Assignment # 1

Audio amplifiers are currently presented with only a standby function controlled by a pin on the amplifier integrating device. The standby function could be controlled or activated automatically through a change in the signal source to eliminate undesired signals in the speakers when the audio amplifier is almost turned off. In particularly, the output of the audio amplifier to allow the signal at the input to not transfer to the loudspeakers and the amplifier will then absorb the low current.

The amplifier output undergoes excursions through switching from standby mode to either on or off and from off to normal operation. The excursions typically run between zero and fifteen volts in some cases run at thirty volts with a supply voltage. These excursions are poorly controlled and comprised of peaks that respond to rapid transient of the supply voltage and standby pin, which reproduces peaks in the loudspeaker of undesired noise, most commonly known as popping.

One way to eliminate the undesired noise is to add high-value capacitors to slow down variations in the at turn-on phase. If the charge time is constant of the capacitors is low enough, such that it fails to provide for rapid operation of the audio system as a whole. Moreover, a transient supply voltage is the only controllable capacitor while the capacitor is charging. When the capacitor is discharging, the invariably rapid from the virtue of the capacitor discharge into the low-value equivalent resistance of the overall circuit. For the standby function, discharge is invariably rapid when the switch circuit is closed capacitor discharge into the total resistance of a parallel circuit, which will set the device to standby mode. However, when the switch is open the

capacitor charges to a stable point for the standby voltage. The capacitor charges at a slower rate but, it discharges at a faster rate which cannot be slowed down because of a resistor and it needs to be low enough to allow standby mode to exist and to keep the amplifier nearly off.