

Variable Speed Fan for AF PA

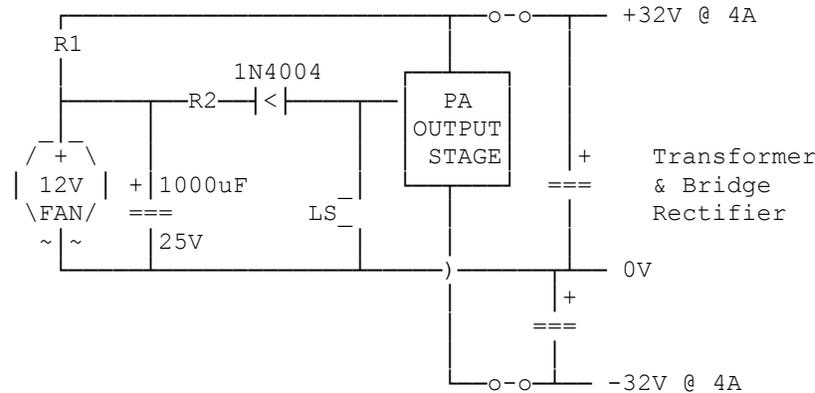
By G8MNY

(Updated Nov 08)

I have often been annoyed by fan noise from powerful AF PA gear, or the opposite, red hot gear with inadequate cooling.

Here is a solution I adopted for a 100W RMS (40/100V line) PA amp that had the heatsinks inside a metal box, with little chance of proper ventilation.

SPLIT RAIL SYSTEM



The small fan was from a scrap PC PSU (mounted inside on the top panel spaced off 3mm to reduce blade hole noise), to push air into the box, the only exit was from holes near the heatsinks.

R1 is select to just start & run the fan, I used a 2W 390R & that gave about 9V on the fan. R2 is selected to speed up the with typical program to give the fan 12-14V, as you like it. the value I used was 5R6 5W.

Although this approach is not a good as a thermal switch, it is simple & the added DC load to speed up the fan a bit, on a 100W PA is insignificant.

BRIDGED or STEREO

In this case use two diodes into R2 from each phase/channel to share the load.

SINGLE RAIL SYSTEM

This should work as well, as long as the 1/2 rail point is not too high above the fan voltage.

RESULT

The fan starts up & runs very quietly on 9V & gently runs faster from 50W peak to very fast at 200W peak (clipping).

Of course it is possible to only power the fan from the LS voltages, & this is one way to cool a Test Dummy Load!

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73 De John, G8MNY @ GB7CIP