

Capacitor ratings for Ultra-LD amplifier

I am getting around to building the Majestic speakers (June & September 2014) with the Celestion 28/FTR15-4080FD 15-inch driver (rated at 1000W RMS). To drive these, I want to build the Ultra-LD Mk.3 amplifier (March-May 2012).

Given that I could be operating the amplifier at or near full power for extended periods to drive these speakers, should I replace the six original 4700 μ F power supply filter capacitors with 6800 μ F capacitors (eg, RS Com-

ponents part #739-5386)? Would this help the power supply cope with a prolonged high load situation?

Besides the capacitance, the only other difference I can see from the originally specified capacitors is that the original ones have a ripple current rating of 3560mA while the proposed RS-sourced capacitors have a ripple current rating of 2800mA. Another option could be to add another two of the original capacitors and/or use a higher-rated toroidal mains transformer.

Your expert thoughts would be greatly appreciated. I want to add a big thank you for the great magazine; my wife tells me I am like a kid in a lolly shop when it arrives in the post. (J. C., Armadale, WA.)

- Substituting 6800 μ F capacitors with a lower ripple current rating than the 4700 μ F units we originally specified would be a backward step. If you are going to add filter capacitance, you want more ripple current capacity; not less.

However, even if you doubled the power supply filter capacitance and overall ripple current rating it would make little, if any, difference to the

supply regulation because ultimately that is mainly determined by the losses in the power transformer and rectifier diodes.

What's more, since the amplifier is going to be driving the Majestics which are far more efficient than most other loudspeakers, then it should never be driven into clipping, unless of course, you are driving them to insane levels. In that case, clipping in the amplifier will be largely academic.