

Restoring a Zenith 'Long Distance Universal' Model 5G500 – Gerry O'Hara

Many folks will have heard of the Zenith 'TransOceanic' series of portable radios... popular in the US and Canada from mid-WWII through to the early-1980's, including tube designs (1940's through 1962) and solid state designs (1957 to 1982). They were popular because they were sensitive, superior-sounding, self-contained portable radios that could be operated on internal batteries or from a mains supply, and that offered good performance on the shortwave and broadcast bands. A selection of TransOceanics through the ages can be viewed at [the Nostalgia Air site](#). This long-lived series of radios however started life with a much humbler relative, the 5G500, launched in 1940 - a broadcast-band only portable that incorporated some of the basic design features that would become the TransOceanic. This 5 tube 'Universal'



design (mains or battery operation) evolved quickly into the 6G601M 'Sailboat' (6 tube), and by 1942 into the first (7 tube) TransOceanic design, the 7G605 'Clipper' and 'Bomber' styles (all named after the speaker grill designs). These rugged, utilitarian set could receive five shortwave bands (49, 31, 25, 19, and 16 meters) in addition to the regular AM

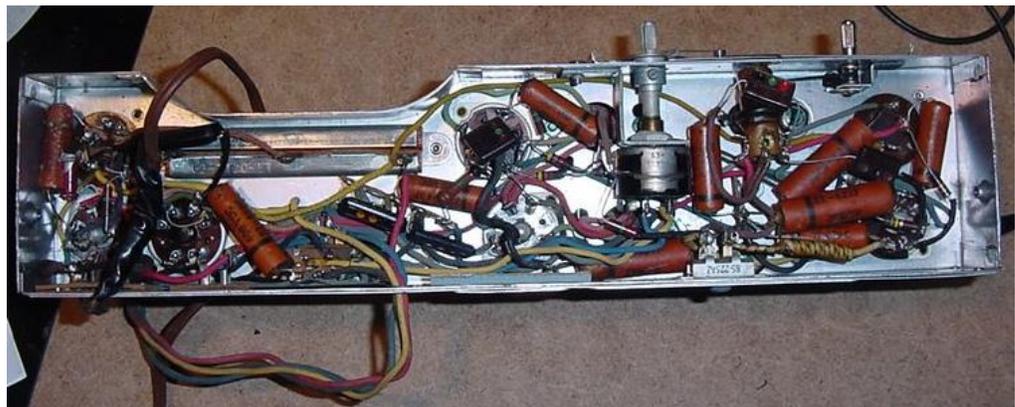
broadcast band. This 'TransOceanic' formula itself was the idea of the head of Zenith, Commander Eugene F. McDonald, himself a keen traveller and yachtsman who was frustrated that portable radios of the day did not have better long-distance performance.

This example was found looking very forlorn in the 'bargain bin' of a fleamarket in Lynden, WA. in 2005, and was in a rather rough condition. The case is a coated-linen fabric-covered plywood construction - basically a little suitcase, with detachable front cover and hinged back - divided



into upper and lower compartments: the upper half contains the chassis and the lower half the battery pack. A webbing strap containing wires connects the chassis to the 'Wavemagnet' antenna mounted in the rear cover of the set - the 'Wavemagnet' can be detached from the set and mounted on a window or wall for improved reception. Controls are very basic: tuning and on/off/volume. A neat little red 'on' flag pops up into the black dial area when the on-off switch is operated as no dial light is provided to save power when the set was used on batteries.

The circuit is a simple five tube design using 1.4v heater octal tubes in the signal circuits and a 117v heater rectifier tube (117Z6G). The 'Wavemagnet' couples to a 1LA6 pentagrid converter, with the 455kHz IF being amplified by a 1LN5 pentode, the signal then being detected in the diode section of a 1LH4 diode/triode, with the triode section serving as the first audio stage driving a 1LB4 output stage, feeding a 5.5" speaker. AGC is applied only to the 1LA6 converter stage. The 117Z6G is connected as a half-wave rectifier and a switching



arrangement allows for rapid change-over from battery to mains operation. All tubes apart from the 117Z6G are lock-in types that help retain the tubes in their sockets when the set is moved about. The case was rather scuffed and very lacklustre on arrival. It was cleaned and a coat of wax applied to bring back the colour in the fabric - contrasting tan and brown stripes - not perfect but better than it was. The dial glass (actually moulded Perspex) was missing and a piece of thin glass was installed in its place to protect the black dial. The set still contained a battery pack (manufactured by 'Burgess') - probably four decades old. It had swollen over the years and was very difficult to extract from its compartment. Once extracted, the outer cardboard covering was removed from the battery and the covering was re-inserted into the cabinet (less the dry cells) for aesthetics. The chassis was found to be in very good condition, corrosion-free and in original condition (no obvious repairs), and after cleaning and some safety checks, it worked as soon as power was applied. A significant hum indicated that the filter capacitors were faulty - once these were replaced, the radio sounded very good considering the simplicity of the design.

