Nakamichi 700

3 Head Cassette System

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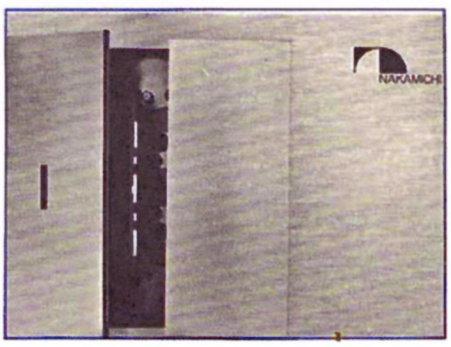
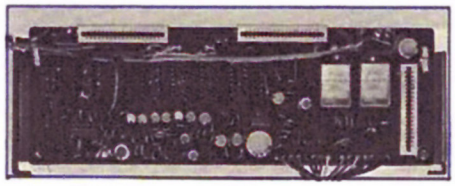
The Nakamichi 700 was created in response to the demand for a machine that could offer the essential performances of our highly acclaimed Model 1000 Tri-Tracer, but at a more modest cost. Since a compromise in performance was unthinkable, the alternative was to simplify the design and develop new construction techniques that would permit cost reductions while maintaining quality. And Nakamichi engineers succeeded brilliantly. In almost every respect, the Nakamichi 700 equalled the performance of the 1000 Tri-Tracer. Nor is this surprising, for the 700 employs the same advanced transport system and shares most of the features of the more expensive model. Central to both Tri-Tracers are three separate heads – erase, record and playback. The same configuration employed in professional reel-to-reel decks. Nor does the similarity end there. For both Nakamichi Tri-Tracers achieve a level of performance that had previously been regarded as, all but, impossible in the cassette format.

Tri-Tracer
Tri-Tracer is the designation employed by Nakamichi Research Inc. to describe a new generation of cassette recorders.
Three head machines that for the first time rival the performance of professional reel-to-reel recorders in every important respect i.e. frequency response, noise, dynamic range, wow and flutter and absolute speed stability.

Complete Plug-In Electronics
All of the electronic components are mounted on six printed circuit boards that plug into a single "mother" board, eliminating connecting wires and thus insuring consistent performance and high reliability. Premium quality components are used throughout with special high gain, low noise transistors employed in the record and playback preamplifiers to improve signal-to-noise ratio and extend dynamic range.

❶ Cassette Well


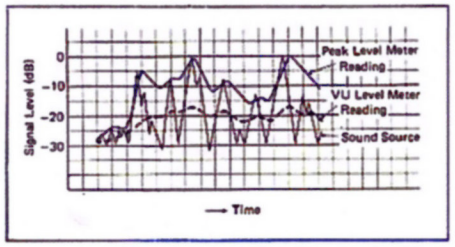
A convenient, front loading cassette well enables the user to insert and remove cassettes easily and quickly. A touch of the eject button opens the lid providing access to the cassette tray. A safety lock mechanism prevents accidental opening while tape is in motion.

❷ IC Logic Electronic Control


Ease of mechanical operation is assured by IC logic and feather-touch solenoids which control all tape functions.
Special noise suppression circuits guard against any extraneous pops and clicks during switching. Illuminated push buttons clearly indicate mode of operation. Other automatic controls include tape start memory, record lock and automatic shut-off.

❸ Eject Button

❹ Headphone Jack
A front panel headphone jack permits off-the-tape monitoring during recording and private listening during playback.
Standard stereo headphones of a nominal 8 ohms impedance are suggested.

❺ dB Peak Level Meter


The extended dynamic range of the Nakamichi 700 permits the use of 45 dB peak reading meters. These large illuminated meters are exclusive with Nakamichi and have a very fast rise time and a slower fall time to more accurately reflect true recording conditions. They are especially helpful in preventing over-recording during live sessions.

❻ Tape Start Memory Switch
If you wish to replay a specific section of the tape, simply reset the tape counter to zero at the beginning of that section, then set the memory switch to "on". To replay simply press the rewind button and the tape will return to the preset point and stop.

❼ 3 Digit Tape Counter

❽ Adjustment Lid Button

❾ Tape Selector Switch
A special tape selector switch permits the use of either high density-low noise tapes, such as Nakamichi EX and EXII, or high coercivity tapes, such as Nakamichi SX. A flick of the switch provides both proper bias and equalization settings for each of the aforementioned types.
Please refer to the recommendations in the owner's manual.

❿ Dolby NR Switch
Dolby noise reduction circuits can be activated for playback or record by simply pressing the appropriate button, Noise reduction of up to 10 dB at high frequencies may be achieved. Since all Dolby recording is standardized, recordings made with other machines can be successfully played on the Nakamichi 700.

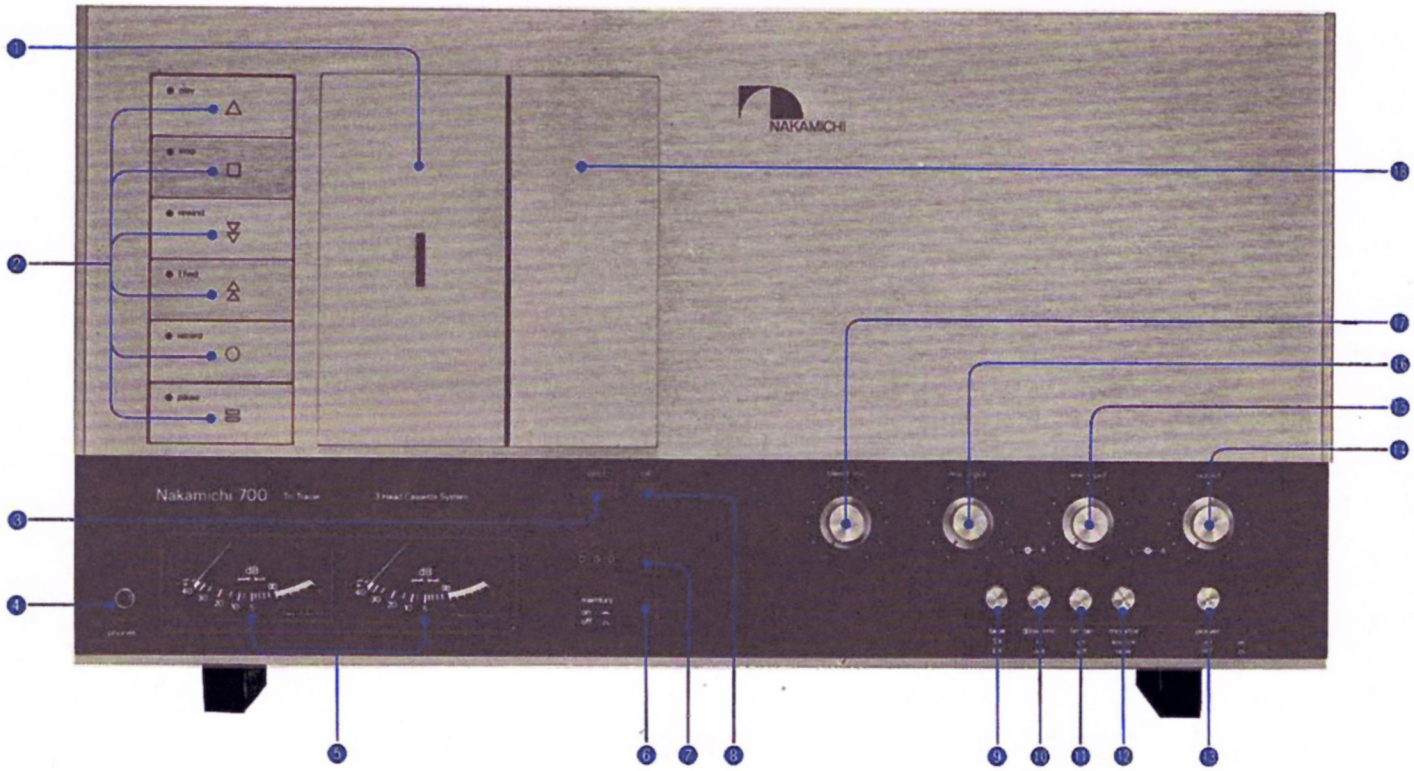
⓫ Peak Limiter
In spite of the unusually wide dynamic range of the Nakamichi 700, there are those occasions, especially during live recordings, when tape overload can occur. In such instances, you may switch in the built-in peak limiter, which will act almost instantaneously to reduce the possibility of distortion. The action of the peak limiter is so subtle that the resulting signal compression is virtually undetectable.

⓬ Monitor Switch
Since the Nakamichi 700 is a true three-head machine, provision has been made for an instantaneous comparison of the signal before and after recording.
Switching from source to tape enables the user to detect and correct any recording irregularities. During the playback of recorded tapes the switch should, of course, be set to the "tape" position.

⓭ Power Switch
When the power switch is activated, the level meters, cassette compartment window and the stop button on the transport are all illuminated.

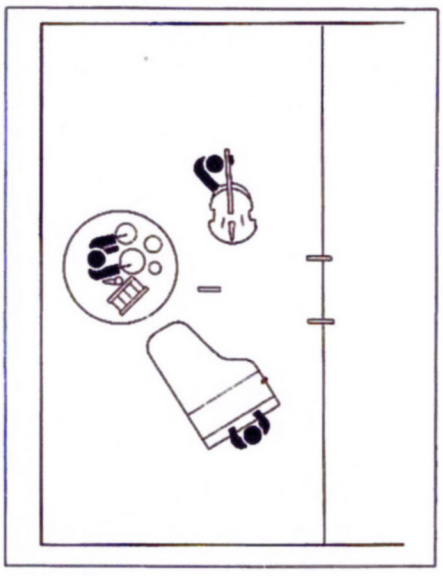
⓮ Line Output Level Controls
As previously noted, these controls enable the user to match record and playback levels during recording and to adjust the output of the recorder to match the level of other components in a hi-fi system.

⓯ Line Input, ⓰ Mic Input, ⓱ Blend Mic Controls
All inputs have individual level controls for maximum recording flexibility. In order to



maintain the best possible signal-to-noise ratio when recording through the line inputs, the mic inputs are automatically shorted and their controls are inoperative unless microphones are plugged in.

●3-Point Sound Pickup

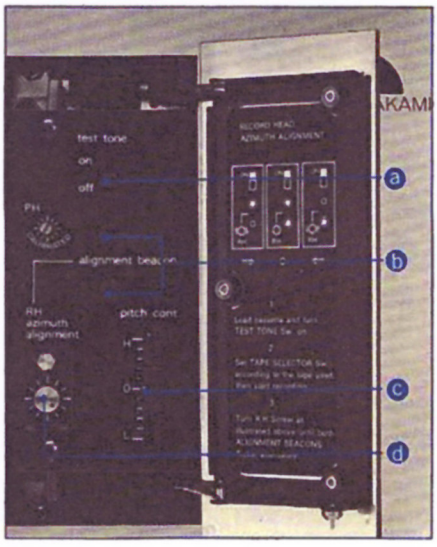


In addition to the standard mic inputs, a third blend mic input is provided. Each input has its own level control thus permitting professional quality mixing.
The blend mic is particularly helpful in high lighting solo instruments and voices.

● Anti-Tape Spill Device

All Nakamichi Tri-Tracers incorporate a unique sensing system that guards against tape spill and jamming. At the first sign of an improperly functioning cassette the machine shuts itself off until the condition is rectified. The primary causes of spill or jamming are poorly made cassette housings or sub-standard tapes. And in the case of C-120 cassettes, which are not recommended for use in the 700, the high friction levels built up within the cassette housing.

⑱ Adjustment Panel Lid



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ⓐ 400Hz Test Tone Switch

ⓑ Alignment Beacon
Proper record head azimuth alignment is crucial to extended high frequency response. So, Nakamichi provides a foolproof means for achieving precise alignment everytime. Two small LED's (light emitting diodes) on the panel flash alternately when the head alignment knob is properly set.

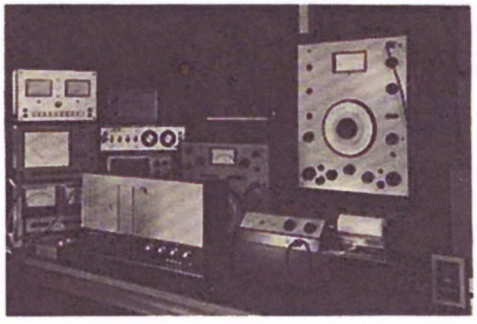
ⓒ Pitch Control
A special control varies the playback speed ±6% to correct the pitch of recordings made on other machines and can also alter pitch for music lessons and similar applications.

ⓓ Record Head Azimuth Alignment Screw

Specifications

Power Supply		100, 117, 220, 240V 50/60 Hz
Power Consumption		60 W Max.
Tape Speed		1-7/8 ips. ± 1 %
Wow & Flutter		Less than 0.1 % (DIN 45507 Weighted peak)
Frequency Response		35 – 20,000 Hz ± 3 dB (Dolby NR In, SX or EXII Tape)
Signal to Noise Ratio		Better than 65 dB (Dolby NR In, Wrms, CCITT, 400 Hz, 3 % Distortion)
Total Harmonic Distortion		Less than 1.5% (at 1 KHz, 0 dB)
Erasure		Better than 60 dB (at 1 KHz, Saturation Level)
Channel Separation		Better than 35 dB (at 1 KHz, 0 dB)
Cross Talk		Better than 60 dB (at 1 KHz, 0 dB)
Bias Frequency		105 KHz
Transistors		115 pcs.
Diodes		51 pcs.
ICs		9 pcs.
Input:	Mic Input	0.5 mV 600 ohm
	Blend Mic	0.5 mV 600 ohm
	DIN Mic Input	0.5 mV 600 ohm
	Line	100 mV 100 K ohm
	DIN Radio	25 mV 26 K ohm
Output:	Line	1.0 V (Max.) Variable
	DIN Line Output	1.0 V (Max.) Variable
	Headphones	1 mW/8 ohm
Dimensions		20-1/2"(W) 10-11/16"(H) 5-1/8"(D)
Weight		28 lbs.

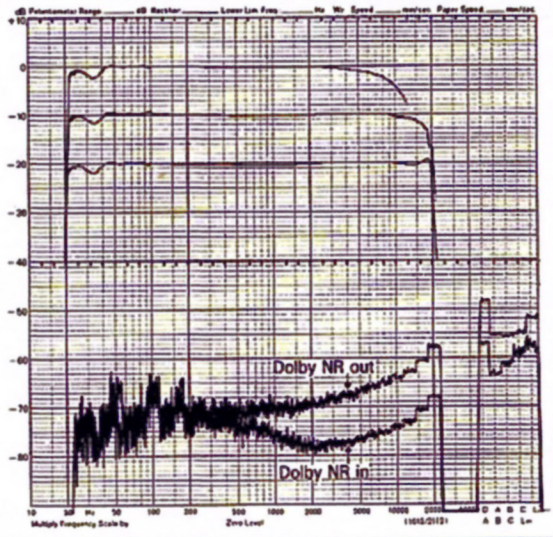
- Specifications and appearance design are subject to change for further improvement without notice.
- Dolby NR under license from Dolby Laboratories Inc.
- The word "DOLBY NR" and the Double-D-Symbol are trademarks of Dolby Laboratories Inc.



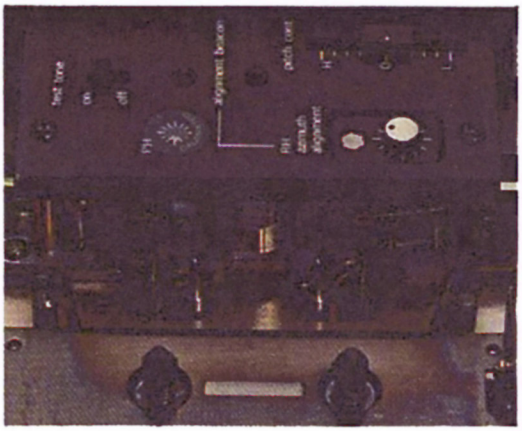
- Each Model 700 undergoes rigorous testing in our laboratories. And all units must meet or exceed published specifications.
- Typical noise figures and frequency response are displayed on automatic readouts.

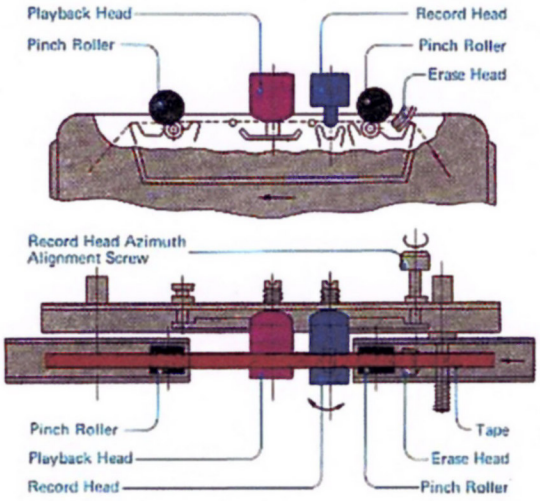
Nakamichi 700
Frequency Response
Noise Level

Tape SX
Tape Position SX
0dB = 200 nW/m
THD = 1.2% (1kHz 0dB)



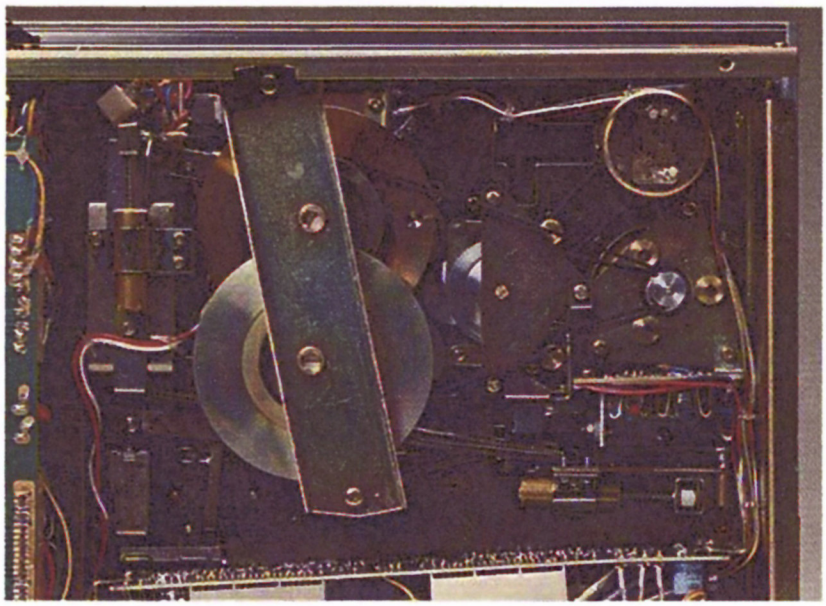
● 3-Head Configuration





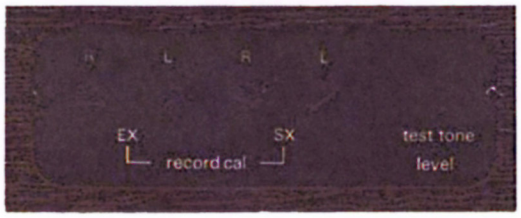
Three completely separate heads — erase, record, playback — afford off-the-tape monitoring, but more importantly, extend flat frequency response to beyond 20,000 Hz. The record head is of Hi-Mu ferrite with a five micron gap to insure optimum tape saturation. The playback head has a special Hi-Mu hard permalloy core with thin titanium film laminations permitting a gap width of only 0.7 microns, thus extending high frequency response.

● Tape Drive Mechanism



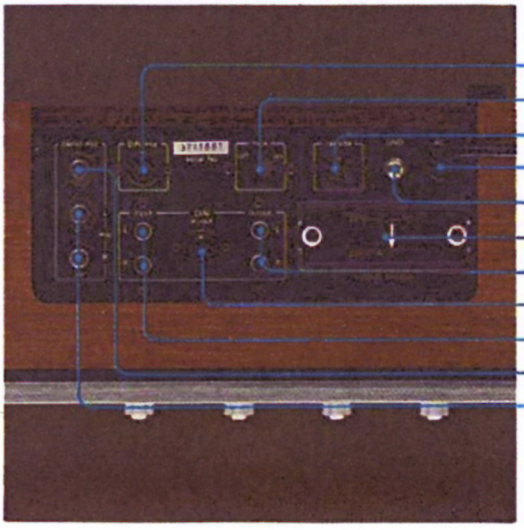
Tape is driven through a closed-loop, dual-capstan system by a pulse-controlled D.C. servomotor which maintains constant speed over a wide range of line voltage and frequency variations. Two large staggered flywheels smooth out any residual speed irregularities and insure extremely low wow and flutter.

● Record Level Calibration

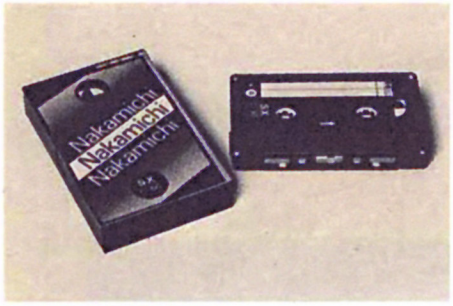


Record calibration controls are provided to optimize Dolby NR performance with different tape formulations. A built-in test tone simplifies the entire process.

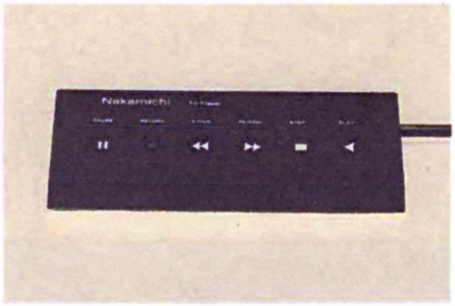
● Top Panel



• Optional Accessories

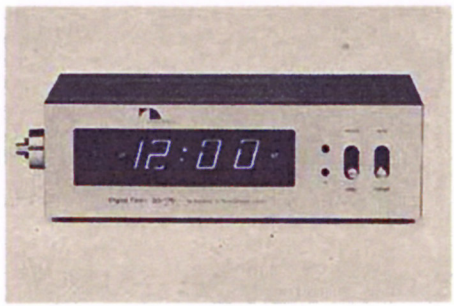


SX Tape C-60, C-90



Remote Controller

EXII Tape C-60, C-90



Timer

Ex Cassette Tape C-60, C-90

Demagnetizer

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