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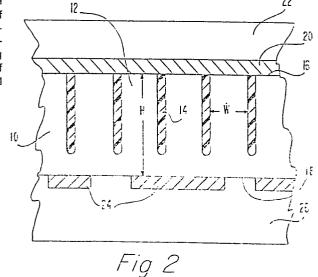
(84) Designated Contracting States: AT BE CH DE FR GB IT LI LU NL SE (71) Applicant: Advanced Technology Laboratories, Inc. 22100 Bothell Highway, S.E. Bothell Washington 98041-3003(US)

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(54) Ultrasound transducer with improved vibrational modes.

57) The transducer (10) is diced into subelements (12) which have a height-to-width ratio which determines the modality of their vibration. The subelements (12) are then electrically connected (20,24) to provide a transducer having the desired electrical configuration, i.e., an annular array transducer. Using the present invention, the electro-acoustic characteristics of the transducer (10) are not determinitive of the vibrational characteristics of the individual subelements.





EPO Form 1503, 03.82

## **EUROPEAN SEARCH REPORT**

EP 84 30 3562

	DOCUMENTS CON	SIDERED TO BE RELE	VANT	<del></del>	
Category	Citation of document w	ith indication, where appropriate, evant passages		Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
х	EP-A-0 025 092 * Abstract; pag 5, line 25; pag page 11, line 2	e 4, line 1 - pa e 5, line 34	.ge	1.	G 10 K 11/34 H 01 L 41/10
х	L'ENERGIE ATOMI * Page 1, lines 24 - page 3, lines 7-16; pag	1-4; page 2, li line 1; page e 3, line 33 1; page 4, line	ne 3,	L,6	
P,X	Minnesota, US, 1983, pages 357 CHALLANDE et al technique for r arrays or compl transducers" * Page 357: "In 1,2; page 358:	ealizing annular	r ·	3	TECHNICAL FIELDS SEARCHED (Int. Cl. 3)  G 10 K G 01 S
P,X	US-A-4 434 384 al.)  * Abstract; cocolumn 5, line	olumn 2, line 1	- 1		
P,A	<b>-</b> .		4		
	The present search report has b	een drawn up for all claims			
THE HAGUE Date of completion of the search O7-11-1986		arch	OLDROYD D. L.		
Y: part doc A: tech O: non	CATEGORY OF CITED DOCL licularly relevant if taken alone ticularly relevant if combined w ument of the same category mological background -written disclosure rmediate document	E : earlie after ith another D docu L docu & : mem	er patent do the filing di ment cited ment cited	ocument, l ate in the app for other	ying the invention out published on, or olication reasons of family, corresponding





## **EUROPEAN SEARCH REPORT**

EP 84 30 3562

	DOCUMENTS CONSID	CLASSIFICATION OF THE				
ategory	Citation of document with i of relevan	ndication, where appro t passages	priate,	Relevant to claim	APPLICATION (Int. Cl. 3)	
E	FR-A-2 544 577 ( * Abstract; page page 6, line 16 *	4, line	16 -	1,2		
A	EP-A-0 006 623 (	SIEMENS)				
A	US-A-4 122 725 (	THOMPSON)				
					TECHNICAL FIELDS SEARCHED (Int. Cl. 3)	
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	The present search report has been drawn up for all claims		ıms	1		
· · · · -	THE HAGUE	Date of complete	on of the search 1986	OL	DROYD D.L.	
	CATEGORY OF CITED DOCUMENTS  T: theory or principle underlying the invention E: earlier patent document, but published on, or					
Y	particularly relevant if taken alone particularly relevant if combined with another document of the same category technological background non-written disclosure  after the filing date D: document cited in the application L: document cited for other reasons  **Example 1.1.**  **Example 2.1.**  **Example 3.1.**  **Image 2.1.*  **Example 3.1.*  **Example 3.1.*  **Example 3.1.*  **Example 4.1.*  **Example 3.1.*  **Example 4.1.*  **Example 4.1.*  **Example 5.1.*  **Example 6.1.*  **Example 6.1.*  **Example 6.1.*  **Example 7.1.*  **Example 6.1.*  **Example 6.1.*  **Example 7.1.*  **Example 6.1.*  *					