

Title (en)

Ultrasonic transmitter and receiver having an ultrasonic transducer and waveguide

Title (de)

Ultraschallwellensende- bzw. -empfangsvorrichtung mit einem Ultraschallwandler und einem Ultraschallwellenleiter

Title (fr)

Emetteur et récepteur d'ultra-sons avec un transducteur et un guide d'ondes ultrasonique

Publication

EP 1293960 A3 20040908 (DE)

Application

EP 02017112 A 20020730

Priority

- DE 10145429 A 20010914
- DE 10153297 A 20011031

Abstract (en)

[origin: EP1293960A2] The ultrasonic transceiver system has an ultrasonic converter (1) at one end of an ultrasonic waveguide (2) within a mantle (3). An impedance jump is between the ultrasonic converter and the mantle zone next to it, by a circular groove (6) around the mantle. The groove can be filled with a different material from the mantle.

IPC 1-7

G10K 11/24; B06B 3/00; G10K 11/02

IPC 8 full level

B06B 3/00 (2006.01); **G01F 1/66** (2006.01); **G10K 11/00** (2006.01)

CPC (source: EP US)

B06B 3/00 (2013.01 - EP US); **G10K 11/004** (2013.01 - EP US)

Citation (search report)

- [X] US 5159838 A 19921103 - LYNNWORTH LAWRENCE C [US]
- [A] US 5945642 A 19990831 - NAYAR SATINDER K [US], et al
- [DA] EP 1098295 A2 20010509 - KROHNE AG [CH]

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US8630814B2; US8205507B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

DOCDB simple family (publication)

EP 1293960 A2 20030319; **EP 1293960 A3 20040908**; JP 2003106880 A 20030409; NO 20024403 D0 20020913; NO 20024403 L 20030317; NO 328855 B1 20100531; US 2003055340 A1 20030320; US 6669636 B2 20031230

DOCDB simple family (application)

EP 02017112 A 20020730; JP 2002267027 A 20020912; NO 20024403 A 20020913; US 23869702 A 20020910