BREAKOUT

The Newsletter of the Hastings and Napier Amateur Radio Clubs

Hastings Br 13

Club Call

ZL2AS

Napier Br 25

Club Call

ZL2GT

IRLP

Node

6793

147.250

HB DX

Cluster

ZL2AL-1

144.650

Connect

and type

"DXC"

Branch

Nets

9.00 AM

Sunday

Morning

3615 Hz

147.250

MHz

Editor

John Newson

ZL2VAF

The view over Hawkes Bay from the site of 9175, Clifton

http://groups.yahoo.com/group/zl2as/

Join the KIWI DX Group
Talk to ZL2AL for Details

Inside This Issue

Hastings Branch 13 - President's Report

Hi all. I have been extremely busy this month with car rally preperations, and thankfully all seems to be going well. The weekend of the 26th and 27th please keep the repeaters free for event traffic. The following repeaters will be in use. 725 and 690 for control traffic. 670, 485, 9875, 8625, 8425 for mid point tracking. 9675 and 6925 for results. 9625 as a stand by repeater. 3825kHz USB as failsafe. 6575 and 335 for simplex traffic. 465 for APRS.

I plan to start another round of classes in late August. If you have any potential candidates, let them know. The exact start date will be in the next magazine.

In a recent Wairarapa magazine lately there was a guideline for repeater use. When I hear poor radio habits it is not always from the new operators on the air, but sometimes from the more experienced operators. It is difficult to expect the newbies to perfect their on air procedures when the set standard is not what it should be. I heard a ham tuning up on 80m on a common frequency the other day whistling and repeating the word hello without any form of identification. Then I hear another obviously grumpy ham say "Why dont you go to 2 metres where you belong", also with no identification. Both were in the wrong, and neither did any good to our hobby.

We all make slip ups on the air, myself included. It is not the end of the world. Friendly reminders if it persists, off the air if possible, are best. Encourage fellow hams, and show them the correct procedure, rather than cursing and put downs. Always identify yourself on the air in the first instance. This is law. One of the questions I spotted in the question pool is Question 17 section 1, an amateur may transmit unidentified signals.... one answer is "when making brief tests not intended to be heard by anyone else" - WRONG. The correct answer is Never, such transmissions are not permitted. Also remember - all New Zealand callsigns begin with the letters ZL. Its easy to let go on VHF where your transmissions are unlikely to be heard any great distance, but it is a good habit to get into for when you switch over to HF, where your transmissions carry around the world. Why try and remember to methods? Its easier to use your full callsign always, and it will encourage newbies to do the same.

Enough of my rant. This months club meeting we have hot soup available, and will be welcoming members from Branch 25 to join us. I will be fielding questions relating to the car rally, and we will have some test equipment there for you to test your radio on.

From Sunday and for the following week 690 and 725 will be connected together, and 8425 and 670 and 8625 will also be connected.

The on air breifing for the rally is on 725, 690, and 3825kHz (USB) this Sunday (20th) evening at 1930hrs.

Meeting is on 23rd at 1930hrs.

Regards,
Warren Harris
ZL2AJ

Branch 25 Napier News...

NAPIER NEWS...

The next Napier meeting is on Wednesday 6 August at 7.30 pm at the clubrooms. Napier members are invited to the Hastings club meeting on July 23. There will be finger food and soup available.

At our last meeting a minute's silence was observed for member Les Reid ZL2LR who passed away on 19 June on the golf course and Tom Foley ZL2ABF ex member and ex President who died June 27. Les attended Napier activities in the 50s/60s when as ZL2KL he was stationed at Waipukurau. He had previously spent over 2 years in Western Samoa. Les and Betty moved around the country and settled in Rotorua for 23 years where he was BNZ manager. He moved to Napier in retirement in the 1990s and became ZL2LR, continued golfing and his involvement with Lodges including the management board of the UFS.

Tom was active in the club in the 70s and only recently gave up his equipment. He was in his 90s.

At our the meeting Laurie ZL2TC presented his Softrock transceiver board that he had constructed from a kitset and the software necessary to operate it as a one Watt 80/40 metre transceiver using the PC audio card as audio and demodulation processing. Jeff ZL2VJW showed high quality photos that have been transmitted and received by himself and Terrig ZL2TJX on EasyPal a DRM SSTV mode.

Remember the Napier library now has the latest ARRL and RSGB handbooks plus monthly QST magazine and is shortly to get Radio Communications - the RSGB monthly magazine. These have all been acquired by the library because of Peter ZL4TCC's constant prodding of library management. We need to use them for the library to continue getting the magazines and to update the handbooks etc.

Section Leader Tony ZL2RZ has purchased a new Alinco 2metre/70 cm transceiver for AREC use to replaced the set that failed and was sold via TradeMe. A new VHF antenna is to be constructed for Kiwi Saddle hut to replace the missing one. It is used for the Kaweka Challenge event and under a proposal by Randall ZL1NW will be part funded buy that organisation. Randall will manufacture the antenna and mounting.

Stan ZL2ST

Silent Key

Today we mourn the passing of a beloved old friend, Common Sense, who has been with us for many years. No one knows for sure how old he was, since his birth records were long ago lost in bureaucratic red tape. He will be remembered as having cultivated such valuable lessons as:

Knowing when to come in out of the rain; why the early bird gets the worm; Life isn't always fair; and maybe it was my fault.

Common Sense lived by simple, sound financial policies (don't spend more than you can earn) and reliable strategies (adults, not children, are in charge).

His health began to deteriorate rapidly when well-intentioned but overbearing regulations were set in place. Reports of a 6-year-old boy charged with sexual harassment for kissing a classmate; teens suspended from school for using mouthwash after lunch; and a teacher
fired for reprimanding an unruly student, only worsened his condition.

Common Sense lost ground when parents attacked teachers for doing the job that they themselves had failed to do in disciplining their unruly children.

It declined even further when schools were required to get parental consent to administer sun lotion or an Aspirin to a student; but could not inform parents when a student became pregnant and wanted to have an abortion.

Common Sense lost the will to live as the churches became businesses; and criminals received better treatment than their victims. Common Sense took a beating when you couldn't defend yourself from a burglar in your own home and the burglar could sue you for assault.

Common Sense finally gave up the will to live, after a woman failed to realize that a steaming cup of coffee was hot. She spilled a little in her lap, and was promptly awarded a huge settlement.

Common Sense was preceded in death, by his parents, Truth and Trust; his wife, Discretion; his daughter, Responsibility; his son, Reason. He is survived by his 4 stepbrothers; I Know My Rights, I Want It Now, Someone Else Is To Blame, I'm A Victim

Not many attended his funeral because so few realized he was gone. If you still remember him, pass this on. If not, join the majority and do nothing

DSTAR as per Wikipedia

History

1999 – Funded by the Japanese government and administrated by the JARL, investigation was put into finding a new way of bringing digital technology to amateur radio.

2001 – D-Star is published as the result of the research.

Unknown Date – Icom enters the construction of the new digital technology by offering the hardware necessary to create this technology.

Unknown Date – The conclusion of all this work is the digital technology for amateur radio called D-Star. [1]

February, 1 2008: Icom announces the availability of Gateway 2.0 software.

April 23, 2008: Icom and US trust server administration announce the shutdown of the Gateway 1.0 U.S. trust server will occur at 00:00 UTC on June 1, 2008, at which time all systems should have transitioned to Gateway 2.0 software and the new U.S. trust server.

Technical details

D-STAR transfers both voice and data via digital encoding over the 2 m (VHF), 70 cm (UHF), and 23 cm (1.2 GHz) amateur radio bands. There is also an interlinking radio system for creating links between systems in a local area on 10 GHz.

Within the D-Star Digital Voice protocol standards (DV), voice audio is encoded as a 3600 bit/s data stream using proprietary AMBE encoding, with 1200 bit/s FEC, leaving 1200 bit/s for an additional data "path" between radios utilizing DV mode. On air bit rates for DV mode are 4800 bit/s over the 2 m, 70 cm and 23 cm bands.

In addition to DV mode, a high speed Digital Data (DD) mode can be sent at 128 kbit/s only on the 23 cm band. A higher-rate proprietary data protocol, currently believed to be much like ATM, is used in the 10 GHz "link" radios for site-to-site links.

Radios providing DV data service within the low-speed voice protocol variant typically use an RS-232 or USB connection for low speed data (1200 bit/s), while the Icom ID-1 23 cm band radio offers a standard Ethernet connection for high speed (128 kbit/s) connections, to allow easy interfacing with computer equipment.

Importance of Digital Technology and D-STAR

As long as the signal strength is above a minimum threshold, and no multi-path is occurring, the quality of the data received is better than an analog signal at the same strength.

The system today is capable of linking repeaters together locally and through the Internet utilizing callsigns for routing of traffic. Servers are linked via TCP/IP utilizing proprietary "gateway" software, available from Icom. This allows amateur radio operators to talk to any other amateurs participating in a particular gateway "trust" environment. The current master gateway in the United States is operated by the K5TIT group in Texas, who were the first to install a D-Star repeater system in the U.S.

Another important aspect of D-STAR technology is its ability to send large quantities of data to emergency responders in the event of a disaster. Served agencies can instantly relate to sending "email" or a "word files" to someone. The data sent can be high-volume, where traditional amateur radio "modes" are capable of getting a message through albeit slowly, D-STAR can place documents into the hands of those that need them most—fast image, text and document data exchanges.

DSTAR as per Wikipedia

Criticism

D-STAR has been criticized for its use of a patented, closed-source proprietary voice codec (AMBE). Hams do not have access to the detailed specification of this codec or the rights to implement it on their own without buying a licensed product. Hams have a long tradition of building, improving upon and experimenting with their own radio designs. The modern digital age equivalent of this would be designing and/or implementing codecs in software. Critics say the proprietary nature of AMBE and its availability only in hardware form (as ICs) discourages innovation. Even critics praise the openness of the rest of the D-STAR standard which can be implemented freely. An open-source replacement for the AMBE codec would resolve this issue.

Gateway server

The current gateway control software rs-rp2c version 2.0, more commonly called "Gateway 2.0", runs on virtually any Linux, but the Icom-supported and -recommended configuration is CentOS 5.1 on a Pentium IV 2.4 GHz or faster machine.

The recommended configuration uses Linux CentOS 5.1 with the latest updates, typically running kernel 2.4.20. glibc 2.3.2 and BIND 9.2.1. The CPU should be 2.4 GHz or faster and the memory should at least be 512 MB or greater. There should be two network interface cards and at least 10 GB free of hard drive space which includes the OS install. Finally for middleware, Apache 2.0.59, Tomcat 5.5.20, mod_jk2 2.0.4, OpenSSL 0.9.8d, J2SE 5.0 and postgreSQL 8.2.3 are utilized, but these can be different as updates occur.

Along with the open-source tools, the Icom proprietary dsipsvd or "D-Star IP Service Daemon" and a variety of crontab entries utilize a mixture of the local PostgreSQL and BIND servers to look up callsigns and "pcname" fields (stored in BIND) which are mapped to individual 10.x.x.x internal-only addresses for routing of both voice and data traffic between participating gateways.

During installation, the Gateway 2.0 software installation script builds most of the Web-based open-source tools from source for standardization purposes, while utilizing some of the packages of the host Linux OS, thus making CentOS 5.1 the common way to deploy a system, to keep incompatibilities from occurring in both package versions and configuration.

Additionally, gateways operating on the U.S. trust server are asked during initial setup to install DStarMonitor which is an add-on tool that allows the overall system administrators to see the status of each Gateway's local clock and other processes and PIDs needed for normal system operation, and also sends traffic and other data to servers operated under the domain name of "dstarusers.org". Installation of this software also includes JavaAPRSd, a Java-based APRS interface which is utilized on Gateway 2.0 systems to interface between the Icom/D-Star GPS tracking system called DPRS to the more widely known and utilized amateur radio APRS system.

How Gateway 2.0 works

Each participating amateur station wanting to use repeaters/gateways attached to a particular trust server domain must "register" with a gateway as their "home" system, which also populates their information into the trust server a specialized central gateway system—which allows for lookups across a particular trust server domain. Only one "registration" per trust domain is required. Each amateur is set aside eight 10.x.x.x internal IP addresses for use with their callsign or radios, and various naming conventions are available to utilize these addresses if needed for specialized callsign routing. Most amateurs will need only a handful of these "registered" IP addresses, because the system maps these to callsigns, and the callsign can be entered into multiple radios.

The gateway machine controls two NICs, the "external" one being on a real 10.x.x.x network behind a router. A router that can NAT a single public IP address (can be static or dynamic in Gateway 2.0 systems) to a full 10.x.x.x/24 subnet mask is required. From there, the Gateway has another NIC connected directly to the D-Star repeater controller via 10BaseT and the typical configuration is a 172.16.x.x pair of addresses between the gateway and the controller.

DSTAR as per Wikipedia

Continued ...

Differences between Gateway 2.0 and Gateway 1.0

The main differences between Gateway 1.0 and 2.0 are the addition of a relational database (PostgreSQL) for more flexibility and control of updates, versus the previous use of only BIND for "database" activities, the addition of both an administrative and end-user Web interface for registration which was previously handled via command-line commands by the Gateway 1.0 system administrators, dropping the requirement for static public IP addresses for gateways, and the ability of the software to use a DNS FQDN to find and communicate with the trust server, allowing for redundancy/failover options for the trust server administrators. Finally, a feature called "multicast" has been added for administrators to be able to provide users with a special "name" they can route calls to which will send their transmissions to up to ten other D-Star repeaters at the same time. With cooperation between administrators a "multicast group" can be created for multiple repeater networks or other events.

Another additional feature of Gateway 2.0 is the ability to use callsign "suffixes" appended to the user's callsign in a similar fashion to the repeaters and gateways in the original system, which allow for direct routing to a particular user's radio or between two user radios with the same base callsign, by utilizing the 8th most significant field of the callsign and adding a letter to that location, both in the gateway registration process on the Web interface, and in the radios themselves.

Gateway 1.0 control software

The Gateway 1.0 software was similar to Gateway 2.0, and utilized Fedora Core 2+ or Red Hat Linux 9+ OS on a Pentium-grade 2.4 GHz or faster machine and Icom has announced a shut-down date for the U.S. Gateway 1.0 Trust Server, see "History" section.

Add-on software

Various projects exist for gateway administrators to add "add-on" software to their gateways, including the most popular package called "dplus" created by Robin Cutshaw AA4RC. A large number of Gateway 2.0 systems are offering services added by this software package to their end-users, and users are getting used to having these features. Features include the ability to link systems directly, "voice mail" (a single inbox today), ability to play/record audio to and from the repeaters connected to the Gateway and the most important, the ability for DV-Dongle users to communicate from the Internet to the radio users on the repeaters.

There is often a misconception by users and system administrators alike that the Gateway 2.0 systems have these add-on features from dplus by default, a testament to the popularity of this add-on software. Software development on dplus is very active right now, and features such as multiple repeater/system connections similar to the type of linking done by other popular repeater-linking systems (IRLP and EchoLink) are being worked on.

NOTICES

Hawkes Bay Car Rally 2008

26/27 July 2008

NZART "Wine Country Conference"

Hawkes Bay 2009

Please feel free to sent notices to john.newson@xtra.co.nz

Buy – Sell - Etc

PARTS WANTED
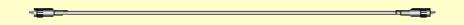
1 X 10000pf 5VK RF blocking cap

1X 200uh choke

3 x 1MEG 2 watt resistors

1 x 100k 2watt resistor

4 x ceramic caps 1.0 uf 1kv

1 x ceramic cap .02 uf 1kv

Todd ZL2SP c/o David ZL2DW (hm 8760518)

FOR SALE

FT897-D VHF,UHF,HF,6MT, $1000.00 ,Heathkit SB-200 Linear amp 1800pep
Has all the latest mods shall we say a Woof in a sheep skincover,
80,40,20,15,10,bands $1200.00 2mt amp ssb,am,fm, 30 in 240 out $250.00
and all in working condition try before you buy ,updated with New models for Hf

0274997109 or wane.wilson@gmail.com

HAMILTON JUNK SALE TRIP

On August 9th is the Hamilton Junk Sale. An 11 seater Van will be going leaving
Hastings from ZL2WL's place at 4.30 am through to Flaxmere at 4.50am Chris
ZL2VC's place then up to Glengarry which comes out on Taupo/Napier Road.
We miss out driving through Napier and save 60km in hireage. Plenty of car
parking at both pick up spots. Cost of a full van is $35.00 per head price will
depend on numbers going – 6 seats already gone.

Contact wane.wilson@gmail.com or 0274997109.