RADIO YESTERDAY

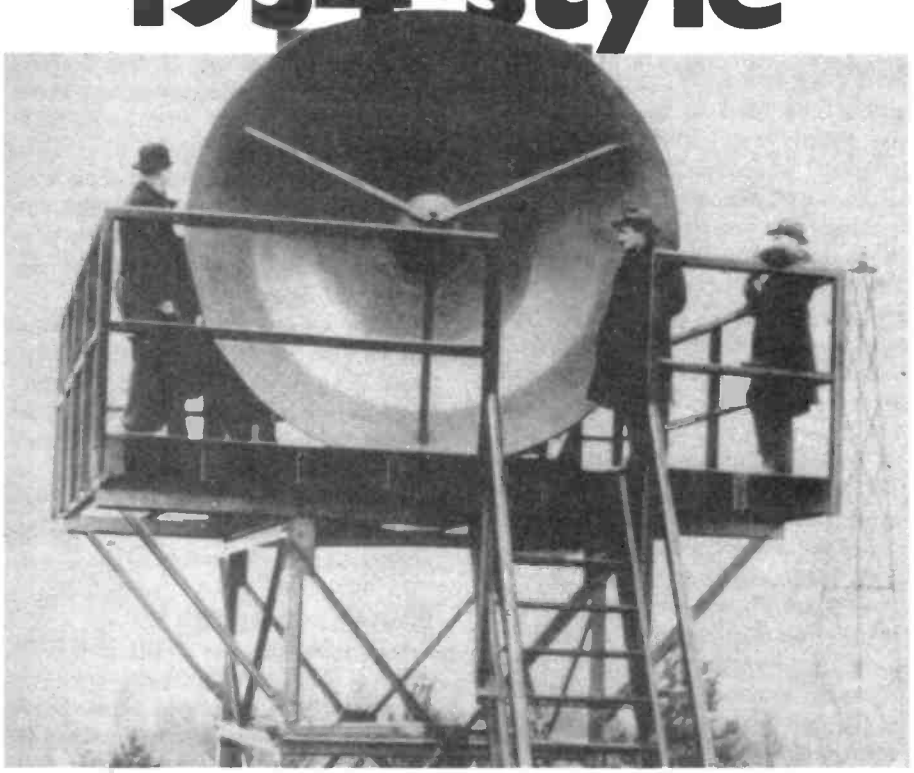
Cross-channel microwave, 1934 style

by **Andy Emmerson, G8PTH**

From a radio amateur viewpoint the microwave scene appears to be a pretty modern phenomenon. Despite the efforts of pioneers like, say, G5RZ during the 1950s, amateur activity in the microwave bands (23cm and higher) seems to be a speciality mode which has only just caught on. While this is not strictly accurate it is certainly true that recent developments such as low noise GaAs FETs at affordable prices, microstripline circuit techniques and the availability of commecial equipment have made microwave operation a lot more fun. Gone is the need to be an expert in 'plumbing' or at recognising exotic pieces of military surplus gear to get on the air. In short, the technology has become a lot more comprehensible and within the reach of the average amateur.

In the light of this, the problems which faced pre-war experimenters in microwaves look even more formidable. Despite this over fifty years ago the two sides of the English Channel were linked on 17 cm with just half a watt of RF power. Three years later, in 1934, a full commercial service was in operation. The story of this world first is an unusual and interesing one, which has been somewhat obscured in the mists of time.

The instigator was a certain Colonel Sosthenes Behn, president of the International Telephone and Telegraph Corporation (ITT), who in 1927 decided to set up a R & D laboratory in Paris. Flamboyant character that he was, he demanded positive results quickly — the exact field was not important so long as the results were spectacular! Radio clearly had a promising future so it was decided to exploit the extremely short wave region, then unexplored territory. Plans were quickly made: radio energy would be produced at wavelengths around 17 cm and concentrated in sharp beams by means of parabolic reflectors. Calculations indicated it ought to be possible to cross the English Channel at its nar-



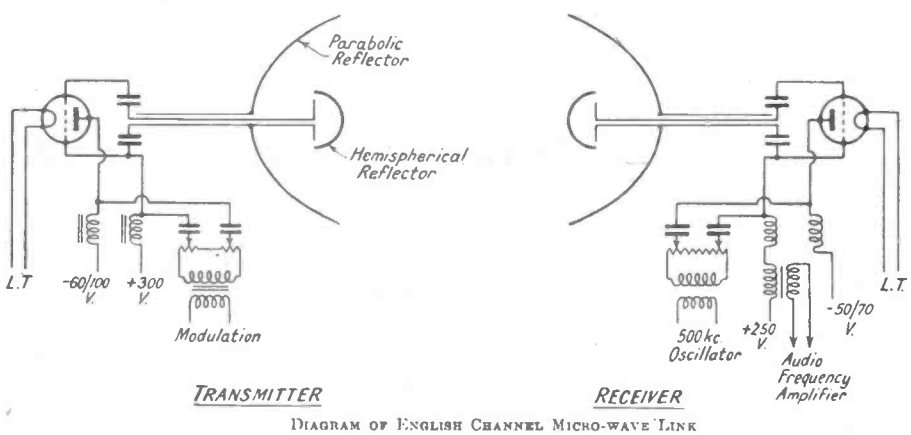


DIAGRAM OF ENGLISH CHANNEL MICRO-WAVE LINK

Circuit diagram from original article. The 'triode' is infact an early klystron