

# Cassette Deck 1/Cassette Deck 1.5 Cassette Deck 2



Nakamichi



# Legendary Nakamichi Cassette Deck

True to Nakamichi tradition, a cassette deck at the cutting edge of analog tape recording technology

## Cassette Deck 1



### Uncompromised Performance

Designed for the true taping enthusiast, Nakamichi CassetteDeck1 and CassetteDeck1.5 deliver unparalleled reproduction accuracy.

### Discrete 3-Head Technology

The primary advantage of using separate erase, record, and play heads is *performance*. However, the use of three heads, in and of itself, does not guarantee superior performance.



CassetteDeck1 and CassetteDeck1.5 employ Nakamichi's acclaimed **Discrete 3-Head Technology**, which features physically separate Crystalloy record and play heads. Unlike typical "sandwich" or combination heads, where the record and play sections share a common housing, the Nakamichi Discrete 3-Head system allows *independent alignment* of the record and play head gaps. It's the only way to assure extended frequency response, low distortion, and wide dynamic range.

The separate Nakamichi heads, furthermore, are individually shielded to prevent crossfeed and noise pickup. Coils

are wound using the highest grade oxygen-free-copper (OFC) wire. And Nakamichi's proprietary precision-laminated Crystalloy core in the record and play heads deliver unmatched magnetic performance. They bring out the best in today's advanced cassette tape formulations as no other magnetic heads can.

### Exceptional Playback Azimuth Accuracy

Even the slightest azimuth error causes audible high-frequency loss. Because the record and play heads in CassetteDeck1 and CassetteDeck1.5 are physically separate, they can be factory adjusted without compromise to the highest degree of precision.

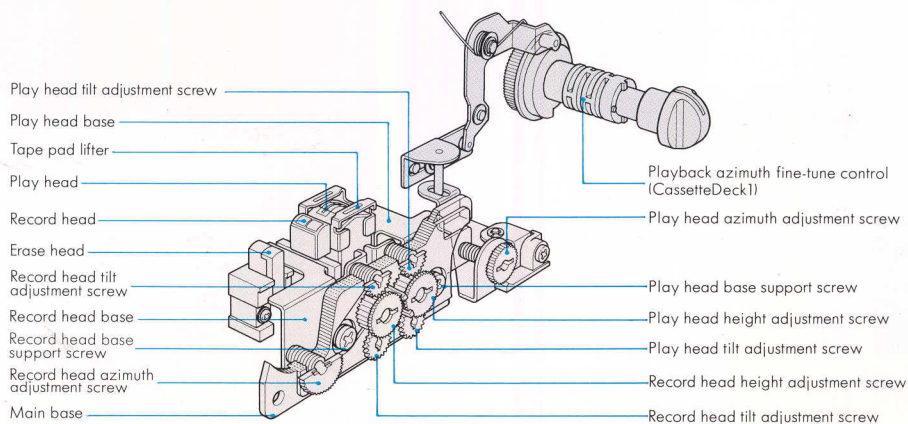
CassetteDeck1, furthermore, incorporates a user-adjustable play head azimuth fine-tune control. This feature

ensures optimum high-frequency response during playback, even when playing a tape that was recorded on a misaligned deck.

### Asymmetrical Dual-Capstan Transport

Nakamichi's **Asymmetrical Dual-Capstan Diffused-Resonance Transport** mechanism uses different diameters (and, hence, rotational speeds) for the two capstans and flywheels. This, plus the use of special vibration-absorbing materials in the head-base assembly, attenuates and randomizes resonances, so that their effects are far less audible. The reduction of modulation noise assures a purity and stability of reproduction that cannot be adequately expressed by wow-and-flutter measurements alone.

The Asymmetrical Dual-Capstan Transport also ensures such a high degree of tape travel precision and tension



CassetteDeck1 and CassetteDeck1.5 incorporate a sophisticated head base assembly that permits factory alignment with unequaled precision.



# Engineering: a difference you can hear, s

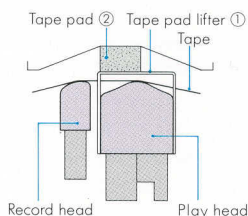
Incomparable Nakamichi Discrete 3-Head technology  
in its most accessible form

## Cassette Deck 1.5



uniformity that the pressure pad in the cassette is not needed. Accordingly, the play head is fitted with a unique **pressure pad lifter** to prevent the pad from contacting the tape. This reduces head wear, prevents tape skewing, and greatly reduces "scrape flutter." CassetteDeck1 and CassetteDeck1.5 thus possess a remarkably open and transparent sound quality that makes it difficult to believe you are listening to a cassette.

Because the cassette's pressure pad is unnecessary with the Nakamichi Asymmetrical Dual-Capstan Transport, pad lifter ① pushes the pad ② out of the way during record and playback.



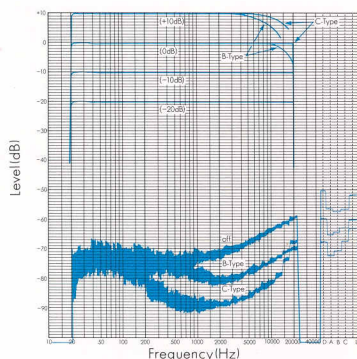
### Advanced Electronics

The record and play head amplifiers employ advanced topologies that eliminate the need for coupling capacitors and other distortion-causing components. Dual mono construction prevents cross-channel interference.

The record amplifier is a pure class A design with exceptional stability. The playback circuitry utilizes only discrete components and is actually integrated with the play head assembly at the transport.

This eliminates the signal transmission loss that occurs in typical designs, where the playback amplifier is on the main circuit board. These sophisticated features ensure maximum signal purity for clear, highly detailed, uncolored music reproduction.

CassetteDeck1 and CassetteDeck1.5 further incorporate Nakamichi's multi-regulated power supply, which delivers power to the audio and logic circuits independently to eliminate mutual noise interference.



CassetteDeck1 Record/Play Frequency Response/Noise Analysis

### CassetteDeck1-Additional Features

- DC servo capstan motor
- Motor-operated, microprocessor-controlled silent mechanism
- Tape slack take-up mechanism
- 4-digit electronic tape counter
- Bi-directional auto-search (seeks counter "zero" position in rewind or fast-forward, then returns to stop, play, or pause)
- Bias fine-tune control
- Dolby B and C noise

- reduction
- Defeatable MPX filter
- Auto repeat function
- Timer record/play
- Record mute button
- Output level control
- Comprehensive FL display
- Headphone output
- Gold-plated audio connectors
- Nakamichi System Remote compatible



CassetteDeck1—Less frequently accessed controls are elegantly concealed from view behind a drop-down panel.

### CassetteDeck1.5-Additional Features

- Cassette Deck1.5 has the same advanced features as CassetteDeck1 except for playback azimuth fine-tune control, output level control, and gold-plated audio connectors.



CassetteDeck1.5—Advanced control features enable you to elicit maximum performance

### Formidable 2-Head Performance

Nakamichi CassetteDeck2 delivers a record/play frequency response of 20–20,000 Hz  $\pm$  3 dB with normal bias (Type I) tape. That's exceptional performance for a 3-head deck. CassetteDeck2, however, is a 2-head deck!



# See, and feel.

An economical 2-head model with performance surpassing most competitive 3-head decks

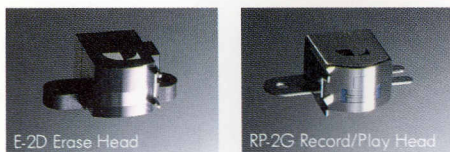
## Cassette Deck 2



### Precision Magnetic Heads

This remarkable performance is made possible by Nakamichi's laminated sendust core record/play head that has been optimized for 2-head applications. Nakamichi's proprietary low-stress process eliminates most of the compromises found in conventional record/play heads.

The erase head, too, is unique. Featuring a dual-gap design with low-loss ferrite core, it provides more complete erasure than competitive designs, especially with metal tape.



### Microprocessor-Controlled Silent Mechanism

CassetteDeck2 features Nakamichi's sophisticated Silent Mechanism, which uses a precision motor rather than solenoids to engage the head assembly, pressure roller, and reel hub brakes. This system ensures a much higher degree of positioning accuracy and much gentler handling of the critical head base. A microprocessor supervises every transport function, so you can safely switch between any two modes.

The capstan is driven by a DC servo motor and the reel hubs are driven by an independent motor. This design effectively suppresses wow-and-flutter and assures smooth, unwavering tape travel.

### High-Performance Electronics

CassetteDeck2 employs sophisticated electronic circuitry with state-of-the-art topologies. Designed to elicit the maximum performance from the deck's superb record/play head, the amplifier section features dual-mono construction using the highest-grade components. Noise interference is also prevented through the use of a multi-regulated power supply. The result is clean, high-definition music reproduction, free of the veiling and imaging vagueness typical of most other 2-head decks.

### CassetteDeck2-Additional Features

- Tape slack take-up mechanism
- 4-digit electronic tape counter
- Bi-directional auto-search
- Bias fine-tune control
- Dolby B and C noise reduction
- Defeatable MPX filter
- Auto repeat function
- Timer record/play
- Record mute button
- Comprehensive FL display
- Headphone output
- Nakamichi System Remote compatible



Bias fine-tune control lets you optimize record/play frequency response for perfect reproduction with just about any high-quality tape.

### Nakamichi Systems

Nakamichi cassette decks are part of a complete line of exceptional home audio components, including CD players and receivers. By combining these components, you can easily build extraordinary, visually stunning systems that are unrivaled in sonic performance, quality, ease-of-use, versatility, and value.

Nakamichi system components complement each other not only in styling, but also in their uniformly high performance standard. Together, they assure you the highest level of musical satisfaction and let you take advantage of sophisticated features, such as System Remote and multi-room control capabilities.



# Nakamichi



# The Company That Brought "Concert Hall" Realism To The Cassette Continues To Set The Standard.



The ultimate reference standard: the Nakamichi Concert Hall is an extravagant, yet essential piece of "test equipment" for Nakamichi engineers.

Today, it's easy to forget that the inventors of the audio cassette never intended it to be used for high-fidelity music recording. But few have forgotten the company that did what was once thought impossible and forever changed the course of cassette history: Nakamichi.

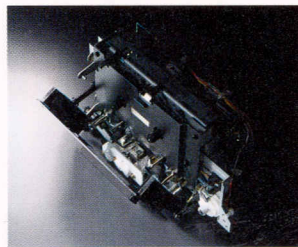
And if you need a reminder, you only need examine today's Nakamichi cassette decks. Descended from a long, prestigious line of products that have raised the standard of cassette performance at every turn, Nakamichi decks continue to outperform the competition with tape recording technology that remains without peer to this day.

For example, while other manufacturers jump on a new "exotic-



material" magnetic head bandwagon every few years, Nakamichi has continually refined the exclusive **Crystalloy** head. Possessing near-ideal magnetic properties, Nakamichi Crystalloy heads defy imitation even today, 18 years since their introduction.

Nakamichi transport mechanisms, too, have an illustrious history of leadership. The closed-loop double-



capstan transport that shook the world in 1973 has evolved into the **Asymmetrical Dual-Capstan Diffused-Resonance Transport** mechanism, widely regarded as today's pre-eminent design.

And Nakamichi electronics, custom-designed to match the exceptional magnetic heads, go beyond advanced record and playback amplifier topologies

to include often neglected areas, such as power supply design.



The Nakamichi Listening Room

Such extraordinary technical excellence is only one element in Nakamichi's unique product design philosophy. Because musical accuracy is not only about numbers, part of every Nakamichi product development cycle are extensive "live vs. reproduced" tests, made possible by a specially designed concert hall and listening room at Nakamichi's headquarters R&D facility.

What may be an extravagance for others is a basic necessity for Nakamichi. But that's what it takes to establish the standard of excellence to which all other cassette decks must be compared.



# Feature Comparison

	CassetteDeck1	CassetteDeck1.5	CassetteDeck2		CassetteDeck1	CassetteDeck1.5	CassetteDeck2
Playback azimuth fine-tune control	●			Bias fine-tune control	●	●	●
Discrete 3-Head System	●	●		Dolby B/C noise reduction	●	●	●
Asymmetrical Dual-Capstan Diffused-Resonance Transport	●	●		Defeatable MPX filter	●	●	●
DC servo capstan motor	●	●	●	Auto repeat	●	●	●
Microprocessor-controlled Silent Mechanism	●	●	●	Timer record/play	●	●	●
Pressure pad lifter	●	●		Record mute	●	●	●
Automatic tape slack take-up	●	●	●	Output level control	●		
Integrated play head/amplifier assembly	●	●		Tape selector with automatic EQ selection	●	●	●
Multi-regulated power supply	●	●	●	Large FL display	●	●	●
4-digit electronic tape counter	●	●	●	Nakamichi System Remote Control compatible	●	●	●
Bi-directional auto-search	●	●	●	Gold-plated input/output jacks	●		

# Specifications

	CassetteDeck1	CassetteDeck1.5	CassetteDeck2
Motors	DC servo (capstan)×1 DC (reel)×1 DC (mechanism cam)×1	DC servo (capstan)×1 DC (reel)×1 DC (mechanism cam)×1	DC servo (capstan)×1 DC (reel)×1 DC (mechanism cam)×1
Wow-and-Flutter	Less than ±0.06% wtd peak Less than 0.035% wtd RMS	Less than ±0.06% wtd peak Less than 0.035% wtd RMS	Less than ±0.11% wtd peak Less than 0.06% wtd RMS
Frequency Response (-20dB, Type I, II, or IV tape)	20-21,000 Hz ±3 dB	20-21,000 Hz ±3 dB	20-20,000 Hz ±3dB
Signal-to-Noise Ratio <sup>1</sup>	with Dolby C NR with Dolby B NR Better than 72 dB Better than 66 dB	Better than 72 dB Better than 66 dB	Better than 70 dB Better than 64 dB
Total Harmonic Distortion (400 Hz, 0 dB)	Less than 0.8% (Type IV tape) Less than 1.0% (Type I, II tape)	Less than 0.8% (Type IV tape) Less than 1.0% (Type I, II tape)	Less than 1.0% (Type I, II, IV tape)
Channel Separation (1 kHz, 0 dB)	Better than 37 dB	Better than 37 dB	Better than 36 dB
Crosstalk (1 kHz, 0 dB)	Better than 60 dB	Better than 60 dB	Better than 60 dB
Erasure (100 Hz, +10 dB)	Better than 60 dB	Better than 60 dB	Better than 60 dB
Bias Frequency	105 kHz	105 kHz	105 kHz
Input Sensitivity/Impedance	50 mV/40 k ohms	50 mV/40 k ohms	50 mV/40 k ohms
Output Level/Impedance (400 Hz, 0 dB) Line Headphone	0.5 V/2.2 k ohms <sup>2</sup> 5.0 mW/8 ohms	0.5 V/2.2 k ohms 2.2 mW/8 ohms	0.5 V/2.2 k ohms 2.2 mW/8 ohms
Power Requirement	120, 230, 240 or 110-127/220-240 V AC, 50/60 Hz (according to country of sale)	120, 230, 240 or 110-127/220-240 V AC, 50/60 Hz (according to country of sale)	120, 230, 240 or 110-127/220-240 V AC, 50/60 Hz (according to country of sale)
Power Consumption	25 W max.	25 W max.	25 W max.
Dimensions (W×H×D) <sup>3</sup>	430×100×320 mm 16-15/16×3-15/16×12-5/8 inches	430×100×320 mm 16-15/16×3-15/16×12-5/8 inches	430×100×320 mm 16-15/16×3-15/16×12-5/8 inches
Approximate Weight	5.4 kg; 11 lb. 14 oz.	5.4 kg; 11 lb. 14 oz.	5.4 kg; 11 lb. 14 oz.

<sup>1</sup>400 Hz, 3% THD, IHF A-wtd RMS with Type IV tape at 70µs EQ. <sup>2</sup>Output level control at maximum. <sup>3</sup>Dimensions do not include protruding parts. Height is the panel height without feet.

●Specifications and features are subject to change without notice. ●All non-metric weights and measures are approximate. ●Dolby noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation. ●"DOLBY" and the Double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.



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