

Title (en)

Selectable focus ultrasonic transducers for diagnostic imaging.

Title (de)

Ultraschallwandler mit einstellbarem Fokus für Tomographie.

Title (fr)

Transducteurs ultrasonores à distance focale variable pour tomographie.

Publication

**EP 0102179 A1 19840307 (EN)**

Application

**EP 83304222 A 19830720**

Priority

- US 40054782 A 19820721
- US 40055182 A 19820721

Abstract (en)

Dual focus ultrasonic transducers are provided having an effective aspheric radiating surface (312, 314). The transducers exhibit an elongated focal zone in which the radiated ultrasonic energy is concentrated. An annular groove separates the piezoelectric material into an inner disc region (312) and an outer annular region (314) for simultaneous activation or activation of the inner disc alone. When the focus is switched, both the near field limit and the geometric focus are changed to provide near and far focal zones of good lateral resolution. The focus is changed by a reed switch (316) connection to the two transducer regions, which permits proximity switch control of the transducer operation in a shielded environment for good noise performance.

IPC 1-7

**G10K 11/32**; **G10K 11/30**

IPC 8 full level

**G10K 11/26** (2006.01); **G10K 11/30** (2006.01); **G10K 11/32** (2006.01)

CPC (source: EP)

**G10K 11/26** (2013.01); **G10K 11/30** (2013.01); **G10K 11/32** (2013.01)

Citation (search report)

- [AD] US 4138895 A 19790213 - MEZRICH REUBEN S
- [A] US 4276779 A 19810707 - DAVIS JR LUTHER
- [A] US 3958559 A 19760525 - GLENN WILLIAM E, et al
- [A] GB 2075797 A 19811118 - TOKYO SHIBAURA ELECTRIC CO
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Designated contracting state (EPC)

DE FR GB NL

DOCDB simple family (publication)

**EP 0196139 A2 19861001**; **EP 0196139 A3 19901205**; **EP 0196139 B1 19930120**; AU 1712483 A 19840126; AU 572464 B2 19880512; DE 3373739 D1 19871022; DE 3382654 D1 19930304; DE 3382654 T2 19930513; EP 0102179 A1 19840307; EP 0102179 B1 19870916; IL 69293 A0 19831130

DOCDB simple family (application)

**EP 86200472 A 19830720**; AU 1712483 A 19830720; DE 3373739 T 19830720; DE 3382654 T 19830720; EP 83304222 A 19830720; IL 6929383 A 19830721