Change the capacitance of 4 capacitors in the power amplifier

What is a capacitance multiplier?

A 'capacitance multiplier' is really just a buffered filter,with the filter response set by the resistance and capacitance at the base circuit. Capacitance is not multiplied by the gain of the transistor (s),only the current flowing through the base resistor. However,there's more to it than that.

How much capacitance should a 5A power supply have?

Based on this,my recommendation is that the minimum value is 2,000µF per amp DC,so a 5A (continuous) power supply will have a minimum of 10,000µFcapacitance. What is achieved by increasing the capacitance is the ability of the capacitors to retain more of their charge between AC cycles.

Is there a multiplication of capacitance in a power supply?

There is no multiplicationof the capacitance in the circuit,and it's actually a buffered filter with the buffer providing the output current. WARNING: Because this power supply is mains operated,there is the risk of electrocution if extreme care is not exercised while constructing or testing the unit.

Why is capacitance not multiplied?

The capacitance is not 'multiplied',only the current through the base feed resistor (or resistors). Because the base is a relatively high impedance,the amount of capacitance is reduced for a given ripple reduction. The base current is in milliamps rather than amps,assuming a gain of 1000 in the output device.

What happens if capacitance is increased?

As the capacitance is increased,this discharge rate naturally falls proportionality to the capacitance. Doubling the capacitance halves the discharge rate and the ripple voltage for a given current,but increases the capacitor ripple current and the peak AC current - although the average value remains much the same.

How much voltage does a 4700 F capacitor lose?

With a 4,700µF capacitor and a peak current of 5A (equivalent to the peak current of a 100W amp into 8 Ohms),the capacitor will lose voltage at the rate of 1V /msbetween 'charges'. As the capacitance is increased,this discharge rate naturally falls proportionality to the capacitance.

In this study, AM-PM compensation of the cross-coupled capacitance neutralization technique is discussed. Cgd neutralization leads to AM-PM compensation of a power amplifier with negligible change ...

I am thinking of upgrading the capacity on my power amplifiers PSU. The Amplifier is a dual mono 100w A/B Design using a capacity of 20000µF per channel. I was thinking of upgrading to 30000µF, by changing the two 10000µF caps with 15000µF (in each channel). If I''m not mistaken a power supply can''t be too big, so this should not be a problem?

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In that link you can see how the values of the capacitors were measured and how much they deviate from spec/tolerance. The question is whether it is possible to generalize and say this: As one can see from the test results about 30% of all original electrolytic capacitors removed from the power amplifier board exceed a factory capacitance ...

Dual Capacitance Multiplier For DoZ Amp. Project 36 (Death of Zen or DoZ) is a simple Class-A amp that can really benefit from using a capacitance multiplier. To reduce the stress on the series pass transistor, it"s easy (and probably cheaper) to build two capacitance multipliers as shown in Figure 4. Each multiplier is designed to provide the ...

If you increase the capacitance of the amp"s output capacitors, you could extend the low frequency response a bit. If you increase the rated voltage or temperature specs, no affect on the sound would be expected although you would probably pay more for the components.

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In terms of improving the sound qualilty, a second pair of caps connected via inductors across the first pair does a better job than simply adding capacitance. The amp needs powering from the second pair of caps, the ones downstream from the inductors.

I have a question about adding more capacitors to my MingDa tube (MC368-b90) amplifier. In the power supply, it uses two 330uf/450v caps in series to filter the output from the rectifiers. I"d like to parallel this rail of caps with a rail of two 470uf/450v caps in series to increase the capacitance of the power supply. Is this a safe mod? I ...

This capacitance multiplier reduces our 0.8 V ripple to less than 1 mV, and the power loss for each output power transistor Q17/Q18 is about 4 W for our 25 W amplifier example. However, to have such low level of the ripple, the finished build must address the wiring and layout. The resistors R11/R12 ensure that there is sufficient voltage ...

This doesn"t mean that capacitor coupling is not used though, and there are a surprisingly large number of amplifiers that still use an output capacitor. These are primarily low-power designs, and they are used in many consumer products because they are cheaper to build than a dual supply. Figure 5.2 - Voltage & Current For Symmetrical ±8V Output

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Capacitance is not multiplied by the gain of the transistor (s), only the current flowing through the base resistor. However, there"s more to it than that. In particular, there"s a great deal to be gained by using two capacitors, separated by a second resistor.

It consists of an oxidized metal in a conducting paste. The main advantage of an electrolytic capacitor is its high capacitance relative to other common types of capacitors. For example, capacitance of one type of ...

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As for any capacitor, the capacitance of the combination is related to both charge and voltage: [C=dfrac{Q}{V}.] When this series combination is connected to a battery with voltage V, each of the capacitors acquires an identical charge Q. To explain, first note that the charge on the plate connected to the positive terminal of the battery is (+Q) and the charge on the plate ...

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