

TREBLE BOOSTER

A treble booster circuit can be used with an electric guitar (and also electronic instruments) to boost the higher order harmonics and give a more 'brilliant' sound. A circuit of this type gives a fairly flat response at bass and most middle audio frequencies, with the upper-middle-

and lower treble frequencies being given a substantial amount of boost. It is normal to give only a modest amount of emphasis to the upper-treble in order to give good stability and a low noise level, and this also prevents the output from sounding too harsh. The frequency response of this treble booster is shown in the accompanying graph.

The circuit is basically just an op. amp. (IC1) used in the non-

inverting amplifier mode. The non-inverting input is biased by R4 and R5 via a decoupling network which is comprised of R3 and C3. C4 and C5 give DC blocking at the input and output respectively. With SW1 open there is virtually 100% negative feedback through R1, R2 and C1, giving the circuit unit gain and a flat response. Closing SW1 brings C2 into circuit, and this decouples some of the feedback through R1 and R2 at frequencies

of more than a few hundred Hz, giving the required rising response. Feedback through C1 at high treble frequencies causes the response to fall away above about 5.5kHz, and prevents the very high frequency harmonics from being excessively emphasised.

As the unit has unity gain at frequencies where boost is not applied it can simply be connected between the instrument and the amplifier.

THE FREQUENCY RESPONSE OF THE TREBLE BOOSTER

