

A Phase Controlled B+ Reducer for Tube Amplifiers

R.G. Keen

High voltage is reduced by inserting a MOSFET between rectifiers and first filter capacitor. The MOSFET is driven by a timing circuit that delays the time the rectifiers can supply current to the filter capacitor from the peak of the AC waveform to some later time where the voltage is lower.

The timing is adjustable from the normal turn on (just before the AC wave peak) until much later, giving a large range of reduction. Timing and circuit power are derived from the 6.3Vac heater winding.

Disaster Consideration: If the MOSFET shorts, the amp operates normally, but without B+ reduction. If the MOSFET opens, no B+ is available. In either case, there is no collateral damage.

