

Title (en)  
DEVICE AND SYNCHRONOUS METHOD FOR SUPPLYING POWER TO AN ULTRASOUND TRANSDUCER

Title (de)  
VORRICHTUNG UND SYNCHRONVERFAHREN ZUR STROMVERSORGUNG EINES ULTRASCHALLWANDLERS

Title (fr)  
DISPOSITIF ET PROCÉDÉ SYNCHRONE D'ALIMENTATION D'UN TRANSDUCTEUR ULTRASONORE

Publication  
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Application  
**EP 21752484 A 20210730**

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Abstract (en)  
[origin: WO2022023577A1] The invention relates to a method and a circuit (100) for driving and for supplying power to ultrasound transducers with a synchronous switched capacitor, controlled by a digital loop. This circuit (100) comprises a power interface (106) controlled by a multi-level square-wave or rectangular-wave signal generator (102). This device comprises a tuning circuit (104) that is controlled by a tuning control circuit (109) so as to exhibit a given natural frequency with the transducer. This matching typically comprises, at input, a series inductor (L1) and, at output, a controlled-connection (K1) capacitor (C1) connected in parallel with the transducer (302). This connection (K1) is controlled in accordance with a detected phase difference ( $\Delta\phi$ ) observed between the input ( $\phi_1$ ) and the output ( $\phi_2$ ) of said inductor (L1). It is advantageously slaved so as to provide a phase difference with the value  $\pi/2$ . The invention furthermore relates to an ultrasound element, to an ultrasound head, and to an ultrasound imaging and/or processing system, in particular a medical one.

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