



Nakamichi

CR-7/CR-5

Discrete Head Cassette Decks



NEW PRODUCT INFORMATION

Nakamichi—The Measure of Excellence

Once again, Nakamichi is at the vanguard of a new trend in high-class cassette decks, providing the highest possible performance quality from every cassette while at the same time simplifying deck operation to make that performance available to everyone. The new Nakamichi CR-7 and CR-5 Discrete-Head Cassette Decks embody both the vital aspects of this trend, offering fully discrete three-head designs, direct-drive closed-loop dual-capstan transports, low-distortion/low-noise amplifiers and a host of other features. In addition, the CR-7 features the unique Nakamichi Auto Calibration System and the Playback-Head Azimuth Fine Tuning Control. And finally, while both decks offer superb value and can easily be integrated with the components of even the finest audio system in any home, they have been specifically designed to match the Nakamichi Home Audio Electronics Systems "7" and "5", for outstanding performance with the added convenience of total System Remote Control.

AUTO CALIBRATION (CR-7)

The CR-7 offers Auto Calibration in which the first step is azimuth correction on the playback head. Simply put, the correction is made because without it the following calibrations of level and bias would be based on erroneous data. This high-tech system, using a newly developed 6-bit, 64-step microprocessor, ensures that a specific tape in use will deliver its very best performance. The entire process takes an average of 15 seconds, and returns the tape to its beginning with the deck in REC PAUSE and ready to record.

PLAYBACK-HEAD AZIMUTH FINE TUNING (CR-7)

Even a slight error in the azimuth of a playback head can significantly degrade musical reproduction, especially in the high frequencies. This is even more critical when using "companding" noise-reduction systems, such as Dolby B and especially Dolby C. The CR-7 features an Azimuth Fine Tuning Control on the deck itself, and on the wireless remote control unit (included) so that you can "tune" the azimuth from your armchair.

DISCRETE THREE-HEAD DESIGN

Nakamichi's original system with three fully independent heads offers a wide gap on the Crystalloy REC head for clean signal transfer and a narrow gap on the Crystalloy PLAY head for best high-frequency resolution. Frequency response is 18—21,000 Hz ± 3 dB (CR-7), and 20—20,000 Hz ± 3 dB (CR-5).

DIRECT-DRIVE DUAL-CAPSTAN TRANSPORT

Nakamichi's Asymmetrical Diffused-Resonance Dual-Capstan Transport, with left and right capstans (and flywheels) of different diameters, greatly reduces flutter. There is nothing touching the tape between the two capstans to risk the introduction of scrape flutter and modulation noise; that is, there is no intracapstan tape guide, and a special tape-pad lifter prevents the cassette's own pad from causing skewing and azimuth error. Both capstans have a slip-free matte finish to aid in maintaining ideal tape tension; it is driven directly by an extremely high precision motor controlled by an FG (frequency-generator) servo. The practical results of all this translate to smooth, constant tape speed, with wow/flutter of 0.027% (WTD RMS) or less. Head-base and brake movement is commanded by the solenoid-free Nakamichi Silent Mechanism for ease of use and quiet, quick response.

LOW-DISTORTION AMPLIFIER CIRCUITRY

Directly coupling the recording and playback heads with their

respective amplifier sections has eliminated coupling capacitors and their ill effects and helped achieve a level of performance that is on a par with the finest home-use preamplifiers. In the same spirit, Nakamichi engineers used discrete circuitry with high-quality parts, and even went as far as to completely shield the power supply and FL display sections from the audio circuits. Thanks to these measures, the signal-to-noise ratio remains very high, and the total harmonic distortion is never more than 0.005%.

REAL-TIME TAPE COUNTER (CR-7)

Special attention is given to this feature on the CR-7. It gives useful indications of elapsed and remaining time of standard-hub C-90/60 and standard and large-hub C-46 tape, even if the tape is not fully wound to its beginning when mounted.

AUTO FADE (CR-7)

This convenience works together with the Real-Time counter to begin an automatic four-second fade-out of the source signal reaching the recording head when the counter detects "0:00" time remaining on the tape. This avoids the sudden, unpleasant cut-off of the music before the margin of remaining tape runs out and the leader section is reached.

OTHER PRACTICAL FEATURES

- 4-Digit Tape Counter • Dual-Speed Master Fader Control
- Auto Repeat • Auto & Manual Tape/Equalizer Selection
- Large FL Central Display • Bias Fine Tuning (CR-5) • RM-7C Wireless Remote Control (CR-7) & Optional RM-5 or RM-200 Wired Remote Control • System Remote Capability • Slack Tape Takeup • Rec Mute • Memory Stop • Timer Rec/Play
- Dolby B/C NR • One-Touch Rec/Pause • Subsonic Filter (CR-7)
- MPX Filter • Independent L/R-Channel Recording Level Controls • Master Recording Level Control • Output Level Control • Gold-Plated Input/Output Terminals & Pin-Cord Jacks
- Headphone Terminal

CR-7/CR-5 Specifications

Heads	3 (erase head \times 1, record head \times 1, playback head \times 1)
Motors	Transport: FG servo, brushless, slotless, coreless, DD motor (capstan drive) \times 1 Mechanism: DC motor (reel drive) \times 1 DC motor (cam operation) \times 1 DC motor (playback head azimuth control) \times 1 (CR-7 only)
Power Source	100, 120, 120/220-240, 220 or 240 V AC; 50/60 Hz (according to country of sale)
Power Consumption	CR-7: 55 W max. CR-5: 45 W max.
Tape Speed	1-7/8 ips (4.8 cm/sec) \pm 0.5%
Wow and Flutter	Less than \pm 0.048% WTD Peak Less than 0.027% WTD RMS
Frequency Response	CR-7: 20 Hz—20,000 Hz \pm 2 dB 18 Hz—21,000 Hz \pm 3 dB CR-5: 20 Hz—20,000 Hz \pm 3 dB (—20 dB recording level, ZX, SX, EXII tape)
Signal-to-Noise Ratio	Dolby-C NR: Better than 72 dB (A-WTD/3% THD/70 μ s/ZX tape) Dolby-B NR: Better than 66 dB
Total Harmonic Distortion	Less than 0.8% (ZX tape) (400 Hz, 0 dB) Less than 1.0% (SX, EXII tape)
Input (Line)	50 mV, 40k ohms
Output (Line)	1.0 V (400 Hz, 0 dB, output control max.) 2.2k ohms
(Headphone)	12 mW (400 Hz, 0 dB, output control max.) 8 ohms
Dimensions	435(W) \times 135(H) \times 306(D) mm 17-1/8(W) \times 5-5/16(H) \times 12(D) inches
Approximate Weight	CR-7: 9.0 kg; 19 lbs. 13 oz CR-5: 8.5 kg; 18 lbs. 12 oz

- Specifications and appearance subject to change for further improvement without notice.
- Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation.
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