

ZLARRG

ZL1ARRG

ZL Amateur Radio Reference Guide

v0.1 alternate

“A prepared ham is delicious”

- Soren Low

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Introduction

Welcome to this super handy New Zealand radio reference guide we've aptly named ZLARRG! Here you will find all of the handiest ZL amateur radio information in a ready to print document. Print it and stick it in your pack, put a spare copy in the car. We think it's kick ass and we're sure you will too!

Don't forget to use the checklist on page # so you never forget to bring any of your kit on your next trip to your favourite SOTA or POTA spot.

While you're at it, don't forget to check the common frequencies on page # so when you are out and about, you can get on the air with minimal effort.

Can't remember how to read a map, no worries! Our map section breaks down how...

Feel free to drop us any suggestions you may have or anything you think should be added to the document.

Name - -----	Callsign	Address or email-- ----- -	Phone ----- --	----- ----- -----
-				
-				
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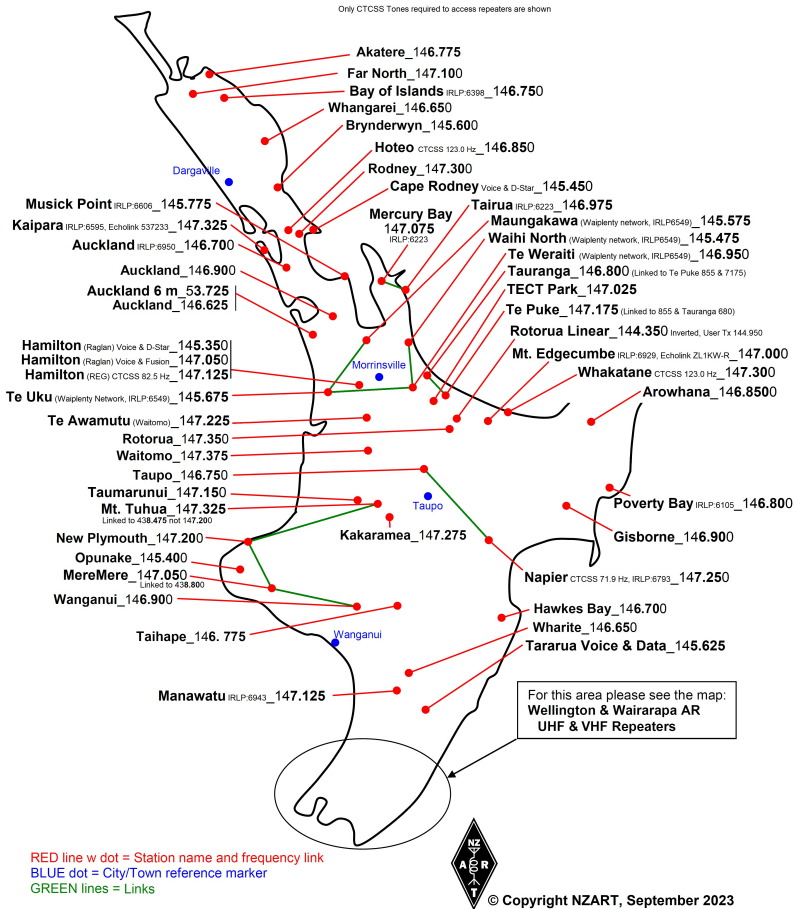
Repeater Maps

Things to note about the maps:

- 6 m and 2 m Repeaters are included in the 'VHF' maps.
- Due to the number of repeaters in a small area making the map difficult to draw for the Wellington area there is a separate map for that area of the country.
- To save the maps once open use the right-button on your mouse and select 'Save image as'
- On a touch screen device like a phone or tablet you can touch-and-hold to get the same option when looking at the larger images.
- These maps were updated in September 2023.

North Island Amateur Radio 6 m & 2 m (VHF) Repeaters

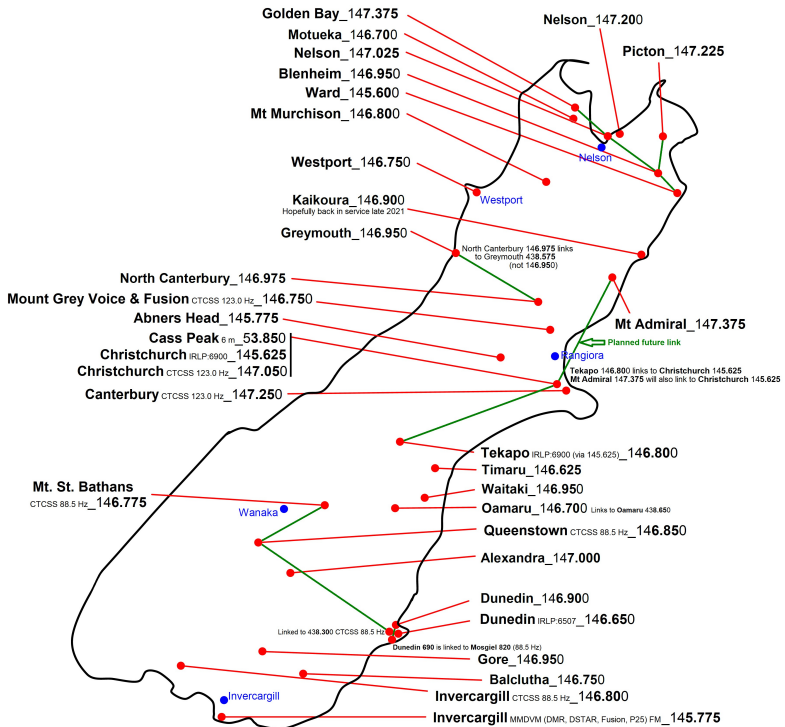
- Notes:** 1. The naming system is explained on the map NZ South Island AR UHF Repeaters
2. Repeater Offsets are explained on the map Wellington & Wairarapa AR UHF & VHF Repeaters



South Island Amateur Radio 6 m & 2 m (VHF) Repeaters

- Note: 1. The naming system is explained on the map **NZ South Island AR UHF Repeaters**
 2. Repeater Offsets are explained on the map **Wellington & Wairarapa AR UHF & VHF Repeaters**

Only CTCSS Tones required to access repeaters are shown



RED line w dot = Station name and frequency link
 BLUE dot = City/Town reference marker
 GREEN lines = Links



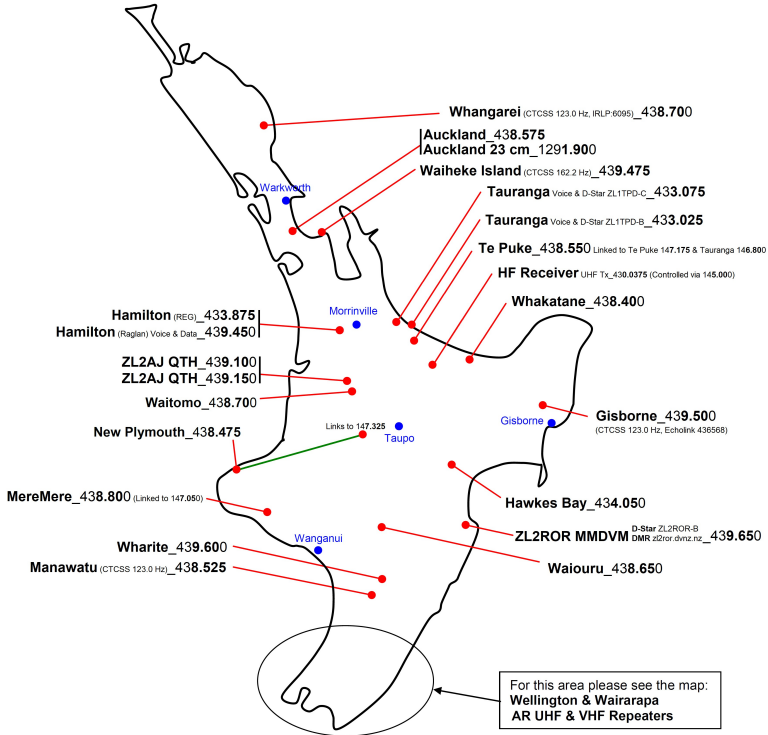
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NZ North Island AR UHF Repeaters

- Notes:** 1. The naming system is explained on the map **NZ South Island AR UHF Repeaters**
2. Repeater **Offsets** are explained on the map **Wellington & Wairarapa AR UHF & VHF Repeaters**

National System repeaters are listed on their own page

Only CTCSS Tones required to access a repeater are shown



Legend

RED line w dot = Station name and frequency link

BLUE dot = City/Town reference marker

GREEN lines = Links



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NZ South Island AR UHF Repeaters

- Notes: 1. The **naming system** is explained on the map **NZ South Island AR UHF Repeaters**
2. Repeater **Offsets** are explained on the map **Wellington & Wairarapa AR UHF & VHF Repeaters**

National System repeaters are listed on their own page

Naming of Repeaters and Beacons

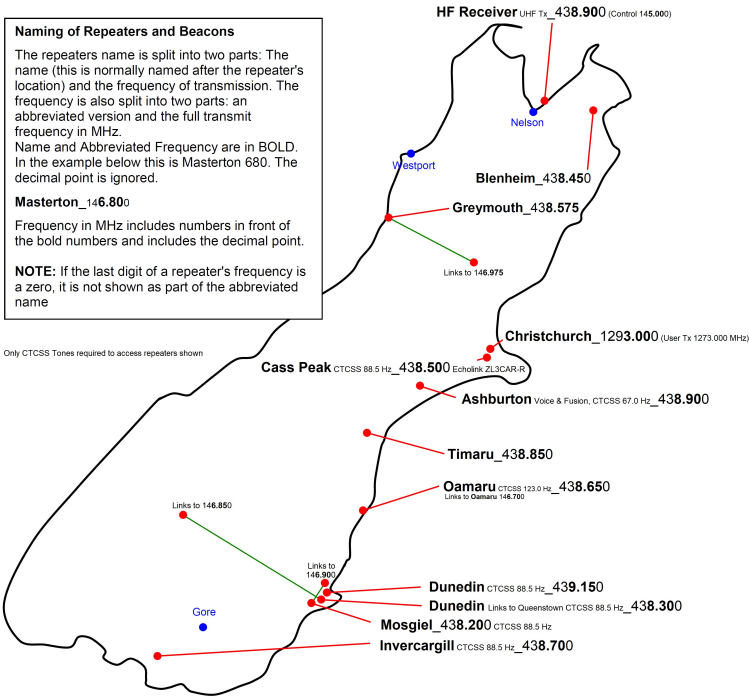
The repeaters name is split into two parts: The name (this is normally named after the repeater's location) and the frequency of transmission. The frequency is also split into two parts: an abbreviated version and the full transmit frequency in MHz.
Name and Abbreviated Frequency are in BOLD.
In the example below this is Masterton 680. The decimal point is ignored.

Masterton_146.800

Frequency in MHz includes numbers in front of the bold numbers and includes the decimal point.

NOTE: If the last digit of a repeater's frequency is a zero, it is not shown as part of the abbreviated name

Only CTCSS Tones required to access repeaters shown



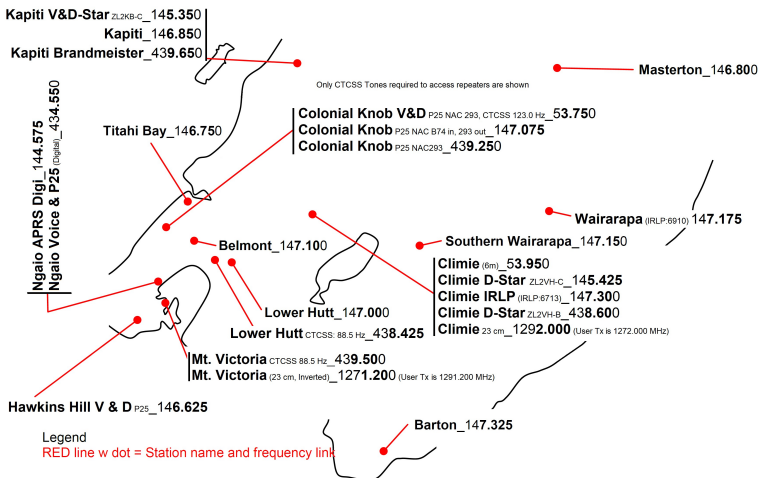
Legend

- RED line w dot = Station name and frequency link
- BLUE dot = City/Town reference marker
- GREEN lines = Links



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Wellington & Wairarapa AR UHF & VHF Repeaters



OFFSETS, IRLP and Naming Information

Bands, Offsets and Frequency of Transmission

6 m	User transmits 1 MHz lower
2 m	Rotorua Linear on 144.350 MHz, User Tx is 600 kHz higher on 144.950 MHz User transmits 600 kHz lower for repeater output frequencies of 145.325 to 147.000 MHz. User transmits 600 kHz higher for repeater output frequencies of 147.025 to 147.375 MHz
70 cm	User transmits 5 MHz lower for 438.xxx and 439.xxx. User transmits 5 MHz higher for 433.xxx and 434.xxx
32 cm	User transmits lower by 12.000 MHz
23 cm	User transmits lower by 20.000 MHz (Exception: Mount Victoria which is inverted, User transmits 20 MHz higher)

Internet Radio Linking Project (IRLP)

- For information see <http://www.irlp.net/>
- Simplex IRLP nodes are shown on the Digital pages

Naming of Repeaters

The repeater's name is split into two parts: The name (this is normally named after the repeater's location) and the frequency of transmission. The frequency is also split into two parts: an abbreviated version and the full transmit frequency in MHz. The name and abbreviated frequency are in **BOLD** and in the example below, Masterton 680 is used. The decimal point is ignored in the abbreviated version.

Masterton_146.800

The frequency in MHz includes numbers in front of the bold numbers and includes the decimal point.

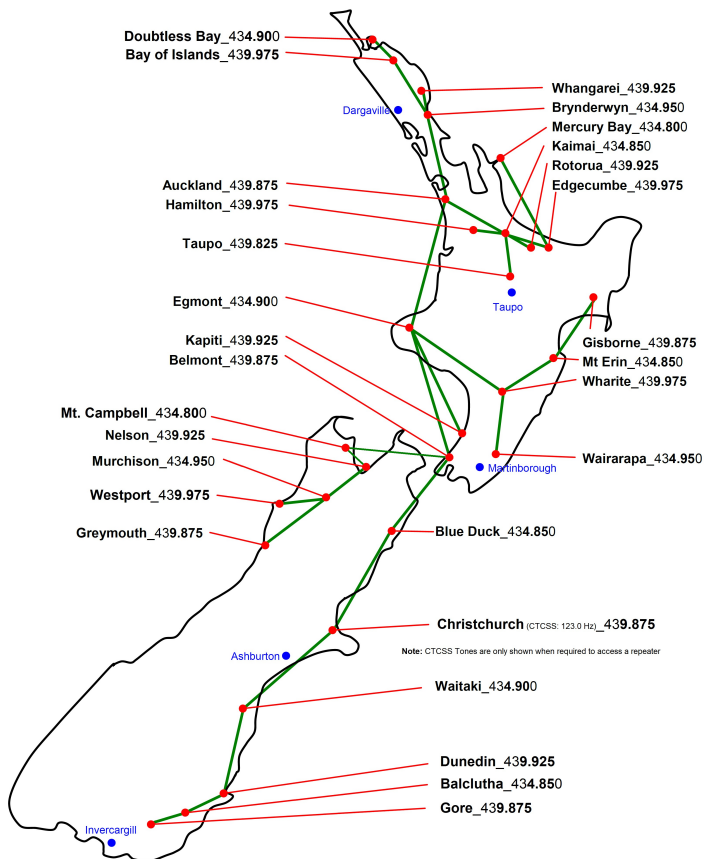
NOTE: If the last digit of a repeater's frequency is a zero, it is not shown as part of the abbreviated name as shown above. **Bartons_147.325** has a four-figured abbreviation of Bartons 7325 where the last digit is a number five.



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New Zealand Amateur Radio National System

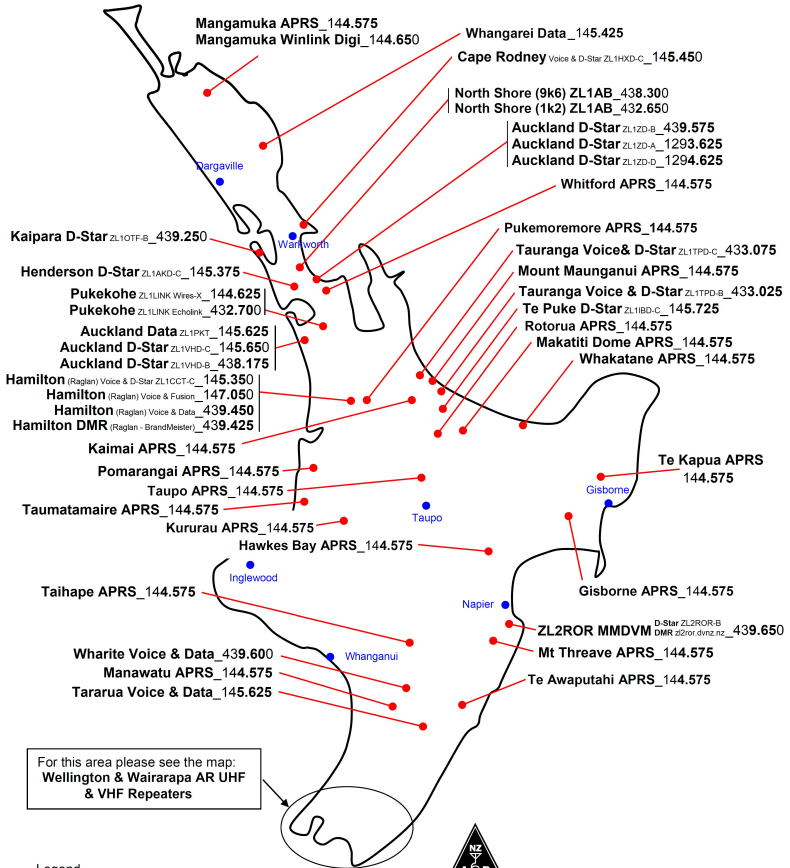
- NOTE:** 1. The naming system is explained on the map NZ South Island AR UHF Repeaters
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North Island APRS, Data (& Voice), Digipeaters

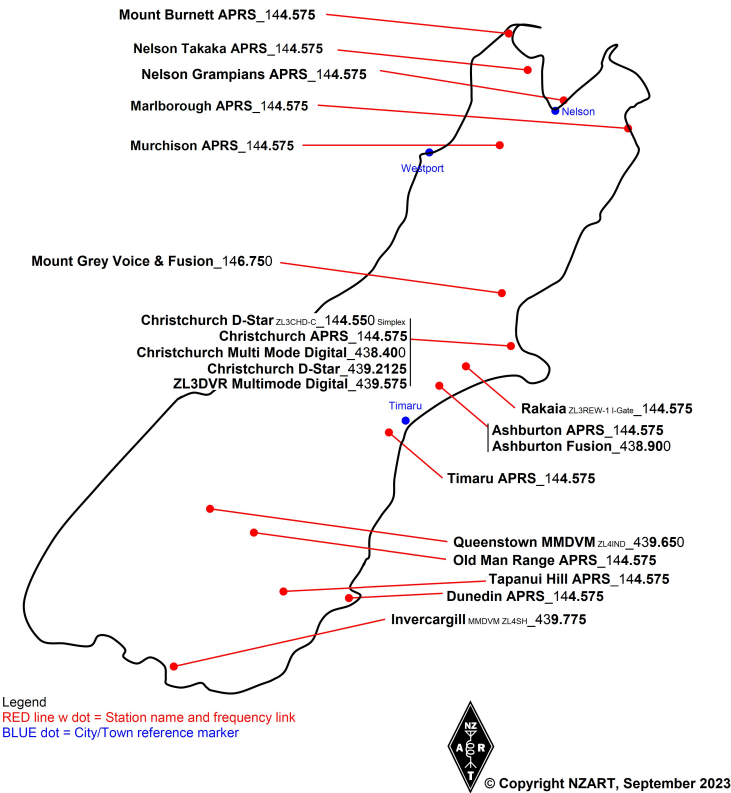
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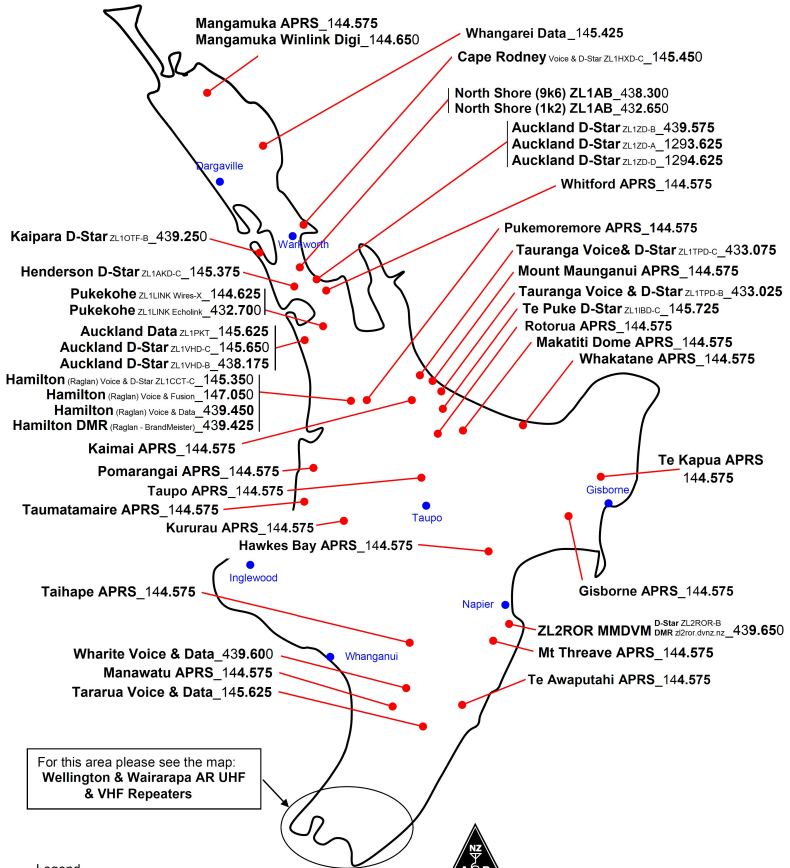
South Island APRS, Data (& Voice), Digipeaters

Notes: 1. The naming system is explained on the map **NZ South Island AR UHF Repeaters**
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North Island APRS, Data (& Voice), Digipeaters

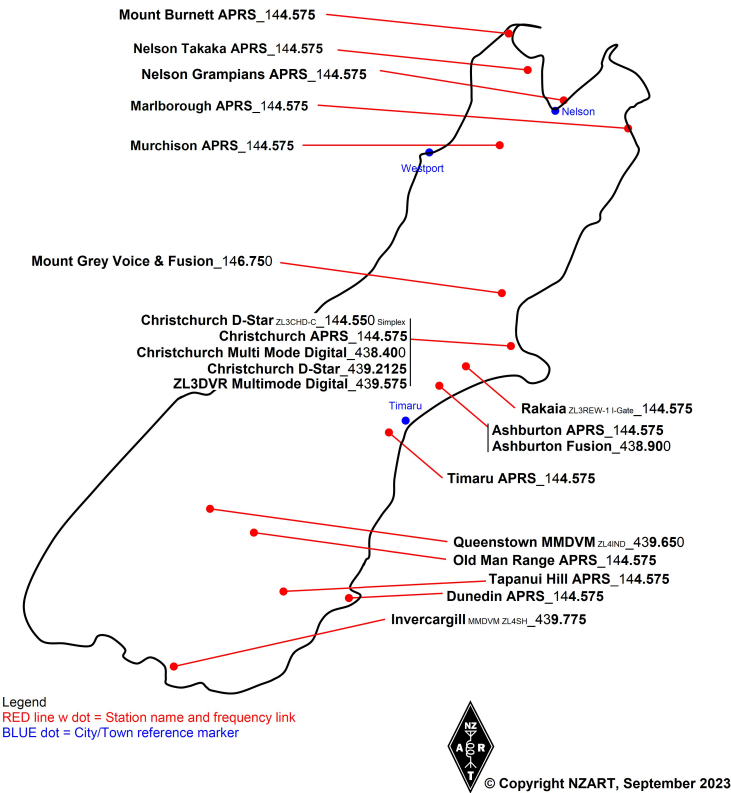
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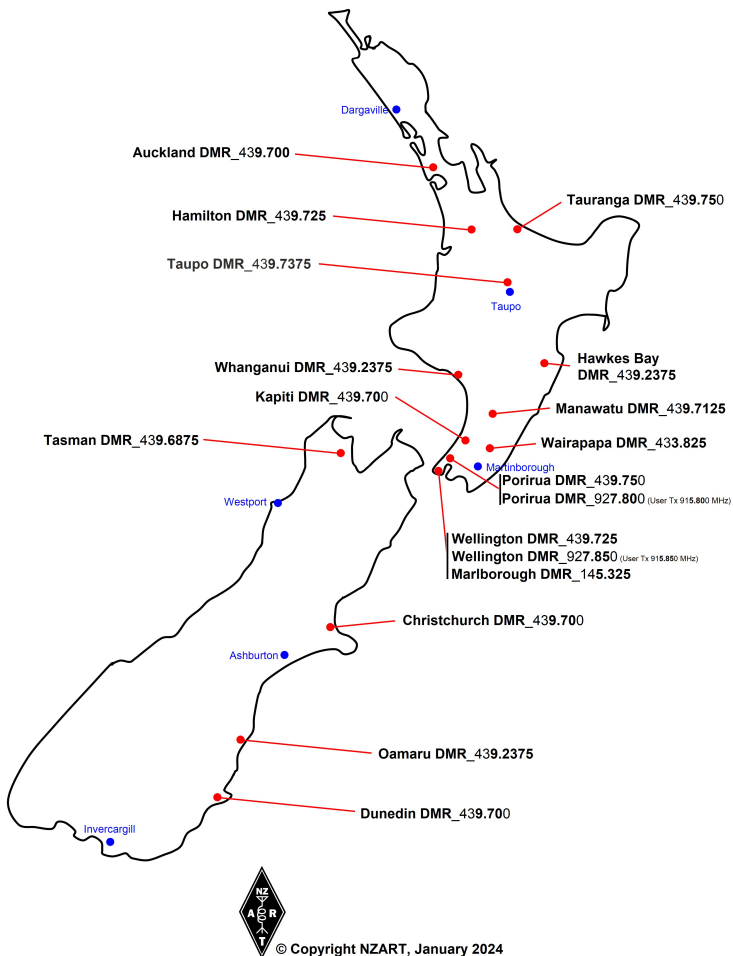
South Island APRS, Data (& Voice), Digipeaters

Notes: 1. The naming system is explained on the map **NZ South Island AR UHF Repeaters**
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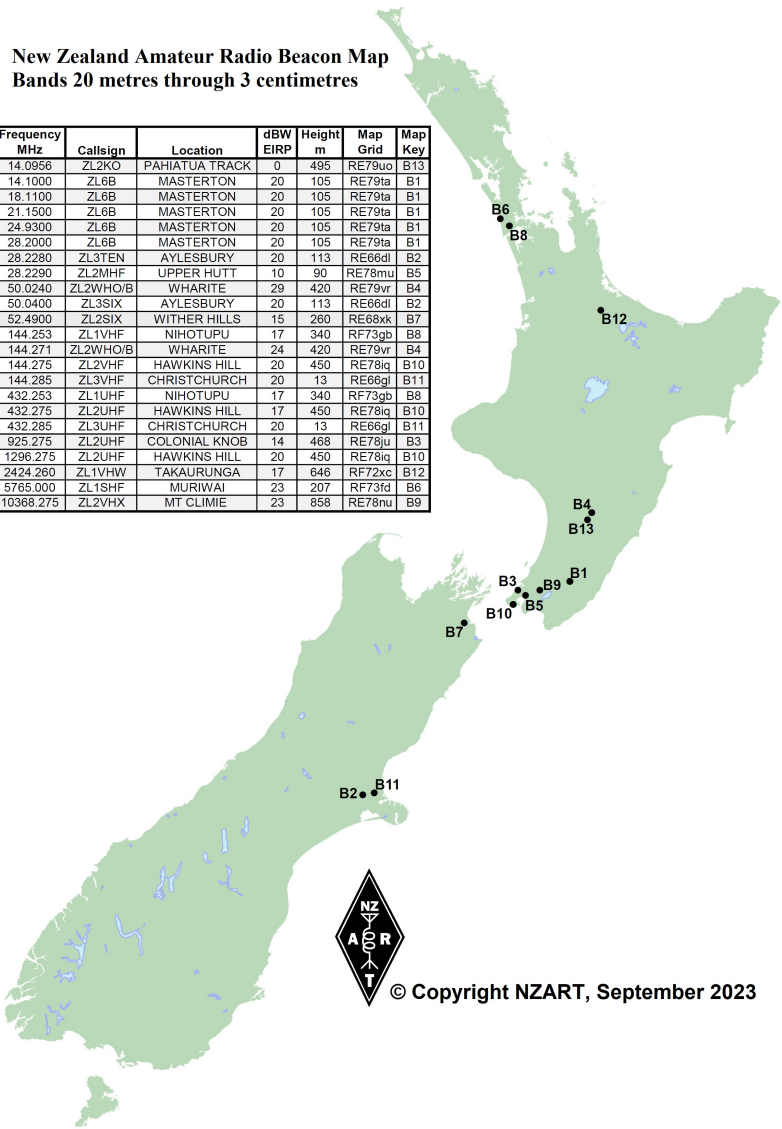
AREC ZL TRBO (MARC) DMR Network

- NOTE:** 1. The naming system is explained on the map NZ South Island AR UHF Repeaters
2. Repeater Offsets are explained on the map Wellington & Wairarapa AR UHF & VHF Repeaters



New Zealand Amateur Radio Beacon Map
Bands 20 metres through 3 centimetres

Frequency MHz	Callsign	Location	dBW EIRP	Height m	Map Grid	Map Key
14.0956	ZL2KO	PAHIATUA TRACK	0	495	RE79ud	B13
14.1000	ZL6B	MASTERTON	20	105	RE79ta	B1
18.1100	ZL6B	MASTERTON	20	105	RE79ta	B1
21.1500	ZL6B	MASTERTON	20	105	RE79ta	B1
24.9300	ZL6B	MASTERTON	20	105	RE79ta	B1
28.2000	ZL6B	MASTERTON	20	105	RE79ta	B1
28.2280	ZL3TEN	AYLESBURY	20	113	RE68dl	B2
28.2290	ZL2MHF	UPPER HUTT	10	90	RE78mu	B5
50.0240	ZL2WHQ/B	WHARITE	29	420	RE79vr	B4
50.0400	ZL3SIX	AYLESBURY	20	113	RE68dl	B2
52.4900	ZL2SIX	WITHER HILLS	15	260	RE68xk	B7
144.253	ZL1VHF	NIHOTUPU	17	340	RF73gb	B8
144.271	ZL2WHQ/B	WHARITE	24	420	RE79vr	B4
144.275	ZL2VHF	HAWKINS HILL	20	450	RE78iq	B10
144.285	ZL3VHF	CHRISTCHURCH	20	13	RE66gl	B11
432.253	ZL1UHF	NIHOTUPU	17	340	RF73gb	B8
432.275	ZL2UHF	HAWKINS HILL	17	450	RE78iq	B10
432.285	ZL3UHF	CHRISTCHURCH	20	13	RE66gl	B11
925.275	ZL2UHF	COLONIAL KNOB	14	468	RE78ju	B3
1296.275	ZL2UHF	HAWKINS HILL	20	450	RE78iq	B10
2424.260	ZL1VHW	TAKAURUNGA	17	646	RF72xc	B12
5765.000	ZL1SHF	MURIWAI	23	207	RF73fd	B6
10368.275	ZL2VHX	MT CLIME	23	858	RE78nu	B9



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bandplan

New Zealand Amateur Radio Band Plans

These charts show the New Zealand band plans. These band plans are to ensure your transmissions do not impose problems on other operators and that their transmissions do not impact on you. It is to the advantage of all operators that the published band plans are used. The Ministry of Business Innovation and Employment (MBIE) defines these band limits, while the internal band segments are derived from the IARU Region 3 band plans with New Zealand adaptations. The band limits are found in Radiocommunications Regulations (General User Radio Licence/GURL for Amateur Radio Operators) located at: <https://www.rsm.govt.nz/assets/Uploads/pdfs/gazette/csc2398cd/amateur-radio-operators-gur-2017.pdf> and at each end of the band blocks as shown below. The IARU Region 3 band plans, developed to meet international requirements, are at the IARU Region 3 web site: <https://www.iau.org/wp-content/uploads/2020/01/R3-004-IARU-Region-3-Bandplan-rev-2.pdf>. Please conduct your transmissions in accordance with the "IARU Region 3 Ethics and Operating Procedures" which NZART supports: <https://www.iau-r3.org/on-the-air/code-of-conduct/>

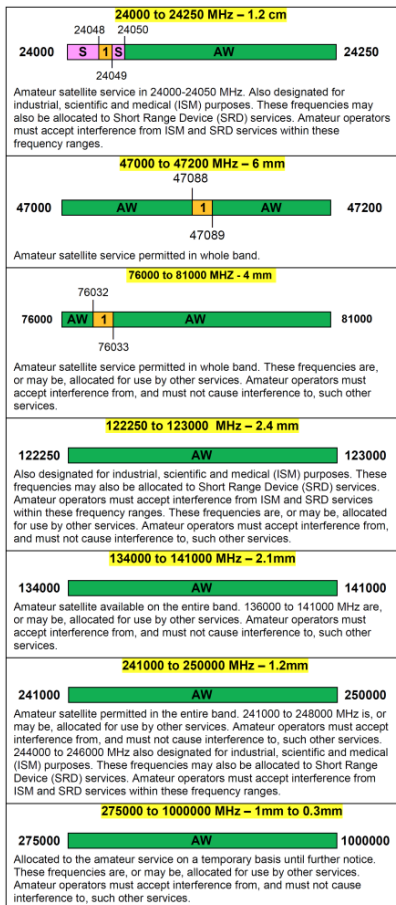
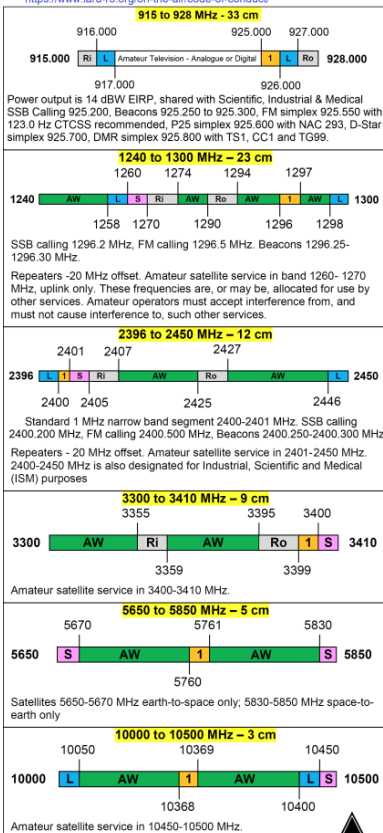
0.130 to 0.190 MHz – 1800 metres		
0.130	AN	0.190
Radiated power must not exceed 5 watts e.i.r.p.		
0.472 to 0.479 MHz – 630 metres		
0.472	AN	0.479
Radiated power must not exceed 25 watts e.i.r.p.		
These frequencies are, or may be, allocated for use by other services. Amateur operators must accept interference from, and must not cause interference to, such other services.		
1.800 to 1.950 MHz – 160 metres		
1.840	C	1.950
AN		
3.500 to 3.900 MHz – 80 metres		
3.550	C	3.900
3.620	AN	3.640
3.500	C	3.900
AN	DN	AN
5.3515 to 5.3665 MHz – 60 metres, Please note - Sub licence from NZART is required.		
5.354	C	5.366
5.3515	C	5.3665
AN	DN	AN
NOTE: There is not yet a 60 metre allocation in the GURL for Amateur radio. NZART holds a secondary user licence for the spectrum assigned for 60 m in the IARU Region 3 bandplan. To use 60 m in NZ you must obtain a new sub licence from NZART. Please refer to: http://www.nzart.org.nz/info/60m/		
7.000 to 7.300 MHz – 40 metres		
7.030	C	7.300
7.040	DN	7.200
7.000	C	7.300
DN	AN	Secondary Use
Amateur satellite service permitted 7.0 - 7.1 MHz. 7.2 to 7.3 MHz access is secondary to other users.		
10.100 to 10.150 MHz – 30 metres		
10.100	C	10.150
14.000 to 14.350 MHz – 20 metres		
14.070	C	14.350
14.112	DN	AN
14.000	C	14.350
Amateur satellite service permitted 14.00-14.25 MHz		
18.068 to 18.168 MHz – 17 metres		
18.100	C	18.168
18.110	DN	AN
18.068	C	18.168
Amateur satellite service permitted in whole band		
21.000 to 21.450 MHz – 15 metres		
21.070	C	21.450
21.125	DN	AN
21.000	C	21.450
Amateur satellite service permitted in whole band		
24.890 to 24.990 MHz – 12 metres		
24.920	C	24.990
24.930	DN	AN
24.890	C	24.990
Amateur satellite service permitted in whole band		
26.950 to 27.300 MHz – 11 metres		
26.950	Telemetry or tele-control	27.300
Telemetry or tele-control only, 5 W EIRP Maximum, Secondary allocation. Also assigned for HF CB, Industrial, Scientific and Medical use.		

28.000 to 29.700 MHz – 10 metres		
28.050	C	29.700
28.150	DN	29.500
28.000	C	29.700
Amateur satellite service permitted in whole band		
50.000 to 54.000 MHz – 6 metres		
50.110	C	54.000
51.0	AN	52.6
52.6	A	53.0
53.0	Ri	53.6
50.000	C	54.000
AN	A	Ri
AN	Ro	AN
Note 1: The Amateur GURL in New Zealand now allows operation on 50-54 MHz 6 metre band, however we must accept interference from and not cause interference to other services between 51 and 54 MHz.		
Note 2: Recommended use by International operating conventions and IARU R3 BP. 50.000 – 50.080 – Beacons 50.000 – 50.110 – CW 50.110 – 50.110 – International calling frequency 50.125 – 50.150 – International working CW and SSB Above 50.150 – International and National working		
144.000 to 148.000 MHz – 2 metres		
144.1	C	148.000
144.3	A	145.3
144.7	B	146.000
144.000	C	148.000
A	B	D
Ri	A	Ro
S		
144.25	144.575	145.2
145.8	146.4125	147.0125
147.6125		
146.000	Ri	148.000
FM	Ro	Ro
FM	D	Ri
Note, Amateurs users are the secondary users of 146 to 148 MHz. We must accept any interference from & not cause interference to other Primary users. FM Calling 144.500 MHz. Primary Packet 144.650 MHz. APRS 144.575 MHz. SSB/CW Calling, Ocean8 (outside NZ) 144.100 MHz. NZ (inside NZ) 144.200 MHz. Satellite 145.800 to 146.000 MHz. EME 144.000 to 144.100 MHz. Beacons 144.250 to 144.300 MHz. DV Hotspots 147.400 to 147.450 MHz. Repeater inputs are -600kHz offset below and including 147.000 MHz reception (Rotorua Linear 144.350 MHz). Repeater inputs are +600 kHz above 147.000 MHz		
430.000 to 440.000 MHz – 70 cm		
431.95	L	440.000
432.3	EME	432.8
435.0	A	436.0
430.000	L	440.000
432.25	432.6	433.0
433.0	433.25	433.8
436.0		
See full 70cm band plan on page 4 of this section.		
Repeaters in this band are normally negative 5 MHz offset but where there are problems with SRD/LIPD devices on the repeater input a suitable positive offset repeater frequency pair can be obtained from ELG. These frequencies are, or may be, allocated for use by other services. Amateur operators must accept interference from, and must not cause interference to, such other services. 433.05 - 434.79 MHz is also allocated for LIPDs, Industrial, Scientific and Medical (ISM) purposes.		



New Zealand Amateur Radio Band Plans

These charts show the New Zealand band plans. These band plans are to ensure your transmissions do not impose problems on other operators and that their transmissions do not impact on you. It is to the advantage of all operators that the published band plans are used. The Ministry of Business Innovation and Employment (MBIE) defines these band limits, while the internal band segments are derived from the IARU Region 3 band plans with New Zealand adaptations. The band limits are found in Radiocommunications Regulations (General User Radio Licence/GURL for Amateur Radio Operators) located at: <https://www.rsm.govt.nz/assets/Uploads/pdfs/gazette/c9cc2398c0/amateur-radio-operators-gurl-2017.pdf> and at each end of the band blocks as shown below. The IARU Region 3 band plans, developed to meet international requirements, are at the IARU Region 3 web site: <https://www.iaru.org/wp-content/uploads/2020/01/R3-004-IARU-Region-3-Bandplan-rev.2.pdf>. Please conduct your transmissions in accordance with the "IARU Region 3 Ethics and Operating Procedures" which NZART supports: <https://www.iaru-r3.org/en/the-aircode-of-conduct/>



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New Zealand Amateur Radio Band Plans

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KEYS:	NOTES:
C = CW or modes less than 1 kHz bandwidth	1. The frequencies at each end of the band blocks are the band limit frequencies;
A = All modes with bandwidth less than 16 kHz	2. The frequency, giving a point in a band, can be aligned in the centre or at the first or last digit;
AN = All modes with bandwidth less than 6 kHz	3. Amateur TV Bands are subject to further notice.
AW = All modes	4. To find the narrow band segment band plan for the microwave bands, please look for <i>Simplex and Calling Frequencies</i> that can be found elsewhere in this Call Book
D = Data modes with bandwidth less than 16 kHz	
DN = Data modes with bandwidth less than 6 kHz	
1 = Standard 1 MHz narrow band segment	
T = Telemetry or tele-control only – 11 metres	
RI = Repeater input band segment	
Ro = Repeater output band segment	
B = Beacons	
FM = FM simplex	
S = Satellites	
L = Linking	

Notes

2 m/70 cm Band Plan

The 2 m/70 cm Review completed in September 2022 will be updated into the full Band Plan PDF soon.

[Download a copy of the 2 m/70 cm Band Plan from this link.](#)

[2mBandPlan](#)

33 cm Band Plan

NZART Council at their 6 July 2021 meeting approved the final version of the 33 cm Band Plan.

[Download a copy of the 33 cm Band Plan from this link.](#)

NZ Fixed Stations

For details of fixed Amateur Radio stations in New Zealand, [go to the Repeater and Beacons maps page.](#)

HF Band Usage 80 m to 10 m

A detailed page on HF band usage is [available on this page](#) which was curated by Mark ZL3AB and Gary ZL2IFB.

New Zealand Bandplans Notes

1. These bandplans are to ensure that your transmissions do not impose problems on other operators and that their transmissions do not impact on you. It is to the advantage of all operators that the published bandplans be respected.
2. The Ministry of Economic Development (MED) defines the band limits, while the internal band segments are derived from the IARU Region 3 bandplans with New Zealand adaptations.
See: <https://www.iaru-r3.org/on-the-air/band-plans/>
3. The band frequency limits are found in the Radio Communications Regulations (General User Radio License for Amateur Radio Operators) and on the NZART Web site below, under the heading, Additional Note Regarding Other Bands.
4. The IARU Region 3 bandplans, developed to meet international requirements, are at the IARU Region 3 web site.
See: <https://www.iaru-r3.org/on-the-air/band-plans/>

Additional Note Regarding Other Bands

1. Two spot frequencies near 5 MHz are available for use by the Amateur Radio Emergency Communications (AREC). Special conditions apply.

See: [2009 - Access by NZ Radio Amateurs to Spot Frequencies Near 5 MHz](#)

2. Access to the band 614 to 622 MHz for Amateur Television (ATV) repeater use and for other purposes has special conditions which are administered by ELG.

See: [2006 - Operating on the 614 - 622 MHz band](#)

3. 60 m (5 MHz) access details can be found on the [60m Band Access page](#).

Last Updated: 11 November 2022

2m Band Plan

New Zealand 2 m Band Plan 2022 Band plan to assist operators to quickly see where they should use their radios:

Freq	Usage
144.025 to 144.035	Earth-Moon-Earth (EME) All modes (Region-3)
144.025 to 144.035	Earth-Moon-Earth (EME) All modes (Region-3)
144.000 to 144.100	Earth-Moon-Earth (EME) All modes (Oceania)
144.000 to 144.100	Earth-Moon-Earth (EME) All modes (Oceania)
144.000 to 144.100	Earth-Moon-Earth (EME) All modes (Oceania)
144.100	Oceania (External to NZ) SSB & CW Calling.
144.120	JT65, MSK144, Q65, FT4, FT8. Narrow Weak signal DX (All Regions)
144.120	JT65, MSK144, Q65, FT4, FT8. Narrow Weak signal DX (All Regions)
144.174	FT8 Narrow Mode Weak Signal DX (Region-3)

Freq	Usage
144.200	New Zealand (Internal to NZ) SSB & CW Calling.
144.230	Meteor Scatter. All modes.
144.250 to 144.300	Beacons (Geographical Plan - 1 kHz spacing) (Horizontal Polarisation)
144.300 to 144.335	WSPR, FTx, JTx, CW non geographic beacons. Narrow, 200 Hz or less.
144.350	Rotorua Linear Repeater Output. 144.400 Legacy modes. AM, RTTY & Experimental. (Note-1)
144.450	Linear Repeater output Spare for future use. (Note-1)
144.489	WSPR Narrow Mode Weak Signal DX (Region-3) (Note-1)
144.500	FM Calling frequency. (Note-1)
144.550	Narrow Digital mode. (Note-1)
144.575	APRS and Simplex Data. (Note-1)
144.600 to 144.700	Digital Voice (DV) Modes Simplex. (Note-1)
144.625	Digipeaters Licenced in some regions. (Note-2)
144.650	Packet radio, Digipeaters and other legacy data modes
144.725 to 145.200	Repeater Inputs.
145.225	FM Simplex Experimental modes.

Freq	Usage
145.250	Narrow Band Picture Modes (SSTV, Fax, Hellschreiber etc)
145.275 to 145.300	FM Simplex Experimental modes.
145.325 to 145.775	Repeater Outputs.
145.800 to 146.000	Satellite Operations (Region-3 & International allocation)
145.825	Satellite APRS (Region-3)
146.025 to 146.400	Repeater Inputs.
146.425 to 146.600	FM Simplex General use.
146.625 to 147.375	Repeater Outputs.
147.400 to 147.450	DV Hotspots.
147.475 to 147.600	FM Simplex General use.
147.625 to 147.975	Repeater Inputs.

2 m VHF Notes

Note-1: Australian Beacons operate from 144.400 to 144.600. QRM could be caused to operators listening for Australian beacons.

Note-2: DV Users should give way to Licensed
Digipeater traffic. New Zealand

70 cm Band Plan

Freq	Usage
430.000 to 431.950	Repeater links and Repeater 7 MHz offset Inputs (See Note-3)
431.950 to 432.000	Earth-Moon-Earth (EME) All modes Guard Band (Oceania)
431.900 to 432.240	Earth-Moon-Earth (EME) All modes (Region-3)
432.065	JT65, MSK144, Q65, FT4, FT8. Narrow weak signal DX (All Regions)
432.100 to 432.300	Narrow Band modes (Bandwidth 6 kHz or less)
432.100	Oceania (External to NZ) SSB & CW Calling)
432.174	FT8 Narrow weak signal DX (Region-3)
432.200	New Zealand (Internal to NZ) SSB & CW Calling 432.230 Meteor Scatter. All modes.
432.250 to 432.300	Beacons (Geographical Plan - 1 kHz spacing) (Horizontal Polarisation)
432.300	WSPR Oceania frequency.
432.300 to 432.312	WSPR, FTx, JTx, CW non geographic beacons. Narrow, 200 Hz or less.

Freq	Usage
432.325 to 432.375	FM Simplex General use.
432.400	Legacy modes. AM, RTTY & Experimental
432.425 to 432.475	FM Simplex Experimental modes.
432.500	FM Calling frequency. 432.525 Legacy modes. AM, RTTY & Experimental
432.550	Narrow Digital modes.
432.575	APRS and Simplex Data.
432.600	Digital Voice (DV) Modes Simplex.
432.625 to 432.675	FM digital modes.
432.650	Packet radio, Digipeaters and other legacy data modes
432.675	Packet radio, Digipeaters (Secondary allocation)
432.700	VOIP FM Simplex.
432.725 to 432.800	Digital Voice (DV) Modes Simplex.
432.825 to 432.975	FM Simplex General use.
433.000 to 434.975	Repeater Inputs / Outputs (See Note-1)

Freq	Usage
434.800 to 435.000	National System Repeaters Network (See Note-1)
435.000 to 438.000	Satellite Operations (Region-3 & International allocation)
438.000 to 439.775	Repeater Inputs / Outputs (See Note-1) (See Note-2)
438.325 to 438.375	DV Hotspots.
439.800 to 440.000	National System Repeaters Network (See Note-1)

70 cm UHF

Note-1: Repeaters in this band are either Positive or Negative 5 MHz offset but where there are problems with SRD / LIPD devices on the repeater input a suitable offset repeater frequency pair can be obtained from ELG.

Note-2: Repeaters in this band are historically using a negative receive 5 MHz offset, however where avoidance of SRD / LIPD devices may be required, the frequency pairs may be reversed. This is not recommended where the repeater is located in a built up area. Alternatively a 7 MHz negative receive offset can be used where appropriate. See Note-3

Note-3: Used for repeater input links and repeaters with outputs in the 438.000 to 438.950 range. These

repeaters are treated on a case by case basis where they may be unable to operate using the standard 5 MHz negative offset due to SRD / LIPD interference.

Note-4: Australian Beacons operate from 432.400 to 432.600. QRM could be caused to operators listening for Australian beacons.

Common Frequencies

Voice Frequencies

Band	Mode	Frequency	Description
80m	LSB	3.585MHz	80m QRO OTA Frequency
80m	LSB	3.690MHz	80m QRP OTA Frequency
40m	LSB	7.090MHz	40m QRO OTA Frequency
40m	LSB	7.285MHz	40m QRP OTA Frequency
20m	USB	14.310MHz	20m QRO OTA Frequency
20m	USB	14.285MHz	20m QRP OTA Frequency
15m	USB	21.300MHz	15m QRP OTA Frequency
15m	USB	21.385MHz	15m QRP OTA Frequency
10m	USB	28.480MHz	10m QRO OTA Frequency
10m	USB	28.385MHz	10m QRP OTA Frequency

2m	FM	144.500MHz	FM Simplex Calling
2m	FM	146.425MHz-146.600MHz	FM Simplex General use

Emergency Voice Frequencies

Band	Mode	Frequency	Description
80m	LSB	3.595 - 3.605 Mhz	Civil emergencies
80m	LSB	3.605MHz	Alpine Fault Net 0830 NZT
40m	LSB	7.105 - 7.115 MHz	Civil emergencies
40m	LSB	7.115 MHz	Alpine Fault Net 0930 NZT
20m	USB	14.295 - 14.305 Mhz	Global emergencies
17m	USB	18.155-18.165 MHz	Civil emergencies
10m	USB	21.355 - 21.365 MHz	Global emergencies
2m	FM	144.500MHz	FM Simplex Calling / Commonly Scanned

2m Marine	FM	156.8 MHz	Marine CH16, Good Coverage in NZ
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Digital Mode Frequencies

Band	Mode	Frequency	Digital Mode
	USB		JS8Call
			WSJTX
			RTTY
			APRS
			VarAC
			Winlink

VSWR to Though Power

VSWR (:1)	Though power (%)
1.0	100%
1.1	99.77%
1.2	99.17%
1.3	98.29%
1.4	97.22%
1.5	96%
2.0	88.89%
2.5	81.63%
3.0	75%
3.5	69.13%
4.0	64%
4.5	59.49%
5.0	55.55%

Time Zone conversion

Location	UTC
Universal Coordinated Time	+00:00
New Zealand Standard Time	+12:00
New Zealand Daylight Time	+13:00

Location	UTC
Australian Eastern Standard Time	+10:00
Australian Eastern Daylight Time	+11:00
Pacific Standard Time	-8:00
Pacific Daylight Time	-07:00

FT8

FT8

place holder:

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replaced once provided

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Winlink

Winlink

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What is Rattlegram?

Rattlegram is a mobile app that lets you send sms style messages over short to medium range over VHF/UHF with no additional equipment other than a mobile phone and a radio. It also supports pre existing voice repeaters to extend your coverage.

Rattlegrams use cases



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How to use Rattlegram

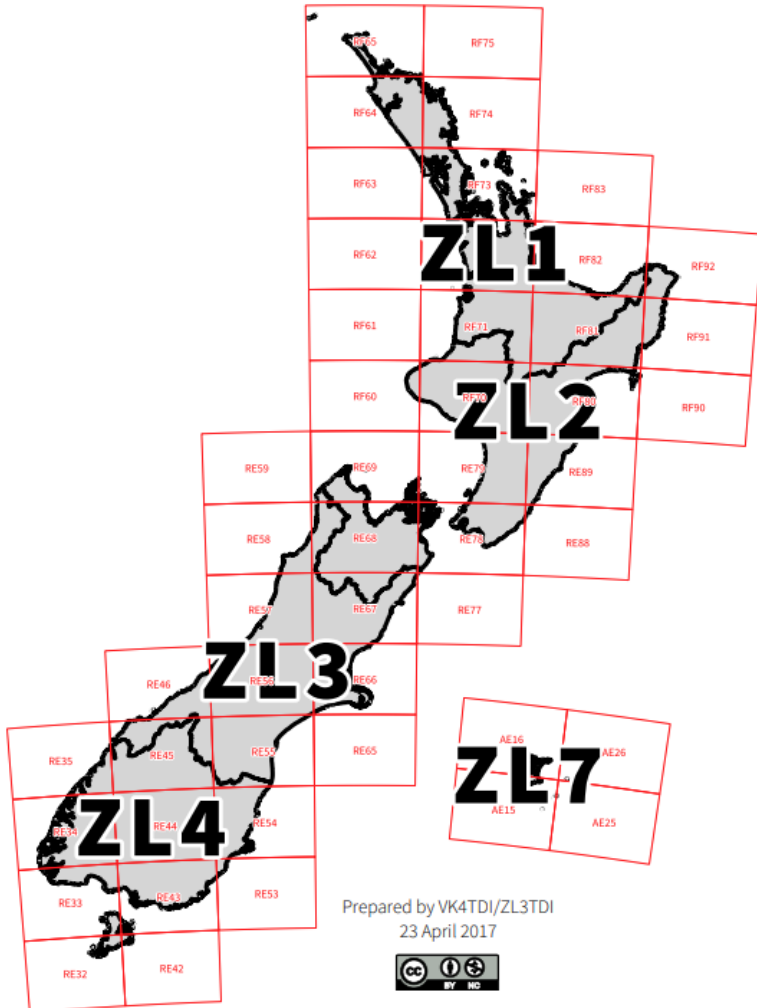
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Downloads

Google		Apple
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ZL Map Squares



Morse

Morse Code

A • –	B – • • •	C – • – •	D – • •	E •	F • • – •
G – – •	H • • • •	I • •	J • – – –	K – • –	L • – • •
M – –	N – •	O – – –	P • – – •	Q – – • –	R • – •
S • • •	T –	U • • –	V • • • –	W • – –	X – • • –
Y – • – –	Z – – • •				
1 • – – – –	2 • • – – –	3 • • • – –	4 • • • • –	5 • • • • •	
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Q-Code

Qcodes

Below a number of Q signals are listed whose meanings most often need to be expressed with brevity and clarity in amateur radio work. (Q signals take the form of a question only when each is sent followed by a question mark.)

QCode	Meaning
QRA	What is the name of your station? The name of my station is ____.
QRB	How far are you from my station? I am ____ km from you station
QRD	Where are you bound and where are you coming from? I am bound from .
QRG	Will you tell me my exact frequency? Your exact frequency is ____ kHz.
QRH	Does my frequency vary? Your frequency varies.
QRI	How is the tone of my transmission? The tone of your transmission is ____ (1-Good, 2-Variable, 3-Bad.)
QRJ	Are you receiving me badly? I cannot receive you, your signal is too weak.

QCode	Meaning
QRK	What is the intelligibility of my signals? The intelligibility of your signals is ____ (1-Bad, 2-Poor, 3-Fair, 4-Good, 5-Excellent.)
QRL	Are you busy? I am busy, please do not interfere
QRM	Is my transmission being interfered with? Your transmission is being interfered with ____ (1-Nil, 2-Slightly, 3-Moderately, 4-Severely, 5-Extremely.)
QRN	Are you troubled by static? I am troubled by static ____ (1-5 as under QRM.)
QRO	Shall I increase power? Increase power.
QRP	Shall I decrease power? Decrease power.
QRQ	Shall I send faster? Send faster (____ WPM.)
QRR	Are you ready for automatic operation? I am ready for automatic operation. Send at ____ WPM.
QRS	Shall I send more slowly? Send more slowly (____ WPM.)
QRT	Shall I stop sending? Stop sending.
QRU	Have you anything for me? I have nothing for you.
QRV	Are you ready? I am ready.
QRW	Shall I inform <i>that you are calling?</i> <i>Please inform</i> that I am calling.

QCode	Meaning
QRX	When will you call me again? I will call you again at ____ hours.
QRY	What is my turn? Your turn is numbered ____.
QRZ	Who is calling me? You are being called by ____.
QSA	What is the strength of my signals? The strength of your signals is ____ (1-Scarcely perceptible, 2-Weak, 3-Fairly Good, 4-Good, 5-Very Good.)
QSB	Are my signals fading? Your signals are fading.
QSD	Is my keying defective? Your keying is defective.
QSG	Shall I send messages at a time? Send messages at a time.
QSJ	What is the charge to be collected per word to including your international telegraph charge? The charge to be collected per word is including my international telegraph charge.
QSK	Can you hear me between you signals and if so can I break in on your transmission? I can hear you between my signals, break in on my transmission.
QSL	Can you acknowledge receipt? I am acknowledging receipt.

QCode	Meaning
QSM	Shall I repeat the last message which I sent you? Repeat the last message.
QSN	Did you hear me on <i>kHz? I did hear you on</i> kHz.
QSO	Can you communicate with <i>direct or by relay? I can communicate with</i> direct (or by relay through ____.)
QSP	Will you relay to <i>? I will relay to</i> .
QSQ	Have you a doctor on board? (or is <i>on board?) I have a doctor on board (or</i> is on board.)
QSU	Shall I send or reply on this frequency? Send a series of Vs on this frequency.
QSV	Shall I send a series of Vs on this frequency? Send a series of Vs on this frequency.
QSW	Will you send on this frequency? I am going to send on this frequency.
QSY	Shall I change to another frequency? Change to another frequency.
QSZ	Shall I send each word or group more than once? Send each word or group twice (or ____ times.)
QTA	Shall I cancel message number <i>? Cancel message number</i> .

QCode	Meaning
QTB	Do you agree with my counting of words? I do not agree with your counting of words. I will repeat the first letter or digit of each word or group.
QTC	How many messages have you to send? I have ____ messages for you.
QTE	What is my true bearing from you? Your true bearing from me is ____ degrees.
QTG	Will you send two dashes of 10 seconds each followed by your call sign? I am going to send two dashes of 10 seconds each followed by my call sign.
QTH	What is your location? My location is ____.
QTI	What is your true track? My true track is ____ degrees.
QTJ	What is your speed? My speed is ____ km/h.
QTL	What is your true heading? My true heading is ____ degrees.
QTN	At what time did you depart from ? <i>I departed from</i> at ____ hours.
QTO	Have you left dock (or port)? I have left dock (or port).
QTP	Are you going to enter dock (or port)? I am going to enter dock (or port.)

QCode	Meaning
QTQ	Can you communicate with my station by means of the International Code of Signals? I am going to communicate with your station by means of the International Code of Signals.
QTR	What is the correct time? The time is ____.
QTS	Will you send your call sign for minutes so that your frequency can be measured? I will send my call sign for minutes so that my frequency may be measured.
QTU	What are the hours during which your station is open? My station is open from hours to hours.
QTV	Shall I stand guard for you on the frequency of kHz? Stand guard for me on the frequency of kHz.
QTX	Will you keep your station open for further communication with me? I will keep my station open for further communication with you.
QUA	Have you news of ? I have news of .
QUB	Can you give me information concerning visibility, height of clouds, direction and velocity of ground wind at ____? Here is the information you requested...
QUC	What is the number of the last message you received from me? The number of the last message I received from you is ____.

QCode	Meaning
QUD	Have you received the urgency signal sent by ? I have received the urgency signal sent by .
QUF	Have you received the distress signal sent by ? I have received the distress signal sent by .
QUG	Will you be forced to land? I am forced to land immediately.
QUH	Will you give me the present barometric pressure? The present barometric pressure is ____ (units).

Abbreviations

	Meaning
aa	All after (used after question mark to request a repetition)
ab	All before (similarly)
ads	Address
agn	Again
ant	Antenna
ar	End of transmission.
as	Wait
bk	Break (to pause transmission of a message, say)
bn	All between
c	Yes; correct; affirmative
cfm	Confirm
ck	Check
cl	Closing (I am closing my station)
cq	Calling "CQ (call) calling all stations / any station)
dx	Long distance, foreign countries (sometimes refers to long distance contact)
rx	Receiver / Receive

	Meaning
rst	Signal report format Readability / Signal Strength / Tone
sk	Stop Keying, end of contact
sk	Silent Key (a deceased radio amateur)
tx	Transmitter / Transmit
z	Zulu time / GMT / UTC
30	No more; this is the end; finished
73	thanks for the contact
77	Long Live CW (Morse Code), wishing you many happy CW contacts
88	love and kisses

Regulations

Radiocommunication Regulations

This notice is the Radiocommunications Regulations (General User Radio Licence for Amateur Radio Operators) Notice 2023.

This notice comes into force on 15 December 2023.

Licence Name:

General User Radio Licence for Amateur
Radio Operators.

Licence:

A general user radio licence is granted for the transmission of radio waves by amateur radio operators in New Zealand, for the purpose of communications in the amateur radio service in accordance with the applicable terms, conditions and restrictions of this notice

Licence number: 409957

Commencement Date: 15 December 2023

Transmit Location: All New Zealand.

Receive Location: All New Zealand.

(Section 5)Special Conditions

1. These frequencies are, or may be, allocated for use by other services. Amateur operators must accept interference from, and must not cause interference to, such other services.
2. These frequencies are designated for industrial, scientific and medical (ISM) purposes. These frequencies may also be allocated to Short Range Device (SRD) services. Amateur operators must accept interference from ISM and SRD services within these frequency ranges.
3. Allocated to the amateur service on a temporary basis until further notice.
4. Use is limited to telemetry or telecommand.
5. These frequencies may also be used for amateur satellite communications in the earth-to-space direction.
6. These frequencies may also be used for amateur satellite communications in the space-to-earth direction.

7. Amateur operators must ensure that unwanted emissions from 800–915 MHz must not exceed -79 dBW (-49 dBm e.i.r.p.). The reference bandwidth for emissions is 100 kHz.
8. The maximum power is the radiated power in dBW e.i.r.p.

(Section 6)General Conditions Applying to all Transmissions Under this Licence

1. The use of callsigns, including temporary and club callsigns, must be in accordance with publication PIB 46 "Radio Operator Certificate and Callsign Rules" published at www.rsm.govt.nz.
2. Callsigns must be transmitted at least once every 15 minutes during communications.
3. National and international communication is permitted only between amateur stations, and is limited to matters of a personal nature, or for the purpose of self-training, intercommunication and radio technology investigation, solely with a personal aim and without pecuniary interest. The passing of brief messages of a personal nature on behalf of other persons is also permitted, provided no fees or other consideration is requested or accepted.
4. Communications must not be encoded for the purpose of obscuring their meaning, except for

control signals by the operators of remotely controlled amateur stations.

5. Amateur stations must, as far as is compatible with practical considerations, comply with the latest ITU-R recommendations to the extent applicable to the amateur service.
6. In accordance with Article 25 of the International Radio Regulations, amateur operators are encouraged to prepare for, and meet, communication needs in support of disaster relief.
7. Amateur beacons, repeaters and fixed links may not be established pursuant to this licence.
8. Unwanted emissions outside the frequency bands specified in this Schedule must comply with the requirements of technical standard ETSI ETS 300 684 published by the European Telecommunications Standards Institute (ETSI).
9. The frequency ranges, maximum power of transmissions within those frequencies ranges, and designated uses of frequencies are those prescribed in this licence. All transmissions in a given frequency range must comply with any special conditions relating to that frequency range.
10. Should interference occur to services licensed pursuant to a radio licence or a spectrum licence, the chief executive reserves the right to require and ensure that any transmission pursuant to this licence changes frequency, reduces power, or ceases operation.

11. Except as provided to the contrary in this notice, maximum power in dBW is the peak envelope power (PX) of the radio transmitter, as defined in the International Radio Regulations Article 1, No. 1.157.

(Section 7) Terms, Conditions and Restrictions Applying to New Zealand Amateur Operators

1. Persons who hold a General Amateur Operator's Certificate of Competency and a callsign issued pursuant to the Regulations may operate an amateur radio station in New Zealand.
2. The callsign prefix of "ZL" may be substituted with the prefix "ZM" by the callsign holder for the period of, and participation in, a recognised contest, or as the control station for special event communications.
3. Operation on amateur bands between 5 MHz and 25 MHz is not permitted unless a person has held a General Amateur Operators Certificate of Competency for three months and logged 50 contacts during this period. The person must keep the logbook record for at least one year and, during this period, produce it at the request of the chief executive.

(Section 8) Terms, Conditions and Restrictions Applying to Visiting Amateur Operators

1. Persons visiting New Zealand who hold a current amateur certificate of competency, authorisation or licence issued by another administration, may operate an amateur station in New Zealand for a period not exceeding 90 days, provided the certificate, authorisation or licence meets the requirements of Recommendation ITU-R M.1544 or CEPT T/R 61-01 or CEPT T/R 61-02 and is produced at the request of the chief executive.
2. The visiting overseas operator must use the national callsign allocated by the other administration to the operator, in conjunction with the prefix or suffix “ZL”, except where subsection (3) applies, which is to be separated from the national callsign by the character “/” (telegraphy), or the word “stroke” (telephony).
3. The visiting overseas operator may use the prefix or suffix:
 - a. ZL7 when visiting the Chatham Islands
 - b. ZL8 when visiting the Kermadec Islands
 - c. ZL9 when visiting the Sub-Antarctic Islands

(Section 9)Consequential Revocation of Licence

(1) The Radiocommunications Regulations (General User Radio Licence for Amateur Radio Operators) Notice 2017, dated 11 July 2017 and published in the New Zealand Gazette, 13 July 2017, Issue No. 73, Notice No. 2017-go3567, is revoked.

(2) Notwithstanding the revocation of the notice under subsection (1), every transmitter capable of making transmissions compliant with the requirements of that notice on the commencement date of this notice is deemed to be compliant with the requirements of this notice.

Dated at Wellington this 6th day of December 2023.

JEREMY LOGAN, Manager, Radio Spectrum Licensing and Technical, Ministry of Business, Innovation, and Employment.

!

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- Auckland Amateur Radio Club (ZL1AA)
- NZART
- Branch 02
- etc

Document Authors

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- Lilly Chapman (ZL1LLY)
- VK4TDI/ZL3TDI
- et al

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