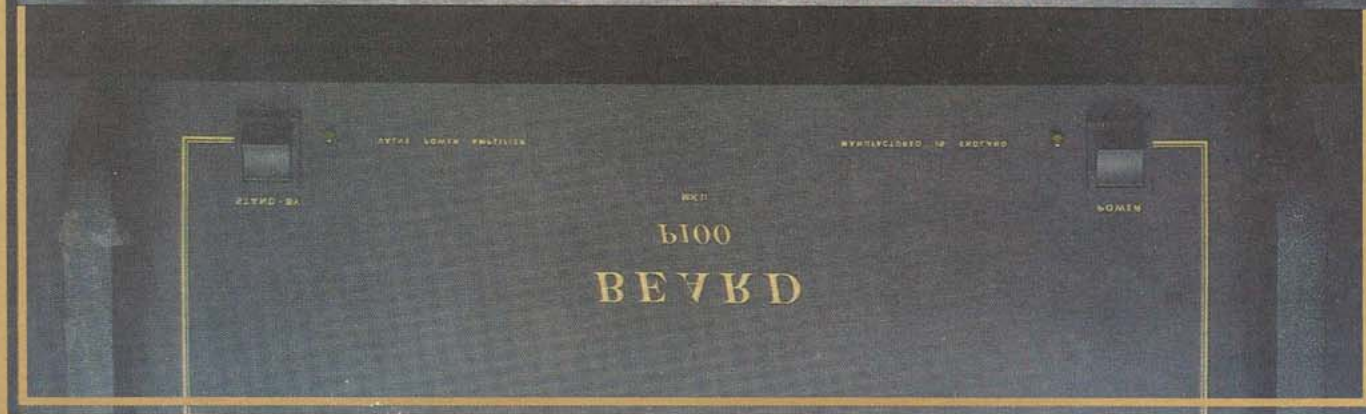
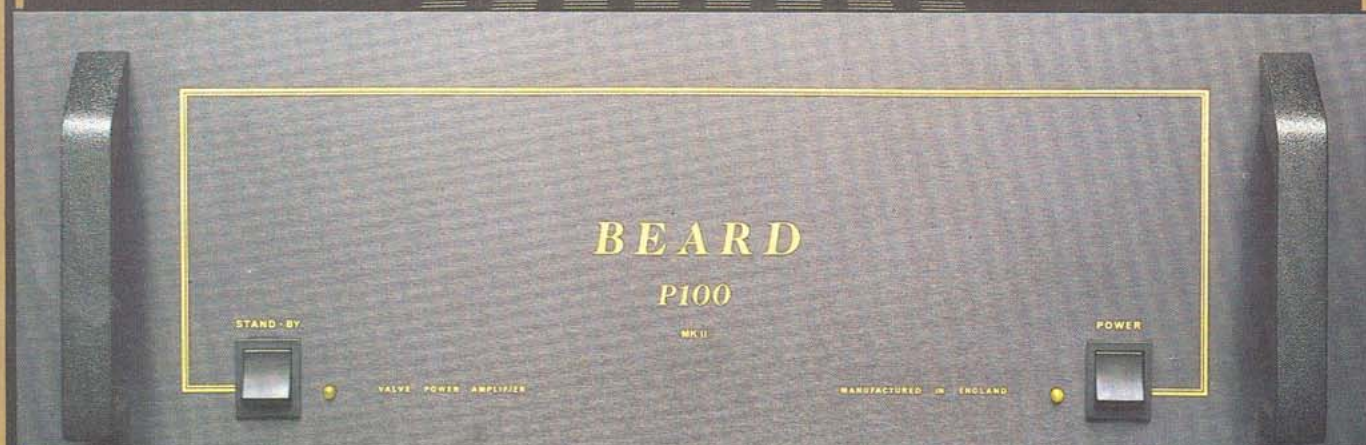
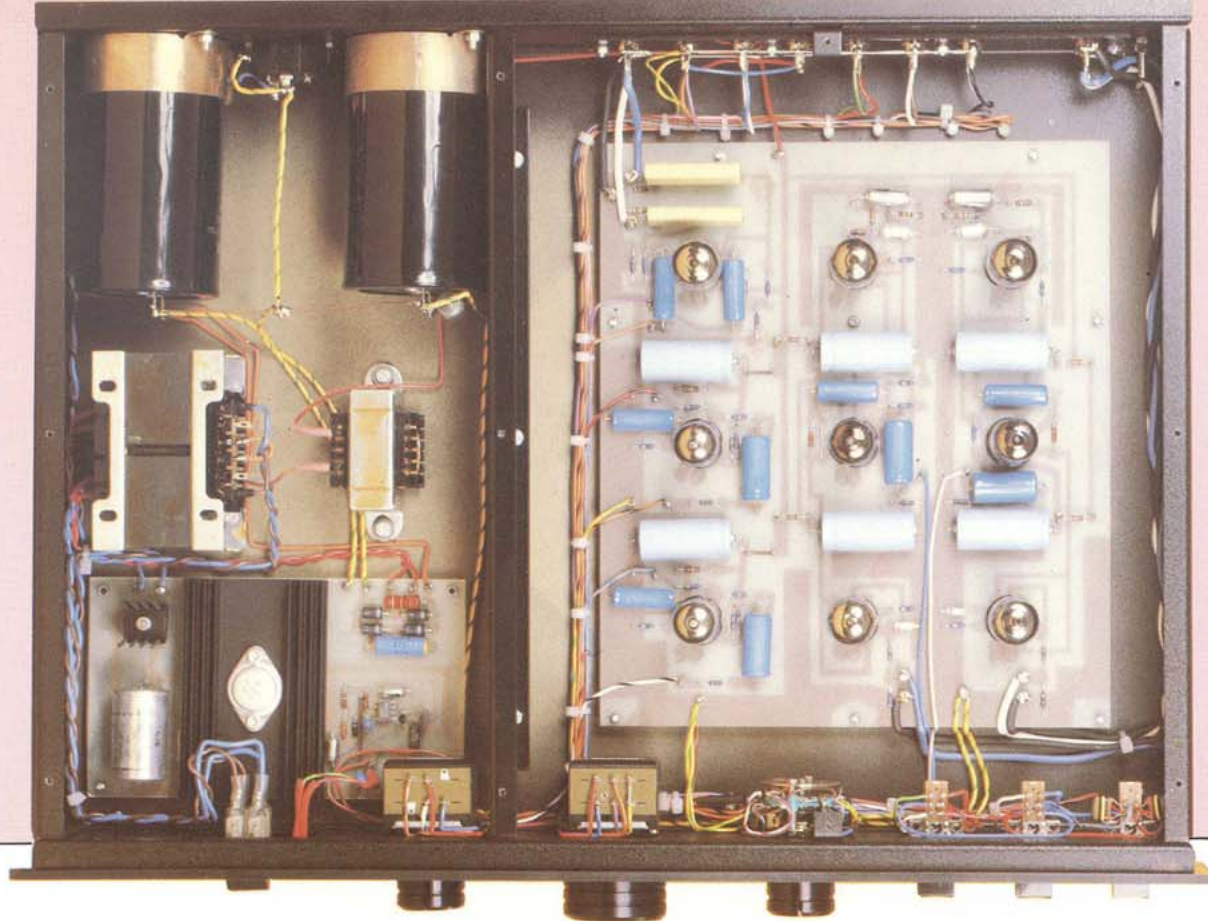


BEARD

VALVE AMPLIFIERS OF DISTINCTION





P.505 Valve Pre-Amplifier

FEATURES

- UNIQUE VALVE SHUNT-REGULATED PUSH-PULL POWER SUPPLY FOR THE PHONO STAGE.
- PASSIVE R.I.A.A. EQUALISATION.
- NINE VALVE CIRCUIT DESIGN.
- SOLID-STATE REGULATED D.C. HEATER SUPPLY.
- CHOICE OF TWO OUTPUTS: HIGH AND LOW IMPEDANCES.

INTRODUCTION:

High quality valve amplifiers provide the ultimate in sound reproduction. Unfortunately, until now, this has meant very high prices, affordable by only a few. The Beard P. 505 breaks the price barrier, with no compromise in construction, design or sound quality. The pre-amplifier has seamless sound and great dynamic impact which will stand comparison with its more expensive competitors. Listen to the incredible "spacial resolution" normally only heard when present at a live concert. The subtle detail, ambience and dynamic range faithfully reproduced by the P.505 can recreate that musical emotional experience.

DESIGN PHILOSOPHY: Phono Stage

The most difficult problem encountered while designing an audio pre-amplifier is the phono stage. The most popular way to tackle the problem involves applying negative feedback around two or more stages. The advantage of this approach is a high overload margin and ease of design. However, large amounts of negative feedback are used at high frequencies, and this causes an audible degradation. A second solution involves two high gain stages with a passive equalisation network between them. No overall negative feedback is applied.

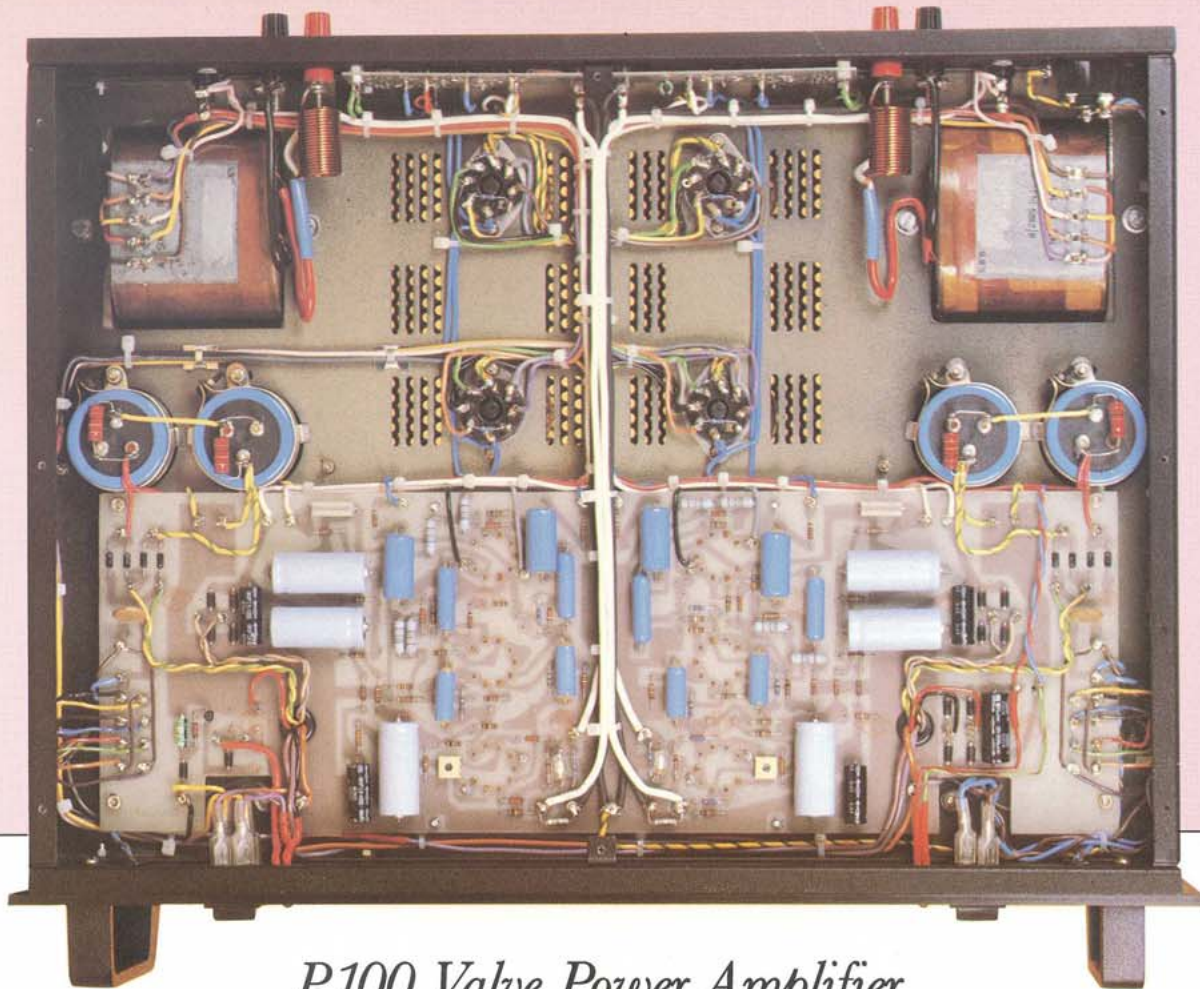
During development of the P.505, three versions were built and compared. The first was equalised by feedback, the second by a passive network, and the third combined the two techniques. The purely passive design was unanimously chosen by the listening panel for its definition and 'open' sound.

Voltage amplification in the phono stage is achieved by a unique valve cascode configuration, termed the 'shunt-regulated push pull circuit'. The use of two such stages, incorporating the passive equalisation, ensures useful sensitivity, which can be factory adjusted for .4mV, 1mV or 2mV input, plus a good overload margin as well as an excellent, well balanced slew rate.

DESIGN PHILOSOPHY: Line Stage

The line amplifier uses a single low-noise pentode valve, chosen for its excellent high-frequency characteristics and substantial gain. This enables the application of feedback, both to reduce distortion and noise and to tailor the stage gain. Incorporated in the feedback path is a fine balance control, providing adjustment of ± 3 dB. The degree of control achieved is limited in comparison with the conventional 'side-to-side' balance control. However, this is not strictly necessary and is a cause of audible degradation. Therefore in the P.505 the balance control is elegantly eliminated from the signal path.

In addition to the direct high-impedance output, the option of a buffered output is provided by means of a double triode valve in a cathode follower configuration. The low impedance output of this stage enables a considerable length of co-axial screened lead to be driven without loss or degradation of the signal. In addition, modern transistor amplifiers often have relatively low input impedances, and so the buffer ensures wide compatibility.



P.100 Valve Power Amplifier

FEATURES

- G.E.C. GOLD LION KT 88 OUTPUT VALVES, OR G.E. 6550A.
- TWO INDEPENDENT, HEAVY DUTY POWER SUPPLIES FOR VERY LOW CROSSTALK AND LARGE TRANSIENT CAPABILITY.
- 12 SECTION OUTPUT TRANSFORMERS WOUND ON 500VA GRAIN-ORIENTATED SILICON STEEL 'C' CORES.
- PURE CLASS 'A' OPERATION UP TO 40W PEAK.
- EASY TO USE BIAS CONTROLS.
- COMPREHENSIVE CIRCUIT PROTECTION FUSING.
- 10 VALVE CIRCUIT, ULTRA-LINEAR DESIGN.
- AMPLIFIERS CAN BE BRIDGED TO MONO FOR UP TO 200 WATTS.

INTRODUCTION:

The Beard P.100 brings classic valve power amplifier design right up to date, using circuit features which facilitate user operation as well as achieving the finest performance from the legendary 'Ultra-linear' design. Developed from the very successful Beard P.50, the generous output and accurately balanced symmetrical circuitry of the P.100 guarantees sound reproduction which is not only remarkable across the entire audio spectrum, but virtually unbelievable in the bass frequencies. Nothing is sacrificed in terms of quality of materials and construction to ensure both reliability and the effortless accurate reproduction of music.

When auditioning the P.100 amplifier, you will be amazed at the transformation taking place. Instead of listening to hi-fi sound, you will be swept away with the experience as with a live musical performance.

DESIGN PHILOSOPHY:

The P.100 is designed with a circuit of ultra-linear configuration and dual-mono design. A new circuit was developed for the P.100 using 10 valves. The circuit is as symmetrical as possible to reduce distortion and increase headroom. Two valves act as buffers for the output

valves, increasing the available drive current. The twelve section output transformer allows bass definition unequalled by any other valve amplifier and challenges the best of the solid state designs. Fixed biasing requires that the bias current flowing through each valve be set individually to the same value. The accuracy of this setting determines the distortion level and the limit of Class 'A' operation. Careful listening tests decided that the Class 'A' limit should be 40W peak. This gave the best sound, consistent with a reasonable operating temperature. The P.100 was found to have an enormous dynamic range and it can drive any difficult loudspeaker loads to very high levels. The bias controls are fitted to the rear panel with an electronic sensing device using LED's to facilitate user adjustment. Normal operation for the amplifier is achieved by first switching on the 'Stand-by' mode for a 'warming-up' period, followed by 'Power-on' for full dynamic music reproduction. The 'Stand-by' condition can be used for background sound, with reduced valve wear as the valves run cooler. It is well established that valve amplifiers sound best after they have been allowed to warm up, and the 'Stand-by' facility of the P.100 achieves this as well as taking into account economy and reliability.