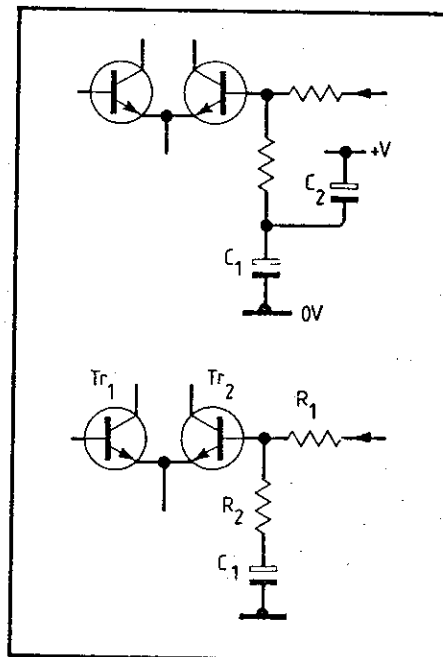


# ELECTROLYTIC CAPACITORS IN LONG-TAILED PAIRS

In audio terms, the main shortcoming of electrolytic capacitors is their behaviour when connected to the base inputs of long-tailed pairs, Fig. 1.



When leakage is present in  $C_1$  a d.c. voltage divider is formed by  $R_1$  and  $R_2$  and is automatically taken into account when biasing the amplifier. When the leakage fluctuates however, as it will, biasing of the amplifier becomes unstable.

This instability can be eliminated by an additional capacitor, identical to  $C_1$ , inserted as in Fig. 2. By this means, leakage current of  $C_1$  is supplied by  $C_2$  instead of  $R_1$  and  $R_2$ . It is assumed that a large value capacitor is connected close to the amplifier power supply input. If necessary, low frequency response should be curtailed prior to  $Tr_1$ .

H Wilkinson  
Scarborough  
North Yorks

Intelsat V to give 99%  
measurable quantity, be  
giving 18 degraded da  
year, approximately 1.6  
pens to be the largest  
of dish that can be towed  
in one piece without any  
difficulties whatsoever. ?  
planners should take the  
consideration.

I can only presume that  
Hastings was writing for  
DBS was aborted.

Peter R. Clark

Chief Aerials

Analby

Hy

## STEREO HISS

From Pat Hawker's report  
September 1985, p. 60) we  
learn that efforts are being  
to improve f.m. stereo  
transmissions. I refer to the  
discouraging s/n ratio often  
experienced in transmission  
the standard type.

In my opinion these efforts  
which already have to take  
uncomfortable facts of m  
distortion, are based on a  
The fallacy lies in the no  
moderated concept that even  
improvement must be com  
with all previous systems  
equipment in use.

With the present availa  
cheap tuning equipment a  
components it is ethically  
to basically re-think stereo  
transmissions. Today the  
signal takes up most of the  
transmitted for reasons of  
compatibility to mono  
However, mono reception  
equipment are dead on the  
place.

My conclusion is that there  
now be a transfer to a new  
format tolerably acceptable  
existing stereo demodulation  
and which will deal with the  
problems of s/n ratio and  
path or phase distortion. A  
format could conceivably  
finally solve the problem of  
television stereo sound.

Peter Hirschmann

Haifa

Israel

## SATELLITE RECEIVER DESIGN