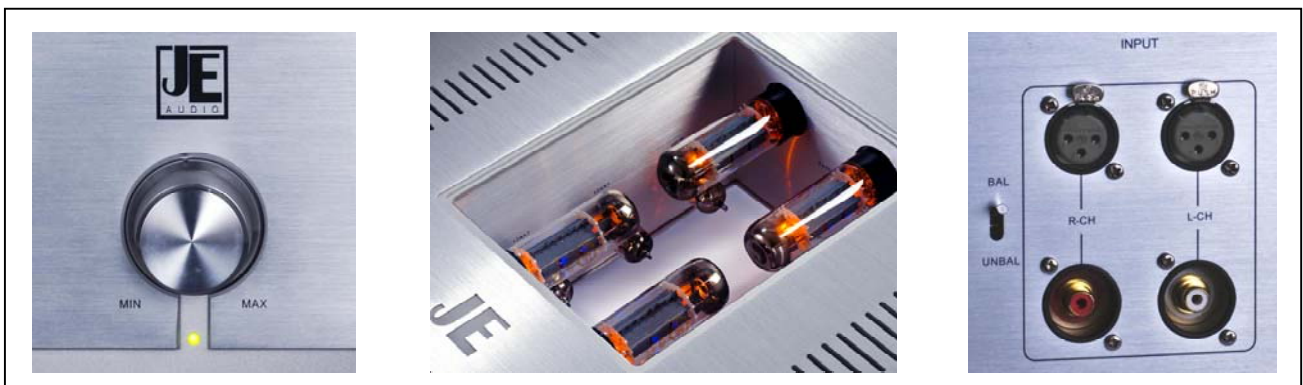


Vacuum Tube Stereo Balanced Power Amplifier Model VS70



Bring Music With Life



VS70 Stereo Balanced Power Amplifier

The VS70 stereo power amplifier closely follows the design from the mono block power amplifier VM60. Except that VS70 uses lower power tubes and output transformer, the design topology follows the identical patented Dual Balanced Feedback Topology (DBFT).

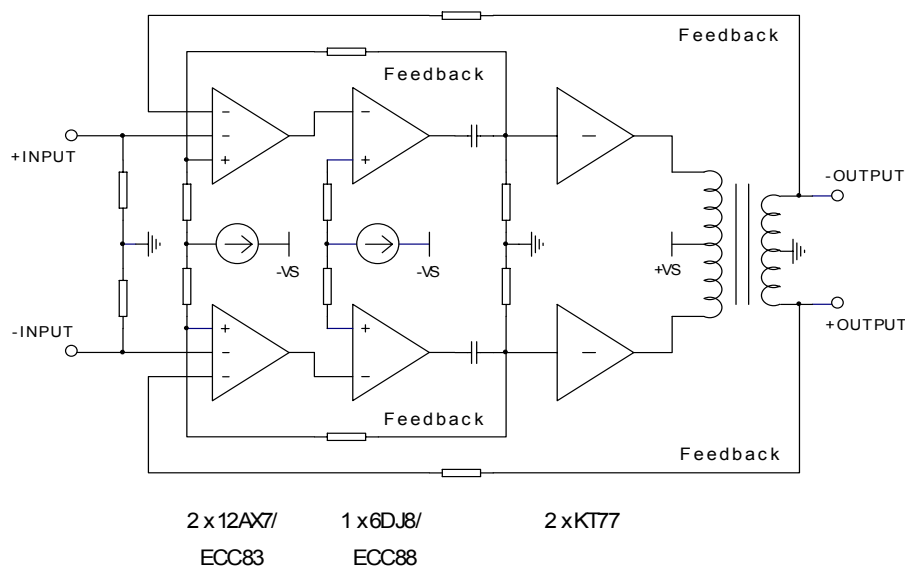
Balanced operation will effectively cancel external electromagnetic noise picked up by audio cables. Together with the improved linearity given by the DBFT, the sonic result is a transparent sound quality with three-dimensional images in a natural acoustic landscape. Single-ended input signal via the RCA socket can also be benefited by the balanced operation.

The full balanced operation is achieved by employing the DBFT as shown in the diagram below. The +INPUT and -INPUT signals are first fed to the input stage that is formed by 2 x 12AX7/ECC83. Each 12AX7 contains two small signal triodes in the same glass casing. Therefore, the first stage is formed by four small signal triodes. They are configured in such a way that the first stage will amplify the input signals as well as two pairs of feedback signals in a well orderly manner.

The second stage is formed by 1 x 6DJ8/ ECC88. It is to further amplify the signals from the first stage and provides low output impedance to drive the output stage. The output stage contains 2 x KT77 and a balanced output transformer. The feedback signals are taken in pairs so that accurate balancing can be maintained.

The first feedback pair is taken from the outputs of the second stage. Small amount of feedback is used so that the bandwidth, distortion and output impedance of the first two stages combined are improved. This small amount of feedback also sets the signal gain of the combined first two stages. A second feedback pair is taken from the transformer outputs. Again, small amount of feedback is used to further improve the bandwidth, distortion and output impedance of the overall amplifier.

On the other hand, JE AUDIO has spent extensive hours to select the best available vacuum tubes in the markets based upon their sonic merits and operation stability. All tubes are burned in for at least 50 hours before they are tested for electrical characteristics so that matched tubes can be obtained.



Block diagram of the VS70 balanced power amplifier with Dual Balanced Feedback Topology (DBFT).

Features

- Fully balanced input (also has separate RCA input).
- Fully balanced output (no loudspeaker terminal is connected to a ground terminal).
- Patented Dual Balanced Feedback Topology (DBFT) improves signal integrity and audio fidelity.
- Stereo 2 x 35W output (2 x KT77 power tubes per channel) with premium power supply.
- C-core filtering choke and premium capacitors are used in power supply filtering circuit.
- Output transformer uses premium grade M6 grain oriented steel imported from the United States. The primary side is connected in the Ultra-linear configuration and the secondary side in a proprietary full balanced configuration.
- Power transformer uses premium grade grain oriented R-Core imported from Japan. Low noise and high efficiency ensures minimum temperature rise from the power transformer.
- Premium grade copper foil in oil type signal capacitors for signal coupling.
- Fixed biasing is used for power tubes. Biasing current for each tube can be adjusted individually.
- Soft power-up circuit reduces the inrush current when switching on. It also ensures that in the first 60 seconds only a reduced supply voltage is applied to all vacuum tubes. This prolongs life of all rectifying diodes, power supply filtering capacitors and vacuum tubes.



Specifications

CIRCUIT DESIGN:	Patented Dual Balanced Feedback Topology (DBFT)
VACUUM TUBES:	4 x 12AX7/ECC83, 2 x 6DJ8/ECC88, 4 x KT77
OUTPUT POWER:	35W x 2 (< 1% THD @ 1kHz, 8 Ω load)
TOTAL HARMONIC DISTORTION:	< 0.2% @ 10W, 1kHz, 8 Ω load < 1% @ 35W, 1kHz, 8 Ω load
FREQUENCY RESPONSE:	20Hz to 20kHz
INPUT SENSITIVITY:	1.1V
INPUT IMPEDANCE:	> 47k ohm (RCA - singled-end input) > 94k ohm (XLR - balanced input)
S/N RATIO:	> 85dB (Balanced input)
POWER CONSUMPTION:	205W
DIMENSION:	H = 160mm, W = 444mm, D = 387mm
NET WEIGHT:	24 kg /53 Pounds

(Specifications subject to change without prior notice.)