

ABSTRACT

An audio encoding device which can improve encoding performance while performing division search on an algebraic codebook in an audio encoding. In a distortion minimizing unit (112) of a CELP
5 encoding device: a maximum correlation value calculation unit (221) calculates a correlation value by using each pulse and a target signal in each candidate position for four pulses constituting the fixed codebook so as to acquire a maximum value of the correlation value for each pulse and calculates a maximum correlation value by using the maximum value of the
10 correlation value; a sorting unit (222) divides the four pulses into two subsets each having two pulses; and a search unit (224) performs a division search on the fixed codebook and acquires a code indicating the positions and polarities of the four pulses where the encoding distortion is minimum.