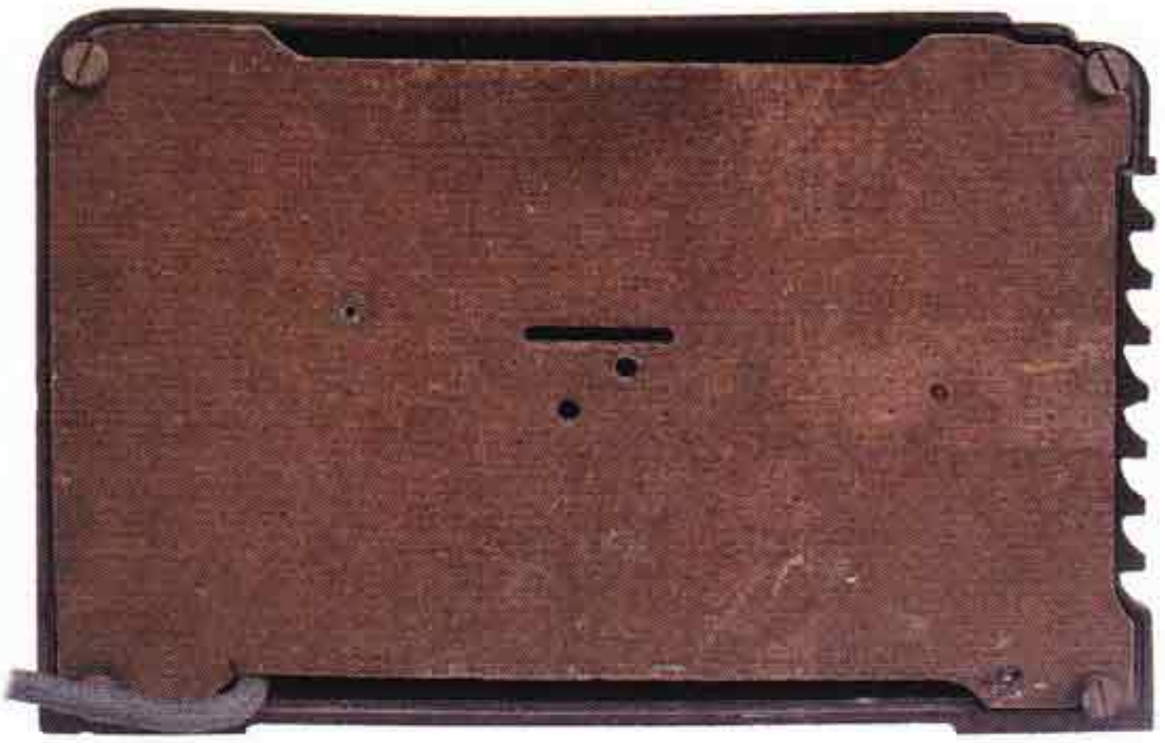

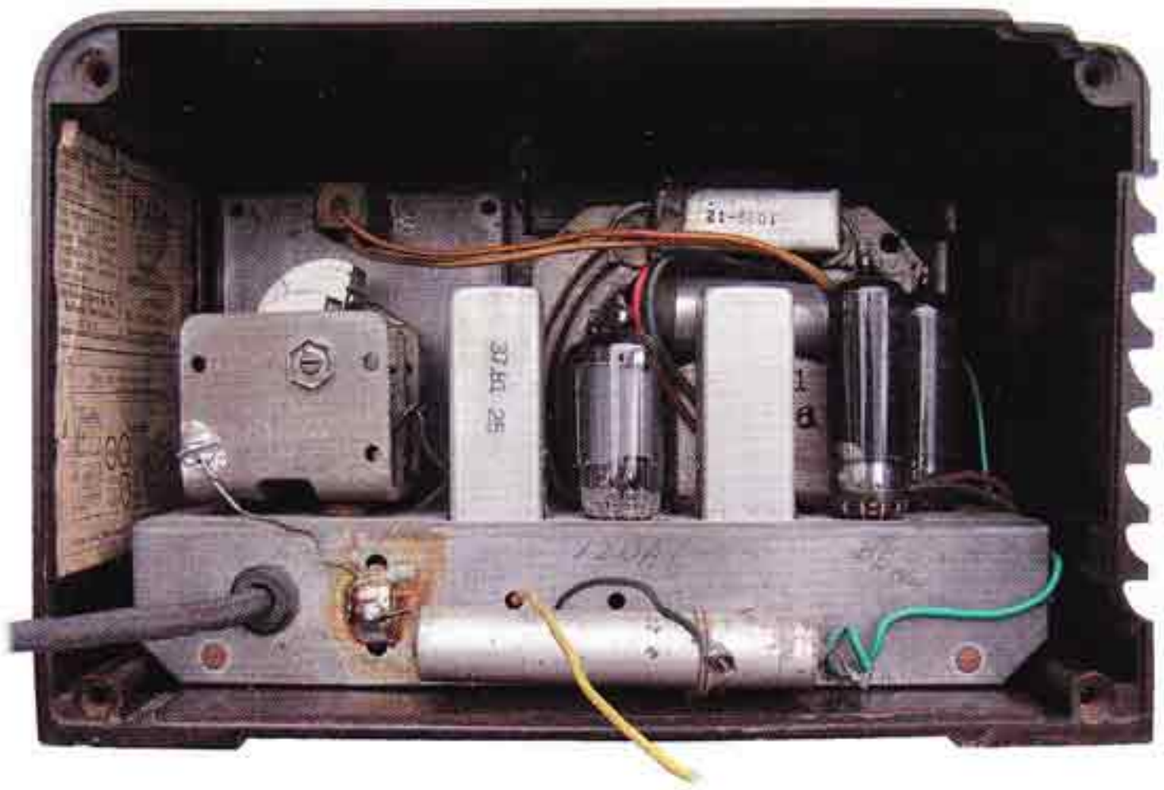

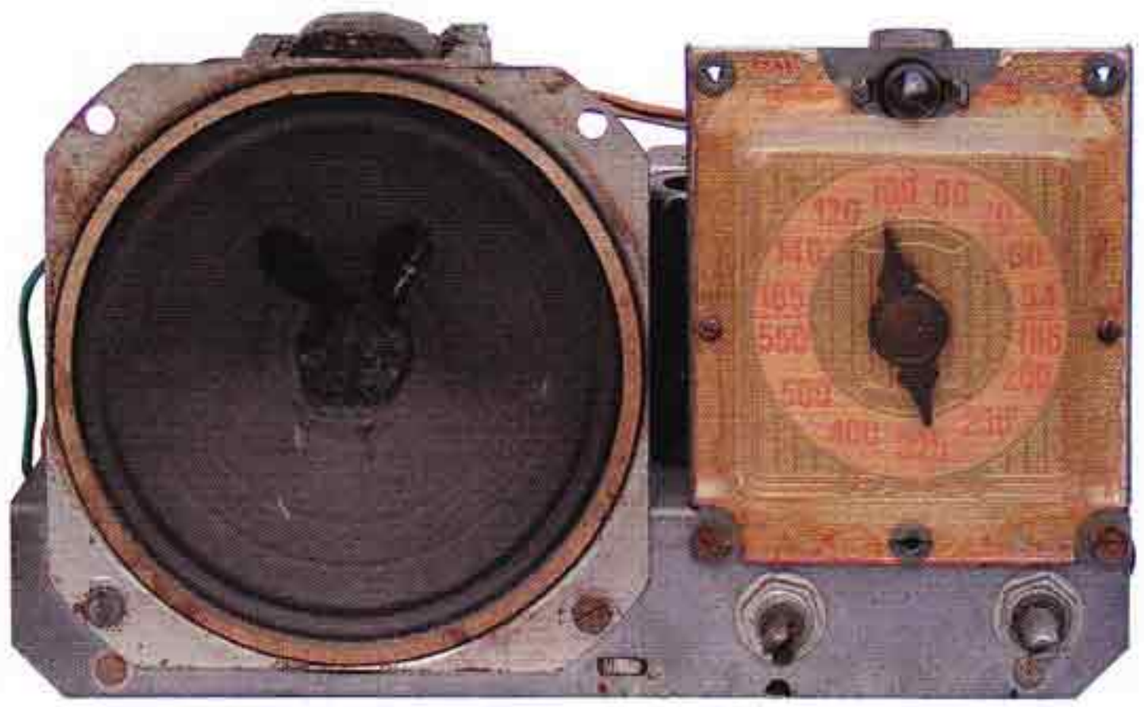

# The FADA 740 An Amazing American Midget By Roger Grant

This set was an impulse purchase at the end of one of the Harpenden swap meets several years ago, it came quite cheap as the cabinet has a few cracks and it looks like a home made back has been fitted, plus its previous owner didn't want to take it home.

It has been in among my collection as a static display until recently, when a young colleague at work with a newly acquired interest in old technology, expressed an interest in owning a valve radio. Having seen several examples of my collection, he decided one of the smaller sets would be preferable so several midget sets were dragged out for an airing.

This set was passed-by as it's an American set and requires a 117 volt mains supply, but while it was on the bench I thought I'd give it a dusting off and a run up.

On removing the back I discovered this set uses the B7G series of valves, making it a bit younger than the style of cabinet suggests and the basic hardboard back turned out to be original, as it's the sets frame aerial.

A label stuck inside the cabinet revealed its manufacturer's model number and a bit of research soon completed its heritage, made by FADA Radio & Electric Co Inc, Belleville, New Jersey, USA around 1947. It must be one of the early sets to use this series of valves.

Having a 117v mains transformer to hand and after a few cold checks with the AVO, the set was plugged in and tried out. It crackled and hissed and eventually pulled in a few stations, albeit intermittently. Waggling the valves proved the pins to be very dirty and oxidised, after cleaning with a soft fine brass wire brush the situation was much improved but the set was still intermittent.

There appeared to be two separate faults, the first, the set cut out, no audio at all, this could be cleared by giving the set a light nudge, the second, the set's sensitivity would vary quite widely, also varying with a light nudge.

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The first problem proved to be the audio coupling capacitor going open circuit, a bit difficult to trace for as soon as you moved the set the fault would clear, even with the lightest touch, the set might then work for a few hours before this fault would re-appear, no amount of prodding and nudging would induce this fault. Eventually I managed to touch the grid of the 12AT6 audio triode with the tip of a screwdriver without disturbing the fault, (pin 1) and got a good buzz from the speaker, but nothing on the other side of the capacitor on the wiper tag of the volume control.

While replacing this capacitor the end fell off of the 3.9meg grid resistor and I had to replace this as well.

The second fault was even harder to find, the output would vary quite considerably, at its best the set performed very well for its size, and would also run for quite a while before dropping to a varying lower level, the audio buzz test remained constant so the fault is RF or IF, the crackle from the grid of the mixer oscillator when tickled with a screwdriver also appeared to be constant (not very scientific but a good indicator without getting out the test gear), this left only the frame aerial attached to the back of the set, the push connectors had already

been cleaned, these were thoroughly cleaned again and any residual oxidation removed, this didn't make any difference, in fact this problem seems to be getting worse, the set's sensitivity is varying all the time and the more I tried to find this fault the worse it got. Mechanically isolating the frame aerial proved to be where the problem lay, a previous owner had already made repairs to this frame aerial, there's a short jumper link repairing a break in about middle of the winding and a wire replacing about three quarters of the outermost turn, this is glued down and there's a messy patch of glue covering a small part of the winding about the size of a thumb print. I discovered that it was there because the winding was lifting off from the hardboard back.

The aerial is manufactured using un-insulated copper foil tape about one millimetre wide glued vertically to the back, and it's now coming off in several other places, this allows the un-insulated windings to short out to varying degrees causing this variation in sensitivity. A rewind is going to be difficult as I've not come across this copper tape before and a jig would be required to get it anything like accurate.

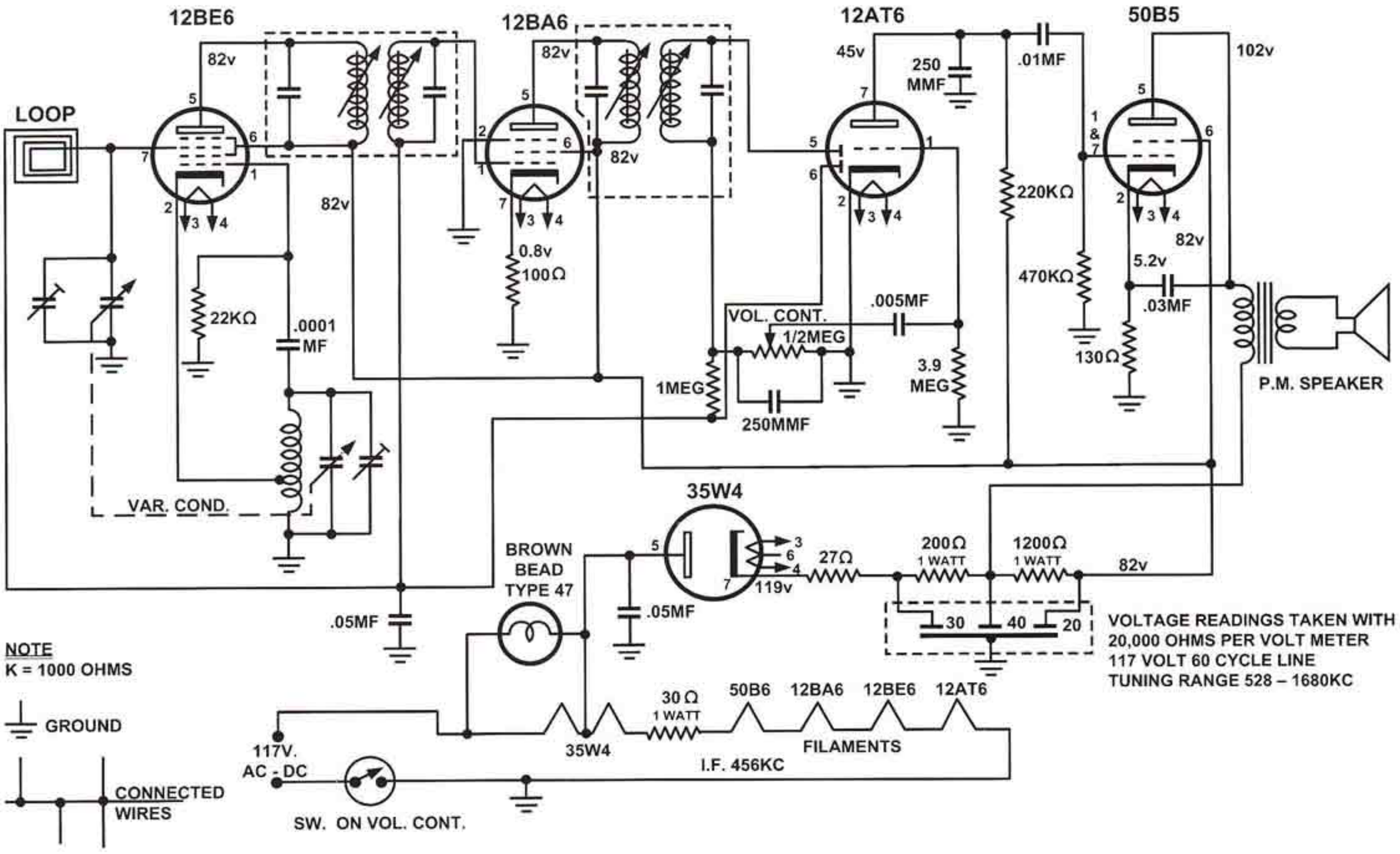
The copper tape windings can be separated using a modelling knife and held in place with masking tape but this is only a temporary solution.

As this frame aerial appears to be the heart of the set and I'd like to keep it as original as possible, I decided to follow the previous repairer's solution and glue the original back down.

After separating and holding the windings in place with strips of masking tape an inch or so apart, I applied some glue in between the strips keeping the separation and re-gluing the copper tape back to the hardboard, for this I used Araldite, lightly warmed up with a heat gun, this makes it very runny so it runs in between the windings, it also makes it set very fast so you have to work fast, this was best done in small batches.

This worked quite well and the masking tape was removed when the Araldite had

# FADA 740



set. The finished job is a little unsightly but didn't impair this set's excellent performance and it has still got its original frame aerial.

The cabinet is a little tired, the surface of the Bakelite appears a bit coarse in places and there are two major cracks, these appear to be stress cracks rather than damage, evident by a definite gap and slight miss-alignment in the crack, damage cracks usually fit back together perfectly and are easily fixed with super glue sucked into the crack by capillary action.

The first of the cracks in this set is on the front top right hand corner, this is only about an inch long and self supporting, it doesn't require repair and trying to fill it would only make it look worse, so best left alone.

The other crack is along the whole length of the left side just under the moulded grille, the angle in this grille forms a thinner strip in the Bakelite and weak point in the cabinet, this required a strong repair to re-instate the structural strength of the cabinet, fortunately this angle also forms a nice trough inside the cabinet, this was easily filled with Araldite and will be thick enough to give it bit of extra re-enforcement, realigned and held its original position with masking tape stuck on the outside of the cabinet while the Araldite sets.

With the repairs to the aerial and cabinet, I didn't feel the need to

The cherry on the cake was in playing a CD recording I have of 'The Chesterfield Broadcasts' A New York radio show from 1940...

disguise the replacement capacitor and resistor to look like types of the correct period, just local components to hand, as you're not going to see them.

This is quite an interesting little set a little different from the norm, I managed to acquire a circuit diagram, a bit tatty so I've redrawn it trying to keep it as close to the original as possible, I only gave the chassis a light cleaning so other than my repairs the set's still as original as possible.

The cherry on the cake was in playing a CD recording I have of 'The Chesterfield Broadcasts' A New York radio show from 1940, The Andrews Sisters with the Glenn Miller Orchestra interspersed with Chesterfield cigarette advertisements. This was played through my nearby 1 Mc/s modulated oscillator and really demonstrates this little set at it best, (albeit seven years younger than the program on the CD) and gave a first class step back in time demonstration to my young colleague, a real window on 1940's New York on a radio of that time. (CD No:- BMG 09026 63113 2)