CPC COOPERATIVE PATENT CLASSIFICATION

B06B METHODS OR APPARATUS FOR GENERATING OR TRANSMITTING MECHANICAL VIBRATIONS OF INFRASONIC, SONIC, OR ULTRASONIC FREQUENCY, {e.g.} FOR PERFORMING MECHANICAL WORK IN GENERAL (for particular applications, see the relevant subclasses, e.g. B07B 1/40, B23Q 17/12, B24B 31/06; measurement of mechanical vibrations G01H; in direction finding, locating, distance or velocity measuring G01S; {generating seismic energy G01V 1/02}; control of mechanical vibrations in general G05D; sound-producing devices, e.g. bells, sirens, whistles G10K, {e.g. methods or devices for transmitting, conducting, or directing sound in general G10K 11/00}; generation of electrical oscillations H03B; electromechanical resonators in general H03H; electromechanical transducers {for communication techniques, e.g. microphones, speakers} H04R)

B06B 1/00 Methods or apparatus for generating mechanical vibrations of infrasonic, sonic, or ultrasonic frequency

B06B 1/02 . making use of electrical energy (B06B 1/18, B06B 1/20 take precedence)

B06B 1/0207 . . {Driving circuits (specially adapted for particular applications, see the relevant subclass, e.g. G01; circuits for steering transducer arrays G10K 11/34; basic circuits H03)}

B06B 1/0215 . . . {for generating pulses, e.g. bursts of oscillations, envelopes}

B06B 1/0223 . . . {for generating signals continuous in time}

B06B 1/023 . . . . {and stepped in amplitude, e.g. square wave, 2-level signal}

B06B 1/0238 . . . . {of a single frequency, e.g. a sine-wave}

B06B 1/0246 . . . . . {with a feedback signal}

B06B 1/0253 . . . . . {taken directly from the generator circuit}

B06B 1/0261 . . . . . {taken from a transducer or electrode connected to the driving transducer}

B06B 1/0269 . . . . {for generating multiple frequencies}

B06B 1/0276 . . . . . {with simultaneous generation, e.g. with modulation, harmonics}

B06B 1/0284 . . . . . {with consecutive, i.e. sequential generation, e.g. with frequency sweep}

B06B 1/0292 . . {Electrostatic transducers, e.g. electret-type}

B06B 1/04 . . operating with electromagnetism (dynamo-electric motors with vibrating magnet, armature or coil system H02K 33/00)

B06B 1/045 . . . {using vibrating magnet, armature or coil sytem}

B06B 1/06 . . operating with piezo-electric effect or with electrostriction (piezo-electric or electrostrictive devices per se H01L 41/00)

B06B 1/0603 . . . {using a piezo-electric bender, e.g. bimorph}

B06B 1/0607 . . . {using multiple elements (B06B 1/064 and B06B 1/0688 take precedence)}

B06B 1/0611 . . . . {in a pile}

B06B 1/0614 . . . . . {for generating several frequencies}
B06B 1/0618 . . . . . {of piezo- and non-piezo-electric elements, e.g. 'Tonpilz'}
B06B 1/0622 . . . . {on one surface}
B06B 1/0625 . . . . . {Annular array}
B06B 1/0629 . . . . . {Square array}
B06B 1/0633 . . . . . {Cylindrical array}
B06B 1/0637 . . . . . {Spherical array}
B06B 1/064 . . . . . {with multiple active layers}
B06B 1/0644 . . . {using a single piezo-electric element (B06B 1/0688 takes precedence)}
B06B 1/0648 . . . . {of rectangular shape}
B06B 1/0651 . . . . {of circular shape}
B06B 1/0655 . . . . {of cylindrical shape}
B06B 1/0659 . . . . {of U-shape}
B06B 1/0662 . . . . {with an electrode on the sensitive surface}
B06B 1/0666 . . . . . {used as a diaphragm}
B06B 1/067 . . . . . {which is used as, or combined with, an impedance matching layer}
B06B 1/0674 . . . . . {and a low impedance backing, e.g. air}
B06B 1/0677 . . . . . {and a high impedance backing}
B06B 1/0681 . . . . . {and a damping structure}
B06B 1/0685 . . . . . {on the back only of piezo-electric elements}
B06B 1/0688 . . . {with foil-type piezo-electric elements, e.g. PVDF}
B06B 1/0692 . . . . {with a continuous electrode on one side and a plurality of electrodes on the other side}
B06B 1/0696 . . . . {with a plurality of electrodes on both sides}
B06B 1/08 . . operating with magnetostriction (magnetostrictive devices per se H01L 41/00)
B06B 1/085 . . . {using multiple elements, e.g. arrays}
B06B 1/10 . making use of mechanical energy (B06B 1/18, B06B 1/20 take precedence)
B06B 1/12 . . operating with systems involving reciprocating masses
B06B 1/14 . . . the masses being elastically coupled
B06B 1/16 . . operating with systems involving rotary unbalanced masses {(electrical motors using rotary unbalanced masses in general H02K 7/061)}
B06B 1/161 . . . {Adjustable systems, i.e. where amplitude or direction of frequency of vibration can be varied}
B06B 1/162 . . . . {Making use of masses with adjustable amount of eccentricity}
B06B 1/163 . . . . . {the amount of eccentricity being only adjustable when the system is stationary (B06B 1/165 takes precedence)}
B06B 1/164 . . . . . {the amount of eccentricity being automatically variable as a function of the running condition, e.g. speed, direction (B06B 1/165 takes precedence)}
B06B 1/165 . . . . . {with fluid masses or the like}

B06B 1/166 . . . . {Where the phase-angle of masses mounted on counter-rotating shafts can be varied, e.g. variation of the vibration phase}

B06B 1/167 . . . {Orbital vibrators having masses being driven by planetary gearings, rotating cranks or the like}

B06B 1/168 . . . . {Rotary pendulum vibrators}

B06B 1/18 . wherein the vibrator is actuated by pressure fluid (B06B 1/20 takes precedence)

B06B 1/183 . . {operating with reciprocating masses}

B06B 1/186 . . {operating with rotary unbalanced masses}

B06B 1/20 . making use of a vibrating fluid {(whistles or sirens per se G10K)}

B06B 3/00 Methods or apparatus specially adapted for transmitting mechanical vibrations of infrasonic, sonic, or ultrasonic frequency

B06B 3/02 . involving a change of amplitude

B06B 3/04 . involving focusing or reflecting

B06B 2201/00 Indexing scheme associated with B06B 1/0207 for details covered by B06B 1/0207 but not provided for in any of its subgroups

B06B 2201/20 . Application to multi-element transducer

B06B 2201/30 . with electronic damping

B06B 2201/40 . with testing, calibrating, safety devices, built-in protection, construction details

B06B 2201/50 . Application to a particular transducer type

B06B 2201/51 . . Electrostatic transducer

B06B 2201/52 . . Electrodynamic transducer

B06B 2201/53 . . . with vibrating magnet or coil

B06B 2201/54 . . . Electromagnetic acoustic transducers [EMAT]

B06B 2201/55 . . Piezoelectric transducer

B06B 2201/56 . . . Foil type, e.g. PVDF

B06B 2201/57 . . Electrostrictive transducer

B06B 2201/58 . . Magnetostrictive transducer

B06B 2201/70 . Specific application

B06B 2201/71 . . Cleaning in a tank

B06B 2201/72 . . Welding, joining, soldering

B06B 2201/73 . . Drilling

B06B 2201/74 . . Underwater

B06B 2201/75 . . Repelling animals, insects, humans

B06B 2201/76 . . Medical, dental

B06B 2201/77 . . Atomizers