

**(57) Abstract:** This audio matrix surround decoder requires minimal digital processing, useful in portable applications, particularly in playback from a portable player using a headphone or loudspeaker virtualizer. In one embodiment it pans inputs Lt and Rt to outputs associated with front directions in response to a measure of the sum of Lt and Rt being greater than a measure of the difference between Lt and Rt, and pans Lt and Rt to outputs associated with rear directions in response to a measure of the sum of Lt and Rt being less than a measure of the difference between Lt and Rt. Lt and Rt are modified to shift the direction of reproduced signals.

**Declarations under Rule 4.17:**

- *as to the identity of the inventor (Rule 4.17(i))*
- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
- *of inventorship (Rule 4.17(iv))*

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- *with international search report (Art. 21(3))*
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