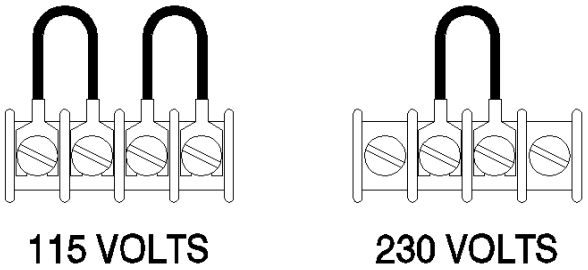
KST-150
Owner's Manual

Setup Recommendations

Voltage Selection (Factory Wired For 115 Volts)

Two different 60 Hz AC operating voltages (115 or 230) can be selected by changing jumpers on the power supply circuit board inside the amp. This must be done with the power cord removed. We strongly recommend that this be done by a certified technician to avoid damaging the unit. Please see the pictorial diagram below for clarification.



Fuse Selection (Rear Panel AC Fuse)

When wired for 115 volt operation, use a 15 amp slo-blo 3AG fuse.

When wired for 230 volt operation, use a 7 amp slo-blo 3AG fuse.

Placement

As the KST-150 amplifier relies on convection cooling, air flow is essential. We recommend that you do not place the amplifier in a totally enclosed area and allow 3 inches open space at the top and back. Do not stack components above or below the amp as this may cause overheating and impair the performance.

Connecting

Ensure that the positive (red) and negative (black) terminals on your KST-150 amplifier are connected to the positive and negative terminals on your speakers. Tighten until snug with a nut driver or other appropriate tool. Connect the right and left RCA outputs from your preamplifier to the right and left RCA inputs of the amplifier. Make sure the power switch on the front panel is OFF whenever making or breaking any connections. After all connections are made, plug the power cord into the rear of the KST-150 amplifier, and then insert the male end into the wall outlet. Power ON the preamp and all other components before powering on the KST-150 amplifier. Power OFF the KST-150 amplifier first, before powering off your preamp or other components.

Break-In Period

Break-in is a fundamental part of conditioning an amplifier. You should consider the first 100 hours of operation to be the “break-in” period. During this time, the sound will improve noticeably as the capacitors “form” and other circuit components stabilize. It is recommended that you turn the amp off for an hour or so several times during the break-in period. After that, you can either leave it on, so it is ready to deliver peak performance at any time, or turn it on at least 30 minutes prior to listening. A cold amplifier will not deliver peak performance.

Specifications

Power Output:

150 watts per channel, both channels driven into 8 ohms from 20 Hz to 20,000 Hz with no more than .4% total harmonic or intermodulation distortion. Power output into 4 ohms: 250 watts per channel, both channels driven simultaneously into 4 ohms with no more than .4% total harmonic or intermodulation distortion.

Load Driving Capability:

Your amplifier can be used with no degradation in performance with loads having a nominal impedance of 3 ohms or greater.

Frequency Response:

0 Hz (DC) to 630,000 Hz, +0-3db

Slew Rate:

250 volts per microsecond

(measured before passive output Filter network)

Damping Factor:

100 (20 Hz to 20 kHz)

Input Impedance:

20,000 ohms

Output Impedance:

.15 ohms at 100 Hz, .22 ohms at 20,000 Hz

Voltage Gain:

27 db

Power Consumption:

120 watts at idle, (no signal)

400 watts, with each channel delivering 150 watts

600 watts, with each channel delivering 250 watts

Circuit Features:

The input stage differential amplifier is followed by a fully complimentary symmetry cascoded common emitter driver stage followed by a complimentary MOSFET output stage. The number of amplifier stages is 3. No overall global loop feedback is used. All linearity optimization is achieved through the use of cascoded circuit topology for the front end and driver stage. The unit is upgradeable to 300 watt mono operation through factory modification.

Circuit Description

The circuit is a three-stage design, with the qualification that a cascoded amplifier is a single stage (although it employs two active devices).

The input stage consists of a differential amplifier pair, with a common mode rejection ratio of 90 db. This differential amplifier is cascoded and biased with an active current source for each of the differential pair. The next gain stage is a complimentary push-pull cascoded common emitter amplifier. The final gain stage is a complimentary push-pull source follower MOSFET output stage using 4 power MOSFETS per channel.

The feedback configuration employs a negligible feedback loop arrangement, where 28 db of feedback is applied at DC to provide DC offset stability. Negative feedback is rolled off above that frequency at a rate of 12 db per octave, so that when the feedback frequency is 20 Hz, the feedback applied is 7 db., at 1 kHz, the negative feedback applied is .3 db.

This configuration eliminates the use of an integrated circuit operational amplifier and its attendant signal colorations. Cascoding the voltage gain stages enables the extremely wide bandwidth and high slew rate. The high damping factor of 100 is achieved by using the ultra high current gain of the complimentary push-pull cascoded common emitter amplifier driving the high-gain power MOSFETS. Since the driver and output stage circuits maintain full gain over the 20 Hz to 20 kHz bandwidth, the damping factor is maintained at all audible frequencies. This means that high frequency control of the

tweeter diaphragm is equal to low frequency control of the woofer cone. A passive output filter eliminates unwanted RF signal injection into the active circuit.

Warranty Information

Your LUMINANCE KST-150 amplifier is warranted to be free from manufacturing defects for a period of 1 year from the original date of purchase. This warranty covers parts and labor but excludes any defects due to abuse, excessive wear and tear, shipping damage, or failure to use the product in accordance with the instructions. The warranty is also void for acts of God (refer to your home owner's policy in such event) or units that have been tampered with or modified by any other than factory authorized personnel. Regulations on warranty may vary depending on your local laws.

Please keep the original box and all the internal packing material. You will require these materials to ensure safe shipping in the unlikely event that you must return the unit for service.

For return approval and shipping info, contact our customer service department below.

Contact Information

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