



[54] INFORMATION RECORDING REPRODUCING APPARATUS USING DATA CONVERSION TO PROVIDE FOR ACCURATE REPRODUCTION OF HIGH DENSITY RECORDING USING AN OPTICAL RECORDING MEDIUM

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[21] Appl. No.: 254,433

[22] Filed: Jun. 6, 1994

Related U.S. Application Data

[63] Continuation of Ser. No. 914,528, Jul. 17, 1992, abandoned.

[30] Foreign Application Priority Data

Jan. 21, 1992 [JP] Japan 4-008605

[51] Int. Cl.⁶ G11B 7/00

[52] U.S. Cl. 369/59; 369/124; 341/67

[58] Field of Search 369/59, 58, 54, 53, 369/42, 48, 124, 60; 341/50, 58, 59, 68, 88, 55; 360/47, 48, 50, 49, 51, 67, 40, 39, 42

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[57] ABSTRACT

Disclosed is an information recording/reproducing apparatus using an optical recording medium, which can reproduce information from a recording medium designed to have a high linear recording density, by a method of performing signal separation/extraction by one threshold level in a level detecting process at the time of information reproduction from an optical recording medium with a high linear recording density. The information recording apparatus comprises a data converting means for perform data conversion on record information consisting of a digital signal in accordance with a predetermined data conversion table including a pattern for yielding a converted pattern consisting of at least one "0" and an even number of consecutive "1" or a converted pattern having a section consisting of "01010" and a section consisting of at least one "0" or an even number of consecutive "1"; a data modulating means for inverting an initial output signal when bit information of data after the data conversion is "1" given that the initial output signal is "0"; and a recording means for recording the output signal on an optical recording medium. The information reproducing apparatus comprises a reading means for reading information from the optical recording medium to yield a reproduced signal; a level detecting means for detecting a level of the reproduced signal and outputting digital data; an error correcting means for, upon detection of a sequence of "01110" in a bit pattern of the digital data, correcting the sequence to a sequence of "01010" and outputting corrected data, and, upon detection of no error, outputting the digital data; and a data reverse converting means for performing reverse conversion on the output data of the error correcting means in accordance with the data conversion table, yielding reproduced information.

2 Claims, 4 Drawing Sheets

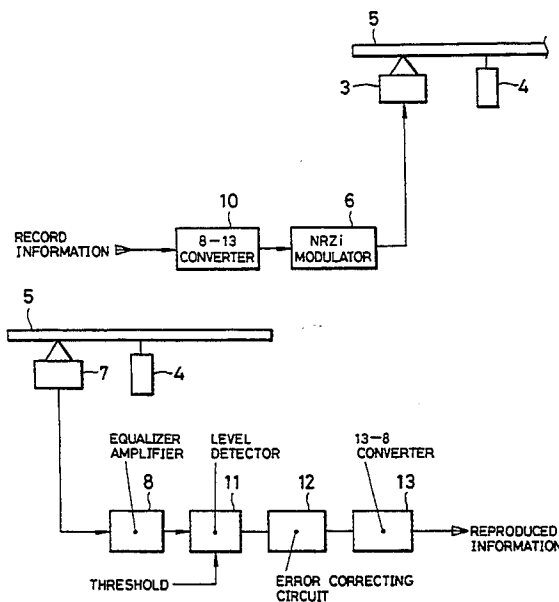


FIG. 1

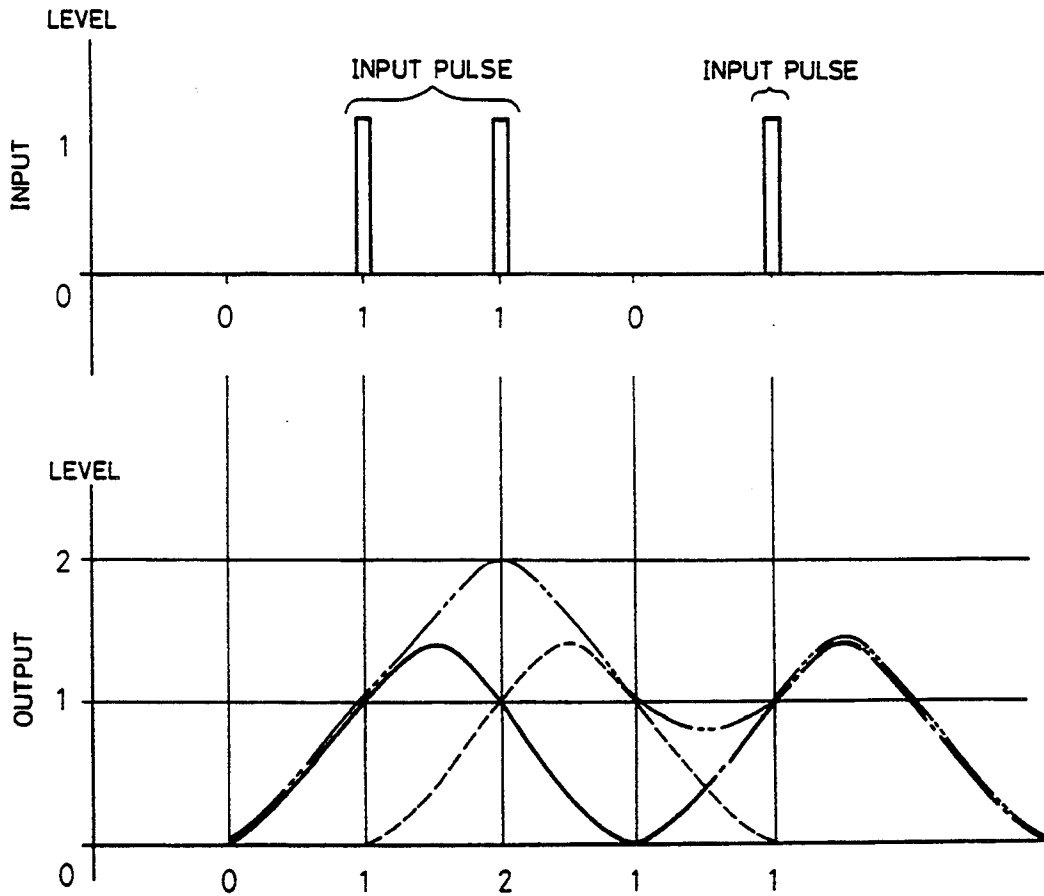


FIG. 2 PRIOR ART

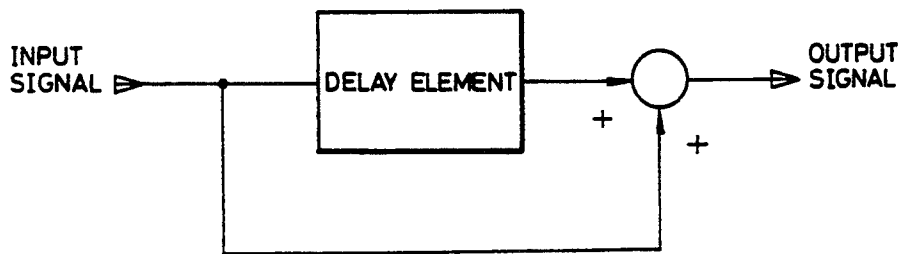


FIG. 3 PRIOR ART

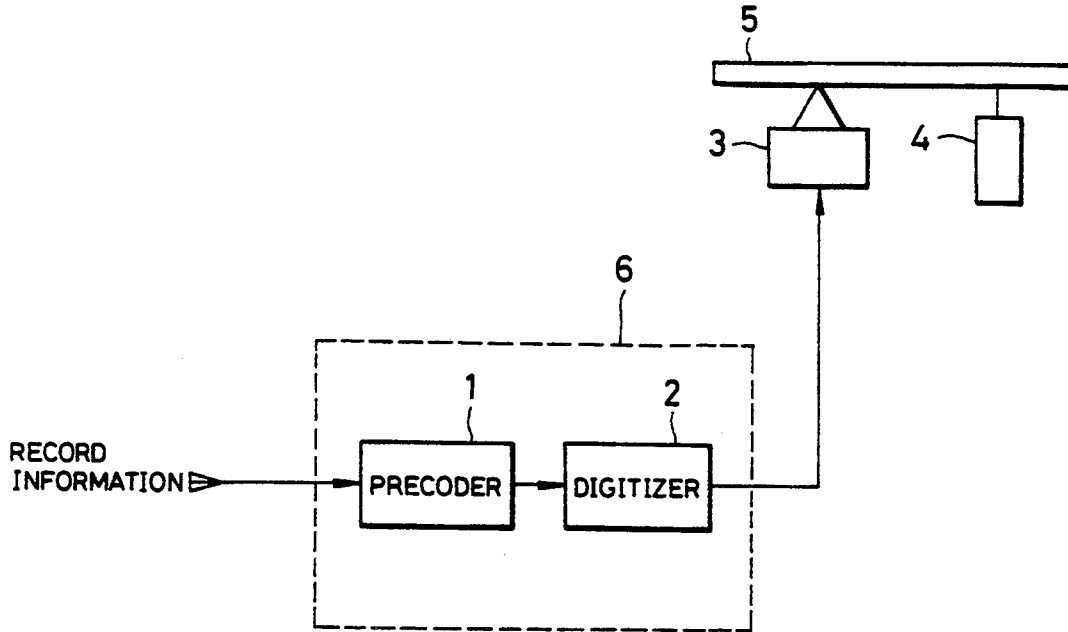


FIG. 4 PRIOR ART

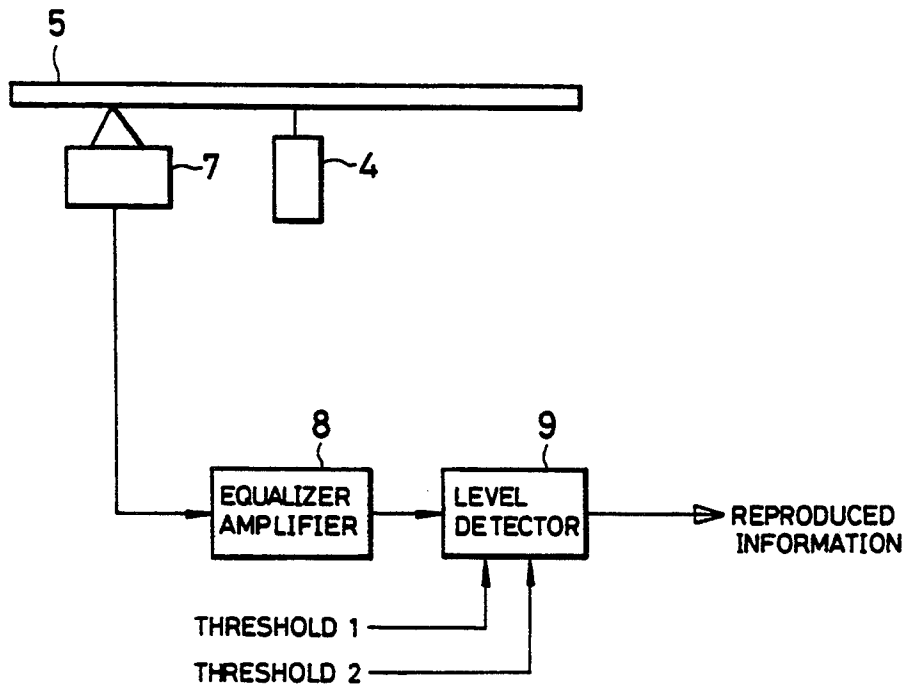


FIG. 5 PRIOR ART

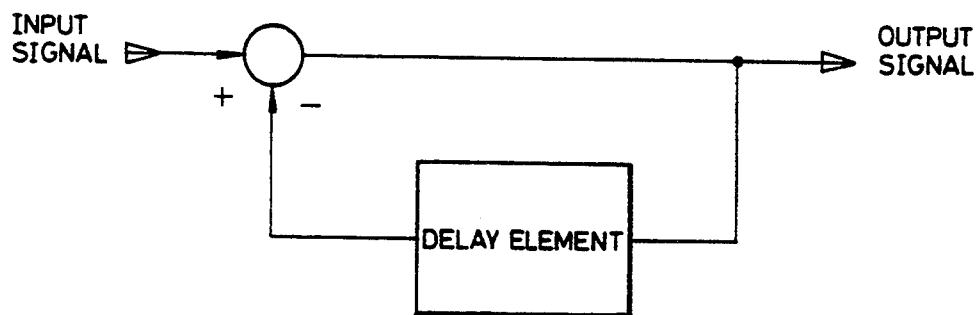


FIG. 6

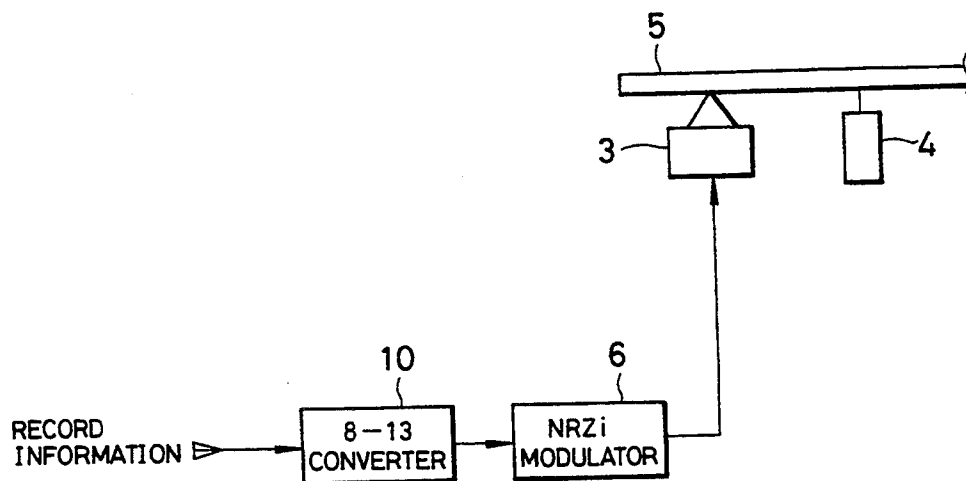
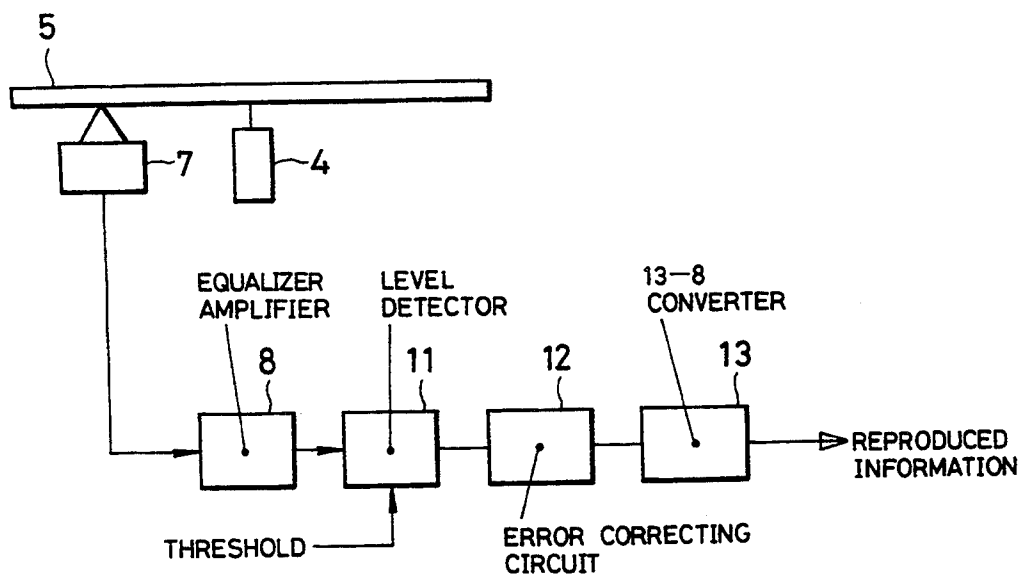


FIG. 7



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