

History of Naval Ships Wireless Systems IX

Post WWII Patrol and Training Vessels

Patrol vessels between the 1950s and 1990s could work a number of RNZN and NZ Post Office coastal stations.

RNZN:

Naval Communications Station, Waiouru - ZLO. Covered the NZ and South Pacific areas from approximately halfway across the Tasman, up to the Equator, across to South America and down to the Antarctic. This was the largest area of responsibility by a Commonwealth Naval Communications station. Facilities included simultaneous keying of at least four HF frequencies on a CW and a RATT broadcast and monitoring the ship to shore frequencies of 4 and 16 MHz during the day and 4 and 6 MHz at night. Ships could work into ZLO using CW, RATT (on-line and off-line) and from the mid-1980's, SSB Voice (Coastal Common Net) on 3192 kHz and an 8 MHz frequency.

Naval Radio Station, Auckland - ZLE30. Originally classed as a Local Command station for a 100 mile radius and later re-classified as a Coastal Command Station. The CW LCN frequency of 3192 kHz was found to propagate further at night. ZLE30 could also provide local RATT and voice on HF and UHF. From the mid-1980's, 3192 kHz and the same 8 MHz frequency as ZLO, changed to SSB Voice.

Naval Communications Centre, Wellington - ZLP27. 3192 kHz on CW and UHF Voice. The Area CW and Off-line RATT Broadcasts, WV and WVR, were originally keyed from Wellington with ZLO being responsible for ship to shore only. The keying of these Broadcasts were handed to ZLO with WVR becoming an On-line RATT Broadcast and WVA being designated the Off-line RATT Broadcast.

NZ Post Office:

Awarua Radio, Bluff - ZLB. The commercial equivalent of ZLO. The area station for the Long Distance Organisation for merchant ships. International distress frequencies of 500 kHz (CW/MCW) and 2182 kHz (AM/Compatible DSB/SSB Voice) plus the distress frequencies on 4, 6 and 8 MHz. ZLB monitored 8 and 12 MHz CW ship to shore. RNZN units could relay traffic through any NZPO station. Messages were then passed to ZLB who had a landline teleprinter circuit with ZLO.

Auckland Radio, Musick Point - ZLD. Coastal radio station covering 500 kHz and 2182 kHz.

Wellington Radio, Tinakori Hill - ZLW. Coastal radio station covering 500 kHz and 2182 kHz.

Chatham Islands Radio, Waitangi - ZLC. Coastal radio station covering 500 kHz and 2182 kHz. Traffic passed through this station was relayed to the International Telegraph Office in Wellington during their regular CW skeds.

The 72ft Motor Launches

These were the workboats along the NZ coastline from the 1940's until the late 70's. Wartime harbour defence motor launches reclassified seaward defence in 1948. Built for NZ on the west coast of USA between 1942 and 1943, total 16.

Displacement: 45 tons, 54 tons full load, length overall 72ft, beam 15ft 10in, draught 5ft 4in. Wooden hull.

Armament: 1 x 20mm AA, 1 x 0.5in Colt Browning mg, 2 x .303 machine guns, depth charges.

Performance: 10 to 12 kts

Complement: 10

Machinery: diesel, two shafts, 330 or 550 hp.

Regarding the engines - Some ML's had Hercules 6 cylinder, or Gray Marine 6 cylinder diesels.

Q1100 pennant numbers: 2-shaft Gray diesels, bhp 165 = 10/12 kts

Q1300 pennant numbers: 2-shaft Hercules diesels, bhp 275 = 10/12 kts.

Despite common belief, no HDMLs were built in Canada. The HDMLs were built under USN supervision and shortages of Grays engines delayed completion. The Q1300s all had Hercules DNX engines in lieu of the Grays.

In 1958-59 **Mako** and **Paea** received Foden 12 engines of 220 bhp each (each had a set of paired Foden 6 engines). The other SDMLs were re-engined in 1963-66 with Foden 6 engines of 110 bhp each.

Survey launches: No radio operators carried.

Tarapunga - P3566 - ZMTA

Takapu - P3556 - ZMDU

Patrol launches: One radio operator who kept Single Operator skeds on Broadcast WV. Skeds were two hours starting at 0800 and finishing at 2200. The RO was then expected to do a two hour stint on the wheel, finishing at midnight. Duties also included taking it in turns with the other ABs to cook for the crew.

Mako - P3551 - ZMSR

Paea - P3552 - ZMSS became a survey launch in the later years

Kahawai - P3553 - ZMSV

Maroro - P3554 - ZMSW

Tamure - P3555 - ZMSX

Parore - P3562 - ZMST

Kuparu - P3563 - ZMSZ

Koura - P3564 - ZMTB

Haku - P3656 - ZMRC

Manga - P3567 - ZMBJ

The names and pennant numbers of the ML's kept changing - the boats were also allocated in turns to the four Reserve Divisions and their names changed to the Division that they were allocated to (**Ngapona, Olphert, Pegasus and Toroa**) - the list above was the latest.

Communications Equipment:

618/CAS - 40W AM HF transmitter (618H) and LF/MF/HF Receiver (CAS)

B40C - HF receiver (later fit)

622 - Portable HF transceiver

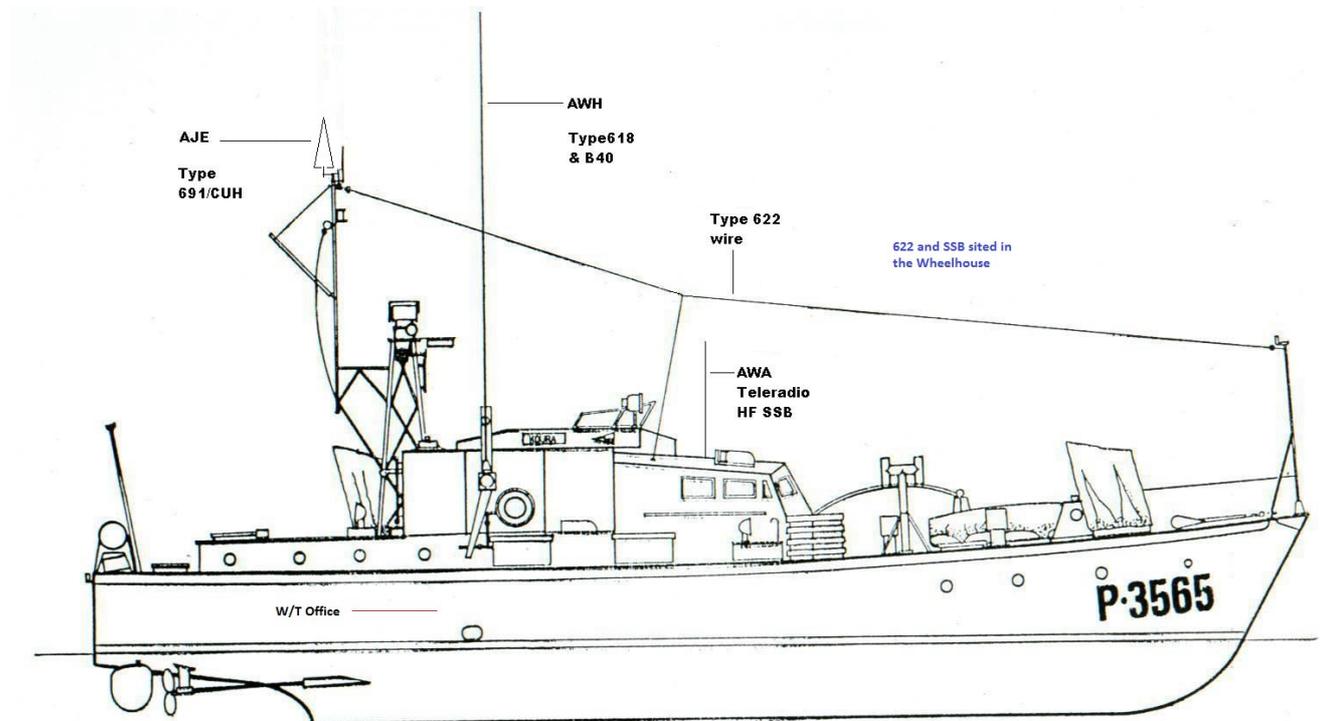
691/CUH - channelised UHF Transmitter/Receiver (later fit)

AWA Teleradio - SSB HF Transceiver (later fit)

Radar:

Type 974 navigation radar

The diagram below shows the equipment fit in the later years.



The Bathurst Class - Minesweeper corvettes

Named after four Australian towns. Inverell and Kiama - NSW and Echuca and Stawell - Victoria. Handing over/decommissioning dates:

ECHUCA M252 - 7/6/52 - 4/53

INVERELL M233 - 5/4/52 - 31/8/76

KIAMA M353 - 24/4/52 - 31/5/74

STAWELL M348 - 8/5/52 - 4/7/59

Displacement: 790 tons (1025 tons full load). Length overall 186ft, beam 31ft, draught 8ft 6in.

Armament (when built): 1 x 4in, 1 x 20mm AA, 6 machine guns.

Performance: 15 kts.

Machinery: triple expansion, two shafts, 1800 ihp.

These four vessels were reclassified as ocean minesweepers in 1954. **Kiama** was recommissioned March 1966 as a training and fisheries protection vessel, being fitted with two 40mm AA Bofors and a deckhouse aft. **Inverell** was recommissioned in August 1965 as a training ship for new-entry ratings, replacing the frigate **Rotoiti**, sweeping gear being removed, two 40MM AA Bofors fitted and a deckhouse aft. **Stawell** was in service as a training vessel from 1955 to 1959. **Echuca** was in reserve from 1953 to 1967 and saw very little service. All were scrapped at Auckland.

As the ships were gifted by Australia to NZ, the original names were kept.

Communications equipment fit:

W/T Office (2 deck at rear of general messdeck. Behind and below the Fwd hatch)

1 x 89Q HF Transmitter and FST keyer GK185A

2 x B40D HF General purpose receivers

1 x B41 LF/MF General purpose receiver

1 x 618L/618H/CAS - MF Tx. Secondary HF Tx. LF/MF/HF General purpose receiver

1 x 691/CUH channelised UHF Tx/Rx

HF RATT - RATT 2

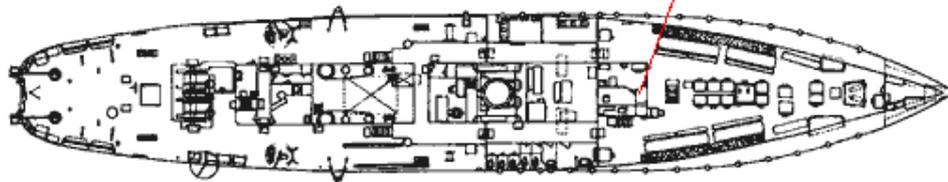
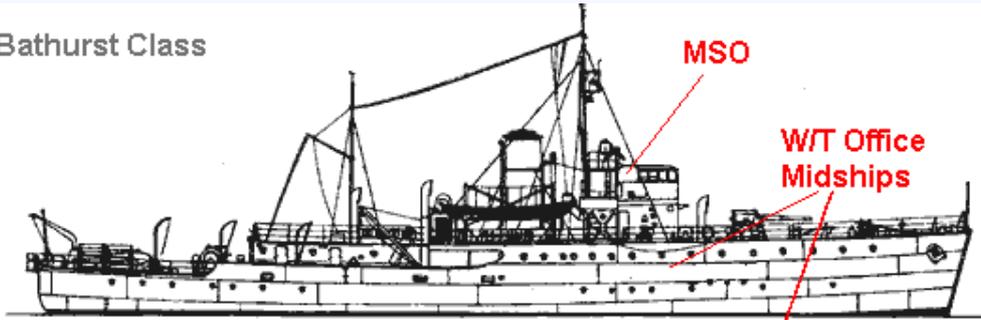
1 x KL7

Radar:

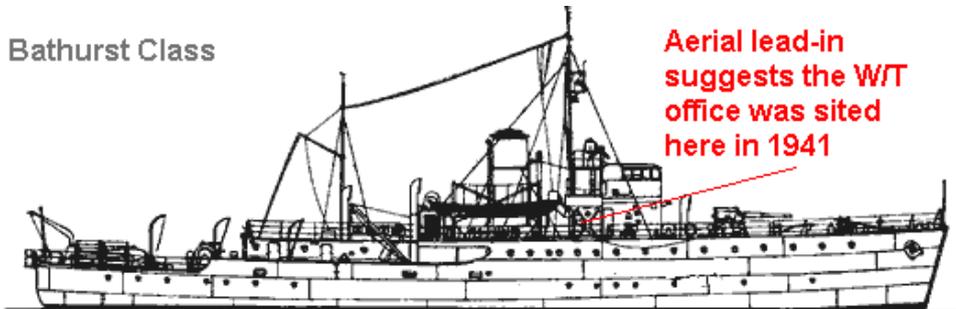
Type 974 navigational radar

Two radio operators carried (1 x LRO and 1 x ARO) who kept Double Operator periods on Broadcast WVA. 2 hour skeds commencing at 1000 during a 24 hour period. 1 LSG.

Bathurst Class



Bathurst Class



Aerials changed from wire main roof to whips for transmitting and receiving in the late 1950's.

Ton Class - The Kiwi ships that never served in NZ

Hickleton (M1131) - ZMUM

Santon (M1178) - ZMUP

These wooden hull (mahogany double skin) vessels built for the RN were loaned to NZ in March 1965 and commissioned into the RNZN at Singapore on 10 April 1965. They were used on anti-infiltration patrols between Malaysia and Singapore and Indonesia with the 11th Minesweeping Squadron, RN, until September 1966 when the RMN took over reduced patrol responsibilities. Santon and Hickleton were returned to Britain at the end of 1966, paid off into reserve and in 1967 were sold to the Argentine Navy, Santon becoming Chubut and Hickleton becoming Neuquen.

Displacement: 360 tons, 425 tons full load. Length overall 153ft, beam 28ft 9in, draught 8ft 3in.

Armament: 1 x 40mm, 2 x 20mm AA, Bren light machine guns.

Performance: 15 kts.

Machinery: Two 2500 bhp Mirrlees engines, two shafts.

Complement: 27 - 32

Communications Fit:

1 x 619/CAT - HF Transmitter/Receiver - Starboard whip

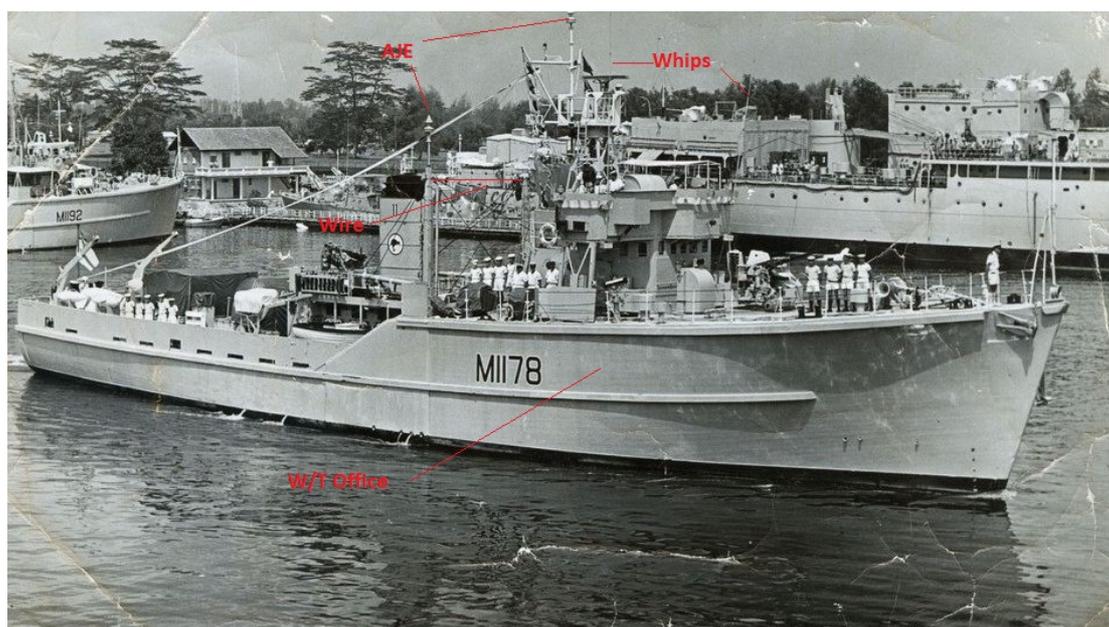
1 x B40C - HF Receiver - Port whip or wire erected between kingposts

1 x 691/CUH - Channelised UHF Transmitter/ Receiver - AJEs

Radar:

1 x Type 975

Communications Crew - 1 LRO, 2 ARO and 1 LSG. Double operator periods reading CW Broadcast from GYL Singapore.



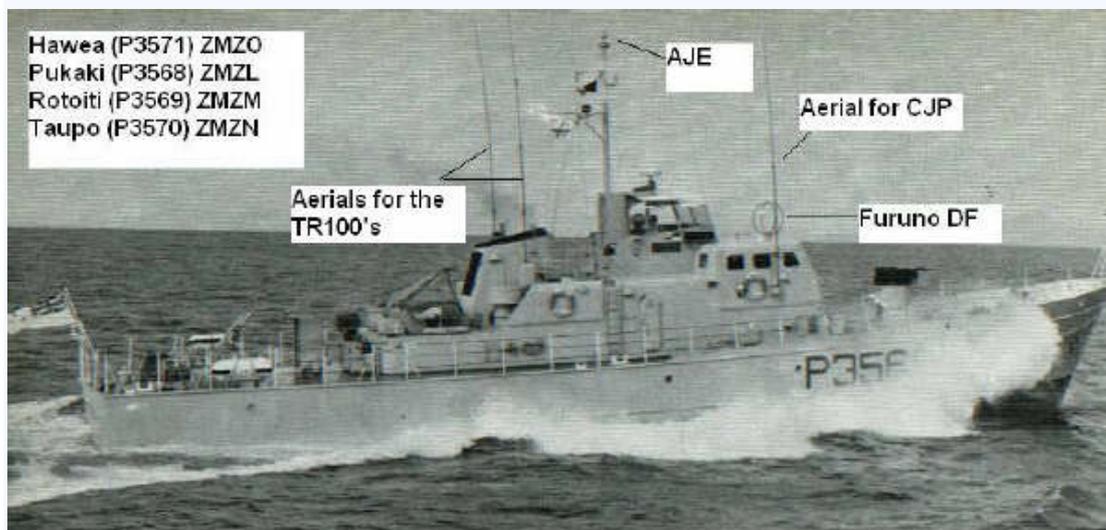
Lake Class - The Patrol Craft of the 70s and 80s

In the early 1970s, the Navy had to replace the ageing Motor Launches and initially ordered 6 patrol craft. These vessels were designed to operate in NZ waters and had a minimum specific length of 50m to counteract the typical distance between wave crests.

However, general elections saw a change in power and the new Labour government reduced the number of craft from six to four and also reduced the length of the boats from 50m to 33m. Their argument was that had the boats sailed under their own steam from UK, they would have needed a major refit upon arrival in NZ. The reduction in length was to make them fit on a heavy lift ship!

The patrol craft proved to be poor sea boats in NZ waters made worse by their light aluminium construction. The result proved to be disastrous for the crews, who were continually seasick and physically injured whilst being thrown about below decks. Some crew members suffered from broken limbs after being thrown from their bunks. The only solution was to put straps on the bunks so that they could strap themselves in.

The boats were built by Brooke Marine of Lowestoft and delivered in pairs by the heavy lift ship Starman in January and June 1975.



Picture taken in 1975

Haweia - P3751 - ZMZO
Pukaki - P3568 - ZMZL
Rotoiti - P3569 - ZMZM
Taupo - P3570 - ZMZN

Displacement - 105 tons. Length overall 33m.

Armament - 2 x 0.5in machine guns, 81mm mortar and 0.5in machine gun aft.
2 x 7 762mm machine guns. These guns were only mounted as required

Machinery - two Paxman 12YJCM diesels, 3000bhp. Speed - 25 kts

Crew - 3 officers and 18 ratings.

The four boats formed the NZ Patrol Craft Squadron (NZPACRON) and the Squadron Commander was known as COMNZPACRON. He was a Lieutenant Commander and he was based "ashore" on a floating concrete pontoon. This pontoon was the Squadron's base and was connected at the far end of the Refit Wharf at Devonport Dockyard. Inside the pontoon was the Commander's office, stores and workshop areas. Adjacent to the pontoon was a synchrolift docking facility for when the boats had to be lifted out of the water for hull and propeller maintenance.

Communications Equipment (original fit):

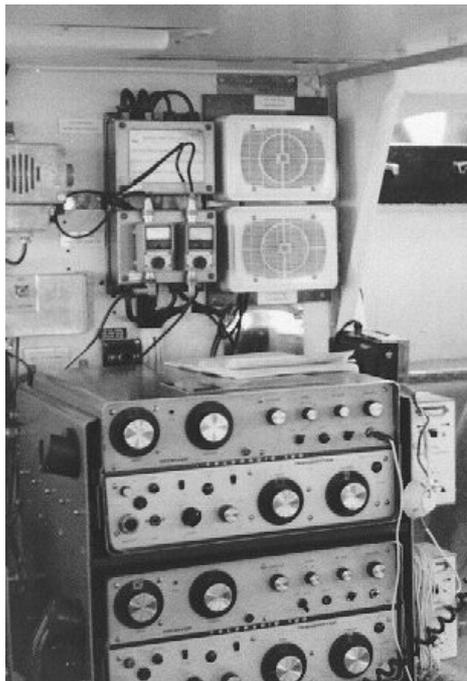
2 x TR100 HF SSB transceivers

1 x CJP HF SSB Receiver

1 x 691/CUH Channelised UHF

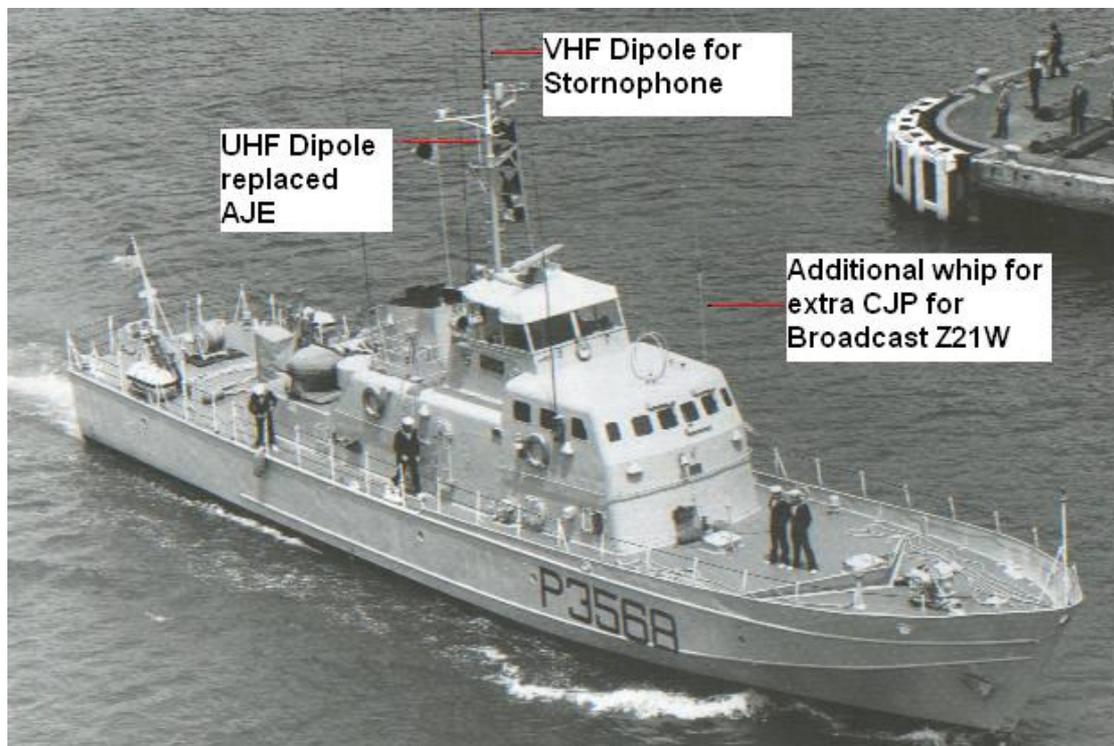
1 x Furuno MF DF

The W/T station was situated on the Port side of the half deck behind and below the Bridge and the space was shared for other uses, including the rifle stowage. 1 X ARO carried who kept SOPs on WV (later classified as Z13W).



In the early 80's, it was decided to upgrade the PC's communications to include On-line RATT facilities. The present W/T station was unsuitable for this purpose, so the vegetable locker on the Port side of 1 Deck was converted to the W/T Office.

In addition, a VHF IMM Stornophone transceiver was installed on the Bridge and 643/CJP added in the new W/T office along with a BID660 and TTVF(T) for on-line reception of SOP Broadcast Z21W and on-line ship to shore. Communications could also be carried out on the Coastal Common Net.



Picture taken 1984 courtesy VJ Young.

Moa Class - Inshore Patrol Craft

Built between 1978 and 1985 for the RNZN by the Whangarei Engineering and Construction Company.

Name	Callsign	Duties
<u>HMNZS <i>Kahu</i> (A04)</u>		Diving tender 1979 to 1988 then used for Basic Seamanship and Navigation Training by the RNZN College
<u>HMNZS <i>Tarapunga</i> (A08)</u>	ZMTA	Survey
<u>HMNZS <i>Takapu</i> (A07)</u>	ZMTB	Survey
<u>HMNZS <i>Moa</i> (P3553)</u>		RNZNVR patrol duties 1983-2007
<u>HMNZS <i>Kiwi</i> (P3554)</u>		RNZNVR patrol duties 1984-2007
<u>HMNZS <i>Wakakura</i> (P3555)</u>		RNZNVR patrol duties 1985-2007
<u>HMNZS <i>Hinau</i> (P3556)</u>		RNZNVR patrol duties 1985-2007

The RNZNVR vessels took over patrol and training from the Lake Class. They were then superseded by the Protector RNZN IPV's, which will be covered in a later chapter.

No communications ratings carried on any of the above seven craft, with communications being carried out either on the Coastal Common Net or through local NZPO Coastal Stations.



Communications Equipment:

1 x Codan HF SSB Transceiver - large whip starboard side, rear of Bridge

1 x VHF IMM Stornophone Transceiver - small whip in front of Bridge

A wire aerial, the same length as the large whip, was available for when an IPC required higher takeoff angles to contact the appropriate station. The whip was disconnected at the base and the wire connected in place. It was then run horizontally back to the starboard funnel with an insulator separating the wire from a nylon rope. This was then secured to an attachment on the funnel.

Notes:

1. Broadcast designators changed over the years and below is a summary:

CW – WV

RATT – WVR (Off-line)

Change 1

CW – WV

Off-line RATT – WVA

On-line RATT – WVR – KW47 (TX) and BID580 (RX) codenamed Jason

Change 2

CW – Z13W

Off-line RATT – Z12W

On-line RATT – Z11W

Change 3

On-line Secondary RATT – Z21W – BID660 – codenamed Orestes

On-line Primary RATT – Z11W – KW47/BID580 – codenamed Jason

Change 4

Big changes to the way data was transferred to and from ships at sea – the forerunner of emails and will be detailed later.