

Where Did the Old Military Communications Equipment Go?

Well, some of it ended up in amateur radio operators' shacks, rubbish tips and Government Departments.

1. I started off my Ham hobby late in life with an old Army ZC1 MK II (a NZ designed and manufactured set for WWII) and a borrowed handheld VHF set from my local radio club. This was to enable me to get my 50 contacts within the required three months time frame. During this probationary period I was limited to the 80 metre band (3.5 - 3.9 MHz) and below and the bands above 28 MHz. Upon obtaining my 50 contacts I was able to use all the HF bands but at the time I only had the ZC1 which was only capable of being used in the 80 metre and 40 metre (7 - 7.3 MHz) bands.



ZC1 MkII

HF Band 4 - 8 MHz

LF Band 2 - 4 MHz

2 watts maximum, although I have managed to tweak mine up to 5 watts - CW, MCW and RT. Power supply - 12V secondary battery.

My first "long distance" contact from Dunedin was with an operator in Wellington on 3.51 MHz at night using CW.

The following is courtesy of Roy Symon of SPAM (Society for the Preservation of Amplitude Modulation).

In New Zealand the ZC1 Mk II continued in service with the Territorial Reserve forces until the mid 1960's. They were also issued to many Government Agencies and Departments including the Ministry of Transport, Civil Defence and the NZ Post Office. The Amateur Radio Emergency Corps (AREC) also received a significant number of sets and many were also disposed of as Army surplus. During the 1950's and 60's many NZ Amateur radio operators "cut their Teeth" using ZC1's on 80 Metres. Their owners extensively modified many of these ZC1's and numerous articles appeared in Break In during this period on improvements that could be made. Collier and Beale produced a modification kit for the Mk II to make the set more suitable for small ships maritime use and large numbers of ZC1's were used in this service. The LF receiver section was changed to the AM broadcast band and the HF TX and RX sections to the marine band.

Common modifications included crystal control for fixed channel use, used by the MOT for car to car communication for their traffic control cars, the Post Office for point to point services and various organisations and individuals for Maritime use. Changes to improve RF power out and modulation depth were also common.

2. Anyway, as luck would have it, Frank Rands ferreted around at the Dockyard and found that they still had some 618/CAS's. Frank arranged for these to be delivered to Timaru on HMNZS Canterbury's (F421) paying off visit. I then travelled up in my ute with a trailer hooked on and on arrival I found that they had two complete sets and an extra power supply for me. I selected the best HF, MF, CAS and two of the power supply units and traded the other set for a Racal CJK SSB Receiver with another amateur radio operator here in Dunedin. The CJK is supposedly one of the ones off HMNZS Otago (F111).

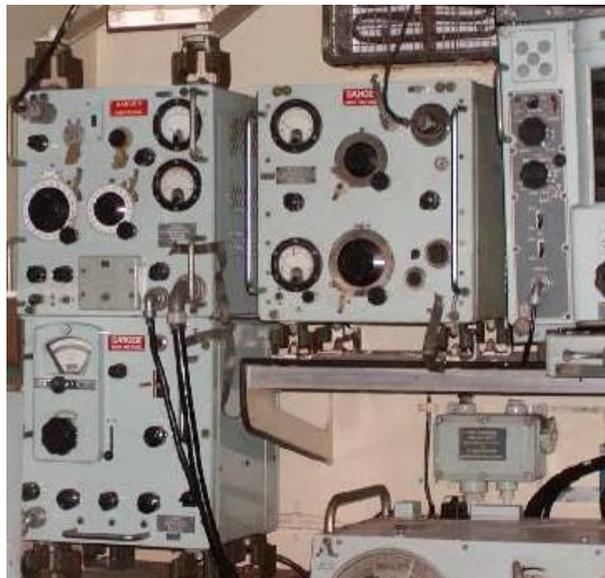


These are the two sets that I procured.

The HF Transmitter (618H) - 1.5 - 16 MHz. CW/MCW/AM. 40 watts. Frequency determination is either VFO (variable frequency oscillator) or crystal controlled. I haven't used this set much as I don't have any crystals for it and the VFO tends to wander like crazy, which is not good for contest work.

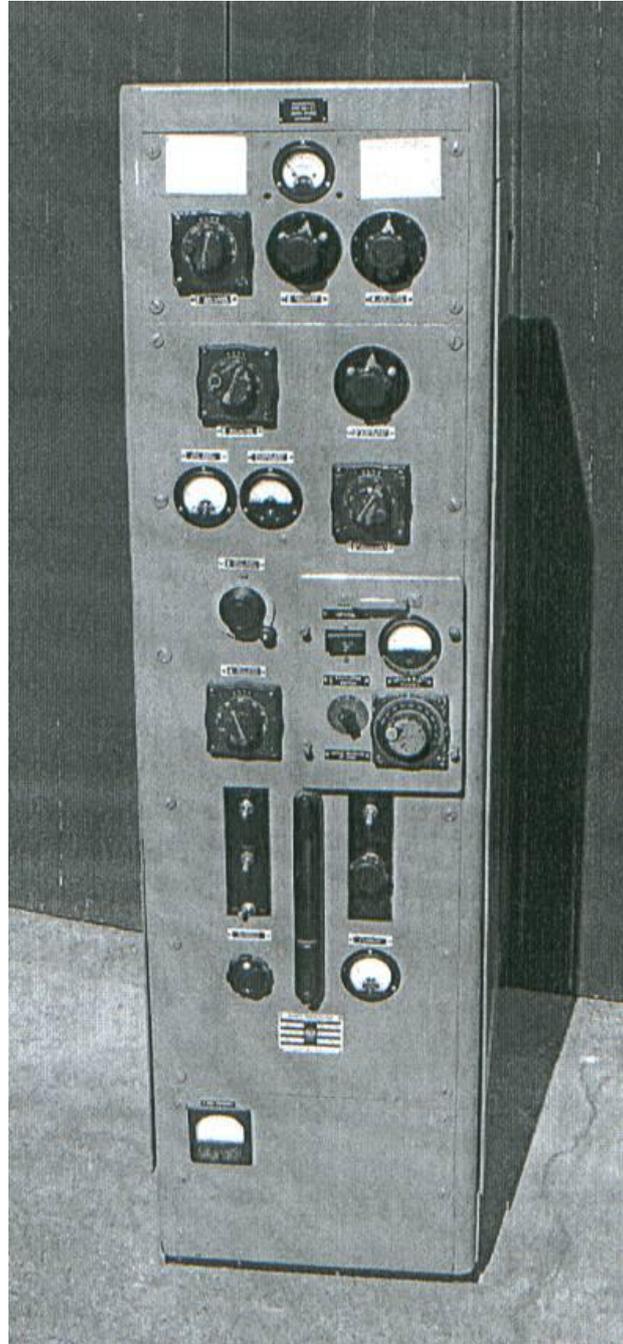
The MF Transmitter (618L) 330-550kHz, CW/MCW. 15W. Frequency determination is a VFO. As yet I haven't used this transmitter as the regulations at the time didn't allow amateur radio use on 500 kHz. However, new regulations are now in effect which allows amateur use on 505 to 515 kHz 25 watts using an emission with a bandwidth of 200hz or less. Initially, the regulations only allowed 5 watts so I experimented using a signal generator on CW using my home made aerial matching unit into the end fed 20 metre aerial at the back of the house. The signal generator has an output of 75 milliwatts and I managed to tune into the aerial with a maximum of 70 milliwatts. Unfortunately at the time, only the Auckland Radio Club based at Musik Point was experimenting with 600metres (500kHz) and my piddly arsed 70mW didn't quite cut the mustard. At some point in the not to distant future, I intend experimenting with the 618L and a Type 89 which used to belong to the Civil Aviation Authority (CAA).

The CAS receiver (LF/MF/HF) - 59kHz-555kHz, 1.47-30Mhz. I had to replace a couple of leaky capacitors and all went well for a few months until the performance dropped right off. I wasn't too perturbed with this as I didn't intend using the CAS as a receiver anyway. The receiver was required to be connected to either the HF or MF transmitter to provide the necessary HT supplies. Normally, if a receiver is not fitted, a dummy load is fitted to simulate the receiver load and maintain the HT supplies at the correct values.



Type 618 as the emergency set on a cruiser

3. 89 Transmitter - these transmitters were originally HF for maritime use and subsequently purchased by other departments - I'm not sure if the ones at Musik Point were originally navy. I managed to get hold of a T89, which was the designation used by the CAA for their modified 89s. The T89 was modified for MF use as aeronautical MF radio beacon. My one has a broken ceramic coil which I hope to repair and then get it operational for working on 500kHz.



89Q HF Transmitter



T89 MF Transmitter

As can be seen from the two pictures, the front panel of the HF transmitter has a lot more units to tune than the MF model. This is also apparent with the 618H and the 618L.

Although not visibly seen in this picture, the front panel is attached to the original HF panel.

4. The Racal CJK Receiver - 1 - 30 MHz (will go down to 100hz with the appropriate aerial matching unit). CW/MCW/DSB/ISB/SSB/FST. A rather cumbersome set by today's standards but still a great receiver. I have an end fed long wire aerial dedicated to this set and get excellent results worldwide.



This picture shows all the units powered up. However, as valves are rather hard to get these days, I disconnected the RA117 receiver from all the other units and use it as a free-running set. The bandwidths on this receiver go from 13kHz down to 100hz. The latter being ideal for receiving distant CW signals during a contest pile up. SSB signals can be finely tuned using the BFO. I normally use this set in conjunction with either my Kenwood or Yaesu transceivers.

5. REH3 Tape recorder - This is a Ferrograph tape recorder series 5 used in the RNZN in the 1960's. On Royalist, the base was a dark maroon with the tape deck and control panel being a cream colour. 3 speed and used for taping radar PRF's and signal traffic. Also used for Radar Recognition Exercises (RRXs).



This recorder still has excellent clarity and I can plug it into the Racal receiver to record overseas broadcasts and signals (was considering offering my services to GCSB, but in light of what has been happening recently, I think I'll give it a miss...).

6. Whilst the old military equipment brings back memories, I also have three amateur transceivers - the Yaesu FT101, Kenwood TS 820 with external VFO (for split working) and a Yaesu FT817ND. I normally use the TS 820 for medium power operation (up to 100W) and the FT817ND for QRP (less than 5W). In addition I have a home made 80metre CW transceiver which is also for QRP. At the back of my section, I have the long wire for the CJK, a 20M end fed wire for HF operation and at the front of the house I have a 10M end fed wire for NVIS (Near Vertical Incident Skywave) for operating 3 - 10 MHz using the FT817ND. I like to work on the 40M band (7 MHz) and have worked into Europe and Scandinavia on 80W using CW and SSB. Greatest distance to date using less than 5W is to San Francisco (SSB approx 12000km) and Brazil (also SSB approx 11000km).

The Yaesu 817ND is a remarkable set - very compact and covers the HF, VHF and UHF transmit bands. Receiver 100 kHz - 470 MHz. Emissions - USB, LSB, CW, AM, FM, W-FM, Digital (AFSK), Packet (1200/9600 FM).

Has different power sources, including an internal battery pack - the one major fault. I normally operate it in my shack using a stable external 13.8V DC or a 12V battery for portable use.



As you can see, the transceiver is quite small with the battery in the background, microphone and AP morse key. A far cry from the Milspec equipment of our era. This was taken on my front porch - quite enjoyable during the summer evenings communicating to Oz and NZ over the odd glass of wine. Hic!

Below is some info for the upcoming DX'pedition to Campbell Island. I'll be attempting to QSO on QRP.

For all you licensed operators -

DX'Pedition

data

Location - Campbell Island - IOTA OC-037 - 450 miles south of New Zealand in the Great Southern Ocean.

- 15th. most sought after DXCC location in the world (and an amazingly beautiful nature reserve).

Dates - 28th. November to 9th. December.

Group - Hellenic Amateur Radio Association of Australia with a team of experienced international operators.

Call Sign - ZL9HR

Website - www.zl9hr.com

73

Jim

ZL4JAD