

Restoration of a Canadian General Electric Model GE-66 – SPARC Museum, Coquitlam, BC

Quite often folks have a radio that means a lot to them for a variety of reasons, eg. they can remember it playing in their grandparents front room when they were kids, can recall that radio playing their favourite shows, or just that its seems to have always been part of their lives and want to preserve it as part of their memories and for future generations. This particular restoration was just that: the owner had memories intertwined with the set and it had been part of her life for as long as she could remember. However, as often happens with vintage sets, as time went by it had fallen into disrepair and became ‘unfashionable’, so no-one got around to fixing it, and the aspidistra-watering ring(s) on the top became too annoying to put up with in the lounge. Eventually, this once-prized possession was relegated to a bedroom, then garage, or worse... And again, as often happens, this set had been pulled out of storage by its well-meaning owner or relative and given ‘the once over’ to ‘smarten it up’ – you know, get rid of the scratches and other blemishes by sanding it down and slapping on a coat of Varathane (or worse, paint) or, as in this case, both. Well, that would be ok (sort of) if it was done well, but more often than not the process is expedited by using a power sander – usually the circular disc sort – leaving

unsightly circular score marks under the new finish and, quite often, removing the thin veneer finish in parts. All in all, this can leave a rather rough-looking cabinet and one that makes for a tough cabinet restoration job at a later date. Add



to that a chassis that has been fiddled with by a well-meaning (but lacking in knowledge) owner or handyman that somehow lost the knobs, a tube or two, and/or other parts, and the result is a challenge... But SPARC likes a challenge!

So when this Canadian General Electric Model GE-66 was brought in by its owner who’s son had ‘had a go’ some time back and who now wanted the radio fully-restored, SPARC took on the project with relish.



This set was suffering from many of the above afflictions: the cabinet had been sanded down with a circular disc sander, leaving the tell-tale deep score marks and a few patches where the veneer was worn right through (photos above and below). This had then been given the brushed-on Varathane treatment, with the shoulders having a gloss brown paint applied to effect some form of contrast. The chassis had certainly been ‘worked on’ by the son (but, of course, did not work) - tubes were missing, and so were all of the knobs and push-buttons... This set was going to take some time and considerable effort to restore...

Chassis

The GE-66 chassis is a fairly straightforward AC-only set: a simple 6 tube design, with six pre-sets on the Broadcast Band, and also two shortwave bands covering 2 to 22MHz. The tube



line-up is a 6K8 converter, 6K7 IF amplifier, 6H6 detector/AGC, 6K5-G first audio, 6F6-G audio output and a 5Y4-G rectifier.



Above: chassis as-received. Below: chassis after clean-up and repairs



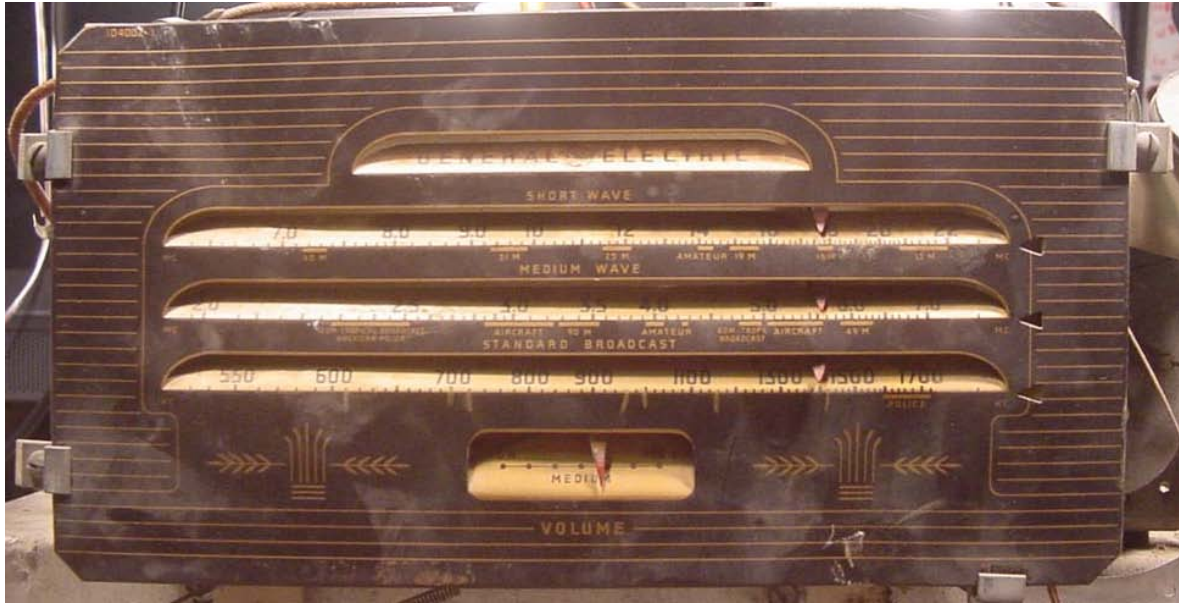
The pre-sets (trimmers and slugs) are adjusted through holes in the chassis (photos, left). The pre-set switching and tuned circuit assembly is mounted on a sub-chassis under the main chassis (photos on page 5). This sub-assembly must be removed to allow access to some components on the main chassis. This can be accomplished quite easily by removal of a few interconnecting wires between the two.

The usual culprits of a dead chassis were replaced: all electrolytics and paper capacitors (and previous service replacements thereof), dial bulbs, and three tubes. All resistors were checked and those not found to be within tolerance were replaced. The

mechanical components of the push-button assembly was cleaned with WD40 and then lubricated with lithium grease (applied sparingly). The electrical contacts were cleaned with Deoxit, as was the volume and tone control pots. An in-line fuse was fitted to the power transformer primary to offer some protecting in the event of a major fault condition developing

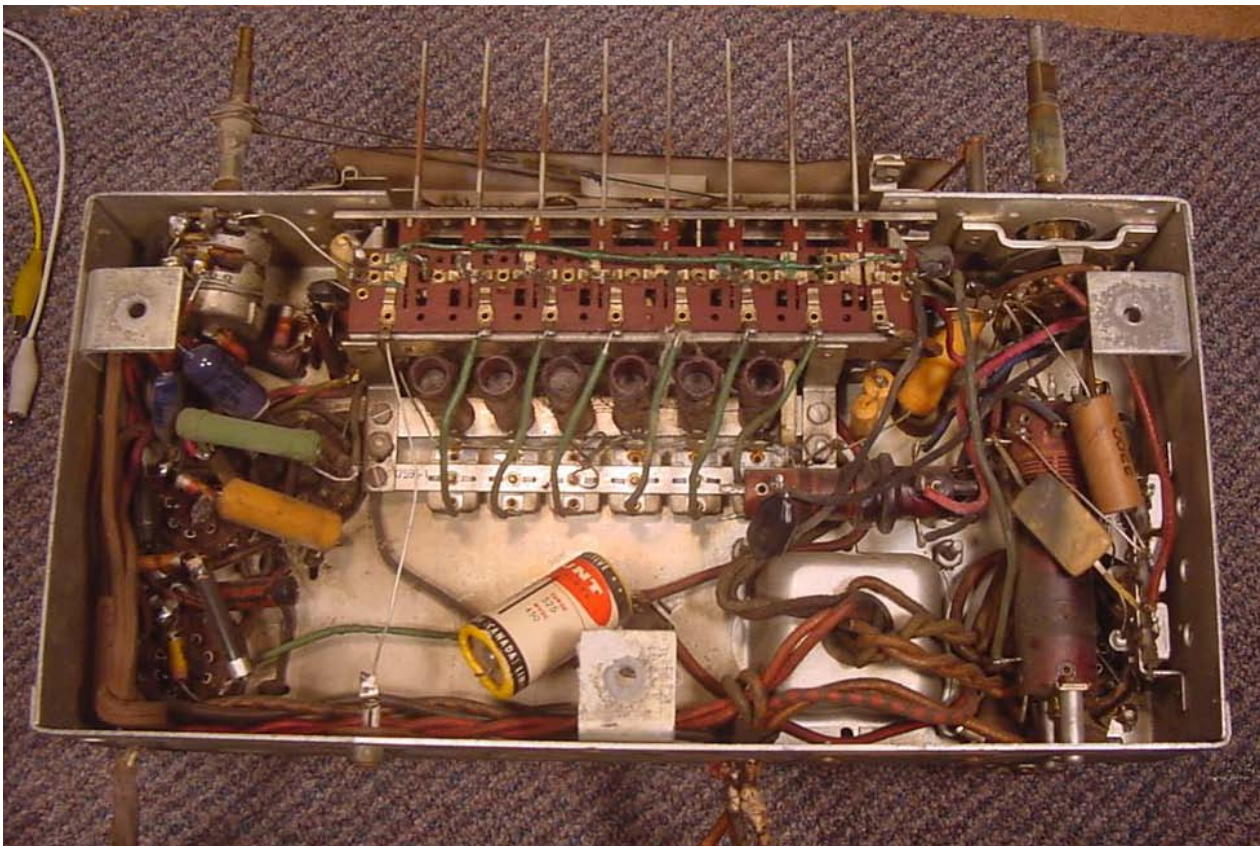
in the future. The speaker was then re-wired and the scale plate straightened, cleaned, and scratches touched-up, to complete the job (photos, below).

The chassis was then re-aligned and soak-tested to check for any latent faults – it worked very well, pulling in many stations and with remarkably good stability.

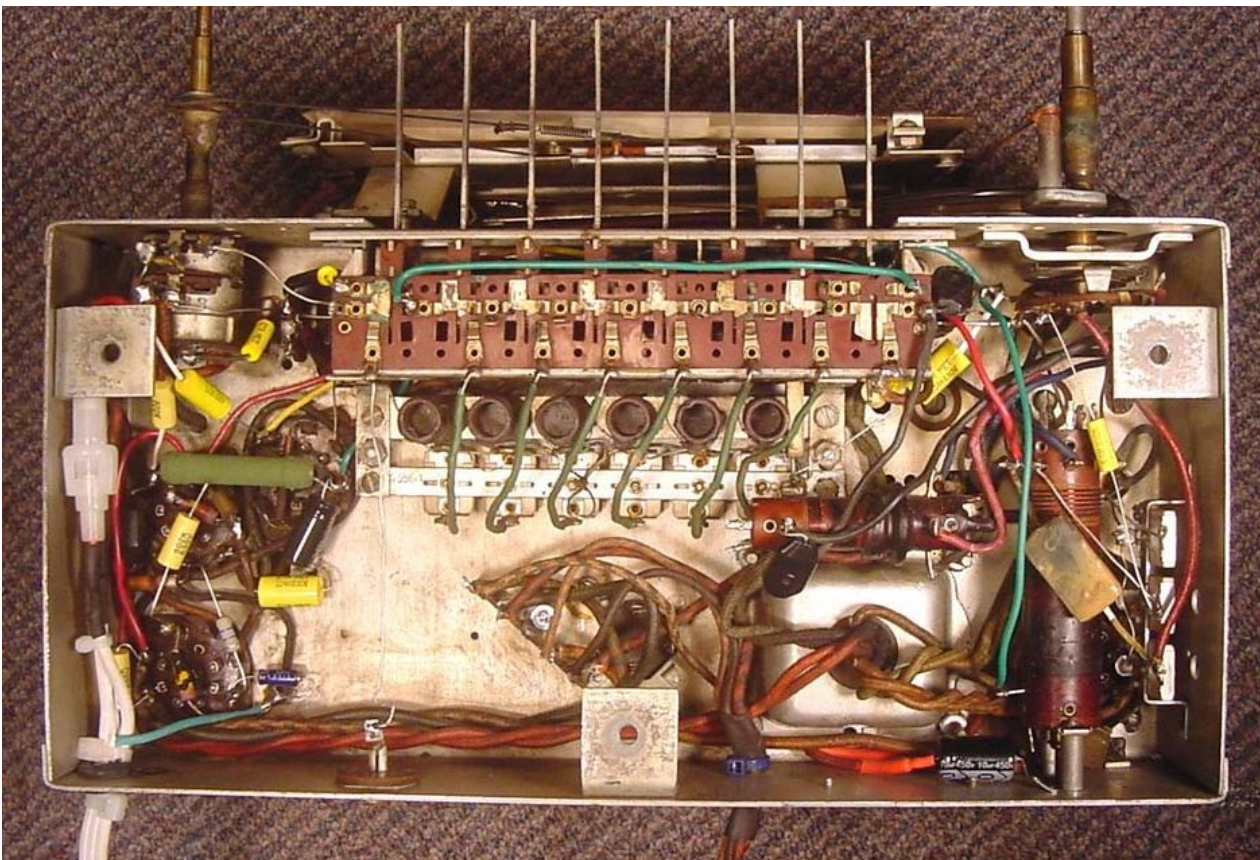


Above: scale plate as received – looking very ‘worse for wear’. Below: After much ‘tender loving care’ – almost as good as new...





Above: under-chassis view as received – note some replacement parts. Below: following re-capping, part re-wiring and replacing some resistors



Cabinet

Restoring the cabinet was a ‘labour of love’ for the SPARC restoration folks. First, the rather liberally-applied Varathane and brown paint (photo, right) were scraped off (not an easy task!), revealing the crudely circular-sanded veneer beneath. Several patches where the veneer had been removed entirely were evident and some parts of the veneer were lifting off the plywood beneath, or had chipped-off. The upper surface of the cabinet had water damage that had penetrated to depth, leaving dark patches through the entire veneer thickness.

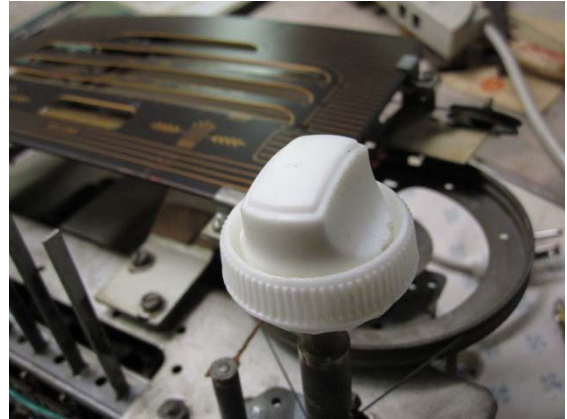
Following stripping, a random orbital sander was used to remove the circular sander’s score marks. This operation had to be undertaken with extreme care such that the veneer was not removed – a very fine-line as many of the score marks were very deep. Hand-sanding was then undertaken to remove the last vestiges of the score marks. Several small pieces of veneer were then replaced with



matching patches before grain filler was applied to the surface. The grain filler was sanded-down with 600 grit 'wet-and-dry' paper, lubricated with lemon oil, and the cabinet then allowed to sit for a few weeks prior to applying lacquer. Areas of the cabinet were masked-off and a dark brown-tinted lacquer applied to areas to be highlighted, prior to applying a light-brown tinted lacquer to the entire cabinet to obtain the desired overall tone, followed by many coats of clear, semi-gloss lacquer to give 'depth' and a deep lustre (photos, bottom of page 6 and on page 8).

Knobs

On receipt at SPARC, the radio had no knobs or push-buttons fitted. An extensive search through the SPARC stock failed to come up with anything suitable (the knobs are a unique, concentric design, and the push-buttons must fit through shaped holes



in the escutcheon plate). However, the SPARC museum display has this model of set on display and this allowed a set of knobs and push-buttons to be replicated. The process is described in the article at <http://www3.telus.net/radiomuseum/> (under 'Restorations – 'Knobs!'). Essentially, this involves making moulds from the original knobs and then casting new knobs out of a special resin, milling holes/slots as needed in the casting and then painting (photos above). Following spray-painting, the end-result in this case were a complete set of knobs and push-buttons very close in appearance to the originals – photo, right.

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Finishing-Up

Once the cabinet had been re-finished, the chassis was re-installed. The plastic escutcheons around the pre-set push-buttons and the dial were cleaned using Novus #2 and then #1 – thankfully these were not too warped (as they are prone to do) – photo, bottom of page 6.



The original speaker cloth had been replaced sometime in the past with a coarse fabric that did not look ‘the part’ at all, and the baffle board was missing entirely. A suitable baffle board/cloth assembly was located in the SPARC ‘boneyard’ and fitted to the re-finished cabinet. The end-result was remarkable – it looked as if it really belonged in the set.



Altogether a very satisfying restoration project – in fact, this set now looks and works much better than the one in the SPARC Museum display and the set’s owner was extremely pleased with the results.

SPARC Radio Museum, Coquitlam, BC, 2013



Above and right: completed CGE Model GE-66 standing in the SPARC spray-booth awaiting collection by its proud owner – another Canadian-manufactured radio restored to working order, its looks preserved and once again giving stalwart service.

