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(54) Title: METHOD OF AND DEVICE FOR DETERMINING THE TOTAL PLAYING TIME OF A TAPE

(57) Abstract

A method of and a device for determining the total playing time of a magnetic tape accommodated in a cassette (1) in a magnetic-tape recording and/or reproducing apparatus, for example a video recorder of the helical-scan type. The tape (4) is moved between a tape spool coupled to a first reel disc (2) and a tape spool coupled to a second reel disc (3), two measurements being carried out. In the first measurement the tape is moved with a known tape speed. The revolution times (T_1 , T_r) of the first and the second reel disc are measured in this first measurement and a parameter is derived which corresponds to the sum of the squares of the revolution times. A cassette-specific constant (β) is derived from this parameter and the known tape speed. In a second measurement the revolution times of the first and the second reel disc are measured during N revolutions of one of the two reel discs for each revolution of this reel disc. For each revolution a ratio $K(n)$ is calculated from the revolution times thus determined and the cassette-specific constant, $K(n)$ being proportional to $L(n)/L_t$ and L_t being the total length of the tape and $L(n)$ being either the length already used or the residual length of the tape, where n is an integer and $1 \leq n \leq N$. In an approximation the N calculated ratios $K(n)$ are approximated to by an at least quadratic function in dependence on n and the total playing time is determined from a constant A in the function $(K(n) = X + A \cdot n + B \cdot n^2 + \dots)$ thus obtained.

