



Zenith Transoceanic H500 (1951 – 1953) - Gerry O’Hara, December, 2010

One of the services offered at SPARC Museum is the repair and/or restoration of vintage radios for members of the public – in exchange for a reasonable donation to the Museum and the cost of any replaced parts. These radios are often ‘family heirlooms’ – discovered when clearing a family house or as a bequest from a relative – so have a sentimental value to the new owner, or they may be simply ‘finds’ at flea markets, second-hand stores or thrift stores. Such radios have often had a hard life after ‘retirement’ from daily use and show signs of this, eg. years of being kept in an outhouse, damp cellar or attic cause corrosion and other damage, and thus radios benefit from being restored to a semblance of their former glory for their owners. This work is undertaken by knowledgeable volunteers who donate their time and expertise for the preservation of classic radios such as the one described in this article.



A Zenith H500 bringing in the election results for the troops – a truly go-anywhere radio!



The receiver on the workbench before repairs and cleaning

Elsewhere on this website you will find a short article on a Zenith ‘Universal’, Model 5G500 portable radio. That little Broadcast band AC/DC/Battery (hence the name ‘universal’) model was the precursor, and inspiration for, the famous and long-lived series of Zenith Transoceanic Shortwave/Broadcast band receivers that were produced between 1942 and 1962 (through to 1981 in their transistorized incarnation). These popular and reliable models offered a way of tuning into the world from

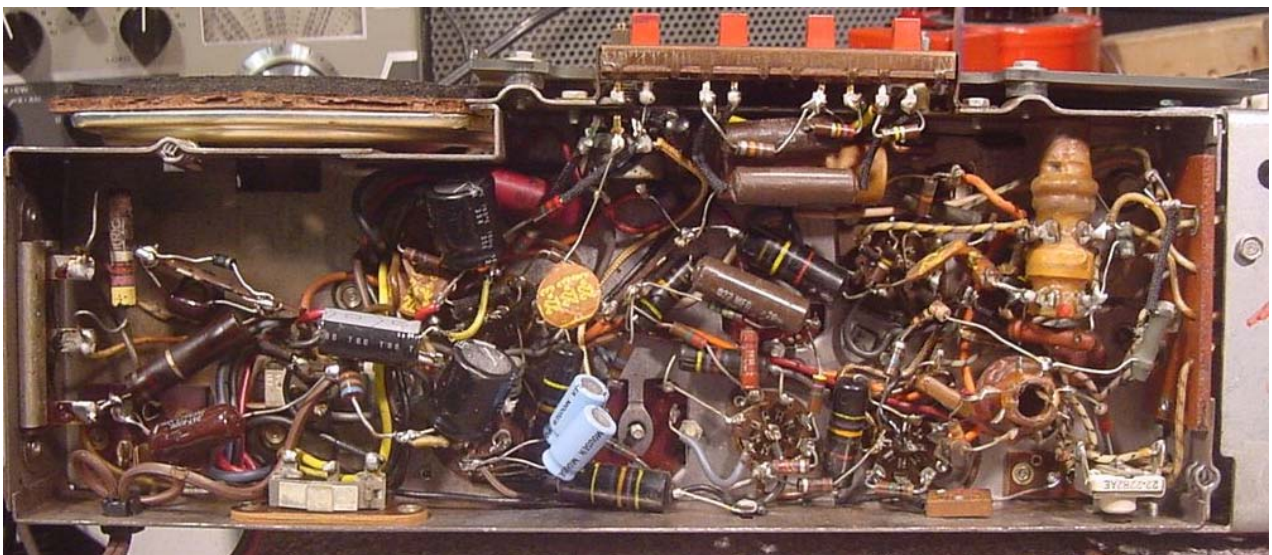
wherever you were and, although their size and weight seem excessive for today's idea of portability, the design was a classic of its time and dominated that sector the market in the USA and Canada for decades.



Recently a Zenith Transoceanic Model H500 was brought in for repair. This early-1950's version of the model has five miniature tubes (RF, Converter, IF, Detector/AGC/first AF stage and AF output) and a selenium rectifier (for more information on the various models in the range, see

<http://www.transoceanic.nostalgiaair.org/>). In addition to the Broadcast band, Shortwave coverage is provided in six ranges (2-4MHz, 4-8MHz, and

the 16m, 19m, 25m and 31m bands). A detachable 'Wavemagnet' loop antenna is fitted into the lid of the receiver that operates on the Broadcast band (when detached it can be mounted on a window with suction cups), and a very long telescopic whip ('WaveRod') is provided for Shortwave reception – an external antenna/ground can also be attached if needed. When used as a portable, batteries are installed in a compartment located beneath the chassis. One of the nice features of the Transoceanic series is the 'RadiOrgan' switched tone control system – providing adjustments for Treble, Voice, Alto and Bass (photo above).

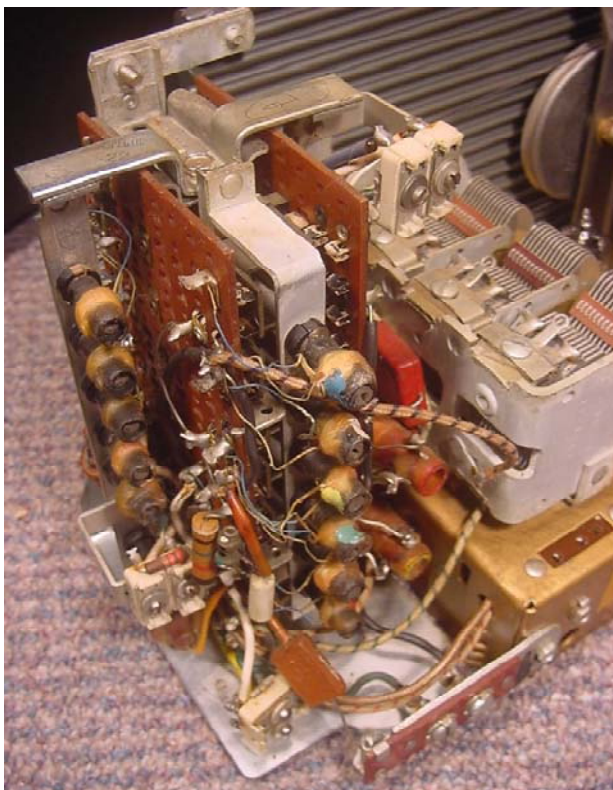


Beneath the chassis before repairs, Note the 'Bumble Bee' capacitors (black with coloured rings)

This particular example was in very good physical condition on arrival at SPARC – both the case and the chassis were clean and free from mechanical damage or wear. However, the set did not work on arrival, and fitting a new IL6 (the converter tube – a likely suspect for a dead set) brought in only a couple of stations on the Broadcast band but nothing on any of the Shortwave bands - it was evident that some repair work was required.



Above: Beneath the chassis after repairs, Note the ‘Bumble Bee’ and other paper capacitor types have been replaced by modern plastic film types (orange and green bodies). Below: Tuner section of the chassis – not quite as daunting as it looks – honest...



On inspection of the chassis, it was evident that some repairs had been undertaken to the set in the fairly recent past (probably in the last decade) – including replacement of the main filter electrolytic capacitors, three of the original paper capacitors and replacement of the selenium rectifier with a silicon diode. The original paper capacitors in the set were of the Sprague ‘Black Beauty’ type (sometimes called ‘Bumble Bees’ after the distinctive colour coded value, tolerance and voltage rating bands on their black bodies). This type of capacitor is notorious for developing electrical leakage with time, though their capacitance value can still be within tolerance – as was the case for most in



Chassis re-installed in the cabinet after servicing – note the space beneath for batteries and ‘WaveRod’ telescopic antenna to the left. The original multiple filter capacitor remains on the chassis for cosmetic purposes (black cylindrical item right of centre) – now redundant, its functions being carried out by new capacitors located beneath the chassis

this set. This form of defect often allows the set to perform, but usually well-below specification. All of the remaining capacitors of this type were replaced (14), as was a previously replaced capacitor of dubious provenance, plus the remaining electrolytic. Other capacitors in the set are disc/tubular ceramic or silver mica types and these tested ok. A random check on some of the resistors (particularly higher value ones which tend to be more susceptible to drifting in value with age) indicated these were generally within tolerance, only one needing to be replaced. The body of another resistor was chipped and although it tested within tolerance, it was also replaced as a precaution.

After recapping, the set was tested and re-aligned to bring it up to specification. The dial and case were cleaned with anti-static fluid and all switches and controls cleaned with De-Oxit (the wavechange switches were very dirty). Also, a new, polarized line plug was installed to avoid connecting the set to a power receptacle the wrong way around (which can cause the chassis to become ‘live’ – and the chassis in Transoceanic models can be easily accessed).

The set looks great and performs much as it did out of the box in ~1952 (three years before I was a twinkle in my fathers eye...).



Restored Zenith Transoceanic H500 – pulling those distant stations in with ease and classic early-1950's style. Note the 'WaveMagnet' detachable loop antenna in the lid for Broadcast band reception and the extended 'WaveRod' (upper right) for shortwave reception