



# 'TECHNICAL SHORTS'

by Gerry O'Hara, G8GUH

**'TECHNICAL SHORTS' is a series of (fairly) short articles written by Gerry O'Hara, a CVRS Director and vintage radio enthusiast, each focussing on a technical issue of relevance in repairing, restoring or using Eddystone valve radios. However, much of the content is also applicable to non-Eddystone valve receivers. The articles are the author's personal opinion, based on his experience and are meant to be of interest or help to the novice or hobbyist – they are not meant to be a definitive or exhaustive treatise on the topic under discussion.... References are provided for those wishing to explore the subjects discussed in more depth. The author encourages feedback and discussion on any topic covered through the CVRS forum.**

## Aerial Matching

### Introduction

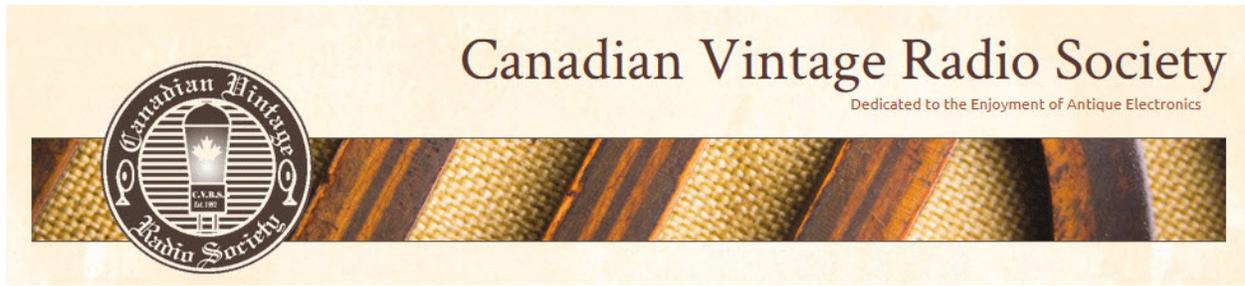
*'A receiver is only as good as its aerial'* is a maxim often used, even though it is strictly incorrect. It would be better written as *'All things being equal, a receiver is only as good as its aerial and the match thereto'*. So, what do we mean by *'matching'* and what can be done to ensure the best match possible between our receiver(s), feeder(s) and aerial(s)?

As Peter Lankshear notes in Lighthouse Issue 72, p22 "...*Matching is to electronics what a gearbox is to a motor car. If you cannot have the right gear ratios your car won't go as well, and by the same token an unmatched feeder will cause an aerial installation to be very inefficient.*"

Arguably, aerial matching is even more important when a transmitter is being used - if a receiver is mismatched to its aerial, the only result is a weaker than possible signal, maybe with more interference than could be had otherwise. If a transmitter is mismatched, then not only will all the available transmitter output power not be transmitted, but damage can occur to the transmitter output stage.



As this series of articles is aimed squarely at receivers only, I will not be dealing with transmitting-specific aerial matching problems and solutions, although some issues common to both are addressed. In this brief article, I superficially discuss typical aerials used with Eddystone receivers, their impedance, transmission lines/ lead-in arrangements (feeders) and ways of optimizing the connection of this hardware to Eddystone receivers. Due to the limited depth that such a 'Short' can go into such a vast subject, I also provide several references and web links that the interested reader can explore to provide more depth and understanding of this subject, as it is ideal for experimentation - each of us has a unique site, shack location within it, interference issues, receiver types, listening interests, etc (eg. I live near the top of a hill, but with power lines within 200 metres of my house and my shack is located in the basement, which is fitted with a mix of fluorescent lights and incandescent lights with dimmers, and which contains routers and



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