Restoring a GE HM 185

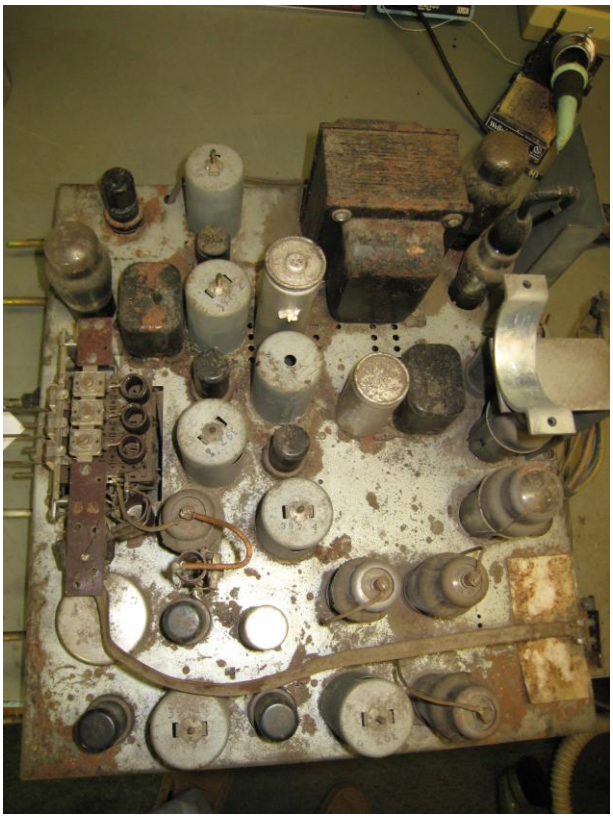
This set belonged to a local family and it was in their possession since the early 1970's. The cabinet was basically complete missing only the indicator lamp bezel and a couple pieces of veneer, however, it had been in a damp place and the sides had come loose from the front grille section and popped outward. The base also had rotted wood on the bottom inch or so. The chassis looked intact with some rust but not too bad, the speaker was intact and although the base locater pin had been broken off the CRT and the 5BP4 did not appear to have been broken or lost vacuum.

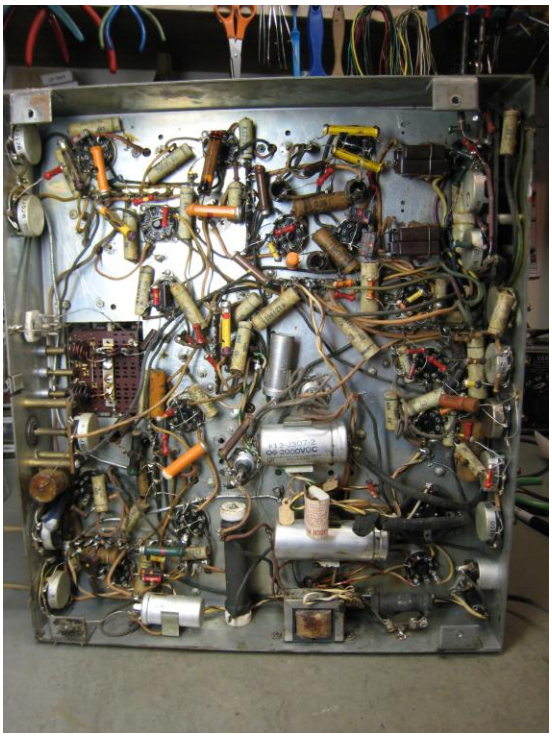
Restoration began with the removal of the chassis and everything else from the cabinet and a complete disassembly of everything that was loose on the cabinet, including removal and disassembly of the grille section (that was only screwed together, not glued) and the base from the cabinet. I have determined that the base, now disassembled itself, requires the removal of about the bottom 1" of rotted wood and will have new wood installed on it. This cabinet is also painted a medium brown inside it and when done, will hide any new wood added to the base section or repairs done on the inside. Veneer's that had become delaminated on the lower section have been re-glued. The front curved sides were badly delaminated and sprung outward, the force required to return them to position would have exceeded 200lbs so delaminating those sections and starting from the beginning was the only option. The sides that curve around are 7 layers of wood veneer, with a larger inner core. It was found that the outer layer just under the Burl Veneer was the main culprit for the sides not bending around properly anymore. One layer at a time beginning on the inside I used contact cement to rejoin the layers in the curved 90degree position so that that position would hold when complete and the grille would only reinforce the position, not maintain it. The left side de-lamination was not as bad and only the outer layers from the inner core were completely delaminated so that the curve could be restored. The outer burled walnut veneer is very brittle and did shrink somewhat once dried out from the delaminating process so some filler was required inside of cracks but most of the original veneer was retained except for the strip that was missing on the lower right-hand side which was replaced by a matching piece that I selected from my stock of vintage burled veneer.

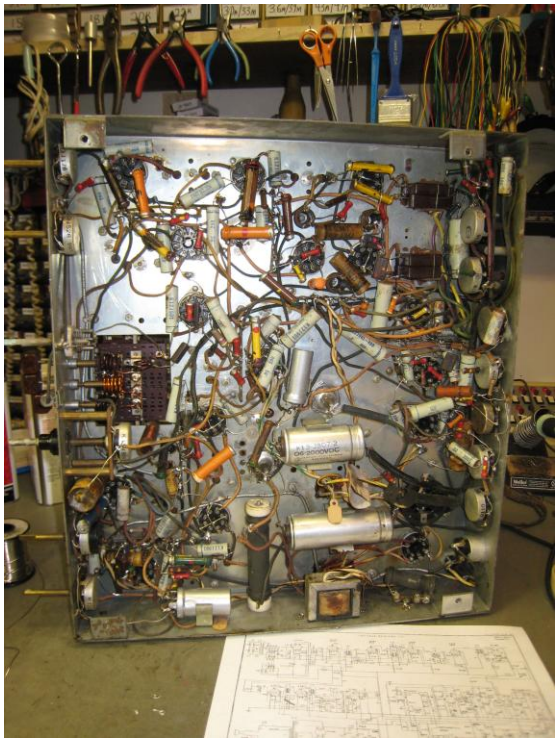
The rest of the cabinet required extensive re-gluing along the edges of all the cabinet sections, but little veneer was missing. One piece of straight-grain walnut on the top left side near the front was replaced as the original had been severely damaged, but again a matching piece of vintage wood was found to match and replace the damaged section. Once all the wood was repaired and glued back into place the front grille and trim sections were toned down to dark walnut as the original had, as well as the middle section of the front and the top of the set. Once the finish was on the set pretty much looked as new, there was some unevenness on the lower curved sections but unless you run your hand down them it's not noticeable and better to preserve the original wood than just replace it.

The chassis was examined on removal and very little seems to have been done to it and that was probably long ago. The first filter electrolytic off the B+ had been replaced and one of the wax capacitors as has the power transformer. One of the fine-tuning coils has also fallen off the center tuning slug on the tuning gang. I replaced the filter can as the new one was the wrong type and re-stuffed a correct type as well as all the other electrolytic capacitors on the chassis. I then proceeded to re-stuff all the paper capacitors which was a matter of melting out the end caps, removing the guts and replacing them with new units and running the leads out thru the old ends. The high voltage capacitors were Mica in one section, which I left intact, but rebuilt the Oil capacitors (only two of them) which rounded out the recapping of the chassis.

On the topside I removed the covers from the power transformer, sandblasted and painted them, and removed the 2 transformer cans, sandblasted and painted them. The chassis itself had moderate rust which I removed chemically with Naval Jelly in multiple applications then waxed the entire topside to prevent future corrosion.







Power-up of the set was done on a variac while monitoring currents and voltages and was without incident, it basically came to life but needed numerous adjustments and tweaking. The CRT was found to have an internal intermittent that would greatly reduce brightness and cause the focus to shift so a NEW 5BP4 CRT was obtained and that worked properly, even though as expected, the brightness of the 5BP4's is pretty dismal and requires viewing in a darkened room. Adjustments were made to the center pushbutton to act as the Channel 3 for input of an analog signal from a converter/VCR and the coils were adjusted for slope detection of the FM sound signal on the AM receiver. The signal level determines maximum volume obtainable with this scenario so a good strong signal is required, fortunately with a good cable feed or VCR connection that is not a problem but don't expect to be blasted out of the room. Stability was found to be pretty good for a set this old, probably due to its basic design and the stability of today's modern capacitors used. Some fine-tuning is required from time to time and the push button contacts on the channel selector did prove to be less than ideal, requiring exercising from time to time to make and maintain a good contact. Linearity was a bit of an issue as well and I have found that to be true of other electro-statically deflected sets. With today's 16X9 cinemascope aspect ratio creating bars on the top and bottom of the screen it was difficult to get things both linear and symmetric but a good compromise was obtained and a good watchable picture was produced on both 16X9 and 3X4 format, but of course with a 5" screen the 3X4 is much preferred.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Lastly, a perfect reproduction back panel was fitted capping off the detailed restoration of the cabinet and chassis, I was not able to obtain the correct cheater line cord for the set so a grounded power cord was soldered to the terminals on the back cover and can be removed when and if the correct socket for a cheater cord is obtained.

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