

# 224X-DS

## Type II Noise-Reduction System

Consider this: Compact Discs offer a dynamic range of 90dB or more, but cassette tapes, even the highest-performance metal ones, can deliver only 55 to 60dB. Does this mean that it's hopeless to try and capture CD sound on tape? Not if you have the 224X-DS Type II Noise-Reduction System.

The key is in compressing the dynamic range at a linear ratio of 2:1 during recording, and expanding it

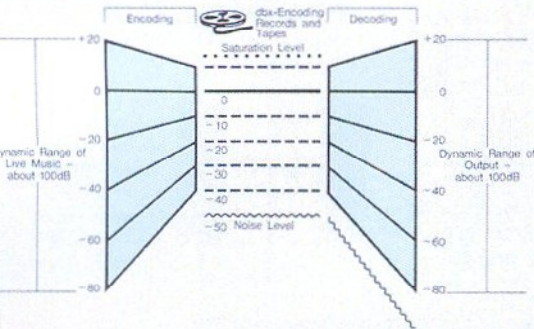
back at a ratio of 1:2 ratio during playback. This process makes it possible for cassette tapes to rival Compact Discs and other PCM digital recordings in terms of dynamic range. Type II noise reduction cuts noise by as much as 40dB across the audible range, while increasing the tape's saturation level.

Just imagine the thrill of a crisp drum roll as it emerges from total silence, or the breathtaking hush that follows an explosive crescendo. They

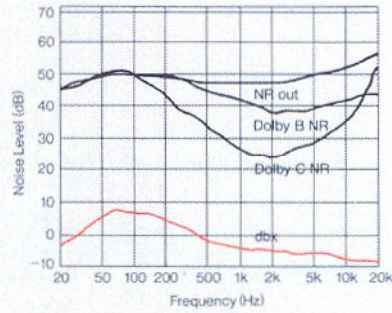
are yours to enjoy from any tape you record, open-reel or cassette, with the dbx 224X-DS.

Conventional noise-reduction systems reduce tape hiss only from limited areas of the audio frequency range; the dbx system virtually eliminates it entirely from the audible frequency range. Moreover, dbx is insensitive to the level-matching problems of other noise-reduction systems. (For precise encode/decode matching, however, we've provided level-matching controls and LED indicators on the 224X-DS.)

The unit contains two dbx Type II noise-reduction circuits—a decoder and an encoder—so that you can monitor the decoded sound on a 3-head deck while recording. And since the 224X-DS allows for connection of two tape decks, you can make dbx-encoded recordings on both simultaneously. Dubbing between the two (Tape 1 to Tape 2) is also possible with or without encoding.



Record/Playback Process for dbx Encoding/Decoding



Reduction of Noise by Three NR Systems