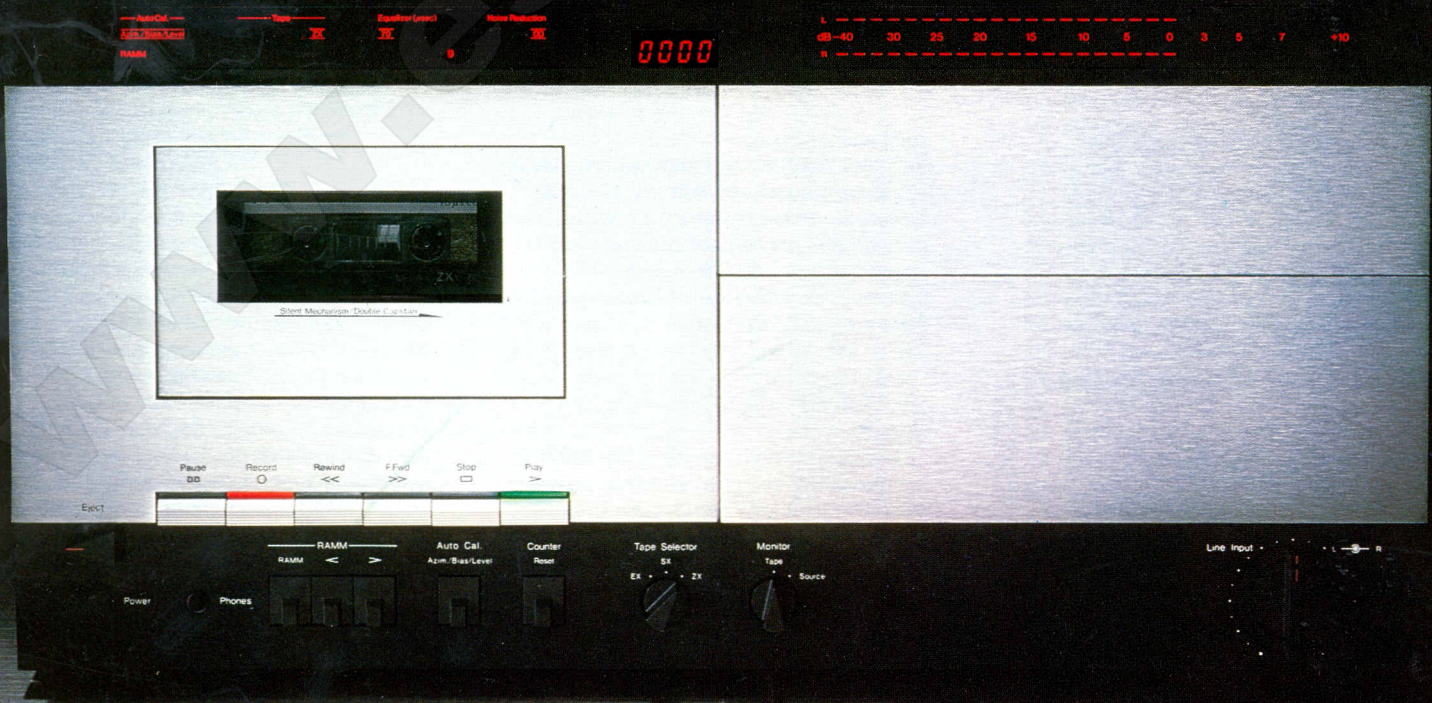
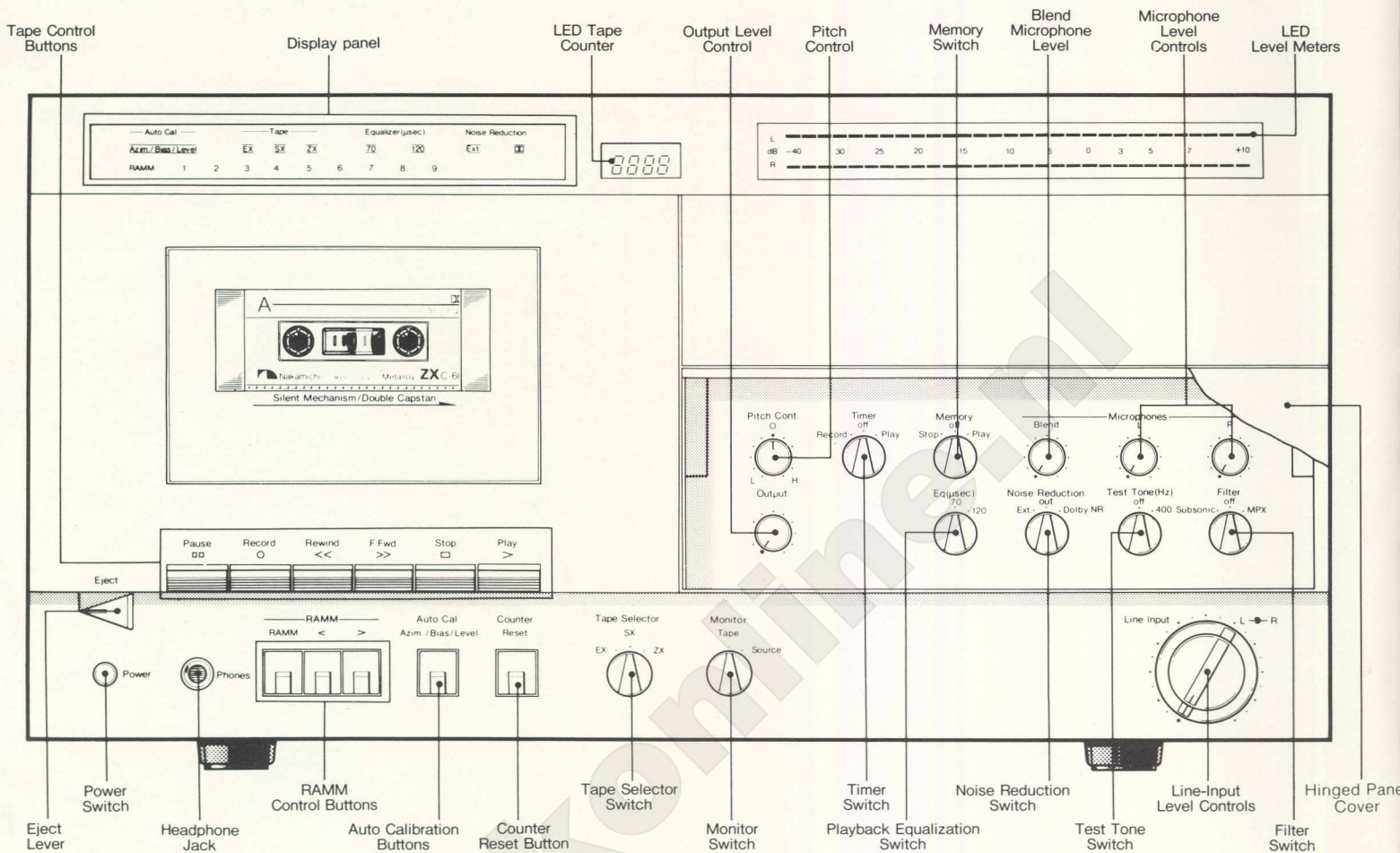


# Nakamichi

## 700ZXE Auto Tuning Cassette Deck





# The Tradition Of Beauty And Performance

The 700ZX was designed with one objective in mind — to create a recorder with the beauty of style and a level of performance comparable to the Nakamichi 700ZXL and make it available to a greater number of people. With the wide variety of quality tapes in today's market, a recorder of the caliber of the 700ZX should work with any of them and achieve from each its

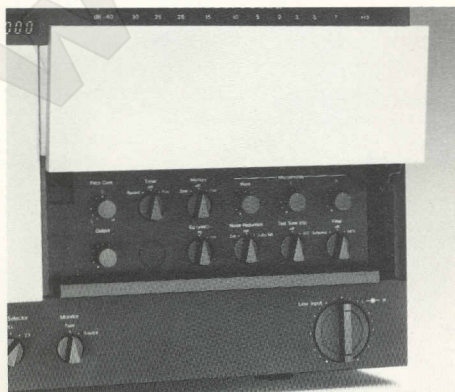
full capabilities.

This, the 700ZX does and with virtually complete automation. At the press of a button, an auto-calibration processor steps through a multiplicity of delicate adjustments, refining them to obtain maximum performance from each tape. After automatic calibration, response is a remarkable 18 to 23,000 Hz  $\pm 3$  dB (20 – 20,000 Hz  $\pm 2$  dB) — a level of performance until recently thought impossible on cassette.

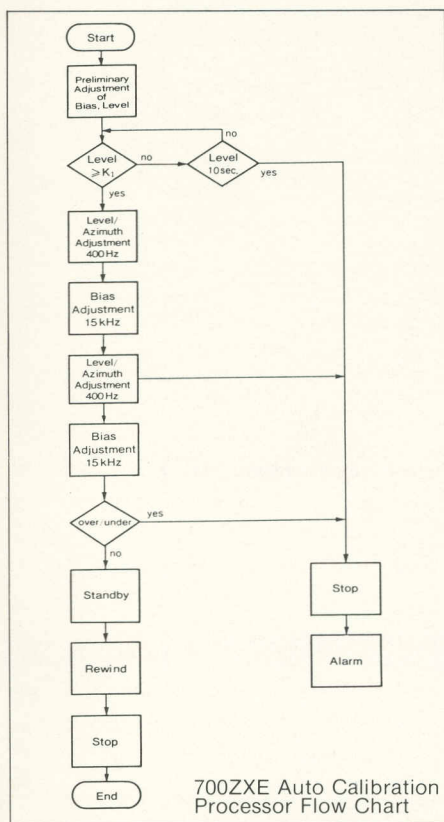
To find any desired program, the 700ZX features a Random Access Music Memory (RAMM) capable of sensing the silent sections between programs and of skipping from 1 to 9 selections — in either direction — just as you command. And, to accommodate the more advanced noise-reduction systems of today and tomorrow, the 700ZX has provisions that make an external noise-reduction system such as High-Com II or the Nakamichi NR-100 Dolby C-Type processor as simple and convenient to use as the 700ZX's own internal Dolby B-Type system.

## Auto Calibration Processor (Azimuth, Bias, and Level)

The 700ZX auto-calibration processor is remarkably ingenious and so simple to use. It tests each tape and cleverly adjusts Azimuth, Bias and Level to achieve optimum performance. Set the EQ and TAPE SELECTOR switches properly for your tape and, from Record/Standby, press AUTO CAL and PLAY. The 700ZX immediately checks the recording, advances the tape past the leader (if necessary), and, once it establishes that the tape is good, goes on to adjust record-head azimuth and trim bias and level to match the tape's particular requirements. It refines the electrical adjustments a second time before storing the results in memory and rewinding to where adjustment began. When the flashing indicator extinguishes, adjustment is complete. A back-up battery preserves memory for unattended recording, and memory updates automatically whenever the procedure is repeated.

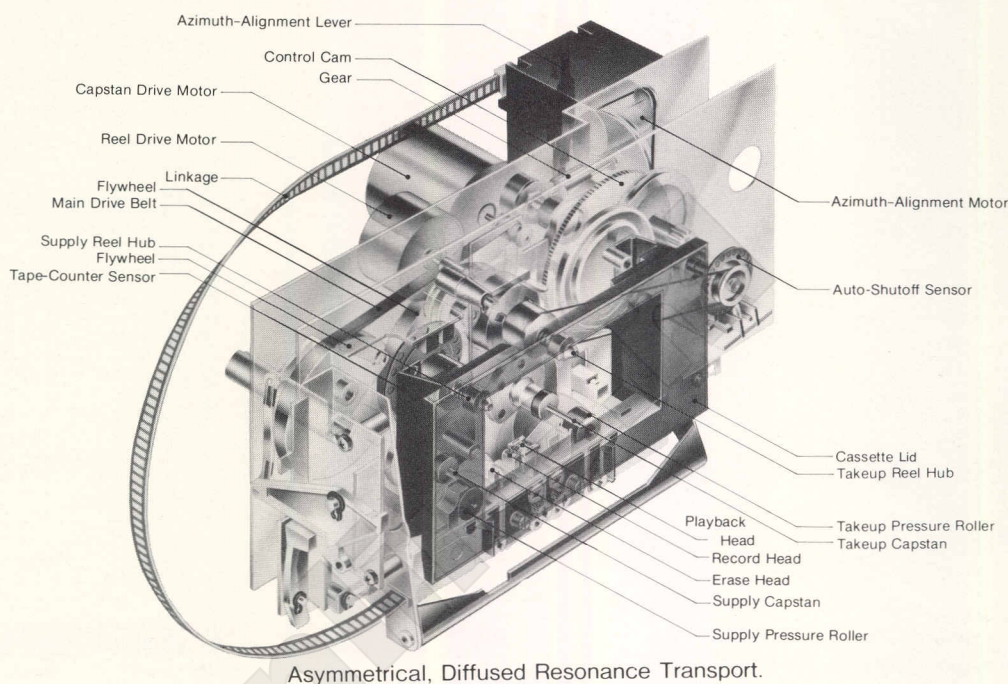
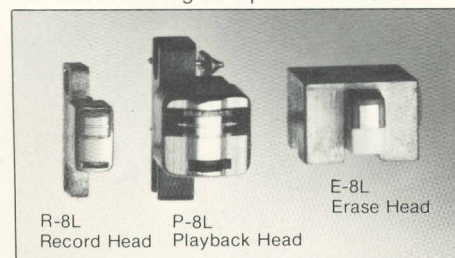


Secondary Controls Are Concealed Behind Hinged Cover



## Discrete3-Head Technology

In the 700ZXE there are three mechanically and electrically independent heads, each optimized for its particular function. The ultra-narrow-gap (0.6-micron) P-8L playback head is uniquely capable of resolving 23-kHz recordings. Its high-permeability Crystalloy core minimizes noise, and a new geometry virtually eliminates "contour effect." The R-8L record head employs a Crystalloy core whose internal configuration and gap (3.5 microns) have been optimized for the recording function. The ultra-sharp critical zone achieved by this structure minimizes self-erasure, and the low-loss/high-saturation core reduces distortion and makes higher recording levels possible. The E-8L erase head combines the advantages of a ferrite core — low eddy-current loss — and a Sendust poletip — extremely high saturation induction. Its dual-gap configuration is exceptionally efficient in erasing all tape formulations.



## Diffused-Resonance Transport

The 700ZXE transport embodies the most advanced mechanical concepts. A dual-capstan system wrests control of the tape from the cassette to provide ultra-smooth motion and low modulation noise. Unlike other two-capstan systems, the Nakamichi design is "asymmetric." Capstans are of different diameters and rotate at different speeds to prevent common resonance modes. Thus, the flutter spectrum is free of peaks, and flutter is completely inaudible. The chassis is constructed of special materials that absorb motor vibration to further reduce flutter and modulation noise. Tape tension is controlled so precisely that the in-cassette pressure pad is unnecessary. A mechanism lifts the pad from the heads, thus eliminating a major source of scrape flutter.

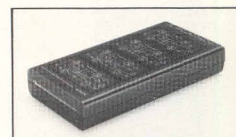
## RAMM

(Random Access Music Memory)

When listening to a tape, you may wish to skip the first few selections and start, say, at the third or fourth program. With the 700ZXE RAMM, this is extremely simple to do. Designate the number of programs you wish to skip (up to 9), and playback will start automatically from the desired selection. Up ">" and down "<" buttons control the RAMM counter, and the number of programs to be skipped is displayed on the illuminated panel. You can skip ahead or skip back by pressing fast forward or rewind. The optional RM-200 remote control unit even allows you to program the RAMM from your armchair.

## Noise Reduction

In addition to built-in Double Dolby-B processing, the 700ZXE has special input and output jacks for connection with an external noise-reduction system such as High-Com II or the Nakamichi NR-100 Dolby C-Type processor. When the Noise Reduction switch is set to EXT, processing through an external system is as simple and easy to perform as with the internal Dolby-B system. You retain full use of the Tri-Microphone preamp/line mixer, and recording-level indicators, and, with the NR-100, there is no need recalibrate recorder or processor.



NR-100 Dolby C-Type NR Processor

## Electronic Tape Counter

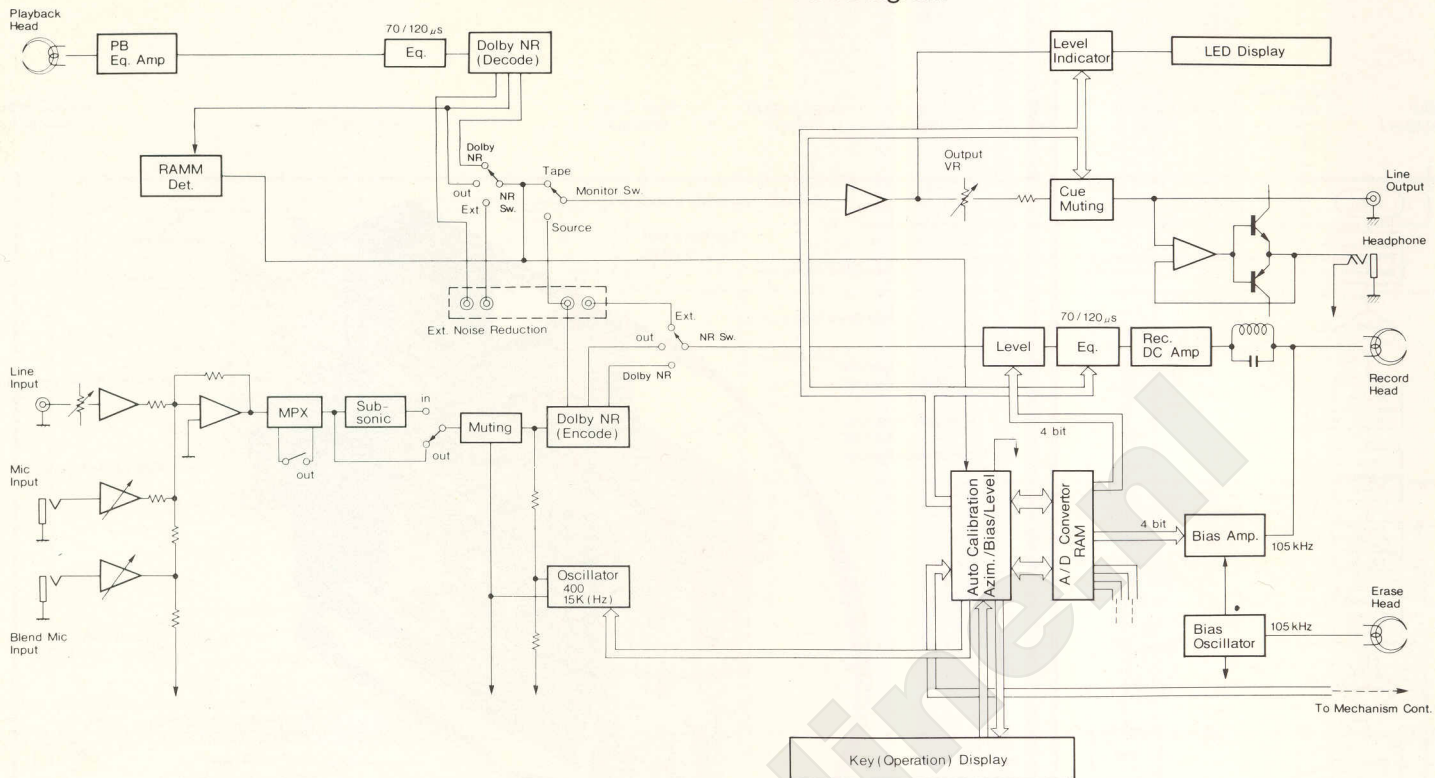
A 4-digit LED counter with electronic reset indicates relative tape position from -999 to 9999. The count advances in the positive direction during forward modes and in the negative direction during rewind. Precise return to "0000" in fast forward or rewind is assured since the 700ZXE sense overshoot and corrects it automatically. Depending upon memory-switch setting, the tape stops or begins playback from that point.

## Digital Level Meters

Over a 50-dB range (-40 dB to +10 dB), peak-responding LED bar-graph meters simultaneously display dynamic and maximum signal levels. The Peak hold features resets after 6 to 7 seconds.

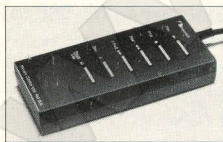


# Nakamichi 700ZXE Block Diagram



## Features

- Auto Calibration of Azimuth, Bias, and Level
- Tape Memory Stores Recording Parameters
- 9-program RAMM (Random Access Music Memory)
- Seldom Used Controls Concealed Behind Hinged Panel
- Indicators for Auto Cal, Tape Choice, EQ, Noise Reduction and RAMM
- Discrete 3-Head Technology
- 4-Digit Electronic Tape Counter (-999 to 9999)
- LED Digital Recording-Level Meters With 50-dB Range And Simultaneous Peak and Peak-Hold Indications
- Three Microphone Inputs Plus Microphone/Line Mixing
- Built-in Double Dolby Plus Provision For External Noise-Reduction Systems
- MPX and Subsonic Filters
- Test Tone Oscillator (400 Hz, 0 dB, 200 nWb/m)
- Record Mute
- Direct-Coupled, Double NF Record and Play Amplifiers
- Asymmetrical, Diffused-Resonance, Dual-Capstan Transport
- C-MOS Logic Control Via Motor-Driven Cam
- High-Output Headphone Amplifier
- Timer Operation
- Tape-Start Memory
- Pitch Control ( $\pm 6\%$ )
- Full Remote Control of Tape and RAMM Via RM-200 option



RM-200 Remote-Control Unit

- Specifications and appearance subject to change for further improvement without notice.
- Dolby NR under license from Dolby Laboratories.
- The word "DOLBY" and the Double-D Symbol are trademarks of Dolby Laboratories.
- High-Com is the trademark of AEG-TELEFUNKEN.

## Specifications

Tape Speed .....	1-7/8 ips (4.8 cm/s)
Frequency Response .....	20-20,000 Hz $\pm 2$ dB (Nakamichi EX, EXII, SX, ZX tape) (-20 dB Record Level)
Signal-to-Noise Ratio .....	Better than 66 dB (3% THD) (w/Dolby NR, ZX tape, 70 $\mu$ sec, IHF A-wtd rms)
Total Harmonic Distortion .....	Less than 0.8% (ZX tape) (400 Hz, 0 dB)
Wow and Flutter .....	Less than 0.08% WTD peak Less than 0.04% WTD rms
Erasure .....	Better than 60 dB (100 Hz)
Separation .....	Better than 37 dB (1 kHz, 0 dB)
Crosstalk .....	Better than 60 dB (1 kHz, 0 dB)
Bias Frequency .....	105 kHz
Input (Line) .....	50 mV, 50k ohms
(Microphone) .....	0.2 mV, 10k ohms
(Noise Reduction) .....	100 mV, 50k ohms
Output (Line) .....	1V (400 Hz, 0 dB, Output Control at max.), 2.2k ohms
(Noise Reduction) .....	100 mV, 2.2k ohms
(Headphone) .....	45mW (400 Hz, 0 dB, Output Control at max.), 8 ohms
Power Requirements .....	100, 120, 120/220-240, 220, or 240V AC, 50/60 Hz (according to country of sale)
Power Consumption .....	50 W max.
Dimensions .....	500(W) x 262(H) x 250(D) millimeters 19-11/16(W)x10-5/16(H) x9-27/32(D) inches
Approximate Weight .....	14 kg (30 lbs 14 oz)

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