Nakamichi 581 & 582

Discrete Head Cassette Decks

Owner's Manual Supplement

Record Head Azimuth Alignment

An Extra Step You Can Take to Ensure Consistently Excellent Recordings

The 581 and 582 are the world's first decks to incorporate Nakamichi's Discrete 3-Head Configuration. Combined with Nakamichi's peerless magnetic head technology, the Discrete 3-Head Configuration enables the 581 and 582 to attain flat frequency response to beyond 20,000 Hz. New micro-precision techniques permit the record and play heads to be mounted extremely close together, and because both heads are inserted into the cassette's center opening, alignment cannot be affected by cassette housing variation.

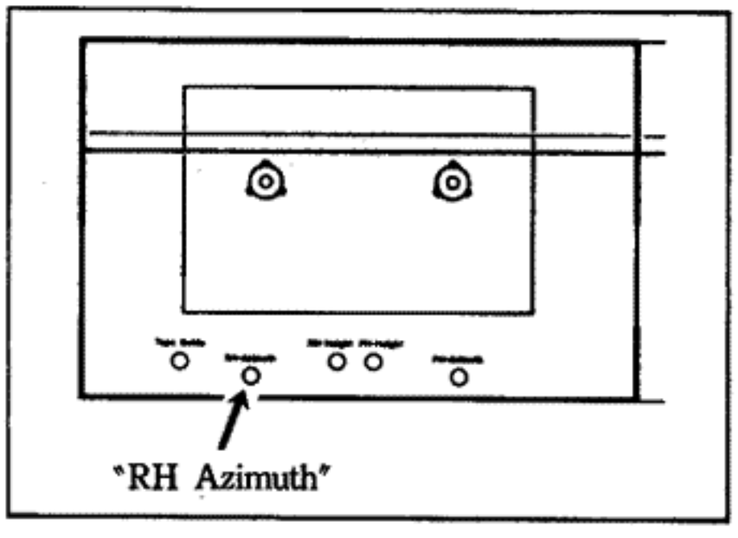
The unique advantage of the Discrete 3-Head Configuration lies in the ability to factory-align the record and play heads *independently.* This is very important because Nakamichi's research has shown that *physical* azimuth and *magnetic* azimuth are not the same. So-called "combination" or "sandwich" heads, which integrate the record and play heads into a single unit, can thus be magnetically out of alignment despite close physical tolerances. Decks using combination heads, as a result, cannot achieve superior high-frequency performance. Nakamichi's Discrete Head Configuration suffers no such drawback because each head can be independently factory-aligned for optimum performance.

Precise azimuth alignment is critical in high-performance cassette decks like the 581 and 582. Although every possible step is taken to protect factory settings, uncontrollable external factors may occasionally cause minor misalignment. Decks are exposed to shock and wide variations in ambient temperature during transit. Ideally, *every* cassette deck should have head azimuth checked after installation in the user's home. Azimuth alignment is usually entrusted to qualified service technicians. But the 15kHz test tone built into the 581 and 582 for bias adjustment can also be used to perform *record head azimuth alignment* to a high degree of accuracy.

Record head azimuth alignment need not be part of your routine maintenance. The following procedure, however, is very simple, and you can use it to check record head azimuth periodically or if you suspect the high-frequency performance of your deck has deteriorated. It is recommended that you frequently check record head azimuth during the first few months of ownership. You will find the azimuth more firmly established once your deck is installed and kept in a stable environment. It is especially recommended that you check record head azimuth *before* performing bias adjustment (page 12, Owner's Manual).

Record Head Azimuth Alignment Procedure

1) Insert a blank cassette into the deck and fast-forward until there is approximately an equal amount of tape on both spools.
2) Set the Tape and Eq selector switches as required. (Refer to page 9 of the Manual if necessary.)
3) Make sure the Dolby System is "out."
4) Set the Test Tone switch to "15k."
5) Set the Monitor switch to "tape" *[582 only]*.
6) Begin recording.
7) Take the small screwdriver, which was included with your deck, and insert it gently into the opening marked "RH-Azimuth" (on the lower portion of the cassette compartment lid). Turn the screwdriver lightly until the tip engages with the screw slot.



8) *While exerting minimal pressure on the screwdriver,* turn it very slowly while watching the meters. Reverse direction if the meter readings decrease. Adjust for a *maximum reading* on both meters. *Note:* Pushing the alignment screw excessively with the screwdriver can cause erroneous readings. If there is a change in meter reading when you release the screwdriver, you are pushing too hard.
9) Remove the screwdriver.
10) Turn the test tone off, and rewind the tape.

CAUTION
Never push "stop," "rewind" or "fast-forward" while the screwdriver is inserted and engaged. Serious misalignment may result if you do.

NOTE
Always adjust azimuth using minute turns of the screwdriver. You will never find azimuth so far out of alignment that the screw must be turned more than 90 degrees.

Remember that azimuth alignment entails *maximization* of output. You should not be looking for any meter reading in particular. If the maximum reading does not happen to be "0 dB," then perform the record level calibration and bias adjustment as necessary. (pages 11 & 12, Owner's Manual).

WARNING
The above procedure is for *record head* azimuth alignment only. Do not attempt to align the play head in the same manner. Playback azimuth should only be performed by authorized service centers. Unlike the record head, the play head does not require periodic adjustment.

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