

Where did New Zealand's '48 sets' come from?

By Kelvin Barnsdale ZL3KB

Many of our older members will know of the army man pack radio called the "48 set". Available on the war surplus market, it was tuneable from 6 to 9 MHz, so covered the 40 m band, but with a transmit output of just 250 mW, they needed some "revving up" to achieve any long distance communication. Official use in New Zealand saw the set not only used by the armed forces, but was widely used by the school cadets up to the mid-1960's for signal training. I am sure there will be ex-school cadets out there that remember these radios with their bright green front panels, and have nightmares of continuously netting the d**m things!

The birth of the 48 set

In the 1930's the British military started a new numbering system for army radios. They grouped radio types into number groups, and the man packs were number eight series. The first was WS (Wireless Set) 8, but, due to construction difficulties, this was quickly superseded by the cheaper WS18.



WS18 the British precursor to the WS48. Front panels were either grey or black.

This became the standard short range man pack radio with WWII Commonwealth forces. However, due to British manufacturing being constrained by bombing and supply shortages, the British Supply Mission approached USA manufacturers, probably around mid 1941, to produce a copy of the WS18 to be supplied to Britain under the two nations' lend-lease agreement. The American Emerson Radio & Phonograph Corp quickly designed a partly-waterproof set that had good frequency stability, a crystal calibrator, and most significantly could have the battery changed without taking the radio apart.

The result was the WS48 or "48 set" as we know it. For some reason, it was not widely accepted by Commonwealth forces, perhaps due in part to a "not invented here"

better tropical protection, the sets were accordingly directed towards supplying these eastern theatres of war. Its original equivalent, the British WS18, was left to be the mainstay of mobile communications in Egypt and Libya, and we can only wonder how well it handled the heat!

In June 1942, US troops arrived



WS48 MkI* set with canvas rain cover, and battery compartment underneath. The front panels were bright green to aid reading of labels in low light.

syndrome. The full list of pro's and con's can be found in Wireless for the Warrior (1). However, in the author's opinion, the USA designed WS48 is superior to the WS18 due to its frequency stability and battery access.

US government statistics (6) show there were over 30,000 of the WS48 manufactured, along with nearly 29,000 hand crank generators.

Coming to New Zealand

The WS48 sets we have in New Zealand are date-stamped 1942, which, if we assume is the manufacture date, gives us a rough idea when the supply chain started flowing from the USA. At that time the fighting was concentrated around North Africa and the Pacific. As the WS48 had

in New Zealand as a part of their deployment to the South-West Pacific battlefields, which may lead us to think our WS48 sets came here with the US army. If fact, although the WS48 was produced in the America, there is no evidence of US troops using these sets, and they had nothing to do with Commonwealth army radio distribution.

Most of the Commonwealth countries had developed their own man pack sets; the Australians had their WS108, South Africans developed their TECO radio, and the Canadians had the WS58. New Zealand had also developed its own man pack set, the ZC8, but it was not adopted by the military (5). The majority of WS48 sets ended up being sent from Britain to India and New Zealand.

There was, however, some British use of the WS48; photographs show them being used in Italy from 1943 onwards by infantry signallers and artillery observation posts, and evidence suggests the set was also used by the Italian army after their capitulation.

When short range mobile radios were needed in the late stages of Burma campaign, photographs show British troops using these man pack sets near Meiktila (8).

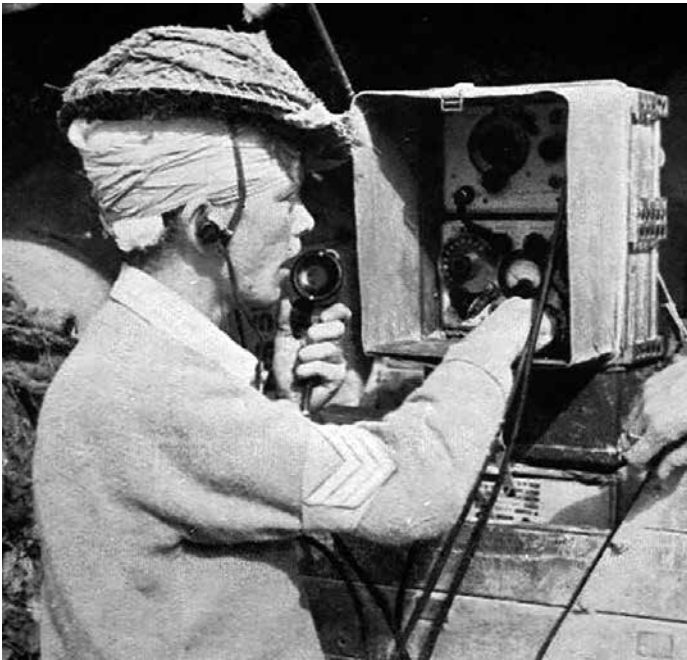
WS48 use in New Zealand

Surprisingly, the school cadets were one of the first users in New Zealand; records show they were used by King's High School Dunedin (2) in early 1943. However, these may have just been borrowed from the army for exercises. At that time the cadet inventories show ZC8 radios in store, but perhaps they preferred the American hi-tech option! School reports throughout the war illustrate regular use of the WS48 sets in signal training exercises, and they seem well supplied as government memos stipulated cadet signals platoons should have one third of the WS48 sets available to them.

During the war, the radio inspectors became concerned that unlicensed cadets were operating these transmitters, at a time when even amateur radio stations were prohibited. In some areas, they were appeased by the signal cadets wearing special armbands as some kind of 'badge of competence'. However, school cadet reports show the sets were also used for sports events, or even taken home on the weekends (3), which must have irked the radio inspectors even more.

The WS48 probably entered the Pacific war in August 1943 with the 3rd NZ Division going to Guadalcanal, and then in September to Vella Lavella. They also took the ZC1 MKI transportable radio but that only shared 500 kHz of common frequency coverage with the WS48. Many photographs show the WS48 sets being used in the jungle by Kiwi troops.

Although the army changed to more modern radios in the 1950's,



Injured signaller of the Royal Fusiliers regiment Italy 1943 using H30U ear bud headset.

the cadet forces continued to use the set through to the mid 1960's.

Headsets, and some slight differences

By shrewd design, the WS48 could accept either the high impedance American R14 headset (long plug) or the British low impedance DLR (short plug). The headsets issued here in New Zealand are generally the American type with brown leather headbands, whereas the western front users were issued with standard DLR or in some cases the 'modern', but excruciatingly painful ear-bud type HS30U.

A study of the photos available and technical publications (1) show the NZ sets are early MKI, whereas the sets used later in Europe were

mostly MKI*; the difference being a few component changes, but the more obvious improvement is the longer, more effective dial locks.

Conclusions

There may be many tens of WS48 still in New Zealand collections, and some are kept in working condition despite being nearly eighty years old. The ongoing use of the set and the longevity of its rubber and canvas perishables compared to its British cousin, are proof it was born in the land of plenty.

Through ongoing trials, the author is still attempting to achieve the specified range of five miles with ten foot rod antennas over "typical English countryside". From their previous experience, some ex-cadets



World War II New Zealand troops Vella Lavella, Solomon Islands 1943.

will probably say "you must be dreaming!"

β†

Article re: Auckland camp

5. ZC8 article, *Break-In*, K.P. Barnsdale ZL3KB

6. "US Statistics – Procurement" Published 1952

7. ZC8 use, PRESS, VOLUME LXXIX, ISSUE 24042, 2 SEPTEMBER 1943

8. IWM photo – 1/West Yorkshire regiment, Birman Temple near Meiktila, Burma. 28th Feb 1945.

References:

1. Wireless for the warrior Volume II, Louise Meulstee
2. King's High School Magazine 1943
3. Te Rama A Rongotai Cadets annual report 1945.
4. Auckland Star 13/5/43 page 3.



NZ school cadets 1950 Barracks signal training St Patrick's College, Silverstream.

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