



A Pirate's Dream: the Nakamichi 550

The Equipment: Nakamichi 550, a battery-portable Dolby stereo cassette deck in metal and vinyl case, with AC adapter, automotive cigarette-lighter adapter, vinyl "raincoat," removable shoulder strap, and incidental accessories. Dimensions: 3¾ by 12½ inches (front); 13 inches deep plus allowance for controls and connections.

Comment: Some years ago, when the cassette deck was still settling itself into position as a major home-entertainment product format, a reader wrote us to inquire why there were no high-performance battery cassette portables (comparable to the open-reel Uher 4400, for example). We replied that the format was still new and that designers—presumably in search of the broadest possible market for their designs—seemed timid about attempting overly specialized models. But, we said, the apparent success of the cassette led us to believe that such models would come in time. The Nakamichi 550 richly justifies that opinion. It is a superb unit, and one that—for many advanced amateurs and even, we suspect, some professionals—will be the portable of any description to own. (It comes with a plastic cover, or "raincoat," as Nakamichi dubs it, and a deluxe carrying case should be available as an accessory this fall.)

Nakamichi avoids the "portable" designation, preferring to call the 550 a "versatile cassette system." One reason for keeping the AC supply as a separate unit, the company points out, is to minimize hum; the AC/DC design is desirable for performance reasons, even if the deck never is used as a portable. But it is portable, and many of its features are excellently—even uniquely—adapted to portable use.

The transport and cassette well appear identical to those in the Nakamichi 500, which might be thought of as the home AC version of the 550 but for the many extra features on the latter. Like the 500 it has a combined record/play head (rather than the separate heads of the more expensive Nakamichi decks). Transport levers are fully interlocked so that you can go from one wind mode to another only via "stop." The stop button doubles as an eject, depending on the pressure you apply. All transport functions shut off automatically at the end of a cassette side.

The meters are of the peak-reading type, calibrated for a 0-VU indication at Dolby reference level and therefore below DIN 0 VU. The meters also have red marks at -8 VU, indicating the approximate setting for a 0-VU open-reel tape when you are dubbing it to the Nakamichi. This allows for the much greater headroom, above its 0-VU reference, of the open-reel medium by comparison to cassettes. The meters both have additional scales; that for the right channel indicates DC supply voltage as a battery check, that for the left channel shows (in recording or playback) the percentage of the cassette tape that already has passed the

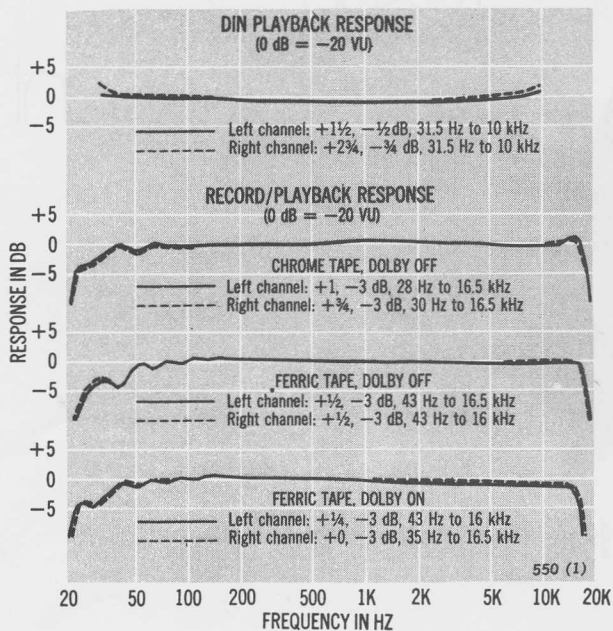
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heads. It is quite accurate, passing from below 0% to above it shortly after the leader at the head of the tape has run out, and reaching the 100% indication two or three minutes before the end of a cassette side. We found this an extremely useful feature in live recording—particularly with the 550 slung over a shoulder, which makes viewing of the cassette itself somewhat awkward. It also inhibits visibility of the markings on the transport levers, but we soon learned to operate them by touch alone.

There is a second tape-end warning system: a little red LED that begins flashing at a point preset by a slider next to the tape counter just beyond the cassette well. In normal use the slider is preset by first rewinding a cassette of the size (C-60 or C-90) you will be using, starting at the end of the side, for five seconds, then putting the transport in play and adjusting the slider for bare visibility of the alarm light. When this has been done, the light begins to flash at about the time the meter reaches the 100% calibration. Alternatively, the slider can be used to set the light for more advanced warning. Let's say you are recording several takes of a piece that lasts almost 15 minutes and want to be sure the tape won't run out in the middle of a take. Fast-wind the tape to the end, turn it over, and let it play for 15 minutes; then turn the tape back to the first side and adjust the slider. When you next record on the tape, the alarm light will flash 15 minutes before the end, warning that you must turn the tape if you want to start another full take.

Below the meters is a series of buttons: power on/off, meter lamp on/off (to conserve battery power when illumination is not needed), limiter on/off, Dolby in/out, tape "normal"/chrome, and meter level/check. This last is spring-loaded so that it returns to level indication when you have checked tape use and/or battery charge. The

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normal tape is Nakamichi's EX, which we have found to be interchangeable with Maxell UD. (Two newer tapes, Maxell UDXL and the improved TDK ED, would appear to be appropriate as well—see "News and Views," July 1975.) Between the metering button and the tape-end warning light is a stereo headphone jack; beyond the light is a slider that adjusts headphone output levels—a welcome feature, particularly in a portable, where headphone monitoring often is a necessity.

The mike inputs are phone jacks at the right of the meters, and the recording level controls are to their left. Friction-clutched elements control left and right channels. A separate knob controls a third mike input: Nakamichi's "blend" or center-channel mike. This mono mike input is a useful feature of all Nakamichi decks. It, together with the left and right mike inputs, is referred to in advertising literature as "three-point pickup"—in effect making the recording-level controls a three-in, two-out mike mixer that is particularly useful in live miking of a soloist (on the blend mike) with a backup group (miked as conventional stereo). Unlike the other Nakamichis, however, the 550 does not allow for mixing stereo mikes with stereo line inputs, though the blend mike can be mixed with line inputs.

The line inputs and outputs (a choice of either four pin jacks or a multipin DIN connector) are at the back, which becomes the bottom of the unit when it is suspended from the supplied shoulder strap. Next to the output jacks are screwdriver controls for adjusting output level in each channel. There is a small slider switch that inserts a 19-kHz filter for making Dolby recordings from FM; next to it a four-pin DIN jack accepts power from either the AC converter/supply or the automobile cigarette-lighter adapter (both supplied). Note that the drive motor is a servo-controlled DC type that needs no AC for speed regulation. The battery compartment, which accepts eight D cells (not supplied), is at the far end. Alkaline or regular carbon-zinc cells can be used. Nakamichi has not allowed for recharging of nicads because it believes their high cost—and weight—are not justified with the 550, which is rated for 15 hours of continuous operation on standard cells, thanks to special attention given in the design to efficient power use. The headphone amp, for example, turns itself on only when a plug is inserted into the headphone jack. But if you must use nicads, they can always be fired up in a separate recharger.

Next to the battery compartment are four screwdriver adjustments (one for each channel and each tape-switch position) for Dolby recording calibration and an on/off button for a built-in 400-Hz test oscillator. When this switch is on it feeds the test tone into the recording circuit at Dolby reference level (0 VU on the meters). If you record a few seconds of this tone and play it back, the meters

Nakamichi 550 Additional Data

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|---------------------------------------|------------------------|-----------------|
| Speed accuracy | 0.16% fast at 105 VAC | |
| | 0.26% fast at 120 VAC | |
| | 0.26% fast at 127 VAC | |
| Wow and flutter | playback: 0.07% | |
| | record/play: 0.09% | |
| Rewind time (C-60 cassette) | | 102 sec. |
| Fast-forward time (same cassette) | | 106 sec. |
| S/N ratio (re 0 VU, Dolby off) | | |
| playback | L ch: 51½ dB | R ch: 51½ dB |
| record/play | L ch: 49½ dB | R ch: 49½ dB |
| Erasure (333 Hz at normal level) | | 68 dB |
| Crosstalk (at 333 Hz) | | |
| record left, play right | | 45 dB |
| record right, play left | | 45 dB |
| Sensitivity (re DIN 0 VU) | | |
| line input | L ch: 90 mV | R ch: 90 mV |
| mike input | L ch: 0.4 mV | R ch: 0.4 mV |
| blend mike | | 0.4 mV |
| Meter action (re DIN 0 VU) | | |
| | L ch: 4 dB high | R ch: 4 dB high |
| Total harmonic distortion (at -10 VU) | | |
| L ch | <2.4%, 50 Hz to 10 kHz | |
| R ch | <2.6%, 50 Hz to 10 kHz | |
| IM distortion (record/play, -10 VU) | | |
| L ch | 4.0% | R ch: 3.5% |
| Maximum output (re DIN 0 VU) | | |
| L ch | 0.87 V | R ch: 0.85 V |

should again read 0 VU; if not, you can make necessary adjustments on the four controls—which therefore will permit use of tapes that differ only in sensitivity (not in bias or equalization requirements) from those for which the 550 is set up. (The new TDK SA, for example, is similar to chromes except in delivering somewhat higher output level.)

CBS Labs tested the 550 with Nakamichi's own EX (or, where indicated, chromium dioxide) tape. The response curves are excellent—bettered only by Nakamichi's own Tri-Tracer design (with separate playback head) at the top end and by very few models at the extreme low end. And in between the curves are exceptionally flat. In this and other respects the 550 easily exceeds Nakamichi's specs. Crosstalk (at -45 dB) has been topped in only two other units we've tested (Advent 201 and Yamaha TB-700) and is in fact better than that of typical program sources like phono pickups and FM tuners. Other measurements, while less spectacular, are consistent with those for other high-quality decks. The S/N measurement did disappoint us a bit, however; at just shy of 50 dB (unweighted, Dolby off) in record/play with either the AC supply or battery it is acceptable, but we had hoped for exceptional performance in this respect.

Our first thought on seeing the 550 was: Just what the surreptitious recordists have been looking for! For really surreptitious recordings it is a bit on the bulky side. (It weighs a little over 11 pounds without battery, over 15 pounds with battery and shoulder strap.) But for less furtive purposes—whether in or away from home—the design is admirably conceived and neatly executed. We know of no tape unit that will record up to 45 minutes uninterrupted (on C-90 cassettes—or reels) with more quality and with comparable ease of portability (including spare tapes), to say nothing of the ingenious tape-end warning systems nor of the three-point miking. The 550 is a design that sets new standards in its field.

importeur



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