

Application Notes



ARX Amplifier Cooling: Rack requirements and air flow

All ARX amplifiers are designed around a common 2RU platform.

There are no cooling slots on the top and bottom surfaces of the amplifiers so they can be quite happily stacked on top of each other to minimise vertical rack space.

However, there are a few considerations that should be kept in mind when designing racks, to ensure smooth airflow both into and out of the amplifiers, to ensure continued long life and peak performance.

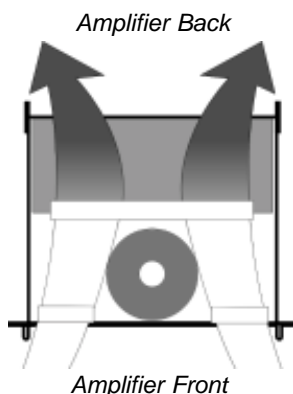
Remember that Power = Heat, and Maximum air flow = successful heat management and long amplifier life

Technically, the amplifiers all feature precision engineered heatsinks, to rapidly and evenly dissipate heat from the amplifier. Multiple cooling fans supply a high c.f.m forced air supply to ensure optimum temperature of the output devices.

Although all models are 2 RU, there are some important differences between the internal layout of the ZA/ZR/ZRC amplifiers and the SX/ZX series, which require different rack specifications

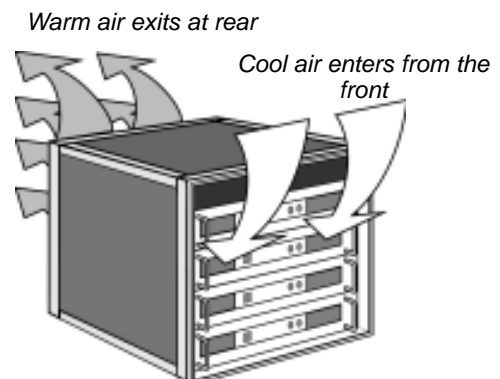
ZR series, ZA series

There are 2 cooling fans on the ZA and ZR series amplifiers to force air around and through the heatsinks.



Do not block the air exit path!

It is extremely important that you ensure that there is unrestricted air access to these fans, and also unrestricted air exit path. Remove, clean and replace the fan filters regularly or at the first sign of becoming clogged.

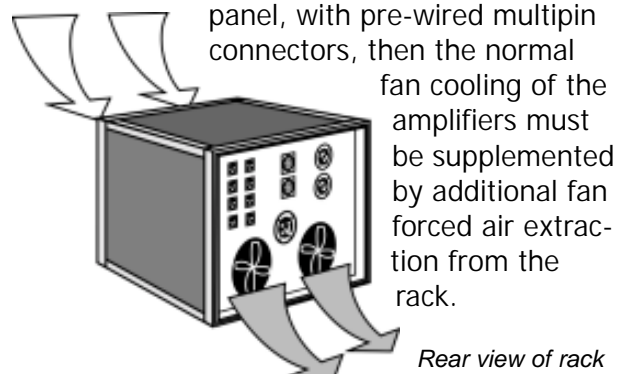


All ZA and ZR series amplifiers have sufficient fan cooling capacity built in, and need no extra external fan cooling to operate normally. Their compact, efficient heatsinks provide massive surface areas for rapid cooling and stable temperatures.

BUT...

When racking up ZA and ZR series amplifiers, you **MUST** allow space for the air to exit from the rear of the amplifier.

If you are using a rack that has a sealed rear panel, with pre-wired multipin connectors, then the normal fan cooling of the amplifiers must be supplemented by additional fan forced air extraction from the rack.



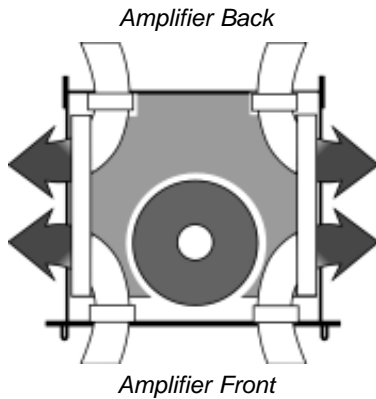
All that air being pumped in by the fans has to exit somewhere!

To SX/ZX Series amplifiers



SX / ZX series

There are 4 cooling fans on the SX/ZX series amplifiers, 2 on the front and 2 on the back, to force air around and through the heat-sinks. Air exits the amplifier through large vents on each side of the chassis



Do not block the air exit path!

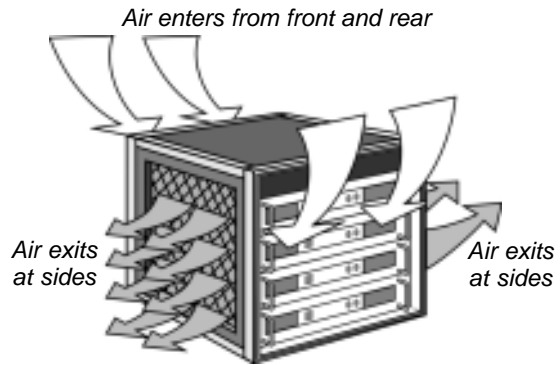
It is extremely important that you ensure that there is unrestricted air access to these fans, and also unrestricted air exit path. Clean and replace the fan filters regularly or at the first sign of becoming clogged.

All SX/ZX series amplifiers have sufficient fan cooling capacity built in, and need no extra external fan cooling to operate normally. Their compact 'UltraFin' heatsinks provide massive surface areas for rapid cooling and stable temperatures.

BUT...

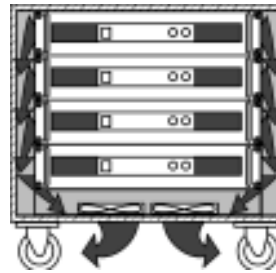
When racking up SX1500 and SX3000 amplifiers, you **MUST** allow space for the air to exit from the sides of the amplifier.

The easy way to handle it is shown in the following diagram, with the rack having open sides, optionally covered with protective steel mesh.



All that air being pumped in by the fans has to exit somewhere!

However, if you need to group several amp racks side by side, then the rack itself should be made wider to provide an air chamber at the sides of the amplifier. This must be supplemented by additional fan forced air extraction from the rack (see below).



Extraction fan placement is limited to either top or bottom; in this case the preferred option would be bottom, since it is unlikely anything could be accidentally laid over the fan(s) and block them!

Don't forget that with the SX3000 and ZX 3200 we're talking about the same power output in watts as a good sized electric bar radiator!

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