

Reproduction Ekco Dials by Robert Darwent

Several Ekco models, most notably the A22 model, use large circular or semi-circular backlit dials. The original dials were screen printed on to celluloid or alternatively what appears to be Perspex and because of their size and shape are difficult to reproduce. Undaunted, I decided to try and make my own reproduction versions. This is an account of my attempts to date.

I mentioned previously in my 'A22 Rebuild'1 article in The Autumn Bulletin that I was fortunate enough to acquire a mint A22 bakelite case and that I had undertaken serious work on a reproduction chassis for it before later managing to obtain a complete but damaged set. Part of that work was to first make some sort of replacement dial. The dial used on the A22 is such a major

part of the overall design, appearance and appeal of the set that without being able to produce a satisfactory replacement there was little point in considering making a reproduction chassis at all.

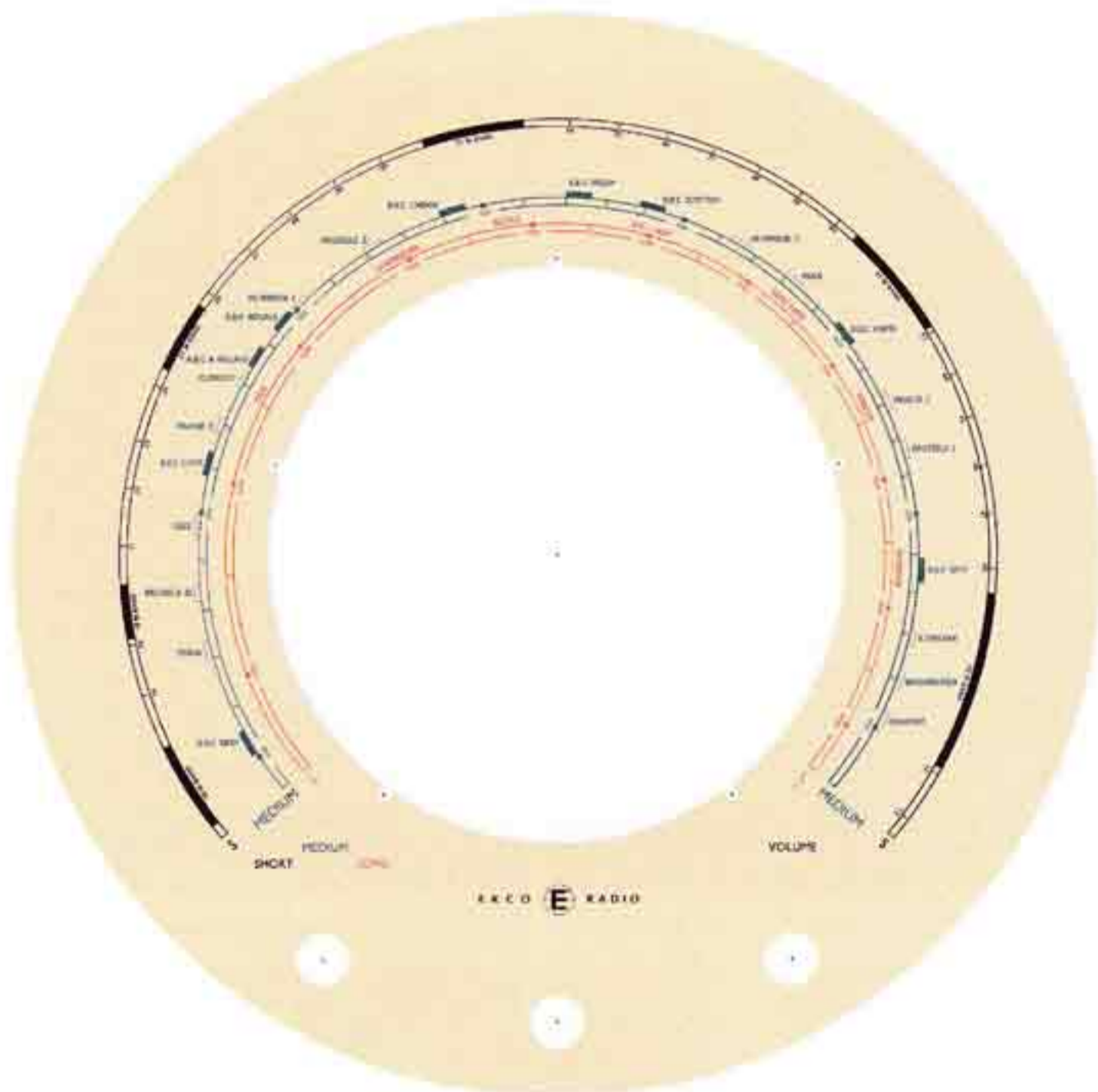
I began by obtaining as many images of the A22 dial from the internet, books and magazines that I could. From my research in this area I quickly realised there were two distinct dials used on the A22;

Type 1

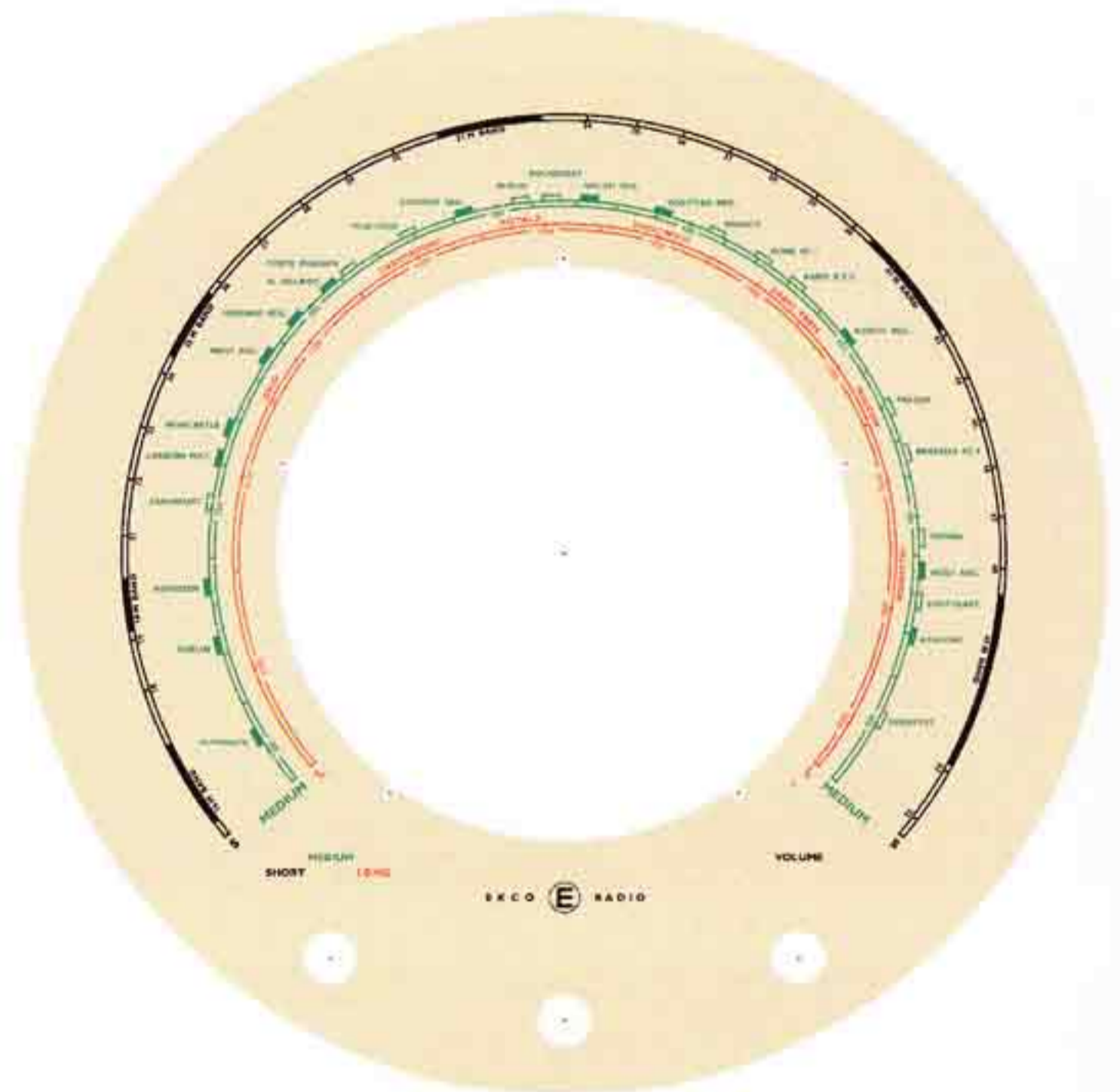
From the station names on the dial, the earlier of the two dials has 'Bucharest' at the twelve o'clock position on the green medium wave legend and 'Droitwich' at the one o'clock position on the red long wave legend.

Type 2

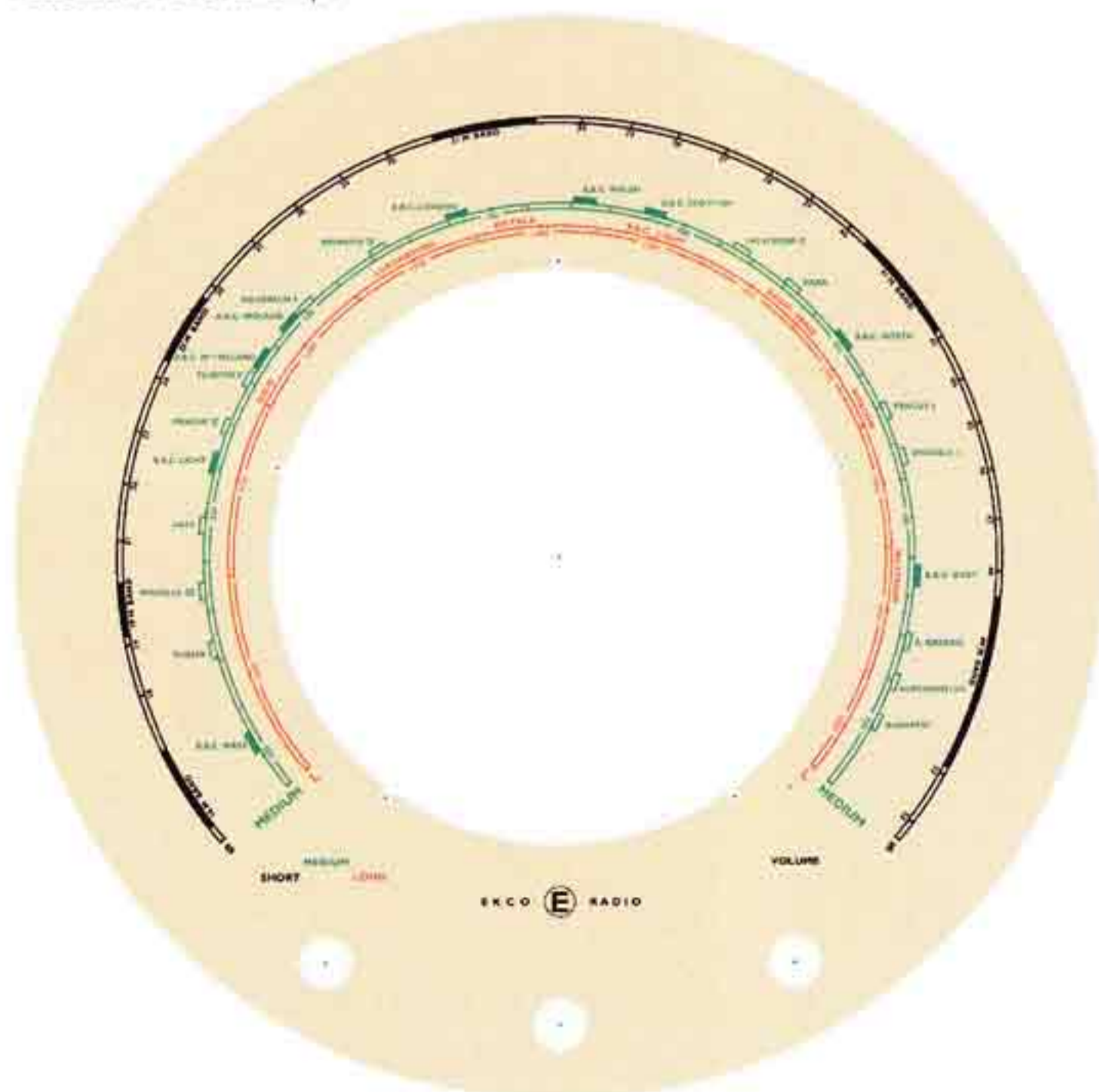
This dial has a reworked green medium wave legend showing the then new BBC



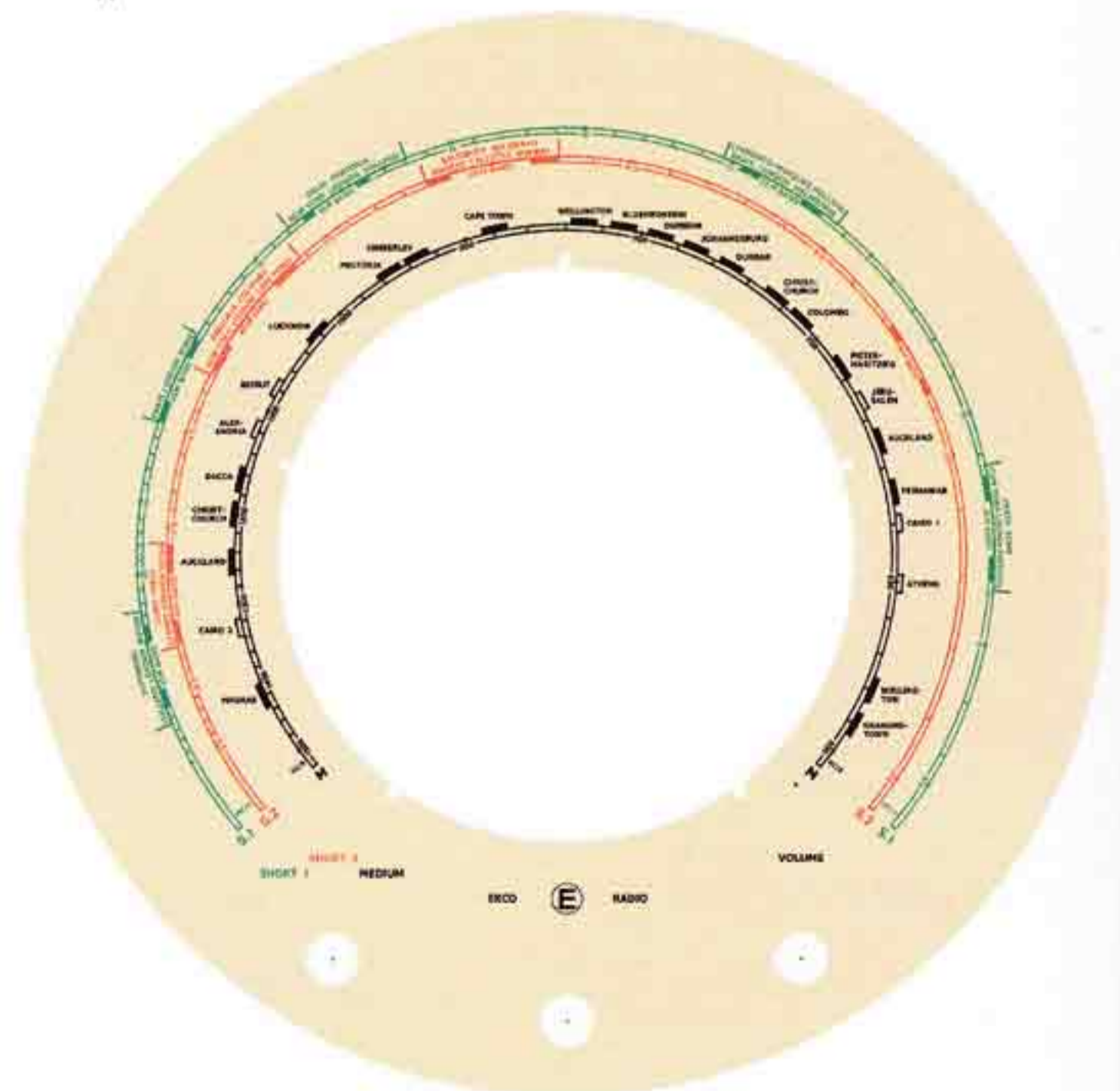
A22 artwork first attempt



A22 Type 1 artwork



A22 Type 2 artwork



A22T export artwork

regional services, with 'BBC Light' at the one o'clock position on the red long wave legend instead of 'Droitwich'.

It appears that the colour of the short wave legend on both types of dial can be either black or blue, with the black legend more commonly seen. There are also, apparently original, dials in circulation which use much thinner legends and font. So far I have only seen images of this kind of dial, but my initial efforts were in fact based on images of this type as they were the best I had to work with at the time. A further variation can be seen between the dials used in the black/chrome and brown/bronze versions of the A22. The background of the dial in the black/chrome set is much 'whiter' than the corresponding dial used in the brown/bronze model.

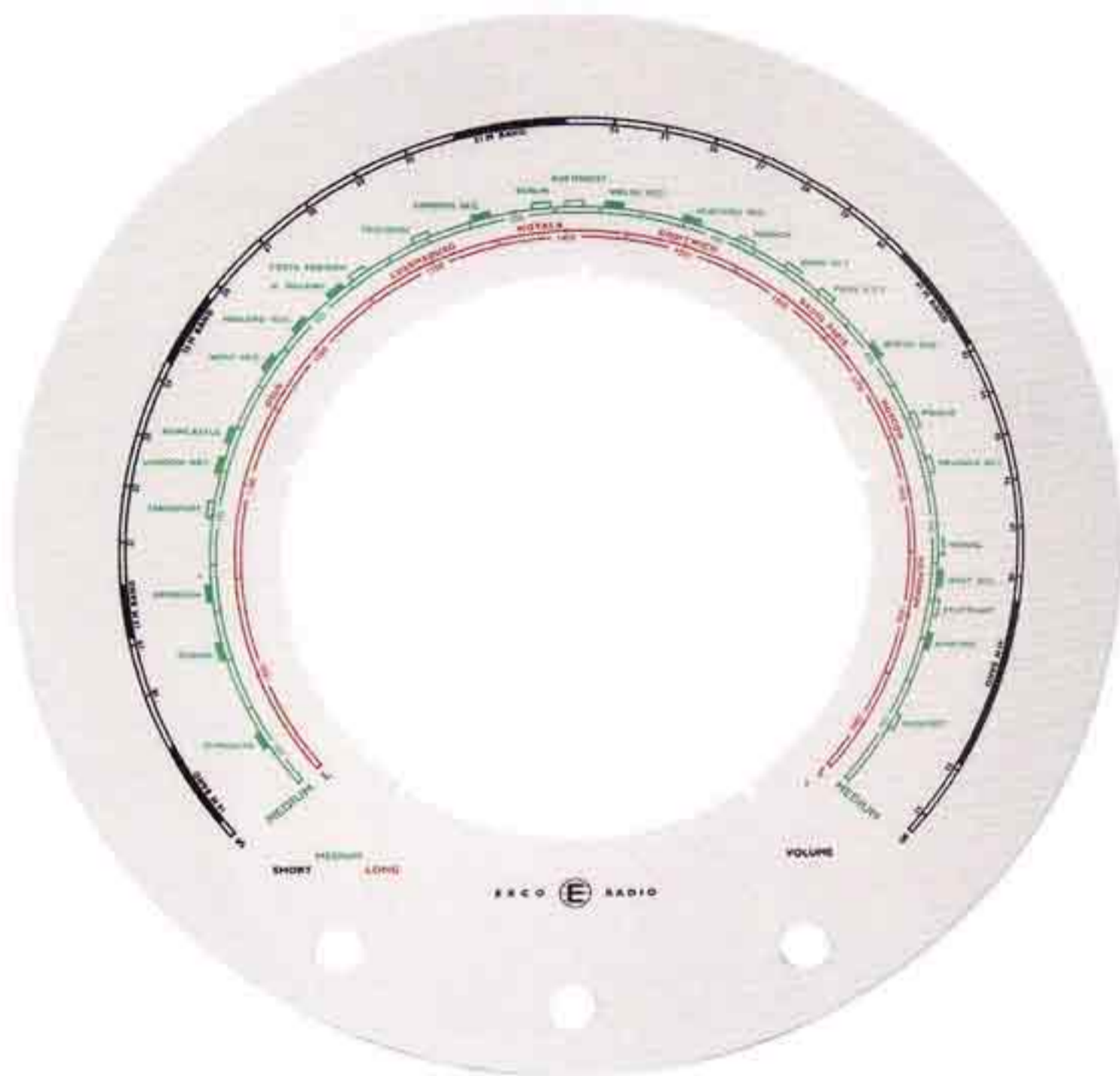
I also came across tantalising references to a third type of A22 dial used on the

rare export version of the set, the A22T. This model has two short wave ranges and medium wave instead of short, medium and long used on the domestic sets. More on this particular dial later.

I now had all I needed to make a start at my computer using suitable graphics software. Despite not having an original dial to work with I could still take accurate measurements from the bakelite case of the diameter of the visible area of the dial and by taking further measurements from appropriate dial images I could place the dial legends and details fairly accurately. I achieved this by noting the X,Y co-ordinates using my graphics software of all the major detail, such as frequency markers, station name positions, and so on. From this co-ordinate information and knowing the co-ordinates of the exact centre of the dial I could calculate using trigonometry

the angular position of all the dial details to transfer to my reproduction. After several evenings' work I had completed my first attempt. Considering it was achieved only by using visual estimates taken from images I was more than happy with how it turned out.

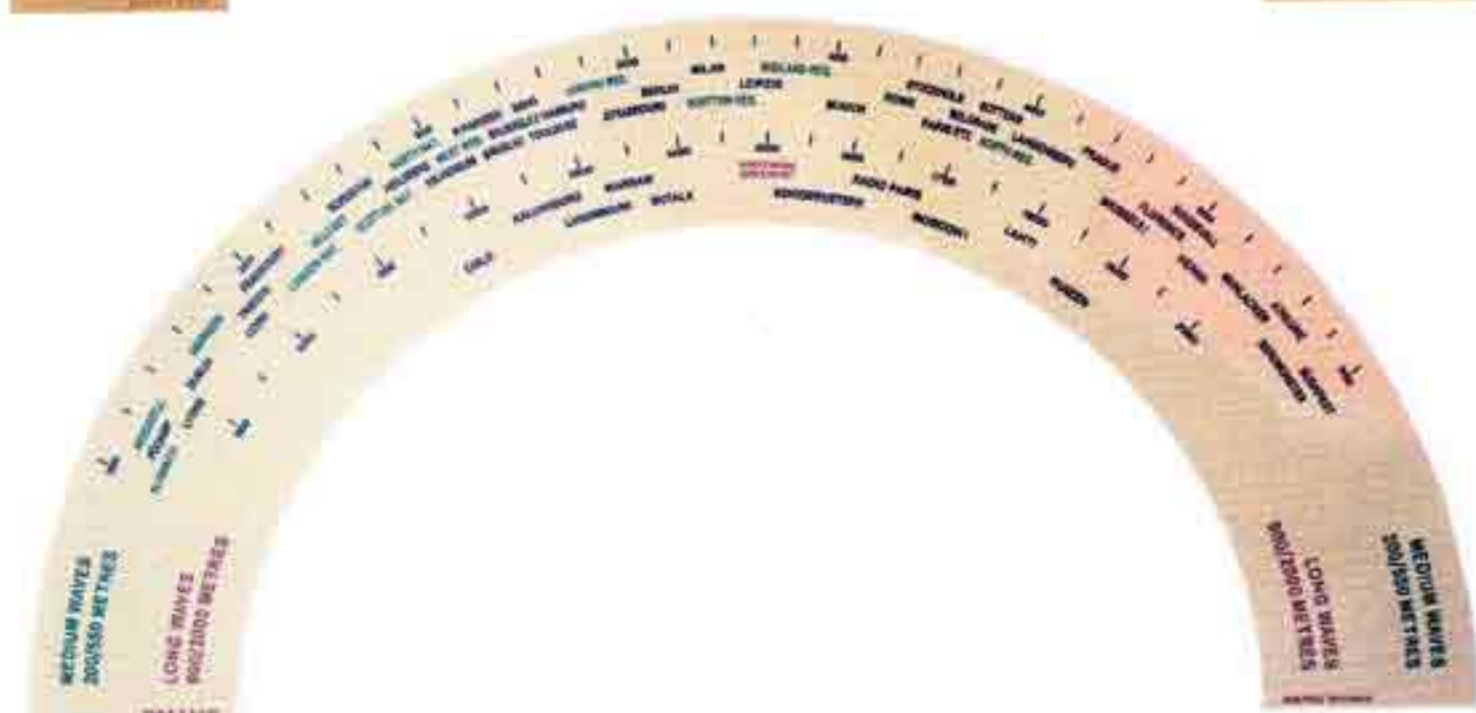
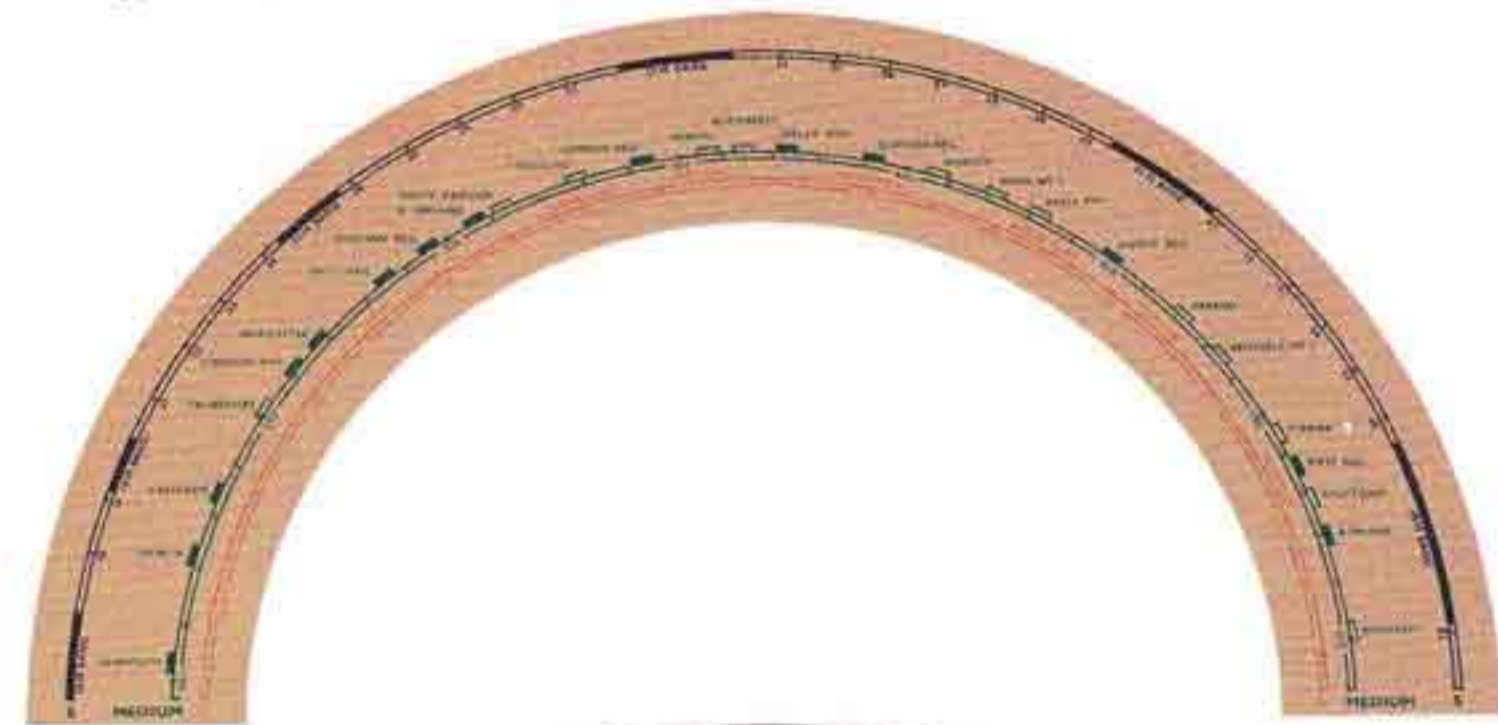
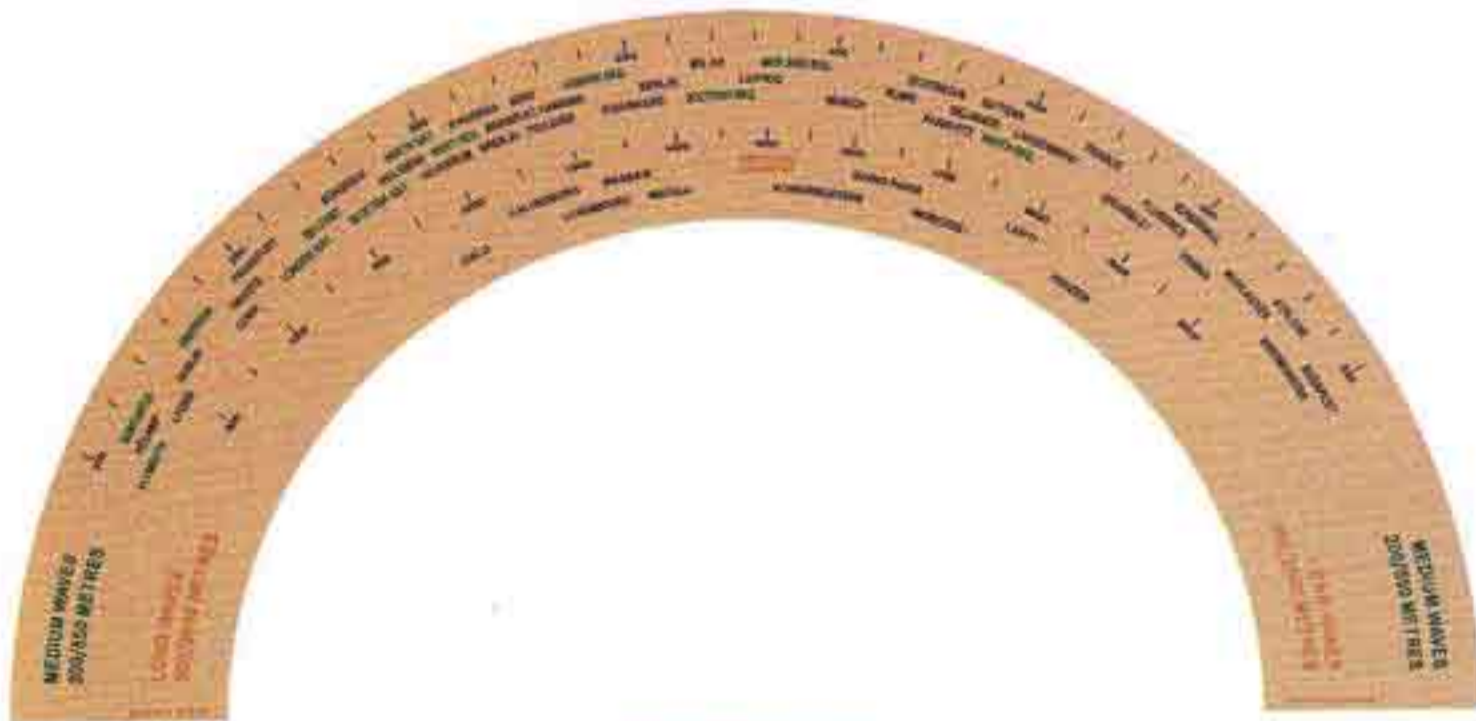
A few months later I obtained the complete A22 which was the subject of my earlier article which gave me an original (Type-2) dial to work with. Several months later again I managed to acquire a second complete A22 set which had the alternate 'Bucharest' (Type-1) dial fitted as well. These original dials enabled me to return to my artwork again in order to produce versions that followed the originals more faithfully and with greater accuracy. I initially scanned the two dials and turned the resulting images into master references. This ensured that all the dial detail was very accurately located in the reproduction version.



A22 Type 1 reproduction dial. Below: AD65 artwork



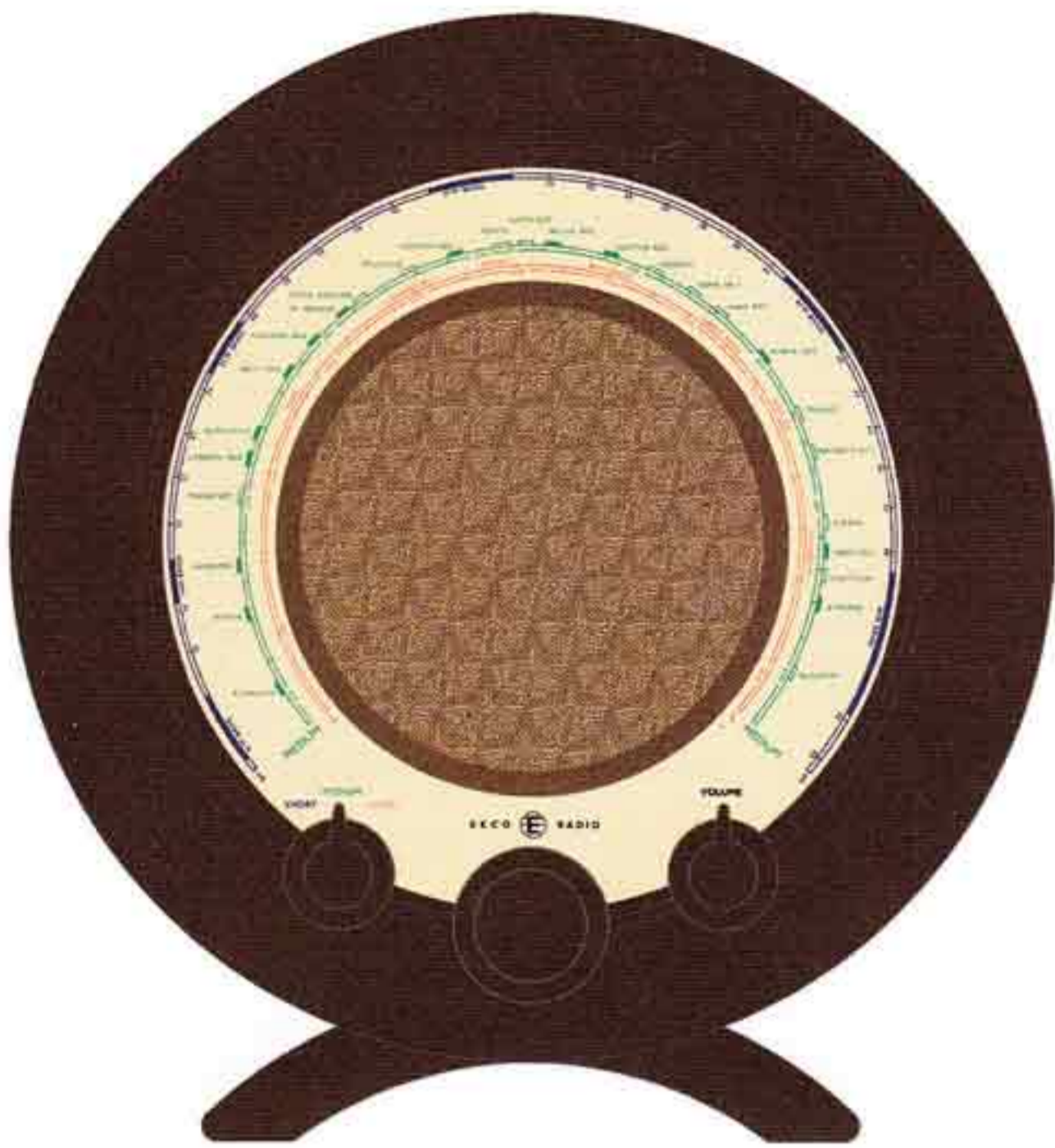
A22 Type 1 reproduction fitted. Below: Hybrid artwork



AD65 reproduction dial



AD65 reproduction fitted



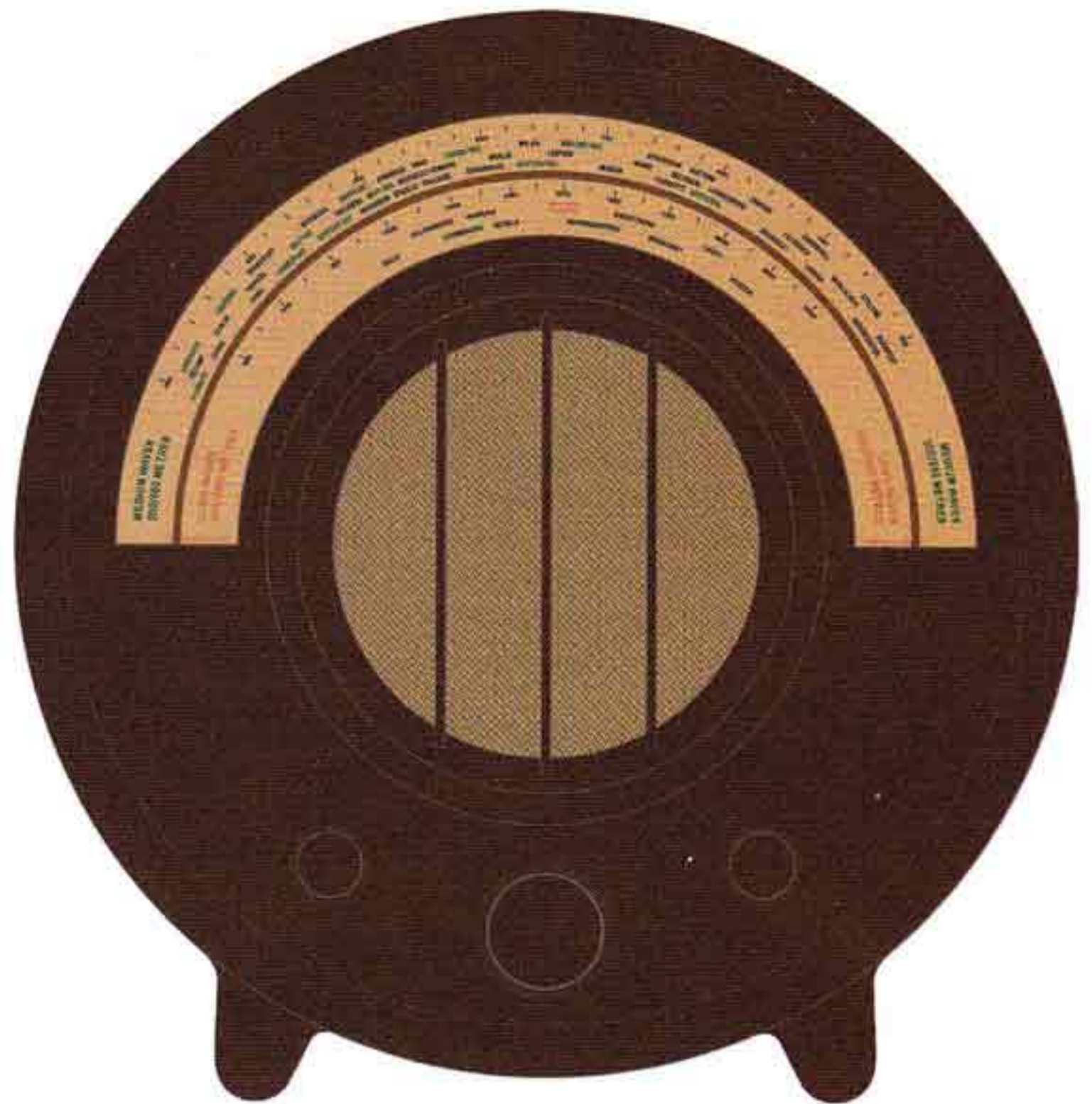
Virtual A22

The graphics software I use is quite antiquated compared to modern programs and lacks the useful 'layers' function. However by assigning a single colour of the palette to each legend, obviously red to long wave, green to medium wave and so on, I was able to simulate this missing function. In fact this was how the original dials were screen printed, using just three or four legend colours and the background colour.

At this point the particular colour shades used was not important. When the artwork was complete the legend colours and background could be varied independently of each other to achieve the correct colour match to those used in an original dial. Towards this end I created virtual graphic images of the A22 and AD65 sets into which I could test fit the artworks. Why bother you may ask? Well, due to the way the eye perceives colour, the background colour in particular of a dial artwork can look too dark until it is viewed against the bakelite of the case into which it is to be fitted when surprisingly it often then looks too light! So having virtual bakelite cases to assist in this way greatly sped up the colour matching process.

Having accurate artworks is one thing, how to produce actual physical dials from them is another. As mentioned previously the original dials were screen printed on to Perspex or similar. Getting a professional company to do this for me using my artworks was an option but probably expensive. Instead, and since I own an A3 sized photo quality inkjet printer which is large enough to print out an A22 dial, I decided to experiment. Printing out at 600dpi resolution on to good quality silk finish photo inkjet paper produced very encouraging results. Backlighting the photo paper with a torch showed that a similar result to a backlit original dial was achievable, but how to protect and mount the printed dial so that it could be fitted and used in an actual set?

I initially considered mounting between



Virtual AD65

two thin sheets of clear Perspex, which would probably have worked, but first I tried laminating the photo paper several times in an A3 hot pouch laminator. I found five or six pouches produced a thickness and rigidity comparable to an original dial, with the surface of the dial having a very similar finish to that of polished Perspex as per the original. All that remained was to carefully cut out the dial. Initial attempts were cut by hand with craft knives, etc which gave acceptable results, but I later obtained a



Circle cutter

large enough circle cutter which gave a much cleaner cut in a fraction of the time.

Returning to the export A22 mentioned earlier. After much trawling of the internet I eventually came across websites in Brazil² and in Iran that had images of this elusive set, unfortunately too small in size and resolution to be really useful. Later I was fortunate to come across a completed on-line auction listing of another example of this export set showing several close-up images of the dial. None of the individual images showed a complete dial face, but a collage of all the images gave me the detail and information needed to attempt the reproduction artwork. Employing the same techniques outlined earlier I took co-ordinates

and produced angular information of all the detail enabling me to create the accurate export dial artwork shown here.

I have since, using exactly the same techniques, successfully produced a reproduction AD65 dial and for use in a spare AD65 case I have, a custom dial which is a sort of a hybrid of all the detail of a Type 1 A22 dial compressed into the half-circle sized dial of the AD65.

I have purposely not been specific about the graphics software package I used to produce these artworks. As mentioned, it is rather antiquated and consequently no longer available. I continue to use it simply because I am experienced with its operation and it is still capable of producing what I ask of it. Any graphics software is only a very useful tool and the exact software employed is not that important as being experienced and familiar with its operation. To that end I recommend anyone interested to begin learning with a currently available package and to persevere with your chosen software. There are no short-cuts here I'm afraid, proficiency is only gained with time, effort and a lot of trial and error. But I hope you will agree that the results can be well worth it.

References

- (1) BWS Bulletin - Vol.36 No.3 Autumn 2011
- (2) <http://www.radioantigo.com.br/ekco.html>