

Description

The invention relates generally to magnetic tape recording and/or reproducing apparatus and more specifically to a head drum assembly for helical-scan recording and/or reproducing apparatus for magnetic tape.

In such a head drum assembly it is desirable to eliminate wearing and/or deterioration of the magnetic tape due to dust and grit which may collect on the magnetic tape surface.

Helical-scan magnetic tape recording and/or reproducing apparatus, such as a video tape recorder (VTR), employs a rotary head assembly having a rotary drum which supports magnetic heads. A magnetic tape is wrapped or wound around the periphery of the rotary head assembly. In general, when the apparatus is designed for both recording and reproduction, an erase head and a recording and play-back head are installed on the periphery of the rotary drum. The magnetic tape wrapped around the periphery of the rotary drum assembly is fed between supply and take-up reels while remaining in contact with the erase head and the recording and play-back head.

Since the erase head and the recording and play-back head have rounded heads, they tend to leave gaps with the tape surface. Dust and grit thus tend to accumulate in those gaps and may form deposits on the magnetic tape surface. Accumulated dust and grit in those gaps disrupts the accurate spacing between the magnetic head and the tape surface and degrades the recording and reproducing characteristics of the apparatus or, in the worst case, may cause a drop-out of recorded signals. Furthermore, dust and grit accumulating in the gaps tends to wear and damage the tape surface.

Patent Specification GB-A-2 070 841 discloses a helical scan recording and reproducing apparatus having a head drum assembly including a rotating drum around which a magnetic tape is wrapped and having magnetic heads set at different inclinations to one another to scan overlapping tracks of the tape.

According to the invention there is provided a head drum assembly for a helical scan recording and/or reproducing apparatus which includes a rotating drum about which magnetic tape is wrapped and for rotation relative to the magnetic tape, the assembly comprising a magnetic head supported by the rotating drum for recording data on the magnetic tape during rotation of the rotating drum;

characterised in that the rotating drum is supported by a stationary drum and sweeping means are supported by the rotating drum, between the rotating drum and the stationary drum, and located in alignment with the magnetic head with respect to

the rotary direction of the rotating drum to sweep dust and grit from the surface of the magnetic tape during relative movement of the rotating drum and the tape, the sweeping means including a sweeping face lying in a plane oblique to the rotary direction of the rotating drum;

and in that a groove is cut into the rotating drum or a clearance is provided between opposing surfaces of the rotating drum and the stationary drum, large enough to cover the area presently scanned by the magnetic head to prevent any contact of said scanned area on the magnetic tape other than by the sweeping means and the magnetic head.

Preferably, the sweeping means is an erase head. In the preferred embodiment, the sweeping means is made of Permalloy.

The invention is diagrammatically illustrated by way of example with reference to the accompanying drawings, in which:-

Figure 1 is a front elevation of a first embodiment of a rotary head assembly according to the invention;

Figure 2 is a bottom view of an upper drum of the first embodiment of the rotary head assembly of Figure 1;

Figure 3 is an enlarged front elevation of a magnetic head base accompanying a magnetic head and a sweeper member, in a first embodiment of the rotary head assembly of Figure 1;

Figure 4(A) and 4(B) are diagrams of the arrangement of the magnetic head and the sweeper member in practical use;

Figure 5 is an enlarged front elevation similar to Figure 3, but showing a major part of a second embodiment of a rotary head assembly according to the invention;

Figure 6 is a bottom view of a third embodiment of a rotary head assembly according to the invention;

Figure 7 is a rear elevation of the third embodiment of the rotary head of Figure 6;

Figure 8 is a bottom view of the upper drum of a modification to the third embodiment of the rotary head assembly;

Figure 9 is a front elevation of the rotary head assembly of Figure 8;

Figure 10 is an equatorial projection of the rotary drum of Figures 8 and 9; and

Figures 11 and 12 are front elevations of a further modification to the embodiment of Figures 8 and 9.

Referring to the drawings and firstly to Figures 1 and 2, a rotary head assembly 1 generally comprises a stationary lower drum 2 and a rotary upper drum 3. The rotary upper drum 3 has a lower surface mating with the upper surface of the stationary lower drum 2 and has recesses 3a and 3b

in its lower peripheral edge. Magnetic heads 4a and 4b, such as an erase head and a record/playback head, are received within the respectively corresponding recesses 3a and 3b.

As will be seen from Figure 1, the rotary head assembly 1 is aligned with its axis oblique to an axis of tape feed. The rotary drum 3 is free to rotate with the magnetic heads about the axis of the rotary head assembly. Therefore, the trace of the magnetic head (shown by the arrow A) across the magnetic tape T is oblique to the tape feed axis (shown by the arrow B) so as to define a series of oblique scanning tracks across the magnetic tape T, according to the well-known helical-scan technique.

As shown in Figures 2 and 3, each of the magnetic heads 4a and 4b is fixedly mounted on a head base 5a and 5b, which is, in turn, secured to the lower surface of the upper drum 3 by means of fastening screws 6a and 6b. The head bases 5a and 5b have thicker central sections 5' with a thickness essentially corresponding to the depth of the recesses 3a and 3b. The central sections 5' of the head bases 5a and 5b support the magnetic heads 4a and 4b and engage the corresponding recesses 3a and 3b. As will be appreciated from Figure 3, the magnetic heads 4a and 4b are offset to the trailing side of the centre of the head bases 5a and 5b relative to the rotational direction of the rotary drum 3 during recording and reproduction. Oblique recesses 5c and 5d are formed at points offset to the leading side of the centre of the head bases 5a and 5b with respect to rotary drum rotation during recording and reproduction. The recesses 5c and 5d have bases tilting upward toward the edge nearer the magnetic heads 4a and 4b. Sweeper members 7a and 7b are received in the recesses 5c and 5d and thereby fixedly mounted on the head bases 5a and 5b within the recesses 3a and 3b together with the magnetic heads 4a and 4b. The sweeper members constitute sweeping means for the magnetic heads and lead the magnetic heads. The sweeper members 7a and 7b have sweeping faces which can sweep away dust and grit deposited on the surface of the magnetic tape.

The sweeper members 7a and 7b are made of a highly wear-resistant material, such as Permalloy. The sweeper members 7a and 7b have essentially the same shape and weight as the magnetic heads 4a and 4b. Providing the sweeper members 7a and 7b with essentially the same shape and weight helps maintain the balance of the rotary drum 3 for uniform rotation. The sweeper members 7a and 7b are mounted on the head bases 5a and 5b in such a manner that the sweeping faces thereof lie in planes oblique to the planes of the magnetic heads 4a and 4b, which lie essentially parallel to the

direction of rotation and to the upper surfaces of the head bases 5a and 5b. The sweeper members 7a and 7b are thus tilted upwards toward the corresponding magnetic heads 4a and 4b so as to provide wider contact area than that of the magnetic heads, as seen in Figure 1. The preferred tilt angle of the planes of the sweeper members 7a and 7b relative to the upper surfaces of the corresponding head bases 5a and 5b is in the range of 15° to 20°. This widened area of contact between the sweeper members 7a and 7b and the magnetic tape T in comparison with the contact area with the magnetic heads 4a and 4b ensures sweeping of dust and grit deposited on the contact area of the magnetic heads.

The rotary drum is driven to rotate in the direction A indicated in Figure 4 and at the same time, the magnetic tape T is driven in the direction B as shown in Figures 4(A) and 4(B) for recording and reproduction. The rotation speed of the rotary drum 3 is essentially higher than the feed rate of the magnetic tape T according to the helical-scan technique. During scanning, the sweeper members 7a and 7b remain in constant contact with the magnetic tape surface in front of the magnetic heads 4a and 4b. Therefore, the magnetic tape surface exposed to the magnetic heads 4a and 4b is cleaned by the sweeper members 7a and 7b before the magnetic heads 4a and 4b come into contact therewith.

The influence of dust and grit which may be deposited on the magnetic tape surface can therefore be satisfactorily and successfully eliminated.

Figure 5 shows a modification to the first embodiment wherein the direction of tilt of the sweeper member 7 is reversed, compared to that shown in Figure 3. Specifically, in this modification, the sweeper member 7 slants upwards toward the edge remote from the magnetic head 4 on the head base 5. This modification exhibits essentially the same sweeping effect on the magnetic tape surface as achieved in the first embodiment.

As in the first embodiment of Figures 1 to 3, the magnetic heads 4a and 4b are fixedly mounted on a head base 5a and 5b, which is, in turn, secured onto the lower surface of the upper drum 3 by means of fastening screws 6a and 6b. The head bases 5a and 5b respectively have thicker central sections 5' with projecting thicknesses essentially corresponding to the depth of the recesses 3a and 3b. The central sections 5' of the head bases 5a and 5b support the magnetic heads 4a and 4b and engage the corresponding recesses 3a and 3b. The magnetic heads 4a and 4b are again offset from the centres of the head bases 5a and 5b toward the trailing edge relative to the rotational direction of the rotary drum 3 during recording and reproduction. The recesses 5c and 5d are also

offset from the centre of the head bases 5a and 5b, but toward the leading edge with respect to rotary drum rotation during recording and reproduction. The recesses 5c and 5d have slanted bases slanting upward toward the edge remote from the magnetic heads 4a or 4b. The sweeper members 7a and 7b are received in the recesses 5c and 5d and thereby fixedly mounted on the head bases 5a and 5b within the recesses 3a and 3b together with the magnetic heads 4a and 4b. The sweeper members 7a and 7b have sweeping faces designed to sweep dust and grit from the surface of the magnetic tape.

The sweeper members 7a and 7b are mounted on the head bases 5a and 5b in such a manner that the sweeping faces lie in planes oblique to the planes of the magnetic heads 4a and 4b which lie essentially parallel to the direction of rotation and parallel to the upper surfaces of the head bases 5a and 5b. The sweeper members 7a and 7b are thus tilted upwardly toward the edge away from the corresponding magnetic heads 4a and 4b as mentioned previously. The preferred tilt of the planes of the sweeper members 7a and 7b relative to the upper surfaces of the corresponding head bases 5a and 5b is in the range of 15° to 20°. This widens the area of contact between the sweeper members 7a and 7b and the magnetic tape in comparison with the magnetic heads 4a and 4b.

Figures 6 and 7 show a third embodiment wherein an upper rotary drum 11 is formed with recesses 11a, 11b and 11c in its lower peripheral edge. In practice, the recesses 11a, 11b and 11c are regularly spaced at 90° intervals. Magnetic heads 12a and 12b are fixed to head bases 14a and 14b which are secured to the lower surface of the rotary drum 11 by means of fastener screws 15a and 15b. The head bases 14a and 14b have head supporting projecting sections conforming to the corresponding recesses 11a and 11b. Each of the head supporting projecting sections has a plane surface onto which the magnetic heads 12a and 12b are fixedly mounted. The head supporting projecting sections of the head bases 14a and 14b are received within the recesses 11a and 11b of the rotary drum 11, with the magnetic heads 12a and 12b. As will be appreciated from Figure 6, the magnetic heads 12a and 12b diametrically oppose each other.

A sweeper member 13 is fixedly mounted on a head base 14c which is fixed to the lower surface of the rotary drum 11 by means of a fastening screw 15c. As shown, the sweeper member 13 comprises an eraser head. As will be apparent from Figure 6, the recess 11c is on the leading side of one of the recesses, namely the recess 11b, which receives the record/playback head. Therefore, the sweeper member 13 brushes the magnetic tape surface in front of the

record/playback head, and, at the same time, erases preliminarily recorded data. The head base 14c mounting the sweeper member 13 has a projecting sweeper member support section. The sweeper member support section conforms to the recess 11c. The sweeper member support section has a tapered recess in its upper surface which receives one transverse edge of the sweeper member 13 in essentially the same manner as shown in Figures 3 and 5. The sweeper member 13 is thus received within the recess 11c between the recesses 11a and 11b. A balance weight 13c is affixed to the lower surface of the upper drum 3 at a point diametrically opposite the sweeper member 13. The balance weight 13c has essentially the same weight of the sweeper member 13 so as to keep the moment of inertia of the rotary drum radially symmetrical.

During recording and reproduction, the rotary drum 11, and thus the magnetic head 12a, the magnetic head 12b and the sweeper member 13, rotate clockwise as viewed in Figure 6. The magnetic tape runs in the direction labelled "B". The sweeper member 13 contacts one or more tracks on the magnetic tape to be accessed by the magnetic head 12b before the magnetic head 12b comes into contact therewith for sweeping dust and grit deposited on the magnetic tape surface and, at the same time, erases pre-recorded data.

As shown in Figure 7, the magnetic heads 12a and 12b are mounted essentially parallel to the lower peripheral edge of the rotary drum 11. On the other hand, the sweeper 13 is mounted oblique to the lower peripheral edge of the rotary drum. As in the previous embodiment, canting the sweeper member 13 relative to the magnetic heads 12a and 12b increases the area of sweep relative to the scanning area of the magnetic heads 12a and 12b and thus ensures cleaning of the scanning area of the magnetic heads.

Figures 8, 9 and 10 show a modification to the foregoing third embodiment wherein a pair of sweeper members 13a and 13b are provided at diametrically opposing points on the lower peripheral edge of the rotary drum 11 within the recesses 11c and 11d in the lower peripheral edge of the rotary head. Similarly to the third embodiment, the sweeper members 13a and 13b can be eraser heads for erasing data recorded on the magnetic tape. The sweeper members 13a and 13b are mounted on head bases 14c and 14d which are, in turn, secured to the lower surface of the rotary head 11 by means of the fastening screws 15c and 15d. A groove 16 in the cylindrical face of the rotary drum 11 near the lower peripheral edge connects the recesses 11a, 11b, 11c and 11d. The groove 16 lies in the same plane as the magnetic heads.

During recording and reproduction, the sweep-er members 13a and 13b contact the magnetic tape surface in front of the magnetic heads 12a and 12b in order to sweep dust and grit from the magnetic tape surface. As the sweep-er members 13a and 13b pass a given point of the magnetic tape surface, that point comes into opposition with the groove 16 in the periphery of the rotary drum. The groove 16 prevents contact between the edge of the rotary drum and at least the scanning area of the magnetic tape. Therefore, it prevents dust and grit from being deposited on the magnetic tape surface after the sweep-er members 13a and 13b have cleaned the tape surface.

Figure 11 shows an alternative embodiment of the rotary head assembly of Figures 8, 9 and 10. In this embodiment, the magnetic heads 12a and 12b and the sweep-er members 13a and 13b are respectively received within corresponding recesses 11a, 11b, 11c and 11d in the lower peripheral edge of the rotary drum 11. The lower surface of the rotary drum 11 is separate from the upper surface of the stationary drum 2 by a clearance. The clearance between the lower surface of the rotary drum 11 and the upper surface of the stationary drum 2 is large enough to cover the scanning area of the magnetic heads 12a and 12b. Therefore, the clearance of this alternative embodiment serves essentially the same purpose as the groove 16 of the previous embodiment. Therefore, the edges of the rotary drum 11 and the stationary drum 2 never come into contact with the magnetic tape surface and thus keep the magnetic tape surface clean after the sweep-er members 13a and 13b clean the dust and grit from the magnetic tape surface.

Figure 12 shows a further alternative embodiment of the rotary head assembly of Figure 11. This alternative embodiment features a wider clearance between the lower surface of the rotary drum 11 and the upper surface of the stationary drum 2 than in the previous embodiment of Figure 11. The magnetic heads 12a and 12b and the sweep-er members 13a and 13b are disposed within the clearance between the lower surface of the rotary drum 11 and the upper surface of the stationary drum 2 so that nothing other than the magnetic heads 12a and 12b will come into contact with the magnetic tape surface after the sweep-er members 13a and 13b sweep the dust and grit from the magnetic tape surface.

Thus it can be seen that dust and grit which tends to be deposited on the magnetic tape surface can be successfully swept by the sweep-er member or guide means in order to maintain reproduction level of the recording and/or reproducing apparatus and successfully avoid damaging of the magnetic tape and/or the magnetic head by the dust and grit.

Claims

1. A head drum assembly for a helical scan recording and/or reproducing apparatus which includes a rotating drum (3, 11) about which magnetic tape (T) is wrapped and for rotation relative to the magnetic tape (T), the assembly (1, 11) comprising a magnetic head (4a, 4b, 12a, 12b) supported by the rotating drum (3, 11) for recording data on the magnetic tape (T) during rotation of the rotating drum (3, 11);
characterised in that the rotating drum (3, 11) is supported by a stationary drum (2) and sweeping means (7a, 7b, 13, 13a, 13b) are supported by the rotating drum, between the rotating drum (3, 11) and the stationary drum (2), and located in alignment with the magnetic head (4a, 4b, 12a, 12b) with respect to the rotary direction of the rotating drum (3, 11) to sweep dust and grit from the surface of the magnetic tape (T) during relative movement of the rotating drum (3, 11) and the tape (T), the sweeping means (7a, 7b, 13, 13a, 13b) including a sweeping face lying in a plane oblique to the rotary direction of the rotating drum (3, 11);
and in that a groove (16) is cut into the rotating drum (3) or a clearance is provided between opposing surfaces of the rotating drum (3) and the stationary drum (2), large enough to cover the area presently scanned by the magnetic head to prevent any contact of said scanned area on the magnetic tape (T) other than by the sweeping means (7a, 7b, 13, 13a, 13b) and the magnetic head (4a, 4b, 12a, 12b).
2. A head drum assembly according to claim 1, wherein the sweeping means is an erase head.
3. A head drum assembly according to claim 1, wherein the sweeping means is made of Permalloy.
4. A rotary head assembly according to claim 1, wherein the sweeping face is tilted upwardly away from the corresponding magnetic head.
5. A rotary head assembly according to claim 1, wherein the sweeping face is tilted upwardly toward the corresponding magnetic head.
6. A rotary head assembly according to claim 4 or claim 5, wherein the sweeping face is tilted at an angle in a range of about 15° to about 20°.
7. A rotary head assembly according to claim 1, wherein the magnetic head comprises a pair of



During recording and reproduction, the sweep-er members 13a and 13b contact the magnetic tape surface in front of the magnetic heads 12a and 12b in order to sweep dust and grit from the magnetic tape surface. As the sweeper members 13a and 13b pass a given point of the magnetic tape surface, that point comes into opposition with the groove 16 in the periphery of the rotary drum. The groove 16 prevents contact between the edge of the rotary drum and at least the scanning area of the magnetic tape. Therefore, it prevents dust and grit from being deposited on the magnetic tape surface after the sweeper members 13a and 13b have cleaned the tape surface.

Figure 11 shows an alternative embodiment of the rotary head assembly of Figures 8, 9 and 10. In this embodiment, the magnetic heads 12a and 12b and the sweeper members 13a and 13b are respectively received within corresponding recesses 11a, 11b, 11c and 11d in the lower peripheral edge of the rotary drum 11. The lower surface of the rotary drum 11 is separate from the upper surface of the stationary drum 2 by a clearance. The clearance between the lower surface of the rotary drum 11 and the upper surface of the stationary drum 2 is large enough to cover the scanning area of the magnetic heads 12a and 12b. Therefore, the clearance of this alternative embodiment serves essentially the same purpose as the groove 16 of the previous embodiment. Therefore, the edges of the rotary drum 11 and the stationary drum 2 never come into contact with the magnetic tape surface and thus keep the magnetic tape surface clean after the sweeper members 13a and 13b clean the dust and grit from the magnetic tape surface.

Figure 12 shows a further alternative embodiment of the rotary head assembly of Figure 11. This alternative embodiment features a wider clearance between the lower surface of the rotary drum 11 and the upper surface of the stationary drum 2 than in the previous embodiment of Figure 11. The magnetic heads 12a and 12b and the sweeper members 13a and 13b are disposed within the clearance between the lower surface of the rotary drum 11 and the upper surface of the stationary drum 2 so that nothing other than the magnetic heads 12a and 12b will come into contact with the magnetic tape surface after the sweeper members 13a and 13b sweep the dust and grit from the magnetic tape surface.

Thus it can be seen that dust and grit which tends to be deposited on the magnetic tape surface can be successfully swept by the sweeper member or guide means in order to maintain reproduction level of the recording and/or reproducing apparatus and successfully avoid damaging of the magnetic tape and/or the magnetic head by the dust and grit.

Claims

1. A head drum assembly for a helical scan recording and/or reproducing apparatus which includes a rotating drum (3, 11) about which magnetic tape (T) is wrapped and for rotation relative to the magnetic tape (T), the assembly (1, 11) comprising a magnetic head (4a, 4b, 12a, 12b) supported by the rotating drum (3, 11) for recording data on the magnetic tape (T) during rotation of the rotating drum (3, 11);
characterised in that the rotating drum (3, 11) is supported by a stationary drum (2) and sweeping means (7a, 7b, 13, 13a, 13b) are supported by the rotating drum, between the rotating drum (3, 11) and the stationary drum (2), and located in alignment with the magnetic head (4a, 4b, 12a, 12b) with respect to the rotary direction of the rotating drum (3, 11) to sweep dust and grit from the surface of the magnetic tape (T) during relative movement of the rotating drum (3, 11) and the tape (T), the sweeping means (7a, 7b, 13, 13a, 13b) including a sweeping face lying in a plane oblique to the rotary direction of the rotating drum (3, 11);
and in that a groove (16) is cut into the rotating drum (3) or a clearance is provided between opposing surfaces of the rotating drum (3) and the stationary drum (2), large enough to cover the area presently scanned by the magnetic head to prevent any contact of said scanned area on the magnetic tape (T) other than by the sweeping means (7a, 7b, 13, 13a, 13b) and the magnetic head (4a, 4b, 12a, 12b).
2. A head drum assembly according to claim 1, wherein the sweeping means is an erase head.
3. A head drum assembly according to claim 1, wherein the sweeping means is made of Permalloy.
4. A rotary head assembly according to claim 1, wherein the sweeping face is tilted upwardly away from the corresponding magnetic head.
5. A rotary head assembly according to claim 1, wherein the sweeping face is tilted upwardly toward the corresponding magnetic head.
6. A rotary head assembly according to claim 4 or claim 5, wherein the sweeping face is tilted at an angle in a range of about 15° to about 20°.
7. A rotary head assembly according to claim 1, wherein the magnetic head comprises a pair of



the magnetic heads (12a, 12b) supported by the rotating drum (3, 11), the sweeping means including a sweeper member (13) located intermediate the magnetic heads (12a, 12b) and further including a weighted member (13c) located on the drum (3) opposite the sweeper member (13).

8. A rotary head assembly according to claim 1, wherein the magnetic head comprises a pair of the magnetic heads (12a, 12b) supported by the rotating drum (3), the sweeping means including a pair of sweeper members (13a, 13b) located opposite one another and alternately located relative to the pair of magnetic heads (12a, 12b).
9. A rotary head assembly according to claim 7 or claim 8, including head bases mounted on the face of the rotating drum (3, 11) directed towards the stationary drum (2) and having recesses (5c, 5d) therein in which the sweeping means are received, said face of the rotating drum having recesses (11a, 11b, 11c) therein to receive the magnetic heads (12a, 12b) and the sweeper member (13).

Patentansprüche

1. Kopftrommelanordnung für ein schrägspurabta-
stendes Aufzeichnungs-/Wiedergabegerät, wel-
ches eine rotierende Trommel (3,11), um die
ein Magnetband (T) gewunden ist und die rela-
tiv zum Magnetband (T) zu drehen ist, umfaßt,
wobei die Anordnung (1,11) einen von der ro-
tierenden Trommel (3,11) gehaltenen Magnet-
kopf (4a,4b,13a,13b) zur Aufzeichnung von Da-
ten auf dem Magnetband (T) bei rotierender
Trommel (3,11) aufweist,
dadurch **gekennzeichnet**,
daß die rotierende Trommel (3,11) von einer
stationären Trommel (2) gehalten ist und eine
Abstreifeinrichtung (7a,7b,13,13a,13b) von der
rotierenden Trommel (3,11) zwischen der rotie-
renden Trommel (3,11) und der stationären
Trommel (2) gehalten und in Bezug auf die
Drehrichtung der rotierenden Trommel (3,11)
zum Magnetkopf (4a,4b,12a,12b) ausgerichtet
ist, um Staub und Sand von der Oberfläche
des Magnetbandes (T) während einer Relativ-
bewegung zwischen rotierender Trommel
(3,11) und Band (T) abzustreifen, wobei die
Abstreifeinrichtung (7a,7b,13,13a,13b) eine in
einer zur Drehrichtung der rotierenden Trom-
mel (3,11) schrägen Ebene liegende Abstreif-
fläche aufweist,
und daß in der rotierenden Trommel (3) eine
Nut (16) ausgebildet und/oder zwischen einan-

der gegenüberliegenden Flächen der rotieren-
den Trommel (3) und der stationären Trommel
(2) ein Abstand vorgesehen ist, die bzw. der
groß genug ist, um den momentan vom Ma-
gnetkopf abgetasteten Bereich abzudecken,
um jeglichen anderen Kontakt des abgetaste-
ten Bereichs auf dem Magnetband (T) als den
mit der Abstreifeinrichtung (7a,7b,13,13a,13b)
und dem Magnetkopf (4a,4b,12a,12b) zu ver-
hindern.

2. Kopftrommelanordnung nach Anspruch 1,
dadurch **gekennzeichnet**,
daß die Abstreifeinrichtung ein Löschkopf ist.
3. Kopftrommelanordnung nach Anspruch 1 oder
2,
dadurch **gekennzeichnet**,
daß die Abstreifeinrichtung aus Permalloy ge-
fertigt ist.
4. Kopftrommelanordnung nach einem der vor-
hergehenden Ansprüche,
dadurch **gekennzeichnet**,
daß die Abstreifeinrichtung nach oben vom
korrespondierenden Magnetkopf fort schrägge-
stellt ist.
5. Kopftrommelanordnung nach einem der vor-
hergehenden Ansprüche,
dadurch **gekennzeichnet**,
daß die Abstreifeinrichtung nach oben in Rich-
tung zum korrespondierenden Magnetkopf
schräggestellt ist.
6. Kopftrommelanordnung nach Anspruch 4 oder
5,
dadurch **gekennzeichnet**,
daß die Abstreiffläche in einem Winkel im Be-
reich von etwa 15° bis etwa 20° schrägge-
stellt ist.
7. Kopftrommelanordnung nach einem der vor-
hergehenden Ansprüche,
dadurch **gekennzeichnet**,
daß der Magnetkopf ein von der rotierenden
Trommel (3,11) gehaltenes Paar Magnetköpfe
(12a,12b) aufweist, und daß die Abstreifeinrich-
tung ein zwischen den Magnetköpfen
(12a,12b) angeordnetes Abstreifteil (13) und
ein auf der Trommel (3) gegenüber dem Ab-
streifteil (13) angeordnetes Gewichtsteil (13c)
aufweist.
8. Kopftrommelanordnung nach einem der vor-
hergehenden Ansprüche,
dadurch **gekennzeichnet**,
daß der Magnetkopf ein von der rotierenden



Trommel (3) gehaltenes Paar Magnetköpfe (12a,12b) aufweist, und daß die Abstreifeinrichtung ein Paar einander gegenüberliegend und relativ zu dem Paar Magnetköpfe (12a,12b) abwechselnd angeordneter Abstreifteile (13a,13b) aufweist.

9. Kopftrommelanordnung nach Anspruch 7 oder 8, gekennzeichnet durch Kopfbasen, die auf der der stationären Trommel (2) zugekehrten Fläche der rotierenden Trommel (3,11) befestigt sind und Vertiefungen aufweisen, in welchen die Abstreifeinrichtung aufgenommen ist, wobei diese Fläche der rotierenden Trommel Vertiefungen (11a,11b,11c) zur Aufnahme der Magnetköpfe (12a,12b) und des Abstreifteils (13) aufweist.

Revendications

1. Assemblage de tambour à têtes pour un appareil d'enregistrement et/ou de reproduction à balayage hélicoïdal, lequel inclut un tambour tournant (3, 11) autour duquel une bande magnétique (T) est enroulée, lequel tambour est destiné à tourner de façon relative par rapport à la bande magnétique (T), l'assemblage (1, 11) comprenant une tête magnétique (4a, 4b, 12a, 12b) supportée par le tambour tournant (3, 11) pour enregistrer des données sur la bande magnétique (T) pendant la rotation du tambour tournant (3, 11),
caractérisé en ce que le tambour tournant (3, 11) est supporté par un tambour stationnaire (2) et des moyens de nettoyage (7a, 7b, 13, 13a, 13b) sont supportés par le tambour tournant, entre le tambour tournant (3, 11) et le tambour stationnaire (2), et sont placés de manière à être alignés avec la tête magnétique (4a, 4b, 12a, 12b) par rapport au sens de rotation du tambour tournant (3, 11) afin d'enlever de la poussière et des particules hors de la surface de la bande magnétique (T) pendant un déplacement relatif du tambour tournant (3, 11) et de la bande (T), les moyens de nettoyage (7a, 7b, 13, 13a, 13b) incluant une face de nettoyage située dans un plan oblique par rapport au sens de rotation du tambour tournant (3, 11); et
en ce qu'une gorge (16) est taillée dans le tambour tournant (3) ou un jeu est prévu entre des surfaces opposées du tambour tournant (3) et du tambour stationnaire (2) de manière à être suffisamment grand pour recouvrir la zone couramment balayée par la tête magnétique afin d'empêcher tout contact de ladite zone balayée située sur la bande magnétique (T) avec une autre que par les moyens de nettoyage (7a, 7b, 13, 13a, 13b) et par la tête magnétique (4a, 4b, 12a, 12b).
2. Assemblage de tambour à têtes selon la revendication 1, dans lequel les moyens de nettoyage sont une tête d'effacement.
3. Assemblage de tambour à têtes selon la revendication 1, dans lequel les moyens de nettoyage sont réalisés en Permalloy.
4. Assemblage de têtes tournantes selon la revendication 1, dans lequel la face de nettoyage est inclinée vers le haut de manière à être éloignée de la tête magnétique correspondante.
5. Assemblage de têtes tournantes selon la revendication 1, dans lequel la face de nettoyage est inclinée vers le haut de manière à être dirigée vers la tête magnétique correspondante.
6. Assemblage de têtes tournantes selon la revendication 4 ou 5, dans lequel la face de nettoyage est inclinée selon un angle qui s'inscrit dans une plage qui va d'environ 15° à environ 20°.
7. Assemblage de têtes tournantes selon la revendication 1, dans lequel la tête magnétique comprend une paire de têtes magnétiques (12a, 12b) supportées par le tambour tournant (3, 11), les moyens de nettoyage incluant un élément de nettoyage (13) placé en une position intermédiaire par rapport aux têtes magnétiques (12a, 12b) et incluant en outre un élément de contrepoids (13c) placé sur le tambour (3) à l'opposé de l'élément de nettoyage (13).
8. Assemblage de têtes tournantes selon la revendication 1, dans lequel la tête magnétique comprend une paire de têtes magnétiques (12a, 12b) supportées par le tambour tournant (3), les moyens de nettoyage incluant une paire d'éléments de nettoyage (13a, 13b) placés à l'opposé l'un par rapport à l'autre et placés en alternance par rapport à la paire de têtes magnétiques (12a, 12b).
9. Assemblage de têtes tournantes selon la revendication 7 ou 8, incluant des bases de tête montées sur la face du tambour tournant (3, 11) et dirigées en direction du tambour stationnaire (2) et comportant des évidements (5c, 5d) en leur sein dans lesquels les moyens de



nettoyage sont reçus, ladite face du tambour tournant comportant des évidements (11a, 11b, 11c) en son sein pour recevoir les têtes magnétiques (12a, 12b) et l'élément de nettoyage (13).

5

10

15

20

25

30

35

40

45

50

55

8