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NEW ZEALAND ASSOCIATION OF RADIO TRANSMITTERS - BRANCH 63 UPPER HUTT
Branch 63 Clubrooms
Park Street, Upper Hutt

ZL2VH Newsletter – October 2024

President's Report

Thanks to those members for coming out to the Friday night meetings, especially over the colder months. With daylight saving now upon us, warmer and longer days are worth looking forward too.

Some eighteen months ago I was approached by Richard from RWB communications (ICOM New Zealand) as whether as a club we would be interested in a new D-STAR repeater, which ICOM had released replacing the original D-STAR repeaters first produced on the late 2000's. Since this initial discussion nothing had been heard until recently from ICOM Japan. The club has been advised that there is now a charge for the new repeaters, not free but less and half of the full retail price and would we still be interested. A meeting on Friday 27 September 2024 discussed this new option. It was decided that the club would go ahead with replacing both D-STAR repeaters with new ones. The current repeaters are probably at least 14 years or older and it was decided that the replacements would again put Branch 63 at the forefront of D-Star in New Zealand, as well as updating older equipment.

This link will take you to the ICOM Japan web site:
https://www.icomjapan.com/lineup/products/d-star_digital_repeaters/

The ID-RP2010V/RP4010V/RP1200VD is a 144/430 (440)/1200 MHz D-STAR repeater compatible with the D-STAR mode as well as analogue FM for mixed mode operation. With an internal controller, the RF modules can function as a single band D-STAR/FM repeater. (ID-RP2C Controller is not required.).

So, as you can read the new repeaters can do a mix of digital and analogue FM which of itself will be interesting, in effect making 860 a UHF analogue repeater again. This mix, as far as we know is only digital in/digital out and analogue FM in/analogue FM out – this is not a cross mode function.

We are going for the ID-RP2010V/RP4010V VHF/UHF repeaters only.

Repeater Report

Repeater: Status

Climie KiwiSDR	Off Air – pending mounting in a 1U rack, and re-install on a future visit.
10 m Beacon (28.229 MHz)	On Air
3 cm Beacon (10368.275 MHz)	Off Air - pending reinstallation on GNS pole.
1292 (23 cm)	On Air. SWR check pending next visit.
D-Star 5425, 860	5425/860 On Air.
730	On Air. SR-250C PSU mains filter to be fitted at next visit to further reduce SDR noise. SWR and output power re-check next visit.
395 (6 m)	On Air.

New D-Star Reflector

This from D-Star Administration. Switzerland has installed a new DPlus Reflector REF098. http://ref098.dstargateway.org/

That makes a total of 98 REF US Trust reflectors on the G3 system.
Using DVTool 2.1 (for the blue DV Dongle) REF098 appears in the host file list automatically from US Trust. Hotspots and other devices may need manual entry.

AMSAT News

NASA's Voyager 1 spacecraft, which has been in space since 1977, recently experienced issues with its thrusters due to clogged fuel tubes caused by aging. The thrusters, which are essential for keeping the spacecraft pointed toward Earth, use liquid hydrazine that releases in puffs to adjust its orientation. Engineers discovered that one set of thrusters had become clogged with silicon dioxide from the spacecraft's fuel tank, necessitating a switch to a different set. However, due to power and temperature constraints, turning on the replacement thrusters required careful planning. The team successfully activated non-essential heaters to warm up the thrusters, making the switch on August 27, 2024. This complex operation ensures Voyager 1 can continue its mission, providing valuable data from interstellar space despite its advanced age and limited power. (ANS thanks NASA Jet Propulsion Laboratory for the above information)

Additional information:

A radio signal takes about 22 ½ hours to reach Voyager 1, which is over 24 billion kilometres from Earth, and another 22 ½ hours for a signal to come back to Earth.

Voyager 1 and 2 transmitters are rated at 23 Watts and amplified by the 3.7m diameter dish antenna.
The spacecraft normally transmits data to Earth over Deep Space Network Channel 18, using a frequency of either 2.3 GHz or 8.4 GHz, while signals from Earth to Voyager are transmitted at 2.1 GHz. Voyager 1 and 2 radioisotope thermoelectric generator (plutonium power supply) reaches half-life at 87 years since launch in 1977 47 years ago.

EME News

Latest EME newsletter updates:

https://www.nitehawk.com/rasmit/NLD/eme2409.pdf

USRadioguy

Welcome to USRadioguy.com – Unlocking the Potential of Software Defined Radio

https://usradioguy.com/

Kenwood news: new mobile/base radio announced

From the Japan Ham Fair August 2024 the new mobile/base transceiver exhibit was a mock-up in an acrylic case, with no model name written on it. There was no catalogue or explanatory panel, but the monitor on top showed images conveying the image and concept. The design of the operation unit and other parts may be subject to change as development progresses.

The features of this new mobile/base transceiver are as follows:
- Compatible with D-STAR and APRS.
- Simultaneous reception of two signals is possible.

- A separate model consisting of a large operation unit (controller) with excellent operability and visibility and a main unit.
- The mounting bracket for the control unit is compatible with the company's previous car transceivers such as the TM-D710, so users can rest assured even if they are replacing their old models.
- Equipped with a tripod hole on the bottom of the control unit
- Built-in GPS receiver
- The operation unit is equipped with a front speaker. Even in a noisy mobile environment, you can communicate with clear voice.
- All D-STAR operations that can be performed with the new handheld device "TH-D75" are also included in this product. In addition, the operation of the reflector has become easier.
- Abundant terminals. USB terminals are equipped on both the control panel and the radio body.
- The main unit is equipped with a microphone terminal and a Micro SD slot
- There are two external speaker terminals, which can be used separately for the main band and the sub band
- Price is expected to be higher than the TH-D75 currently USD$700.00