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DIY STEREO BAL IN PROCESSOR MONITOR OPERATE
POWER MONO SE IN INPUT INPUT MUTE

MODEL LS25
HIGH DEFINITION

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VACUUM TUBE
POWER AMPLIFIER

MODEL VT100
HIGH DEFINITION

POWER

Audio Research LS 25 Mk2 line stage and VT 100 Mk3 power amplifier

by Chris Binns

How do you define the term 'high-end'?

A phrase often used in connection with hi fi, I haven't the faintest idea when equipment suddenly becomes high-end as opposed to... what?

Maybe it's the addition of an extra zero on the price tag.

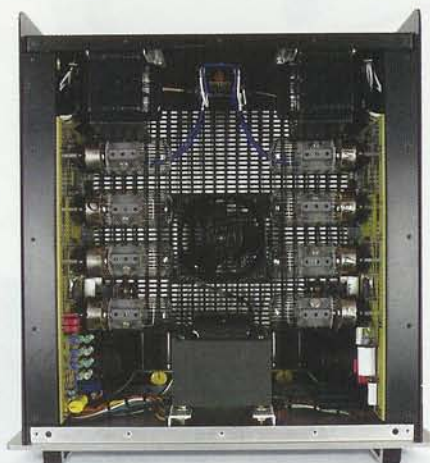
I don't think the term existed (in this country at least) until the late seventies, a time when the Linn-Naim system philosophy ruled the roost, and the most expensive hi fi system you could buy was probably the tri-amped active Isobarik system. I think (Ricardo Franassovici) of Absolute Sounds can be credited with introducing (into this country at least) the equipment that whetted our appetite and gave birth to the term high-end, and one name that seemed to be synonymous with the concept was Audio Research.

Founded by William Z. Johnson over thirty years ago, the company came in to existence with a strong belief in the superiority of valve technology, at a time when everyone else was going solid state crazy. Being a tube nut in the 1970's must have been a lonely experience, but if any one man can lay claim to reviving the fortunes of the vacuum tube, it must be Mr Johnson.

Using his experience of modifying and refining original Dynaco equipment, he soon started making his own designs, such as the now legendary D79 power amplifier and S P6 pre amp...the rest is history.

My first encounter with Audio Research products was in the late seventies and something of an eye opener for me. At the time most available British valve amplification

used circuitry that was taken straight from the GEC or Mullard application books, and was somewhat unrefined in performance. Sure, listening to original Leak or Radford amps showed off many of the finer points of the genre, while the more powerful contemporary offerings of the day seemed something of a backward step. The appearance of amplifiers such as the SP6 / D79



combination represented a far more sophisticated and innovative approach to thermionic design, and served to highlight the fact that no radical design or evolution of valve technology had taken place in this country for many years. Which of course was not the case with the Audio Research amplifiers; each new product represented a development from an earlier design, and by the time I heard a D70 (the baby of the then available range) driving a pair of Quad ELS 63's, it was like a breath of fresh air. This was how I imagined valves could sound, and I make no secret of the fact that the

experience rekindled my interest in thermionic amplification.

The LS25 and VT100 look...well much like any other Audio Research product. The aesthetic styling hasn't changed for many years, which at least makes it instantly recognisable. Both units have brushed aluminium panels with black casework. On the power amp this now encloses all the electronics rather than just the valves. The pre amplifier has the usual spade toggle switches complimented by rotary controls. These differ from earlier models in that they are now logic controlled and a twist from the centre detent advances the function. Thus input selection is now done via relays situated behind the input sockets cutting down on internal wiring. Another benefit is that the volume control is far more accurate than the traditional mechanical device in terms of channel balance, and with over 100 individual steps plus the three position gain control, a wide range of different levels can be accommodated with critical volume adjustment. A ring of green Led's surround each rotary control and above each switch to give a visual indication as to the units status.

Other facilities provided by the LS25 include separate switchable processor and tape monitor loops, a mono switch (something that I find extremely useful) and a selector switch for balanced or single ended operation. Both modes are available for all six inputs, loops and outputs, hence the massive collection of high quality connectors on the back panel. A couple of minor points - I notice ►

▶ that Audio research units now use standard IEC mains connectors rather than a captive mains lead, which is far more satisfactory, and there is provision for remote start up of other equipment via a 12 Volt output jack. High quality selected components are used throughout, while a new and innovative J-fet input circuit drives a cathode coupled output stage giving a low output impedance, while all the power supply rails are regulated.

The VT 100 is straightforward enough with just a power switch on the front panel. At the rear, input is selectable between balanced or single ended, while 4 and 8 Ohm tapped loudspeaker outputs are provided via a single set of binding posts. These do not easily accept 4mm plugs, encouraging instead the use of spade terminals, particularly if multiple cables are required. Each channel comprises four Russian sourced 6550 pentodes to produce a comfortable 100 Watts, these are run in an ultra linear configuration; most previous Audio Research designs that I have encountered have favoured the less common pentode mode. What has remained however is their use of cathode coupling the output valves to the transformer, with considerable benefits particularly at lower frequencies. Matched pairs of replacement valves are recommended, but with considerate use life expectancy should be reasonable. Bias adjustment is reasonably straightforward but necessitates careful use of a digital voltmeter and a steady hand. A single fan provides air circulation within the enclosure; it is barely audible under most conditions.

Both the LS25 and the VT100 have undergone a certain amount of development to earn their mark 2 status, and both benefit from the use of a hitherto undiscovered Russian military valve, the 6H30. A considerably larger and more powerful valve than

the 6922 (ECC88) used in the mark one versions, it has enabled Audio research to half the number of valves in the pre-amp and the driver stages of the VT100, and potentially offers considerable benefits in sound quality.

Setting up and using the Audio Research combination was easy enough,



and to my relief both units had had considerable use, taking very little time to settle down. Interconnection was via the balanced inputs. My immediate impression was how comfortable the sound was, relaxed and easy going, but never dull - and I spent a happy evening listening to music rather than characterising the equipment, always a good start. With the next listening session I was able to put things more into perspective, and describe how the combination was performing.

Poise, delicacy and refinement were the first things that struck me about the LS25 / VT100 combination, coupled with a high degree of authority which worked well with most types of music. Not entirely what I had expected

– previous Audio Research gear that I have owned or listened to has had a warm, fruity, almost punchy quality to it which gave music a degree of impetus, at the expense of some transparency. With the latest combination, the tables have been turned, and the sound is more accurate, detailed, transparent and focussed. With no disrespect to Audio Research, I have in the past questioned the high definition tag that appears on their equipment, because I never felt that it was their forte. With the LS25 / VT100 combination I can honestly say that it is, but not to the extent of dissecting the music in the way that some equipment that majors on detail can.

Realistic volume levels were easily achievable, and via the 4-Ohm tap I had no difficulty driving the Primary monitors. Bass quality was good, with plenty of extension, but a little bit light footed rhythmically: drum and bass type music lacked some authority and impact. Bear in mind though that the last power amplifier I had been using was the Bryston 14B

ST, probably the best I have heard in this respect. With orchestral music however, the Audio Research demonstrated a remarkable ability to fill the room with an orchestral climax, and

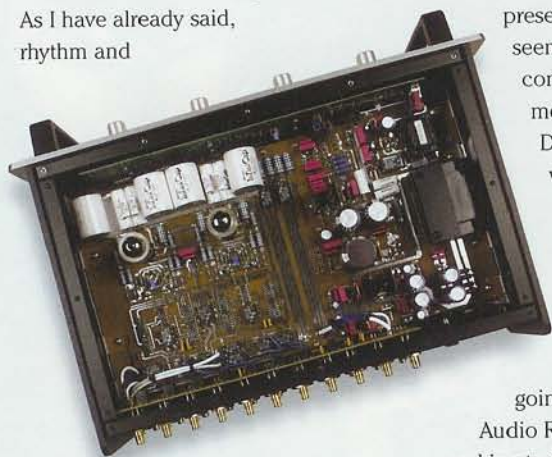


in conjunction with its good imaging capabilities could be breathtaking. Playing the Naxos recording of Vaughn Williams *Job – a masque for dancing* I was reminded of just how dynamic this piece of music is, springing from a beautifully imaged solo instrument to full orchestra in a split second. The sound expanded to fill the room not only in volume, but

also in scale, rendering the whole performance frighteningly realistic.

Mid range quality was exemplary, and reproduction of voices was particularly good. Last Sunday, having just been to Salisbury cathedral for the advent carol service, I ended up playing a recording of Taverner choral music late in the evening, and the results really were something quite special, with the voices and ambience of St John's chapel beautifully portrayed.

The moment of delicate civilisation didn't last however, and I was soon playing far less subtle material in the form of the first Tom Petty album. As I have already said, rhythm and



drive seemed less impressive that I would have expected, and here the opening track was a case in point. Normally this track is as hard hitting as it gets, and although tonally the Audio Research was on home ground it lacked the drive to really propel the music along. Without this energy, the music became almost pointless and I begin to notice how bad the lyrics were, got a bit embarrassed and ended up putting something else on.

Curiosity got the better of me, and I couldn't resist the temptation to try the units separately, so I hooked up the LS25 to the Bryston 14B. Previous Audio Research pre-amps that I have used have always sounded gorgeous – but my one criticism has always been that they have a slight veiling effect, a little bit soft focus if you like. It's a

character trait that I noticed with the SP8 through to the last one I spent any time with, the LS2. This is not the case with the LS25. All of the positive attributes I have described were intact, but the system now had a real sense of drive and purpose, and made the best of whatever material I put through it.

Although I swore to myself that I wouldn't do it, I dragged out my old (recently re-valved) D115 power amp and put it in the system. First things first, it sounded unrefined and muddy compared to the VT100, lacking in resolution and detail. But...music just steamed out of it with a big-hearted presentation that the VT100 seemed to miss. I felt the combination was inherently more enjoyable with the D115, but a friend of mine who witnessed the whole escapade disagreed, preferring the cleanliness and controlled refinement of the VT100. But its me writing this review, so I'm going to tell you what I think.

Audio Research are continually working to improve their products, and I think it is fascinating to see the development that has taken place over the last twenty years. The family blood-line runs strong – just look at the visual similarity between the D115 and the VT100. The refinement that has been incorporated into these two products is indisputable, and in the case of the LS25 MK2 it has been spectacularly successful, achieving exactly what I hoped it would to produce a great sounding, highly desirable product. However, I confess to being a little disappointed with the VT100. In this case that refinement has been wrought at the expense of some of the animal grunt that older models had, and employed to such good effect in making music instantly engaging. Personally, I miss that in the VT100, which has done little to undermine my

long standing love affair with the D115. However, others won't agree, marvelling at the finesse, control and detail that comes from the VT100. Either way, expensive though they are, were you to buy one or both of these units you can rest assured that Audio Research will happily service it for you in twenty years time, just like my D115. As they say in their brochure "our products are workhorses not museum pieces". ➤

TECHNICAL SPECIFICATIONS

LS25 Mk 2

Inputs:	6x line (single-ended or balanced)
Input impedance:	120 K Ohms balanced 60 k ohms SE
Outputs:	2x main, 2x tape, 1x processor, single-ended or balanced
Output level:	2 Volts
Output impedance:	650 Ohms balanced, 325 Ohms SE
Frequency response:	1 Hz – 100 kHz +/- 5 dB
Dimensions (WxHxD):	480 x 134 x 298mm
Weight:	8.2 Kg
Price:	£5799

VT 100 Mk 3 Power amplifier

Power output:	100 Watts per channel
Power bandwidth:	15 hertz – 80 kHz – 3dB
Input sensitivity:	1.9V for rated output
Input impedance:	200 K Ohms balanced 100K Ohms single ended
Valve compliment:	8 X 6550 matched 4 X 6H30
Dimensions (WxHxD):	483 X 222 X 495
Weight:	29.9Kg
Price:	£6400

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