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(19) **United States**(12) **Patent Application Publication** (10) **Pub. No.: US 2022/0360238 A1**  
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FOR SELF-BOOSTING PUSH PULL  
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MA (US)(21) Appl. No.: **17/812,532**(22) Filed: **Jul. 14, 2022****Related U.S. Application Data**(63) Continuation of application No. 16/829,750, filed on  
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(2013.01)(57) **ABSTRACT**

Various implementations include a common mode voltage controller for a self-boosting push pull amplifier. In some implementations, input signal are processed by: calculating, based upon the input signal, a maximum duty cycle to achieve a target differential in an output of the self-boosting push pull amplifier; calculating, based on the input signal, a set of control parameters associated with adjusting a common mode voltage of the output; and generating, based on the input signal, a pair of signals configured to adjust the common mode voltage of the output, wherein the pair of signals include a gain adjustment and offset based on the maximum duty cycle and the set of control parameters, and wherein the pair of signals are configured to maintain the target differential in the output of the self-boosting push pull amplifier as the common mode voltage is adjusted to a different operating point.

