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(54) **Drop-on demand ink-jet head apparatus and method.**

(57) An ink-jet apparatus (10) and method provides high-resolution, high-speed printing by providing a transducer drive waveform (160) having a spectral energy distribution (170) that concentrates energy (172) around a frequency associated with a dominant (Helmholtz) ink drop ejection mode and that suppresses energy (174) at resonant frequencies associated with ink inlet (18) and ink outlet structures (24, 26, 28, 14) of the ink-jet head. Spectral energy distribution principles used to shape the transducer drive waveform can be used to enhance the jetting performance of many conventional ink-jet heads.

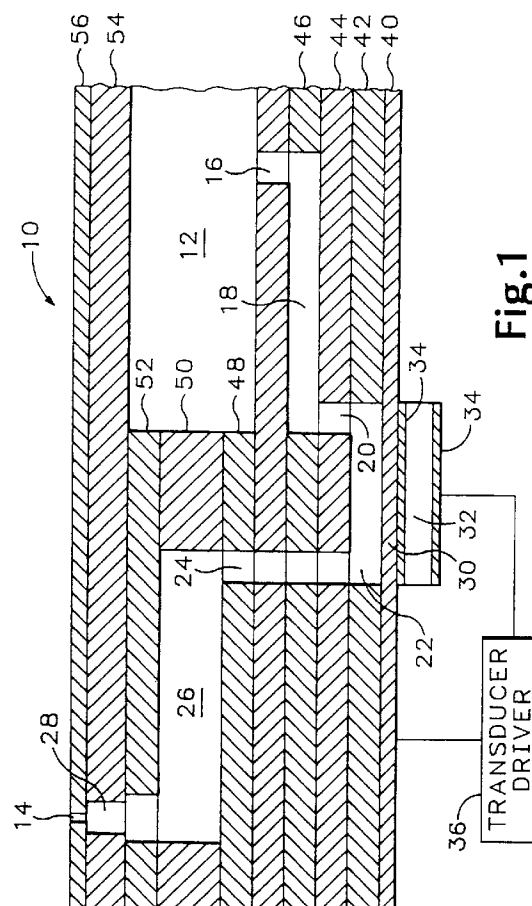


Fig.1



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 94 30 7663

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	EP-A-0 467 656 (TEKTRONIX, INC.) * the whole document *	1-19	B41J2/045

D,A	US-A-4 730 197 (RAMAN ET AL.) * the whole document *	1-19	

D,A	EP-A-0 437 062 (TEKTRONIX, INC) * the whole document *	1-19	

A	EP-A-0 084 458 (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.) * the whole document *	1	

			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B41J
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 21 June 1995	Examiner Meulemans, J-P
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
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