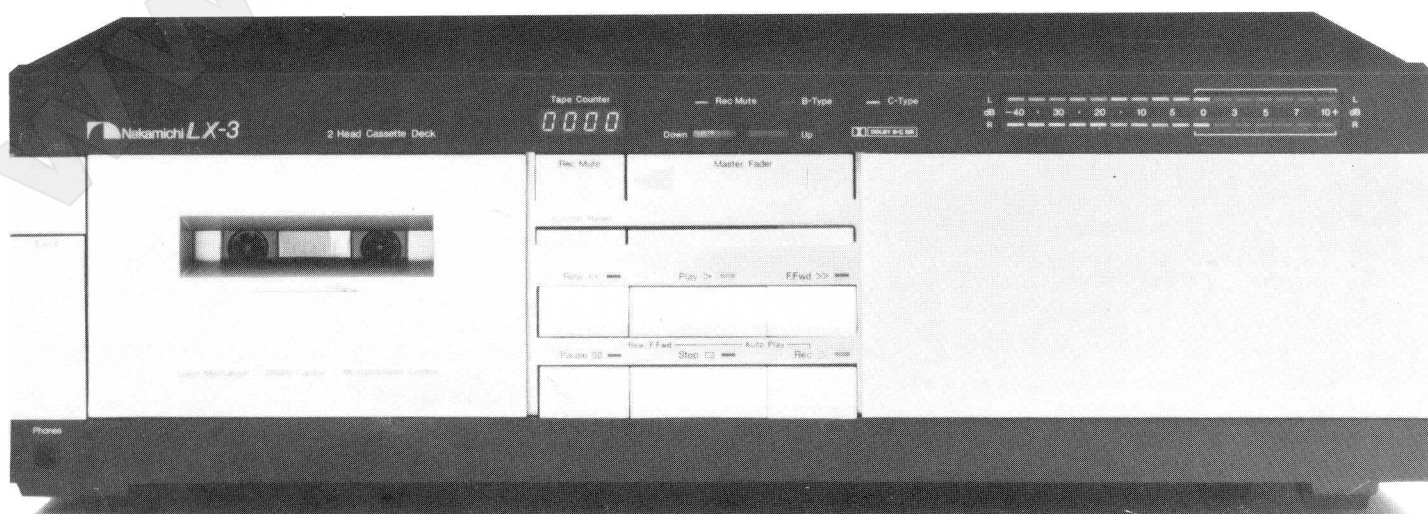


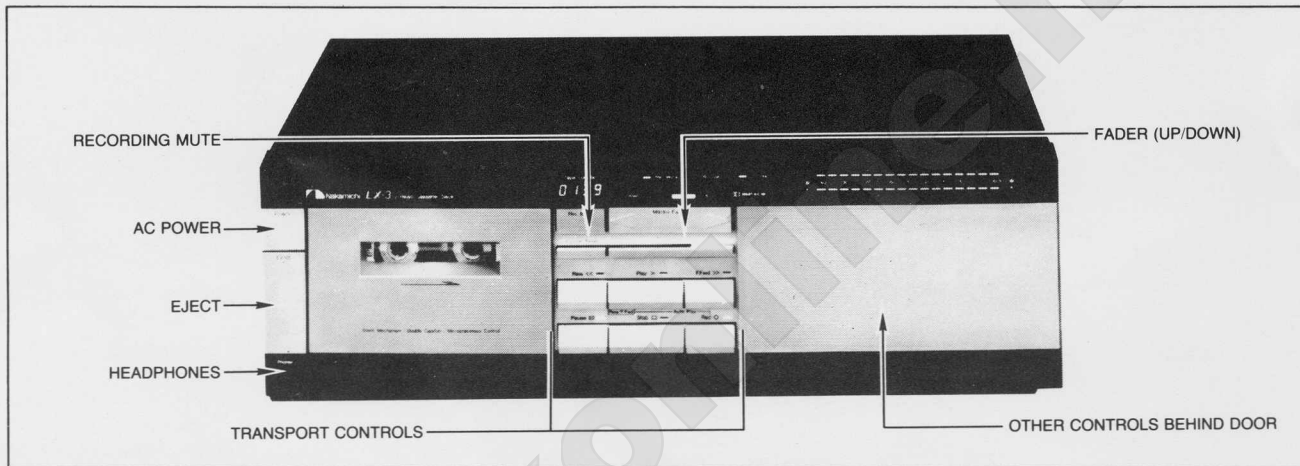
Nakamichi LX-3 2-Head Cassette Deck Test Results



HIGH FIDELITY

Reprinted from February 1982

ICD # 08398



A "Budget" Nakamichi with Dolby C

Nakamichi LX-3 cassette deck, with Dolby B and C noise reduction. Dimensions: 17¾ by 5½ inches (front panel), 12 inches deep plus clearance for connections. Price: \$545; optional RM-200 remote control, \$45. Warranty: "limited," two years parts and one year labor except one year parts and labor on heads, capstan, and motor assembly. Manufacturer: Nakamichi Corp., Japan; U.S. distributor: Nakamichi U.S.A. Corp., 1101 Colorado Ave., Santa Monica, Calif. 90401.

EFFECTIVE APRIL 1, 1982
SUGGESTED RETAIL PRICE: \$595

WE'VE TESTED A LOT of Nakamichi products since 1973, when the company first went public, so to speak, with the original Model 1000. (Earlier, it had produced decks for distribution under the brand names of others.) But we realized recently that we have never tested a "budget" deck from the company. Granted that Nakamichi is not in the business of supplying low-end equipment and that its "midprice" models (where our testing has been concentrated) are sometimes more expensive than the flagships of the mass-market deck fleets, we nevertheless felt it was high time we took a close look at the minimum model to see just how minimal it is. As it happened, the LX-3 was being readied for market in Japan (it was announced here only in January), so we found ourselves testing a brand-new model as well as a minimum one.

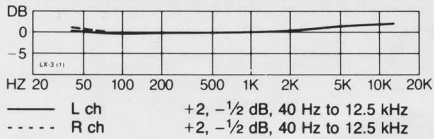
That hardly seems the proper word to use when we consider either the performance or the features of the LX-3, however. Among the features it retains from the 700ZXL we tested last August are separate tape-selector and recording-EQ switches, which enable you to second-guess standard practice (for example, getting greater high-frequency headroom with a Type 2 tape by using 120-microsecond EQ instead of the standard 70, though without the 700ZXL's automatic tape-matching system the results are bound to be a little more "iffy" here); provision for an optional remote control; both Dolby C and Dolby B noise reduction; and separate multiplex-filter switching.

There also are both memory stop and memory play functions—the latter activated by simultaneously pressing a fast-wind button and the recording interlock. New are a recording mute (which cuts the signal going to the tape, but not that to the monitor or the meters, for as long as the button is held in) and an ingenious two-speed automatic fader. Once you have set the recording levels, using separate knobs for each channel to adjust the balance as well, you can fade in or out, between mute and the preset levels, using the "master fader" bar in the center of the front panel. Touching the right end raises level, while the left end lowers it; a light touch or a quick tap delivers a gradual fade (about 7½ dB per second, in Diversified Science Laboratories' measurements), while more pressure creates a quick fade (about 20 dB per second).

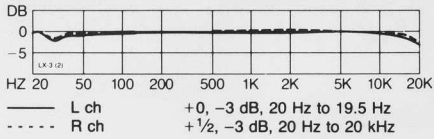
Among the most important features of any tape deck is the owner's manual, and that for the LX-3 is—typically, for a Nakamichi—superb. Because this model will attract owners less deeply committed to the tape medium than those willing to spend \$1,000 or more on a deck, the manual is even more important than that for, say, the 700ZXL, but it has been prepared with no less care. Its language, its organization, and its graphics all conspire to lead the reader—whatever his level of technical competence—to the information he wants with a minimum of fuss and effort and a maximum of clarity. We wish more manuals were like this one.

AUDIO New Equipment Reports

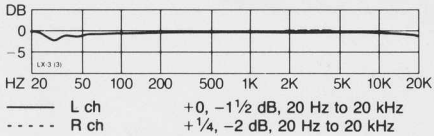
PLAYBACK RESPONSE (TDK test tape; -20 dB DIN)



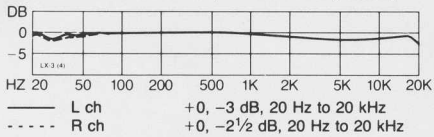
RECORD/PLAY RESPONSE, TYPE 2 TAPE (-20 dB)



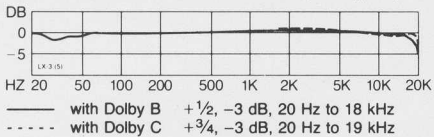
RECORD/PLAY RESPONSE, TYPE 4 TAPE (-20 dB)



RECORD/PLAY RESPONSE, TYPE 1 TAPE (-20 dB)



RESPONSE WITH NOISE REDUCTION (R/P; Type 2)



S/N RATIO (re DIN 0 dB; R/P; A-weighted)	Type 2 tape	Type 4 tape	Type 1 tape
without noise reduction	57 1/2 dB	56 dB	54 3/4 dB
with Dolby B	65 dB	64 dB	62 3/4 dB
with Dolby C	71 dB	70 dB	68 dB

METER READING FOR DIN 0 DB

+4 dB

METER READING FOR 3% DISTORTION (333 Hz)

Type 2 tape +5 dB
 Type 4 tape +8 dB
 Type 1 tape +7 dB

DISTORTION (third harmonic; at -10 dB DIN)

Type 2 tape 0.10% at 500 Hz;
 ≤ 0.63%, 50 Hz to 5 kHz
 Type 4 tape 0.14% at 500 Hz;
 ≤ 0.24%, 50 Hz to 5 kHz
 Type 1 tape 0.31% at 500 Hz;
 ≤ 0.50%, 50 Hz to 5 kHz

ERASURE (333 Hz; re DIN 0 dB)

≥ 69 dB

CHANNEL SEPARATION

46 1/2 dB

SPEED ACCURACY

0.1% slow, 105-127 VAC

WOW & FLUTTER (ANSI/IEEE weighted peak)

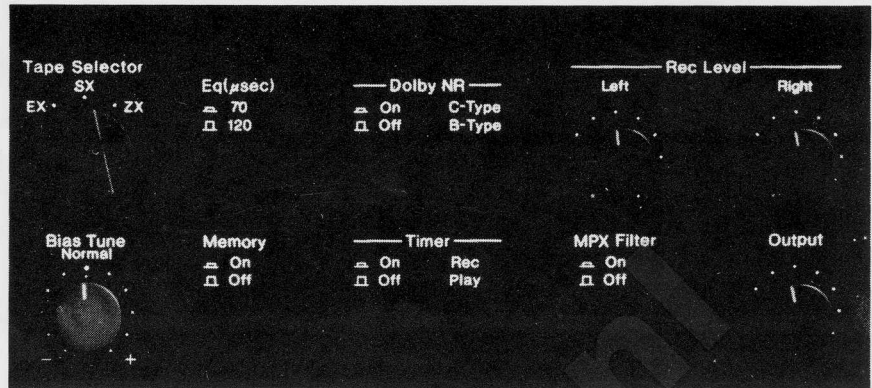
	average	maximum
playback	±0.06%	±0.09%
record/play	±0.08%	±0.11%

SENSITIVITY (re DIN 0 dB; 333 Hz)

line input 86 mV

MAX. OUTPUT (from DIN 0 dB)

1.25 V



All controls, other than those for the transport, are hidden behind a door on the LX-3's front panel. These include the recording and output level controls, bias and EQ selectors, and a fine-bias adjustment.

The explanation for the use of the bias adjustment is particularly critical because this is a two-head deck (preventing you from monitoring the playback output while you're recording) without an oscillator or other devices to aid in bias tuning. In this situation, many manufacturers will tell you, in effect, to "turn the knob until you like what you hear." The LX-3 manual says that the deck is adjusted for use with Nakamichi's own tapes (DSL used SX ferricobalt for all the Type 2 measurements, EX-II as the Type 1 ferric, and ZX as the Type 4 metal) and will give best results with these tapes when the bias control is at its center detent. If you want to try other tapes, there is a list of recommended settings for starters and the admonition that you should record a little on the tape, rewind, and compare the recorded sound to the source. If the tape is bright, add bias; if it's dull, reduce bias. Many manuals don't tell you how to judge whether the bias should be raised or lowered and, worse, never bother to introduce the concept of *matching* the source sound. Bias tuning on a two-head deck with no oscillator is always a bit chancy; Nakamichi's approach is the sanest we've seen.

Aside from the combination record/playback head in the LX-3, there are several things the fancier Nakamichis offer that you won't find here. There are no mike inputs; you must use an outboard mixer/preamp if you want to do live recording—which many recordists don't. The meter range is as broad as we've come to expect on Nakamichis (from -40 to +10 dB), but there are fewer subdivisions than on the 700ZXL, and there is no peak-hold cursor. We'd still judge the metering more useful than average in the LX-3's price class, but we do miss the peak-hold feature. Though

there's a bias adjustment, there's no tape-sensitivity trimmer to keep the Dolby tracking exact. Sensitivity varies less from brand to brand these days than once was the case (unless you buy off brands), so the trimmer is less important than it used to be—at least for Dolby B. Dolby C's greater expansion factor in playback can exaggerate any mismatch that exists, making it important that you stay with quality tapes (if not Nakamichi's own) for good results with this deck. And, of course, there's nothing here like the elaborate random-access system of Nakamichi's top models.

The lab measurements range from good to excellent. Response in this class would have been considered excellent in a three-head deck and virtually impossible in a two-head model only a few years ago. Most startling are the high-level curves (at DIN 0 dB, in particular) made on the DSL test bench. With Type 2 tape, the results are better than average (and are improved by Dolby C, of course). With metal tape, response remains flat almost to 10 kHz with no noise reduction and almost to 20 kHz with Dolby C. Although response as such is less important than compression characteristics at these high levels and high frequencies, these curves are impressive.

No deck can be all things to all users, and some features must be curtailed if a deck's price is to remain reasonable. The curtailment in the LX-3 strikes us as very canny, resulting in a design of very wide appeal. To put it another way, it's surprising how many of the attributes of Nakamichi's top models have been retained in this relatively modest deck. And because many recordists can't afford the top models, this is good news, indeed.

Circle 134 on Reader-Service Card



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