

Title (en)

Piezoelectric air-ultrasound transducer with broadband characteristics.

Title (de)

Piezoelektrischer Luft-Ultraschallwandler mit Breitbandcharakteristik.

Title (fr)

Transducteur air-ultrason piézoélectrique à caractéristique à large bande.

Publication

**EP 0154706 A2 19850918 (DE)**

Application

**EP 84115390 A 19841213**

Priority

DE 3409789 A 19840316

Abstract (en)

[origin: US4677337A] A piezoelectric ultrasonic transducer for radiating ultrasonic energy in the medium of air has a number of piezoceramic ultrasonic radiators disposed in registry within a dimensionally stable carrier block which has an intrinsic acoustic impedance which is lower by a factor of at least eight than that of the piezoceramic material and which has a high mechanical attenuation  $1/Q_m$  greater than approximately 0.05. The carrier block is yieldable at at least one closed face thereof for emission and/or reception of ultrasonic energy. The piezoelectric transducer elements may be divided into a number of side-by-side elements which may be individually energized, or may have electrodes connected in series for energizing the individual transducer elements in common. The combined operation of the ultrasonic transducer elements within the carrier block results in an ultrasonic transducer having broadband characteristics matched for ultrasonic transmission in the medium of air of short ultrasonic waveforms and for receiving ultrasonic energy for near-distance detection.

Abstract (de)

Piezokeramischer Luft-Ultraschallwandler mit besser angepaßtem, verringertem Wellenwiderstand und großer Dämpfung zur Aussendung von nur kurzen Wellenzügen für Nahdistanzdetektion.

IPC 1-7

**G10K 11/02**; **H04R 17/10**

IPC 8 full level

**G10K 9/122** (2006.01); **G10K 11/02** (2006.01); **H04R 1/06** (2006.01); **H04R 1/20** (2006.01); **H04R 17/00** (2006.01); **H04R 17/10** (2006.01)

CPC (source: EP US)

**G10K 9/122** (2013.01 - EP US); **G10K 11/02** (2013.01 - EP US)

Cited by

EP0451306A1; US5457353A; EP0181506A3; US5254900A; EP0292014A3; US4914565A; WO9100153A1

Designated contracting state (EPC)

CH DE FR GB IT LI SE

DOCDB simple family (publication)

**EP 0154706 A2 19850918**; **EP 0154706 A3 19870401**; **EP 0154706 B1 19900321**; DE 3409789 A1 19850926; DE 3481741 D1 19900426; DE 8408180 U1 19860717; JP H0458760 B2 19920918; JP S60236600 A 19851125; US 4677337 A 19870630

DOCDB simple family (application)

**EP 84115390 A 19841213**; DE 3409789 A 19840316; DE 3481741 T 19841213; DE 8408180 U 19840316; JP 5156185 A 19850314; US 92680186 A 19861029