TUBECLINIC
LINZ / AUSTRIA

GETTING NOS SOUND QUALITY FROM NEWLY MANUFACTURED TUBES

A tube is a subject, made from glass, plate steel, wire and mesh. The metal parts are punched, bent and welded together. Metal has the behavior, to destroy its original (smooth) crystal structure at such a treatment. It needs time to resettle again to a smooth crystal structure and to relieve all the stress applied to the material. Mostly it needs many, many years for a tube, to come to this relieved state, at which it will then sound full and sweet. Like we all know about highly priced NOS tubes …

But metal also resettles if it is warmed up!

So you could either:

- store your tubes well for the next 30+ years to bring them to this relieved state,
- play music through them for about 100 hours to relieve them by power loss heat
- or follow this recipe:

1. You need a kitchen oven, capable of ≥350°C or some other heating compartment, which is able to heat up controlled, and cool down very slowly. Normally such ovens are marked with "pyrolysis" (if it is a German make "Pyrolyse"); meant is a self-cleaning facility of the oven. All-glass tubes will need only 250°C (e.g. 12AX7) while you could lower maximum temperatures in common, if heating-up time is elongated respectively.
2. Put in the tubes you want to resettle (into the cold oven) and keep them in - after reaching the final temperature - for about 1 hour at 350°C (250°C/2h resp.).
3. Switch-off the oven and let the tubes cool down very slowly in the oven. This will need some hours. Never open the oven door during cooling down!
4. After all has cooled down to room temperature, the stress in the metal will be mostly away and the tubes will sound amazingly rich, almost the first time you use them.
5. There will still be a short breaking-in period, but full sound should be already obtained after about 2 hours of normal service.

After having crossed some thoughts with buddy Micha from "Röhren & Höhren – Forum" (http://www.roehren-und-hoeren.de) we have added another theory about the working principle of this "tube baking":

> He thinks, that this effect depends less on an annealing or relieving effect of the metal parts inside the tube, but leads more from a chemical effect corresponding to the cathode as well as an effect of better performance of the getter inside the tube. Now some tests are on the run and we shall look ahead. I will report soon.

My experience says, that treated tubes sound other – yes - better even after 1000 hours of service compared to untreated items under the same conditions and environment. You could find out easily by listening only!

Please note – this treatment may be dangerous to your tubes:

Although I could not find any changes in the lifetime of such treated tubes of my own, I cannot guarantee it will work on all tube types and brands. For example - keep an eye on tubes with plastic-bases; they may be damaged by heat! You have to experiment with your own tube types, to find the best temperature and treatment time!
Please be aware, that the maximum temperature of the several tube parts may be exceeded within this process. So no liability to the functioning of the tubes after the treatment can be given.
I shall accept no claim, resulting from usage of this recipe!

