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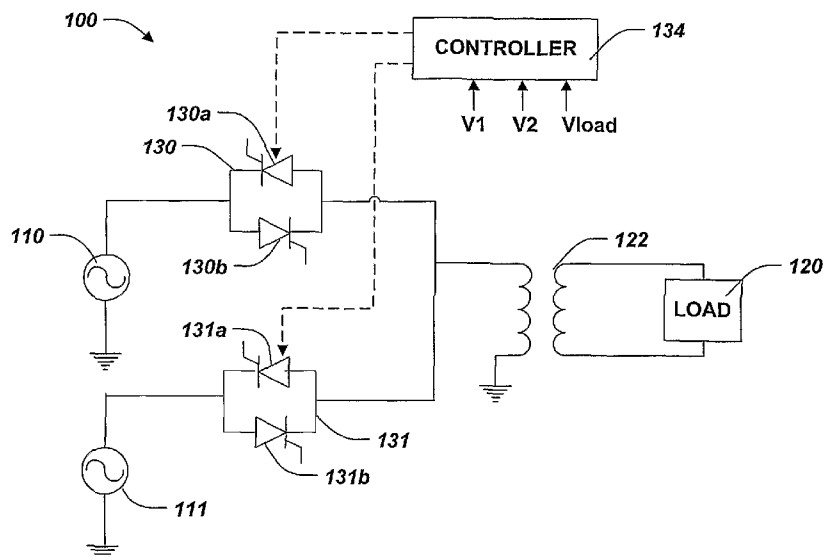
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[Continued on next page]

(54) Title: SCR-BASED STATIC TRANSFER SWITCH DEVICE AND METHOD



(57) Abstract: Devices and methods for improved voltage source transfer switching. First and second voltage sources (primary and alternate) are connectable to a load via corresponding first and second switches, which may comprise SCRs. A controller operates the switches according to various transfer methods. In some transfer methods, the timing of the switching operation is critical. For example, switching times may be optimized to reduce or prevent transformer saturation due to the dc flux built up during the transfer event. The controller force commutates off the primary source switch by turning on the appropriate alternate source switch for a brief period of time. In this case, the alternate source switches are "pulsed" (rather than being turned on continuously), so that the switches will naturally commutate off at the next current zero cross. Subsequently, the volt-second balancing control logic will permanently turn on these switches at the appropriate time.

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