



## V 10-2 VALVE BASED AMPLIFIER

The V 10-2 features a range of technologies which have never been seen before in valve amplifiers. In our view high output power is a fundamental necessity, but not at the cost of hideous case designs and utopian expense. We found the solution to this conundrum in new special high quality valve types which have never been used before, in combination with an ingenious circuit design which we have termed SPPP (Single Primary Push Pull). This eliminates the symmetry problems in the output transformers of conventional valve amplifiers. As ever, we consider excellent measured results to be of extreme importance. However, this is not entirely straightforward with valve amplifiers, for even some designs which have gained good test results feature upper limit frequencies of only 30 to 50 kHz. That's not enough for us! Our V 10-2 effortlessly achieves 100 kHz thanks to the special torroidal audio transformers which SPPP technology enables us to exploit. A crucially important factor to our developers was the stability of the amplifier's sound qualities and technical performance in practical daily usage. The problem here is the valves themselves: on the one hand individual examples from normal production vary enormously, and on the other the valves are very sensitive in operation and suffer inevitable ageing effects. To overcome these problems we have again introduced measures which we believe to be unique: all valves are subjected to a sophisticated selection process, and only the units exhibiting the closest tolerances are approved for use in our amplifiers. At the same time a micro-processor constantly monitors all the system's operational parameters, such as signal levels, currents and overload margins. All the device's activities are recorded by a form of dynamic counter, and this information is used to calculate the residual run-time of the valves, so that they can be replaced in good time in order to maintain the amplifier's sound quality. The normal useful life of the valve set is in the range 2000 to 3000 hours, depending on load and stress levels. For example, a cold start shortens the valves' lives more than switching on after the pre-warming phase. Idle current levels can be displayed and adjusted at any time. The mechanical construction and case design of an amplifier of this type must fulfil the most exacting requirements. Any hint of mechanical jolting or vibration has a significant adverse effect on sound quality. For this reason the basic cradle is of strong steel construction, mounted on four shock absorbers. The external aluminium components are of sandwich construction, since this is more efficient at damping body sound, while the thick acrylic panel suppresses and absorbs vibration and prevents microphony effects. The audio transformers, the main transformer and the output stage capacitors are encapsulated in solid aluminium containers which prevent resonance effects and effectively disperse generated heat.



### **Specifications**

*Nominal output*

*Load impedance*

*Bandwidth - 3dB*

*Total harmonic distortion*

2 x 80 Watt RMS

4 or 8 Ohm (switchable)

8 Hz - 100.000 Hz

< 0.07 % at 1 Watt

< 0.5 % at full load

*High level inputs*

*Output*

*Valves*

5 switched using gold-contact relays

1 Tape out

2 x ECC83 low-distortion double triode  
(pre-amplifier)

2 x ECL82 triode / pentode  
(= 6BM8)

(input stage for power amplifier)

2 x ECC99 double triode  
with large current supply capacity  
(driver stage)

4 x EL519 power pentode  
(new old stock)

Special T+A toroidal broadband audio  
transformer (output transformer)

RLink

F 10, included

18 x 44 x 39 cm

Silver aluminium, Titanium

acrylic glass alternatively in grey or blue

*Control interface*

*Remote control*

*Dimensions (H x W x D)*

*Finishes*

*We reserve the right to alter technical specifications.*