TAPE PRE-FORMATTING WITH UNIFORM DATA STORAGE SEGMENTS SELECTIVELY MAPPED TO FIXED OR VARIABLE SIZED INDEPENDENTLY ADDRESSABLE DATA STORAGE PARTITIONS

ABSTRACT

Various data storage formats help to efficiently locate, read, and write user data stored on magnetic tape media. A tape is formatted by writing multiple segment-headers, free from any interleaved access of user data. Adjacent segment-headers are spaced by a predetermined interval to define multiple data storage segments. Segment-headers all contain a unique key, which is copied into a key index to identify valid segments. A new formatting scheme can be established by writing new segment-headers which include a new unique key, replacing the previous key in the key index. Previous segment-headers stored on the tape are ignored. Segments may be selectively grouped to provide independently addressable partitions. Mapping between segments and partitions can use a fixed relationship, or each partition may be variably sized according to the amount of data to be stored therein. Another feature is flexible-capacity scaling, which distributes an ordered set of device blocks on a multi-track magnetic tape medium.

Fig. 2