

In order to actuate the controller to change over the switches, an address signal may be prerecorded in the record zone for every track. In this case, the photo detector 18 reads out the address signal and transmits it to the controller 51. From the address signal, the controller judges the positional relation between the tracking track and the record zone now to be scanned (i.e. whether the tracking track is on the left side or on the right side of the record track). In accordance with such a judgment, the controller changes over the switches.

When a reproduction of the recorded information is to be carried out in the manner as illustrated in FIG. 12, a mode changeover signal is inputted externally. In response to the signal informing the apparatus of the reproduction mode, the control circuit 51 connects the switch SW<sub>1</sub> to the terminal C<sub>2</sub> and SW<sub>2</sub> to C<sub>7</sub>.

Consequently, the difference between the output of A+C and the output of B+D of the photo detector 18 is applied to the terminal C<sub>10</sub> through summing amplifiers 69, 70 and subtracting amplifier 3 as a tracking signal AT. This signal AT is supplied to a tracking servo circuit (not shown) from the terminal C<sub>10</sub>. Also, the difference between the output of A+B and the output of C+D of the photo detector 18 is applied to the terminal C<sub>11</sub> through summing amplifiers 71, 72 and subtracting amplifier 74 as a focusing signal AF. This signal AF is supplied to a focus servo circuit (not shown) from the terminal C<sub>11</sub>. Reproduction signals read out by the photo detectors 17 and 19 are picked up from the terminals C<sub>1</sub> and C<sub>6</sub> respectively.

While the invention has been particularly shown and described with reference to preferred embodiments thereof, it will be understood that various modifications may be made therein. For example, the address signal for actuating the changeover as described in connection with the embodiment shown in FIG. 10 or FIG. 13 may be also used to inform the photo detector whether the track now being scanned is a tracking track or clock track. Further, to detect the tracking signal and the focusing signal there may be used various other detection methods than that shown in the above embodiments. The focusing signal may be detected also by the photo detector used to detect the recording/reproducing spot. In this case, the method of detecting the focusing signal may be the same as that used in the above embodiments or any other suitable method such as the so-called astigmatism method. Further, in this case, the remaining two photo detectors may be two-division type photo sensors of which one is used to detect only the clock signal and the other to detect only the tracking signal.

We claim:

1. A card-shaped optical information recording medium comprising:

- tracking tracks for producing a tracking signal, said tracking tracks each being formed as an unbroken line;
- clock tracks for producing a clock signal, at least a portion of each of said clock tracks being formed as a line intermittently broken at constant periods, and each of said tracking tracks and each of said clock tracks being alternately provided; and
- record zones in which information is to be recorded, said record zones each being provided between each of said tracking tracks and each of said clock tracks so that only one of each of said tracking tracks and each of said clock tracks is alternately positioned between two adjacent record zones.

2. A recording medium according to claim 1, wherein said tracking tracks and clock tracks are arranged alternately at constant intervals.

3. An apparatus for recording or reproducing information on or from a card-shaped optical information recording medium comprising tracking tracks each of which is formed as an unbroken line and clock tracks, at least a portion of each of said clock tracks being formed as a line intermittently broken at constant periods, each arranged alternately and record zones in which information is to be recorded and each of which is provided between each of the tracking tracks and each of the clock tracks so that only one of each of the tracking tracks and each of the clock tracks is alternately positioned between two adjacent record zones, said apparatus comprising:

- means for forming at least first, second, and third beam spots on said recording medium;
- means for projecting said first spot on the record zone to record or reproduce information;
- tracking signal detection means for projecting one of said second and third beam spots on the tracking track to detect a tracking signal;
- means for changing over said tracking signal detection means in accordance with the positional relation between said projected record zone and the tracking track so as to obtain the tracking signal from the other one of said second and third spots; and
- clock signal detection means for projecting the remaining spot of the second and third spots, which is not projected on said tracking track, on the clock track to detect a clock signal.

4. Apparatus according to claim 3, wherein said apparatus further comprises means for detecting a focusing signal from one of the second and third spots.

5. Apparatus according to claim 3, wherein said beam spot forming means comprises a light source, a grating for splitting the beam emitted from said light source and a condenser lens for focusing said split beams on the recording medium.

6. Apparatus according to claim 3, wherein said tracking signal detection means and clock signal detection means are constituted of two photo detectors disposed to receive the lights from the second and third spots respectively.

7. Apparatus according to claim 6, wherein said photo detector has a light-receiving surface divided into two areas by a dividing line parallel to the direction along the length of said tracking track and wherein said tracking signal is derived from the difference between the detected signals by said two areas.

8. Apparatus according to claim 6, wherein said changeover means comprises a switch through which any one of said two photo detectors is selectively connected to tracking control means.

9. Apparatus according to claim 3, wherein the light intensity of the second and third beam spots is lower than that of the first beam spot.

10. Apparatus according to claim 3, wherein said recording or reproducing means includes a photo detector disposed to receive the light from the first beam spot.

11. An apparatus for recording and reproducing information using a card-shaped optical information recording medium comprising tracking tracks each of which is formed as an unbroken line and clock tracks each of which is formed as a line intermittently broken