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## Tube Bias Calculator

*Enter info in blue and click any 'Calculate' button*

6L6 19w  
 6L6G 19w  
 6L6GB 19w  
 6L6WGB 26w  
 6L6WGC 26w  
 6L6GC 30w

Select Tube Type:

Enter Plate-to-Cathode Voltage:

DC volts (plate voltage minus cathode voltage)

**Calculate**

Tube Max Design Dissipation =  watts 100% Pa

Class A Fixed Bias 70% Cool =  DC milliamps 80% Average =  90% Max Safe

Dissipation =

Class AB Fixed Bias 50% Cool =  DC milliamps 60% Average =  70% Max Safe

Dissipation = \*

Cathode Bias 85% Cool =  DC milliamps 95% Average =  100 % Max Safe Dissipation =

\*Merlin Blencowe believes up to 85% is OK for Class AB Fixed Bias Amps

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## Tube Dissipation Using Cathode Resistor Voltage Drop

You must enter *Tube Type* and *Plate-to-Cathode Voltage* above before calculating Tube Dissipation.

Enter Number of Tubes that share a cathode resistor:

Enter Voltage Across Cathode Resistor:  DC volts Voltage drop across the cathode resistor.

Enter Cathode Resistor:  ohms Cathode resistor ohm value.

**Calculate**

Total Cathode Current =  DC milliamps = Voltage Across Cathode Resistor / Cathode Resistor.

Total Plate Current =  DC milliamps = Cathode Current minus approximate screen current of 5.5%.

Plate Current per Tube =  DC milliamps = Total Plate Current / Number of Tubes.

Plate Dissipation per Tube =  watts = Plate Current per Tube x Plate Voltage.

Plate Dissipation per Tube % =  % Plate Dissipation per Tube % = Plate Dissipation per Tube / Tube Max Rated Dissipation.

If your tube is a triode (or dual triode with both triodes used) your plate current is  milliamps, your plate dissipation is  watts and  %.

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## Tube Dissipation Using Plate Current

Use this calculator when you measure the actual plate current. You must enter [Tube Type](#) and [Plate-to-Cathode Voltage](#) above before calculating Tube Dissipation.

Enter Plate Current:  DC milliamps

Plate Dissipation =  watts = Plate Voltage \* Plate Current.

Plate Dissipation % =  % = Plate Dissipation / Tube Maximum Rated Dissipation.

By Rob Robinette

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**Note:** You must re-calculate after changing values by clicking any [Calculate](#) button. [Tube Type](#) and [Plate-to-Cathode Voltage](#) must be entered for all calculations on this webpage.

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**WARNING:** A tube amplifier chassis contains lethal high voltage even when unplugged--sometimes over 700 volts AC and 500 volts DC. If you have not been trained to work with high voltage then have an amp technician service your amp. Never touch the amplifier chassis with one hand while probing with the other hand because a lethal shock can run between your arms through your heart. Use just one hand when working on a powered amp. See more [tube amplifier safety info here](#).

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## Tube Bias Calculator Instructions & Help