

Title (en)

Ultrasonic transducer for diagnostic and therapeutic application

Title (de)

Ultraschallwandler für den diagnostischen und therapeutischen Einsatz

Title (fr)

Transducteur ultrasonore à application diagnostique et thérapeutique

Publication

EP 0826435 A3 20001115 (DE)

Application

EP 97114389 A 19970820

Priority

DE 19635593 A 19960902

Abstract (en)

[origin: EP0826435A2] The transmitter can selectively operate in diagnostic or therapeutic mode. The wavelengths in diagnostic mode, for producing an image, are shorter than those in therapeutic mode and a high bandwidth is required. For therapy a high resonance factor and operating angle are used. Multiple piezoelectric layers are used to make up the transducers. Five ultrasound transducers operate in a linear phased array. The transducers are piezoceramic, esp. Vibrit 420. They may be multiple layer and are set in epoxy resin which contains copper particles. The operating frequency is 250 kHz to 4 MHz. If λ is wavelength in therapy, $n \times \lambda / 4$ or n quarter wave lengths give matching layer section thickness, where n is an uneven number. The drive signals U_0 , etc. are bursts of sine waves.

IPC 1-7

B06B 1/06; G10K 11/02

IPC 8 full level

B06B 1/06 (2006.01)

CPC (source: EP US)

B06B 1/0607 (2013.01 - EP US)

Citation (search report)

- [DA] DE 4302538 C1 19940407 - SIEMENS AG [DE]
- [DA] EP 0451984 A2 19911016 - TOSHIBA KK [JP]
- [A] DE 3008553 A1 19800925 - KRETZTECHNIK GMBH
- [A] US 5438554 A 19950801 - SEYED-BOLORFOROSH MIR S [US], et al
- [A] DE 1958988 A1 19710812 - ITT IND GMBH DEUTSCHE

Designated contracting state (EPC)

AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)

EP 0826435 A2 19980304; EP 0826435 A3 20001115; DE 19635593 C1 19980423; US 5823962 A 19981020

DOCDB simple family (application)

EP 97114389 A 19970820; DE 19635593 A 19960902; US 92182797 A 19970902