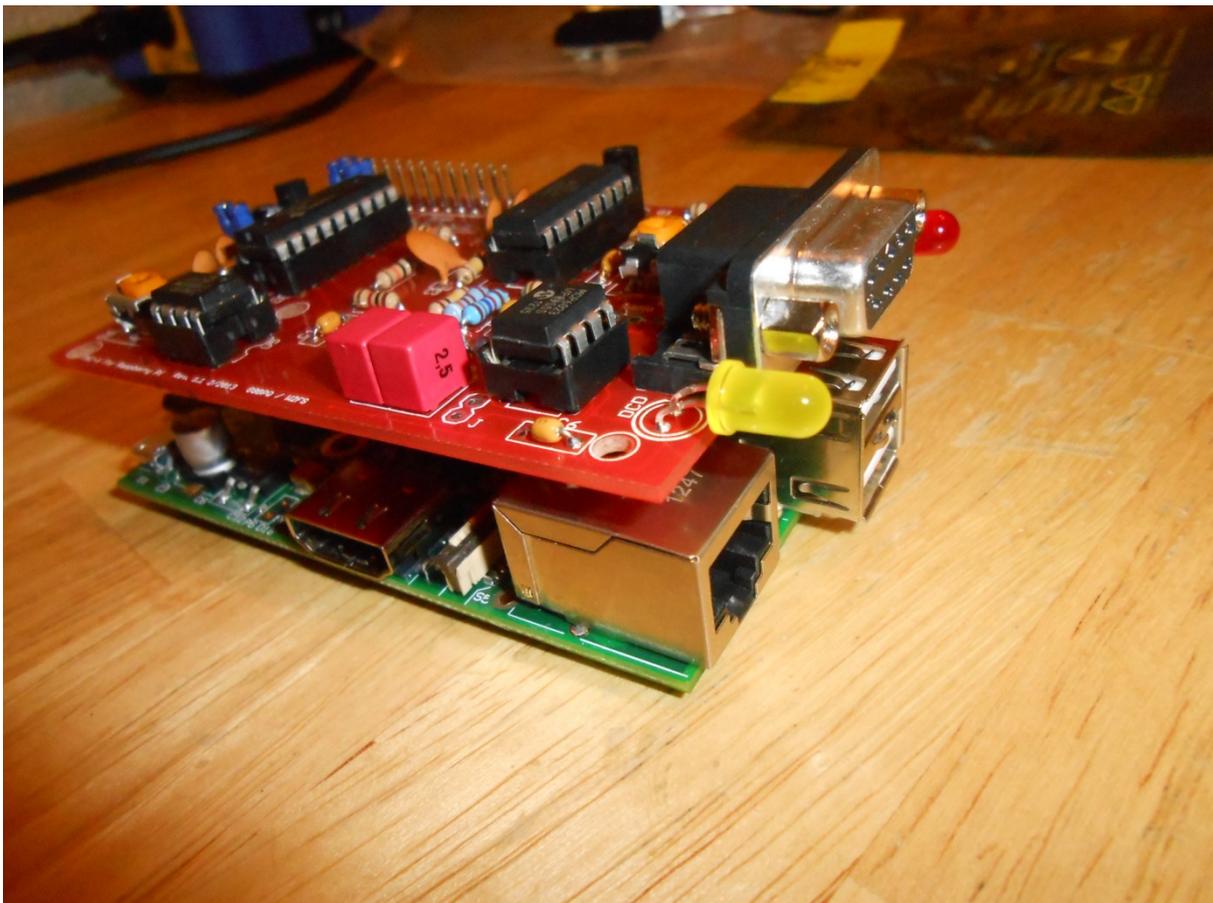


In the short time the Raspberry Pi has been around it has gone through a few changes, each time improving memory, processor, connectivity ETC.
www.g0hwc.com/images/raspberry-logo.png

HAM / Amateur Radio - Integrating the Linux and Radio worlds together

I've just started my journey into understanding the fascinating and complicated world of amateur radio. I learned touch of the theory in some of my Electrical Engineering classes but Amateur (or HAM) radio makes it a lot more practical or "real world". This is something you can actually learn and play with!

<http://www.trinityos.com/HAM/index-ham.html>



Raspberry Pi Packet BBS

<http://www.ag6qo.com/PiPBBS.html>

WB8ROL Olivia Digital Mode Information Page

This site's goal is to present information to help digital amateur radio operators better understand and be able to more efficiently use the different Olivia digital mode configurations.

<http://www.oliviamode.com/>



TNC-Pi

TNC-X for Raspberry Pi

Have Your Pi a la mode!

TNC-Pi is a special version of TNC-X designed to interface directly with the Raspberry Pi computer. It can connect to the Pi either via the Pi's serial port, or via the I2C protocol. In the latter case, a single Pi can support multiple TNC-Pi's at the same time, since each TNC-Pi can be given a unique I2C address.

<http://www.tnc-x.com/TNCPi.htm>

VK4ZXI

Low-cost Amateur Digital Television- DVB-T ATV

Low-cost Amateur Digital Television- DVB-T ATV using UT-100C transmitter USB dongle

I am setting up a DVB-T tx on the atv channel on 70 cm. I am using a UT-100c USB dongle

http://www.hides.com.tw/product_eng.html http://www.idealez.com/hides/product-detail/en_US/69859. It is only US\$169 and produces 1 mW of DVB-T output. The software is at

<https://drive.google.com/folderview?id=0BzoVnSl8XNdQMmZPbDhEcZA2RjA&usp=sharing>. There are some pdfs of the device and how the software works.

<http://vk4zxi.blogspot.com.au/2013/10/amateur-digital-television-dvb-t-atv.html>

KH6HTV

Filter designs for ATV use

<https://kh6htv.files.wordpress.com/2015/07/an-22b-inter-digital-bpf1.pdf>

Signal Identification Guide

This wiki is intended to help identify radio signals through example sounds and waterfall images.

Most signals are received and recorded using a software defined radio such as the RTL-SDR, HackRF, BladeRF, Funcube Dongle, USRP or others.

<http://qrznow.com/signal-identification-guide/>

Codec 2

David Rowe, VK5DGR

Introduction

Codec 2 is an open source speech codec designed for communications quality speech between 700 and 3200 bit/s. The main application is low bandwidth HF/VHF digital radio. It fills a gap in open source, free-as-in-speech voice codecs beneath 5000 bit/s and is released under the GNU Lesser General Public License (LGPL).

http://www.rowetel.com/blog/?page_id=452



Digital modes

Links to software

<http://www.qsl.net/rv3apm/>

Decoding Digital Voice

RTL-SDR Tutorial: (P25, DMR, NXDN, D-STAR) with DSD

The RTL-SDR software defined radio combined with SDRSharp and a program called "digital speech decoder" (DSD) can be used as a radio scanner to easily and cheaply listen to unencrypted digital radio voice conversations.

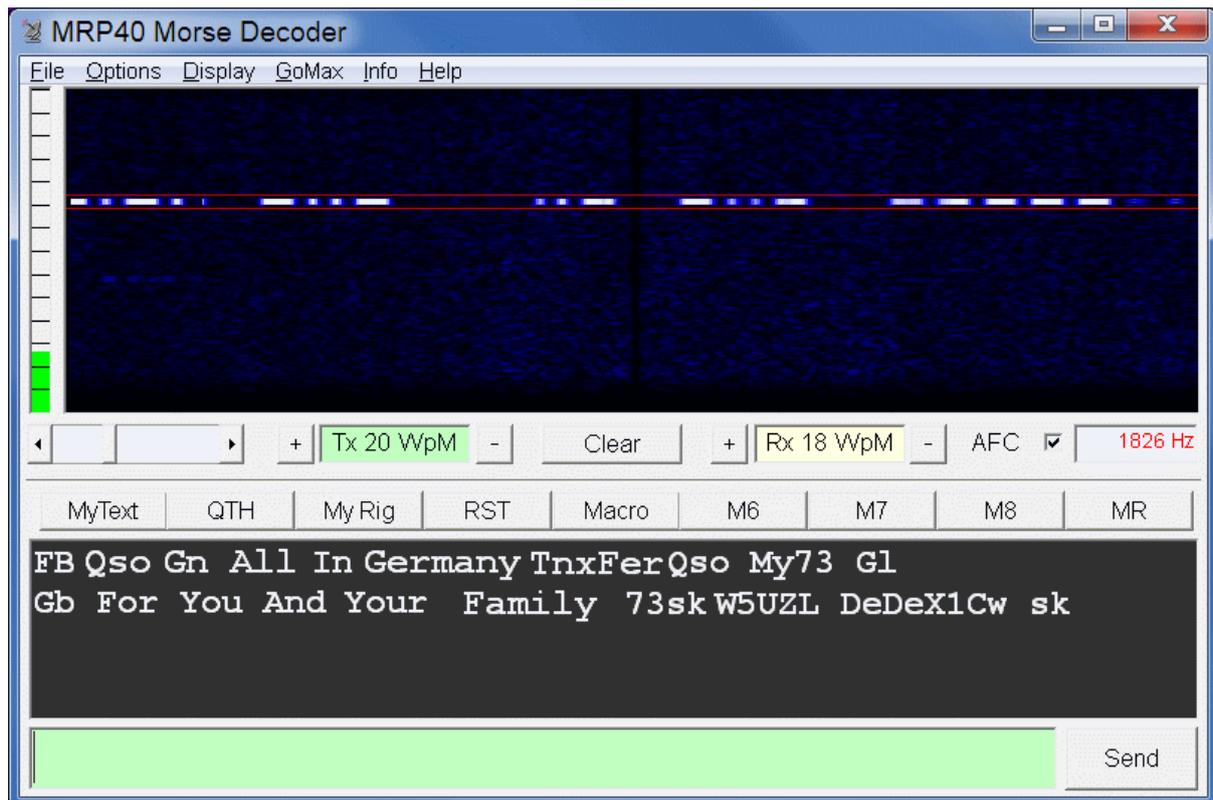
<http://www.rtl-sdr.com/rtl-sdr-radio-scanner-tutorial-decoding-digital-voice-p25-with-dsd/>

Improved Digital Voice P25 Decoding with DSD+

Over on Reddit we've seen mention of an upgraded Digital Speech Decoder (DSD) program, named DSD+. The original DSD is a program that can be used in conjunction with a SDR receiving program such as SDR#, and an audio piping program like VBCable to decode digital speech, such as P25 and DMR/MOTOTRBO.

DSD+ claims to have improved decoding and audio quality capabilities.

<http://www.rtl-sdr.com/improved-digital-voice-p25-decoding-dsd/>



MRP40

MRP40 is a powerful and highly-effective ham radio software program that decodes received CW audio that has been fed to a computer's sound card. The decoded text is displayed on the computer's monitor. For transmitting CW, the program encodes keystrokes from the computer's keyboard. Hams use MRP40 to send and read QRQ (high-speed) CW, to help read weak DX signals, and to improve CW contest scores.

<http://www.polar-electric.com/Morse/MRP40-EN/>

Everything You Need To Know About AC Routers

The AC standard has a maximum spectral bandwidth of 8 x 160MHz as opposed to the 4 x 40MHz of the N standard.

802.11ac also improved the modulation on the spectrum by introducing 256-QAM modulation (as opposed to 64-QAM in 802.11n)

<http://www.makeuseof.com/tag/everything-need-know-ac-routers/>

Understanding Modern Digital Modulation Techniques

Fundamental to all wireless communications is modulation, the process of impressing the data to be transmitted on the radio carrier. Most wireless transmissions today are digital, and with the limited spectrum available, the type of modulation is more critical than it has ever been.

<http://electronicdesign.com/communications/understanding-modern-digital-modulation-techniques>

New LCD for Amateur Radio

Radiocommunications Licence Conditions (Amateur Licence) Determination 2015 - F2015L01113

<https://www.comlaw.gov.au/Details/F2015L01113>

ACMA Radcom Database

Register of Radiocommunications Licences

http://web.acma.gov.au/pls/radcom/register_search.main_page

2m SSB

Sunshine Coast 2m SSB net

19:30 Sundays on 144.300 MHz

Don't just use your equipment on field days; come up on air every Sunday.

SEQATV Club Net

Wednesday nights

8:00 PM EST on VK4RRC 146.925MHz repeater

2016 dates

Jan Fri 1st to Sun 31st WIA Ross Hull Memorial VHF-UHF Contest

Jan 22-26 VK4 TARC Australia Day Long Week Family Radio Camp; Girl Guides Campsite, Bluewater
CCARC Wyong Field Day Sunday 28 February 2016.

<http://www.fieldday.org.au/>

July 19 VK3 GippsTech 2016 Churchill

August 19 QDG general meeting; Alan Simpson memorial home brew competition www.qdg.org.au

October 14th, 15th & 16th 2016 JOTA-JOTI

Contests 2016

VHF-UHF Field Days

Summer 2016 - Saturday 9 and Sunday 10 January.

Winter 2016 - Saturday 18 and Sunday 19 June.

<http://www.wia.org.au/members/contests/vhfuhf/>

WIA John Moyle Field Day 19-20 March 2016

<http://www.wia.org.au/members/contests/johnmoyle/>

Harry Angel 80 mtr sprint (WIA) provisional date Saturday 7th May.

<http://www.wia.org.au/members/contests/harryangel/>

QDG information

QDG meeting dates 2016

January 15

February 19

March 18

April 15

May 20

June 17

July 15

August 19

September 16

October 21

November 18

December 16

Unless otherwise noted, QDG group general meetings are held on the third Friday of the month at the Redcliffe Club rooms

The club is located at MacFarlane Park in Klingner Rd, Kippa Ring.(UBD Map 91 Ref G 1)

<https://plus.google.com/106119512431582251982/about?gl=au&hl=en>

QDG Membership

QDG Membership is presently free.

As of June 2015 the QDG has 65 members.

Information and a list of members are up on the web site <http://www.qdg.org.au/qdgmemb.htm>

Membership forms are on the web site.

QDG Membership services

Members receive additional 'Digipeat Extra' emails and invitations to other club activities not included in the Digipeat newsletter.

Sound Card to Radio Interface

This computer to radio interface can be used for any audio mode including voice. The SCI provides isolation to remove earth loops as well as providing switching and level adjustment. Contact Richard VK4ZA on 07 3376 5231, email richatkn@tpg.com.au or via the QDG web site. Please contact Richard if you are interested in a dual interface PC board or a mark 2 version with modified connections.

QDG club contacts

Club contact: Alan Wills VK4NA
Digipeat Editor: Alan Wills VK4NA
Web site: Alan Wills VK4NA
Web site hosting: Tim O'Donohoe
Supper: Alan Wills VK4NA
JOTA: John VK4CJO
Phone: Alan Wills VK4NA 61 07 3491 8032
Mobile: 0401 716 778
Twitter @VK4NA

Email: qdg@qdg.org.au

Web site: <http://www.qdg.org.au>

Digipeat <http://www.qdg.org.au/qdgdigi.htm>

QDG
37 Evergreen Parade
Griffin QLD 4503
Australia

South East Queensland ATV group Information

SEQATV meeting dates 2015 - 2016

Please check the SEQATV [Web site](#)

Unless otherwise noted, SEQATV group general meetings are held on the first Tuesday on the month at the Redcliffe Club rooms

The club is located at MacFarlane Park in Klingner Rd, Kippa Ring.(UBD Map 91 Ref G 1)
<https://plus.google.com/106119512431582251982/about?gl=au&hl=en>

SEQATV group Membership

SEQATV group Membership is set at the AGM, please contact the secretary for the current fee. The membership fee remains at \$20.00 for 2015

SEQATV group Membership services

Members receive additional 'Amateur Eye Extra' emails and invitations to other club activities not included in the Digipeat or Amateur Eye newsletters.

SEQATV Club Net

Wednesday nights

8:00 PM EST on VK4RRC 146.925MHz repeater

The SEQATV group Officers

Elected officers:-

President: Arnold Youngberg VK4SU

Secretary: Bruce Jones VK4EHT

Treasurer: Andy Beales VK4KCS

Coopted Officers:-

Callback Officer: Peter Jones VK4YAC

Vice President: Alan Wills VK4NA

Assistant Secretary Bill VK4ZWJ

Additional coopted officers will be added as required.

SEQATV group Contact Information

South East Queensland Amateur Television Group

PO Box 674 Kallangur, Qld 4503, Australia

Amateur Eye (club mag) Phone: Alan Wills VK4NA 61 07 3491 8032

Email: secretary@seqatv.org

Web site: <http://www.seqatv.org/>

Enjoy your hobby!

73 Alan VK4YAR / VK4NA

***** Queensland Digital Group *****

***** SEQATV group *****

**** Supporting Radio Communications in VK4 ****