

dbx

140

Type II broadcast noise reduction system

The dbx Model 140 simultaneous encode/decode broadcast noise reduction system is a two-channel compressor/expander providing a minimum of 30 dB broadband audio noise reduction with a 10 dB increase in system headroom. The two channels feature independent encode and decode circuitry.

In the record mode, the system compresses the input signal by a 2:1 ratio, linear in decibels over a 100 decibel range. Upon playback, the circuitry produces an exact mirror image 1:2 expansion of the encoded signal.

True RMS level sensing insures perfect encode/decode tracking for accurate transient response irrespective of phase shifts in the transmission or storage medium. There is no audible breathing, pumping or other coloration of the sound with this encode/decode system, and there are no pilot tones or routine calibration procedures necessary for its use.

The dbx system eliminates tape hiss in recording, and prevents the noise build-up normally encountered in transferring information from one recorded medium to another; it does not remove noise present in the original signal. The dbx 140 noise reduction system is built to professional standards using the latest advances in circuit design and technology, and is fully warranted (parts and labor) for two years.

Application

For recording live announce or studio productions on cartridges, the dbx Model 140 noise reduction system completely eliminates the tape hiss which usually accompanies the recording process. This allows spots or other program content originating on cartridges (historically the noisiest link in the broadcast chain) to approach the sound quality of live broadcasting.

When used for transfer of program material to cartridge from other recorded sources, dbx encoding prevents any additional noise build up beyond that contained in the original material.

The result of dbx encoding is to minimize the audible quality differences between cart playback and live announce, or between one cart and another. dbx encoding also minimizes the effect of "automated sound" and allows a fully automated station to approach live sound quality.

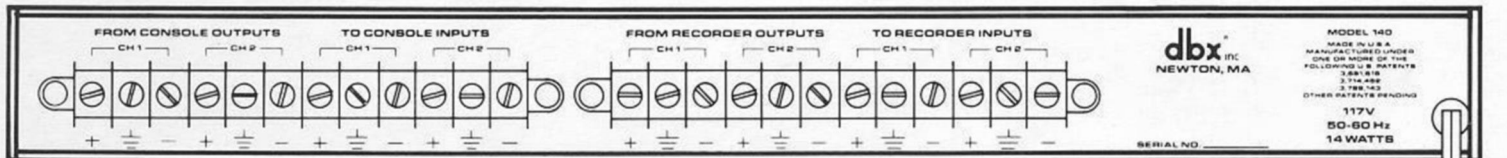
Non-cartridge-related broadcast uses for the dbx 140 system include improving the signal-to-noise ratio of reel-to-reel studio recorders, eliminating hiss from TV audio tracks and cleaning up noisy full-frequency land lines or microwave links from the studio to the transmitter. A modest investment in dbx 140 noise reduction units can protect a much larger investment by prolonging the useful life of major studio equipment and installations that might not otherwise meet contemporary performance standards.

The dbx 140 may also be used as a playback-only device to decode dbx encoded discs or tapes for broadcast.

Features

- 30 dB broadband audio noise reduction
- 10 dB added system headroom
- true RMS level detection for perfect encode/decode tracking
- linear decibel compression/expansion over a 100 dB range eliminates need for pilot tones or level matching
- electronically balanced input
- provision for Jensen output transformers
- LED function indicators
- requires only 1 3/4" rack panel space
- decodes dbx encoded discs
- two channels with independent encode and decode electronics for simultaneous monitoring of encoded signal





Specifications

Input impedance

75 kohm balanced
54 kohm single ended

Output impedance

Low, designed to drive 600 ohm or greater

Input level

+24 dBm maximum

Output level

+24 dBm maximum into 600 ohm

Distortion

<.5% THD 30 Hz to 100 Hz
<.1% THD 100 Hz to 20 kHz (encode/decode)

Equivalent input noise

Unweighted, 20 kHz bandwidth, -85 dBm

Frequency response

±.5 dB 40 Hz to 20 kHz, -1 dB @ 30 Hz,
(encode/decode, typical program material tracking)

Slew rate

>10V/μ sec.

Effective noise reduction

30 dB plus 10 dB of headroom

Dynamic range (peak signal to A weighted background noise)

110 dB

Optional output transformer

Jensen #JE 123-S-PC or JE 123-S-LPC

Dimensions

1 3/4" H × 19" W × 12 1/2" D
(4.4 cm × 48.3 cm × 31.8 cm)

Power line

117 VAC, 50-60 Hz

Power consumption

15 W

Warranty

dbx products are covered under a limited warranty (parts and labor) for two years from date of original purchase

dbx[®]

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Specifications subject to change without notice. Manufactured under one or more of the following U.S. patents: 3,681,618; 3,714,462; 3,789,143; 4,101,849; 4,097,767. Other patents pending.
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