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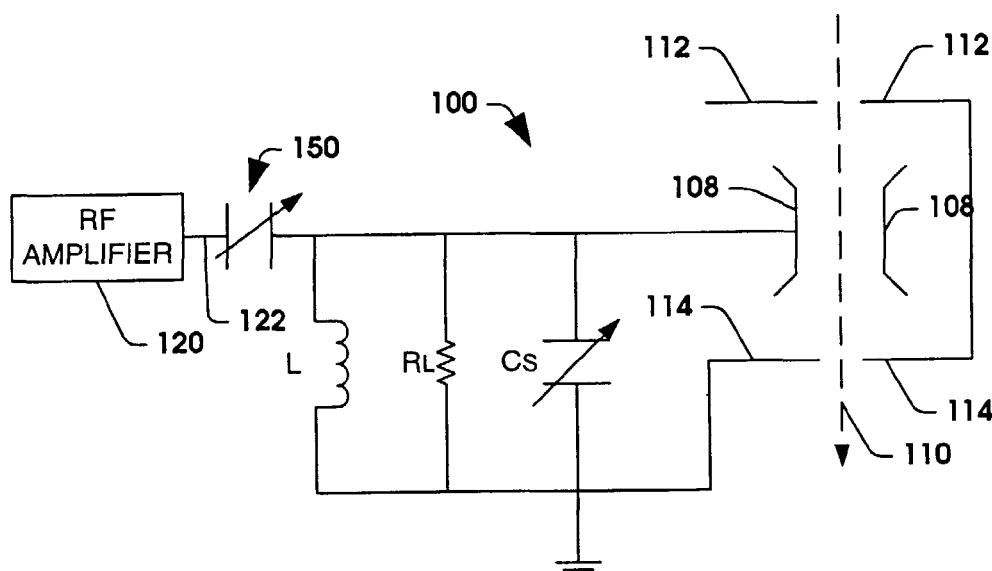
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(54) Title: INTEGRATED RESONATOR AND AMPLIFIER SYSTEM



(57) Abstract: An integrated RF amplifier (120) and resonator (100) is provided for use with an ion accelerator. The amplifier (120) includes an output substantially directly coupled with a resonator coil (L). The amplifier output may be coupled capacitively or inductively. In addition, an apparatus is provided for accelerating ions in an ion implanter. The apparatus comprises an amplifier (120) with an RF output (122), a tank circuit (100) with a coil (L) substantially directly coupled to the RF output (122) of the amplifier (120), and an electrode (108) connected to the coil (L) for accelerating ions. Also provided is a method (500) for coupling an RF amplifier (120) with a resonator (100) in an ion accelerator. The method comprises connecting (502) the RF output (122) of the amplifier (120) to a coupler, and locating (504) the coupler proximate the coil (L), thereby substantially directly coupling the RF output (122) of the amplifier (120) with the resonator coil (L).



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