

Abstract

Display unit with sound generation system

An audio-visual reproduction apparatus 1 comprises a visual display screen, 11 and an ultrasonic transducer array having two or more transducer
 5 elements 13 arranged around the periphery of the screen 11 for generating an ultrasonic beam modulated with an audio-frequency signal. Non-linear effects in the air demodulate the audio-signal to generate an audio beam propagating perpendicular to the screen. Such an integration of audio and vision may make the user feel as if the sound is being generated from the display screen
 10 11 when he or she is watching it, and also may project the sound towards a target user and seldom, or never, disturb unrelated persons. The ultrasonic transducer array may be made up of independent transducer elements 13, or may comprise two or more sub-arrays of transducer elements. In one form, some or all of the transducer elements are provided on pop-up sections
 15 around the body containing the screen.

[Fig. 1]



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