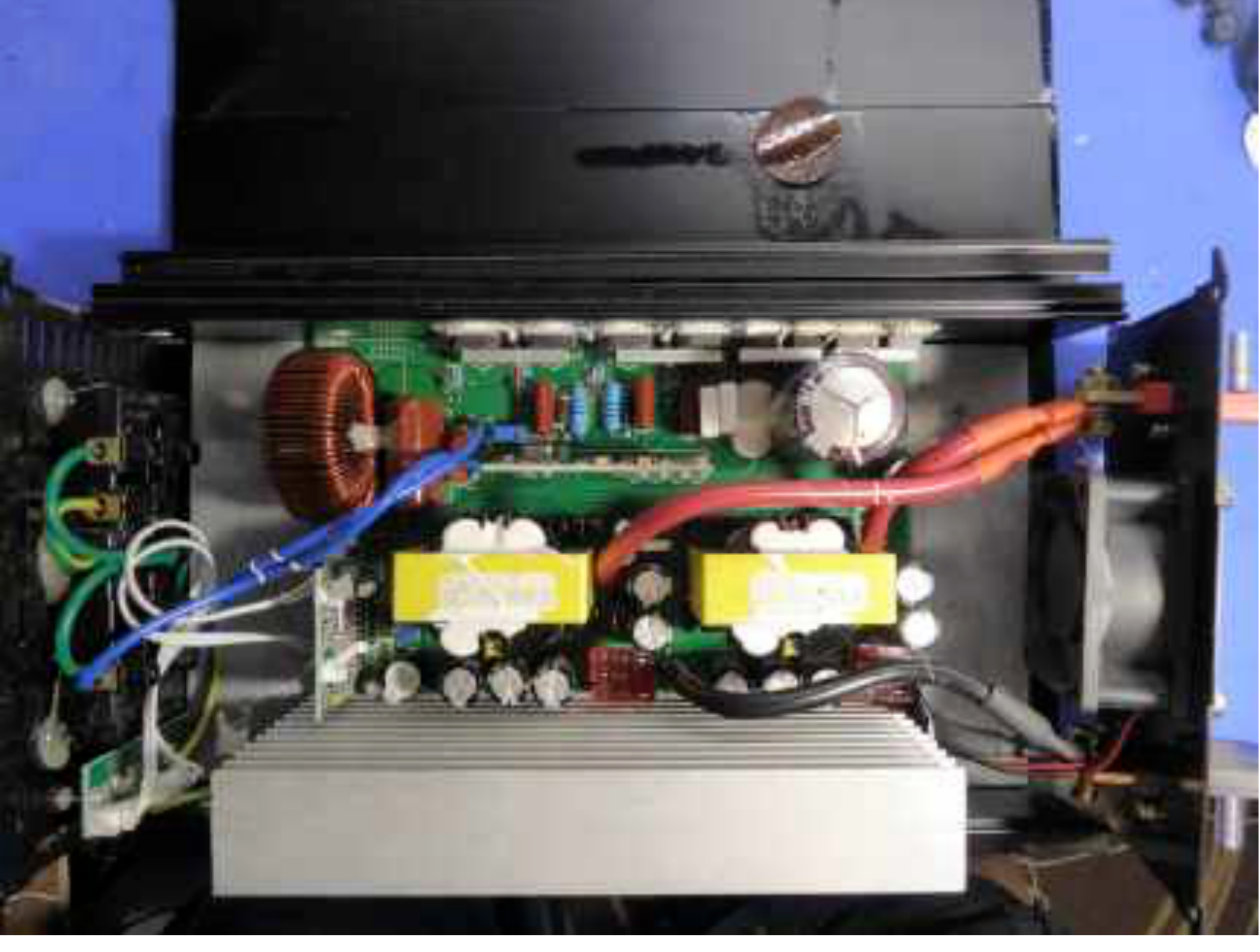


# DoPower 1500 Watt Inverter Repair

On July 19th my computer monitors suddenly went blank. Power had gone off. It was one of the hottest days of the year with the temperature indoors around 30°C. The inverter system is housed in a plastic cabinet outside on the veranda in the full glare of the sun and, although the cabinet has a small fan, the temperature inside is far too high.



I rushed outside in time to see expensive looking smoke pouring out of the fan vent. I switched off the battery cut-out switch and removed the inverter for investigation. It's only a year old.



The cause of the fault was obvious. The largest electrolytic capacitor had overheated and vented. I hoped that was the only fault!

I ordered a replacement.



By July 24th, the capacitor still hadn't arrived so I searched my workshop to find a suitable replacement. I'd done this already but, with a thunderstorm approaching and having already having had a three-hour power cut because of a forest fire, I was becoming desperate.

I found two 220uF capacitors rated at 450 volts. I checked them for size. It was tight but they would fit. I glued them together with hot-melt adhesive then connected their solder pins together (+ and - respectively) with copper braid taken from a short length of WF100 coaxial cable.



I removed the PCB from the diecast housing and desoldered the faulty capacitor.

I soldered a further two short lengths of copper braid to the connections and threaded them through the holes in the PCB. After soldering these connections, I applied more hot-melt adhesive to hold them in place, then reassembled the PCB into the diecast housing.



It was a fiddly job because there are eight semiconductor devices clamped to the side panel, which is used as a heatsink. These were fitted with "SIL-PADS" and had heatsink compound applied as well. Four screws held the metal clamp bars in place.



Before replacing the cover and attaching the end plates, I connected a computer power supply rated at 12vDC/40 Amps. As a load I used a 1000 Watt hairdryer.



Everything seemed fine so I replaced the reassembled inverter into the outside cabinet and left it switched on but without a load, initially, for several hours.

Note: the "1500 Watt continuous" and "3000 Watt surge" ratings are probably optimistic. Although it powers my 1000 Watt hairdryer, it couldn't power my 1500 Watt paint stripper gun for more than one second.