

Stan's Safari 34

STAN EXPLAINS THE HISTORY BEHIND AND SOME ENDEMIC PROBLEMS OF THE SEPARATE PRE-/POWER AMPLIFIER COMBO, AND WHY A MUSIC CENTRE MIGHT REPRESENT THE FUTURE

I recently decided to improve the workings of my car. I bought various parts, all from the manufacturer, and as such they all fitted perfectly and worked pretty much as predicted. By comparison, when I was younger and more willing to spend time dismantling big V8 engines, I used to buy parts from a number of aftermarket suppliers and bolt them into place. But they usually never quite slotted in effortlessly: a bit of gasket trimming here and a bit of bracket filing there; mismatched colour codes on the wiring, and instructions that never accounted for the extra nuts and washers you found in the package. This was all part and parcel of such tuning work, and was usually more than compensated for by the improvements in performance. And I was prepared to cope with the aggravation because first and foremost I was an enthusiast rather than a consumer. As I pondered upon this statement, those same thoughts led me to think about the way most of us approach high end sound systems.

In a logical world we would buy all the components making up our systems from the same supplier. Then we would know that everything matched electrically, mechanically, sonically, and even cosmetically (as an added bonus). And yes there are some souls out there (including our Editor), who do just that, or at least get close to the ideal. But I think it is also fair to say that they are the exceptions, and most of us assemble our systems from a variety of sources, believing that, even though there may be some problems along the way, we'll get a better performance in the end.

This conviction may well be driven from some residual 'group memory', dating from the early days of hi-fi. When I built my first hi-fi in the early 1960s, it was very much a case of 'building'. Companies such as KEF, Celestion and Wharfedale sold drive units and books of loudspeaker cabinet designs, and by careful selection of the components you could save on having to pay the high rates of something called Purchase Tax (a predecessor of VAT).

Similarly all the electronic magazines were full of DIY amplifier designs which were being built and improved with great enthusiasm. Indeed, most manufacturers would happily sell you all the parts, and I can still recall saving myself a small fortune by popping along to the Leak service department in West London and buying the chassis & transformers for making four *TL50* clone amplifiers.

In the 1970s hi-fi became much more affordable, VAT replaced Purchase Tax, and the self-build hobby side of hi-fi fell into decline. However, most enthusiasts and dealers still felt themselves to be experts that were better able to build up a system from disparate bits than to follow the dictates of the professionals.

We are all pre-conditioned by the history that we've experienced. Back in the day when all electronics was designed around valves, it was desirable to separate the pre-amplifier or control unit from the power amplifier. The user wanted the big, heavy and hot unit out of sight, but wanted the controls conveniently to hand. So the hi-fi units of the day had the control unit and tuner mounted at the top of the cabinet alongside the record player, while the power amplifier lived down near the floor.

Many designs, including Quad, Leak and others, derived the control unit and tuner power supplies from the power amplifier *via* umbilical cables, and therefore produced simple, compact and lightweight units that were ideal for panel mounting. An added engineering benefit was that it was easier to design the low-noise and stable circuits for handling low level signals if they were kept well away from very hot output valves, big power transformers, and the hum-inducing high current heater cables.

However, with the arrival of transistor amplifiers there ceased to be a need to separate the two components, and the integrated amplifier became very popular. When I first entered the hi-fi world, at Cambridge Audio early in the 1970s, we were able to design quite beautiful products that were barely 50mm high and looked perfect in contemporary homes. In fact there was no engineering reason *not* to adopt the integrated approach, as all the valve related issues had gone away, and even such slim units could produce 50W/ch which was ample at the time.

Indeed I would go further and say that from a designer's viewpoint it is easier to design a good integrated amplifier than a pre-/power combination. A set of connections is removed and there is no longer a need for a pair of £1000 silver interconnects. The circuit can be simplified because there is no longer a need for an output buffer stage and the power amplifier itself becomes a gain stage driven straight from the volume control. To go really