

DBX: A MAJOR STEP TOWARD SONIC REALISM.
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When you decide to upgrade your stereo system – whether you add the latest cartridge, buy separates, or trade in the whole system – you do it for one reason only. To get closer to the realism of a live performance.

dbx has been designing audio products since 1971 that let you do just that.

We started in the professional recording studios, where the major obstacle to realistic sound reproduction was tape noise. While Dolby* systems were helping in this area, they didn't solve the problem. So dbx developed a new process called *linear decibel companding* that's many times more effective than Dolby in reducing tape noise.

Today, dbx tape noise reduction systems are used in professional recording studios around the world.

From that beginning, dbx has carried its technology into home systems with a whole family of audio components.

They are not ordinary components. We let other companies build receivers, amplifiers, preamplifiers, turntables and tape recorders. At dbx, we develop high technology products for the person who appreciates how live music sounds, and how far short of that sound conventional equipment falls.

WHY DOES LIVE MUSIC SOUND LIVE?

A live performance *sounds* live because of three basic characteristics of music: *tonal balance*, *spatial perspective*, and *dynamic range*.

Correct tonal balance, or flat frequency response, requires uniform reproduction of sound across the audible frequency range.

Spatial perspective is the dimensional quality of music that allows you to recognize that instruments and voices are reaching your ears at different times and from different locations.

The third, dynamic range, is the difference in volume, measured in decibels, between the loudest and quietest passages of a musical selection. From the 120 dB thundering transients of an orchestra or rock group, to the 30 dB subtle nuances of a triangle or flute.

In order for your stereo system to sound more like a live performance, it has to accurately reproduce all three of these basic characteristics of live music.

When dbx entered the high fidelity scene, audio manufacturers had already made a lot of progress in tonal balance and spatial perspective. So dbx began by addressing the problem everyone else was ignoring: *dynamic range*.

THE MISSING ELEMENT.

The problem is that conventional records have always been severely limited in dynamic range. Instead of the 90 dB of a live performance, they provide only 50 dB, or 60 dB from the best audiophile discs. Any attempt to record music with greater dynamic range on a vinyl record results in groove excursions simply too extreme for the phonograph stylus to track.

A similar problem exists with tape. Too wide a dynamic range can saturate the tape, causing distortion of the music.

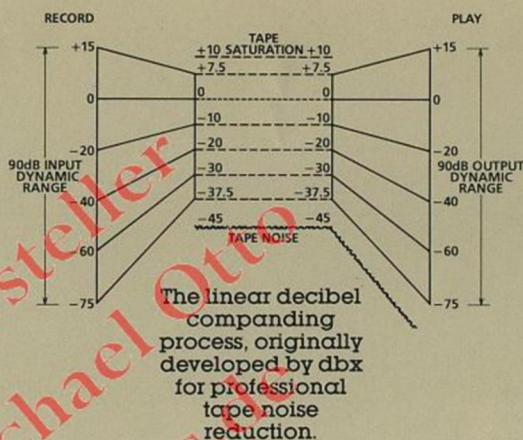
So, audio engineers have been forced to compress dynamic range during recording. They actually squeeze the music, so the louds don't sound as loud as they should, and the softs don't sound as soft. Add to that the problems of record surface noise and tape hiss – which interfere with quiet musical passages – and you can appreciate how dynamic range has suffered in the music recording and reproduction process.

In fact, even with the finest hi-fi equipment and the best conventional records and tapes, you still lose about 1/3 of the dynamic range that was present in the original performances.

THE DBX BREAKTHROUGH.

The breakthrough came when dbx applied the linear decibel companding process to home audio equipment. Because the process not only reduces noise. It also allows the full dynamic range of the source material to be reproduced.

Our first products were tape noise reduction systems used for taping live music without losing dynamic range.



Then we adapted this process to develop a new family of products which you can use to greatly improve the dynamic range of music from conventional records and tapes as well as radio broadcasts. This new family of products is called *dynamic range expanders*.

But the major goal still remained: to hear the *full* dynamic range of a live performance from records in your own home.

DBX DISCS: THE STATE-OF-THE-ART IN DYNAMIC RANGE.

Again, linear decibel companding was the answer.

Very simply, dbx went to the source of the problem: the actual cutting of the master disc from which records are eventually made. Instead of arbitrarily compressing or limiting dynamic range as the music signal is transferred from master tape to master disc, dbx precisely compresses the music by a 2 to 1 ratio. The resulting *encoded* signal fits comfortably within the

dynamic range limitations of vinyl records. Then, when the record is played back through a dbx Disc Decoder, the music signal is expanded in an exact mirror image fashion by a 1 to 2 ratio. This restores the full signal of the music as captured on the master tape.

Now, with dbx Discs, you can hear music with dynamic range equal to that of studio master tapes.

And recently, dbx introduced Digital dbx Discs, produced from tapes made by the new digital recording process. The result is the full 90 dB dynamic range of a live performance.

In addition, dbx Discs and Digital dbx Discs virtually eliminate the ticks, pops and surface noise of conventional records. So for the first time, you can listen to the music instead of the record – a major breakthrough in music reproduction.

PERFECTING TONAL BALANCE AND SPATIAL PERSPECTIVE.

Now dbx is attacking the remaining problems in reproducing sound that approaches the realism of a live performance.

Our Subharmonic Synthesizer can enhance the bass response of your stereo system to include the natural subharmonics of live music – the kind of bass you actually *feel*.

And our Computerized Equalizer/Analyzer can provide an accuracy of tonal balance in a listening area never before possible.

Take a look at the family of dbx audio components and what they can do for your music. Then ask your authorized dbx retailer for a demonstration.

It could be the most important step you ever take toward sonic realism.

*Dolby is a registered trademark of Dolby Laboratories, Inc.

RECORDING TECHNOLOGY SERIES MODEL 224.

For home recording, the 224 gives you performance incredibly close to digital recording.

Without the 224, you can only hope for about a 50 dB usable dynamic range with an open reel deck, and just 45 dB with a cassette deck.

But the 224's linear decibel compressing process gives you an unprecedented 85 dB on open reel, and 80 dB on cassette. That's very close to the dynamic range of a live performance.

The 224 also gives you far better tape noise reduction than the Dolby* B system that is built into most tape recorders. Dolby reduces noise by less than 10 dB, and only in the high frequency range. But the 224 reduces noise by more than 30 dB across the entire audio frequency range, and adds 10 dB more recording headroom. That's a difference you can easily hear.

So just by adding the 224 to your

present tape recorder, you'll enjoy the maximum performance it is capable of delivering. In fact, you'll be able to record sound that is virtually indistinguishable from the original.

The 224's simultaneous encode/decode process provides full monitoring capability for three-head recorders, and is also compatible with all two-head recorders.

In addition, the 224 includes a built-in dbx Disc Decoder for playing the new dbx Discs and Digital dbx Discs.

MODEL 222

The Model 222 is the newest member of the Recording Technology Series. It gives you all the performance of dbx Type II Tape Noise Reduction at an economical price.

Designed for optimum use with two-head recorders, the Model 222 has separate encode (record) and decode (play) functions but no monitoring capability. However, it provides the same 30 dB of noise reduction as the Model 224, and includes the dbx Disc Decoder for playing the new dbx Discs and Digital dbx Discs.

SPECIFICATIONS

EFFECTIVE NOISE REDUCTION: 30 dB plus 10 dB of headroom

DYNAMIC RANGE (peak signal to weighted background noise): 110 dB

INPUT IMPEDANCE: 100 k Ω (designed to be driven from a source impedance of less than 10 k Ω)

INPUT LEVEL (nominal): 300 mV

INPUT LEVEL (maximum): 6 VRMS

OUTPUT IMPEDANCE (designed to drive 5 k Ω or greater): 100 Ω

OUTPUT LEVEL (maximum, 20 Hz to 20 kHz, 5 k Ω load): 5.5 VRMS

FREQUENCY RESPONSE: ± 0.5 dB 40 Hz to 20 kHz, -1 dB @ 30 Hz (typical program material tracking)

SLEW RATE: > 10 V/ μ s

EQUIVALENT INPUT NOISE (unweighted, 20 kHz bandwidth, referenced to 1 V): -85 dBV

TOTAL HARMONIC DISTORTION: $< 0.5\%$, 30 Hz to 100 Hz, $< 0.1\%$ 100 Hz to 20 kHz

I.M. DISTORTION (SMPTE): $< 0.2\%$

POWER LINE REQUIREMENT: 117 VAC, 50 to 60 Hz (Consult Factory for Non-U.S. Line Voltages)

POWER LINE CONSUMPTION: 7 W

DIMENSIONS: 1 $\frac{3}{4}$ " H x 17 $\frac{5}{16}$ " W x 7 $\frac{1}{2}$ " D
4.4 cm x 44.0 cm x 19 cm

Standard 19" Rack Mounts are supplied with unit

SHIPPING WEIGHT: 6 lbs. / 2.7 kg

Wood sides are available as an option.



128 DYNAMIC RANGE ENHANCER/TAPE NOISE REDUCTION SYSTEM.

The Model 128 offers you a wide range of capabilities.

For one, it includes the unique dbx Type II Noise Reduction process like that of the Model 224 for recording music with full dynamic range and reducing tape noise to virtually inaudible levels.

For another, it can enhance the realism of conventional records and tapes by expanding dynamic range.

In fact, the 128 has the capability to produce benefits which would normally require two separate dbx components. For example, you can first record your music through the dbx encoding circuitry. This retains the

dynamic range of the original recording (when played back through the decoder), without adding any audible tape hiss. Then you can increase the dynamic range of the tape still further by using the 128's expander section.

You can also use the 128 for compressing the music signal in those instances where large volume variations are undesirable, such as for background music or car stereo tapes. (See the 118 Dynamic Range Enhancer.)

It also includes a built-in Decoder for playing dbx Discs and Digital dbx Discs.

SPECIFICATIONS

EXPANSION RATIO: Enhancer section,

continuously variable from 1.0 to 2.0

COMPRESSION RATIO: Enhancer section, continuously variable from 1.0 to infinity

EFFECTIVE NOISE REDUCTION: dbx Tape Noise Reduction section, 30 dB plus 10 dB of headroom

DYNAMIC RANGE (peak signal to weighted background noise): 100 dB

INPUT IMPEDANCE: 50 k Ω

INPUT LEVEL (nominal): 300 mV

INPUT LEVEL (maximum): 6 VRMS

OUTPUT IMPEDANCE (designed to drive 5 k Ω or greater): 470 Ω

OUTPUT LEVEL (maximum, 20 Hz to 20 kHz): 5.5 VRMS

FREQUENCY RESPONSE: Enhancer section, 20 Hz to 20 kHz \pm 1.0 dB
dbx Tape Noise Reduction section, 30 Hz to 20 kHz \pm 1 dB

(typical program material tracking)

EQUIVALENT INPUT NOISE (unweighted, 20 kHz bandwidth, referenced to 1 V): -85 dBV

TOTAL HARMONIC DISTORTION: Enhancer section, 0.1% typical @ 1.0 expansion, 20 Hz to 20 kHz
dbx Tape Noise Reduction section, < 0.5% typical, 30 Hz to 100 Hz, < 0.1% typical, 100 Hz to 20 kHz

I.M. DISTORTION (SMPTE): 0.2% typical
POWER LINE REQUIREMENT: 117 VAC, 50 to 60 Hz (Consult Factory for Non-U.S. Line Voltages)

POWER LINE CONSUMPTION: 10 W
DIMENSIONS: 3 $\frac{3}{4}$ " H x 11" W x 10 $\frac{3}{8}$ " D
9.5 cm x 27.8 cm x 26.3 cm

SHIPPING WEIGHT: 8 lbs. / 3.8 kg

Rack Mount Kit available as an option.



21 DISC DECODER.

The Model 21 Disc Decoder is an economical way for you to enjoy the new dbx Discs and Digital dbx Discs. It's even inexpensive enough to use with a second stereo system in a family room or office.

Just connect the Model 21 to your system and you'll be able to play our complete library of dbx Encoded Discs. (The 21 can also be used to play back dbx encoded tapes which will be available soon.)

dbx Discs are produced using the finest conventional studio master tapes and deliver all their dynamic range. The Digital dbx Discs, encoded from digital master tapes, are the world's first records to reproduce the full 90 dB of a live performance – for a degree of excitement and impact that has to be heard to be believed.

In addition, dbx Discs virtually eliminate the pops, ticks and surface noise that plague conventional records. For the first time, you can listen to the music, not the record.

dbx Discs and Digital dbx Discs are by far the most extraordinary reproduction of realistic music dynamics available today.

Ask your authorized dbx retailer for a dbx Disc catalog.



SPECIFICATIONS

DYNAMIC RANGE (peak signal to weighted background noise): 100 dB
INPUT IMPEDANCE: 100 k Ω
INPUT LEVEL (nominal): 300 mV
INPUT LEVEL (maximum): 6 VRMS
OUTPUT IMPEDANCE (designed to drive 5 k Ω or greater): 470 Ω
OUTPUT LEVEL: 5.5 VRMS
FREQUENCY RESPONSE: dbx Type II
Decoding curve, ± 0.5 dB 30 Hz to 15 kHz
(typical program material tracking)
HUM AND NOISE: ("A" weighted, 20 kHz bandwidth referenced to 1 V)
< - 100 dBV
TOTAL HARMONIC DISTORTION: < 0.2%
@ 1 kHz (encode/decode) up to 4 VRMS output
I.M. DISTORTION (SMPTE): < 0.2%
POWER LINE REQUIREMENT: 117 VAC,
50 to 60 Hz (Consult Factory for Non-U.S. Line Voltages)
POWER LINE CONSUMPTION: 5 W
DIMENSIONS: 2 $\frac{3}{4}$ " H x 8 $\frac{3}{4}$ " W x 6 $\frac{5}{8}$ " D
7.0 cm x 22.2 cm x 16.5 cm
SHIPPING WEIGHT: 2 $\frac{1}{2}$ lbs. / 1.1 kg



DYNAMIC RANGE EXPANDERS.

A dbx Dynamic Range Expander will significantly improve the sound quality of all your conventional records and tapes, and even FM broadcasts.

First, it will increase the dynamic range of your music by as much as 50% to give you much of the excitement and impact of a live performance.

Second, a dbx Dynamic Range Expander can reduce annoying tape hiss and record surface noise by as much as 20 dB. Such a marked reduction in these distracting noises will dramatically increase your listening pleasure.

In short, you'll hear a sound quality you've never heard before from your entire music library. All because of the dramatic strides dbx has made with this remarkable technology.

A dbx Dynamic Range Expander is available for every system and every budget.

3BX. The 3BX is the most advanced dynamic range expander ever developed. It restores much of the drama, impact and excitement of a live performance by making loud passages louder and soft passages quieter. Bass, midrange and treble frequencies are sensed in the music signal and expanded individually for extraordinary clarity of sound from even the most complex musical material. Three rows of LEDs are used to monitor the degree of expansion in each of the three frequency ranges. An expansion level control lets you select the amount of expansion you want, up to 50%. And, with the transition level control, you can adjust the threshold of expansion to vary the level above which the music signal is upward expanded and below which it is downward expanded. The 3BX is the most sophisticated and flexible dynamic range expander on the market today. With it, you can bring new

life to your entire record and tape collection as well as dramatically increase your enjoyment of radio broadcasts. The 3BX is provided with a tape monitor loop to replace the one used on your receiver or preamp.

3BX-R Remote Control. The 3BX-R not only allows you to operate your 3BX Dynamic Range Expander at a remote location, it also gives you more control capability. It includes a release time control for adjusting the reaction time of the 3BX to the type of music you're playing - fast for high energy rock, slow for quiet symphonies. There's also a fade switch for automatically lowering the music level for fade down or raising the level for fade up - ideal for making professional fades during recording. Other features include a master volume control for your entire system, a 3BX bypass switch, and LED displays that indicate the operational mode of the 3BX. A 25-foot cable comes with the 3BX-R, and a 25-foot extension cable is available as an option.

SPECIFICATIONS

EXPANSION RATIO: Continuously adjustable from 1.0 to 1.5 (0 to 50% increase), linear in decibels

DYNAMIC RANGE (peak signal to weighted background noise): 100 dB

INPUT IMPEDANCE: 50 k Ω

INPUT LEVEL (nominal): 300 mV

INPUT LEVEL (maximum): 7 VRMS

OUTPUT IMPEDANCE (designed to drive 5 k Ω or greater): 100 Ω

OUTPUT LEVEL (maximum, 20 Hz to 20 kHz): 7 VRMS

FREQUENCY RESPONSE: 20 Hz to 20 kHz ± 0.5 dB @ 1.0 expansion

EQUIVALENT INPUT NOISE (unweighted, 20 kHz bandwidth, referenced to 1 V): -85 dBV

TOTAL HARMONIC DISTORTION: 0.1% typical @ 1.0 Expansion, 20 Hz to 20 kHz

I.M. DISTORTION (SMPTE): 0.15% typical

POWER LINE REQUIREMENT: 117 VAC, 50 to 60 Hz (Consult Factory for Non-U.S. Line Voltages)

POWER LINE CONSUMPTION: 30 W

DIMENSIONS: 3 $\frac{3}{4}$ " H x 17 $\frac{3}{4}$ " W x 10 $\frac{1}{4}$ " D
9.5 cm x 45.1 cm x 26.0 cm

SHIPPING WEIGHT: 12 lbs. / 5.44 kg

Rack Mount Kit and 3BX-R Remote Control available as options.

2BX. If you want dynamic range expansion technology at a lower cost than the 3BX, then the 2BX is the model for you. Its somewhat simpler circuitry divides the frequencies into two bands instead of three. Musical integrity of the bass and treble is maintained so that, for example, you can expand the dynamic range of highly percussive music, either rock or classical, without causing the high and middle frequencies to track the low frequency dynamics of the music. The 2BX has two rows of LEDs for monitoring expansion in each of its bands. As with the 3BX, you can select the expansion you want (up to 50%) and adjust the transition level using the two controls provided for these purposes. Except for the most critical applications, the 2BX offers an ideal choice for increasing the dynamic range of your stereo system and your enjoyment of recorded music. Like the more expensive 3BX, the 2BX features PRE/POST recorder selection to allow you to expand either before or after the tape recorder connected to the 2BX. This tape loop replaces the one used on your receiver or preamp.

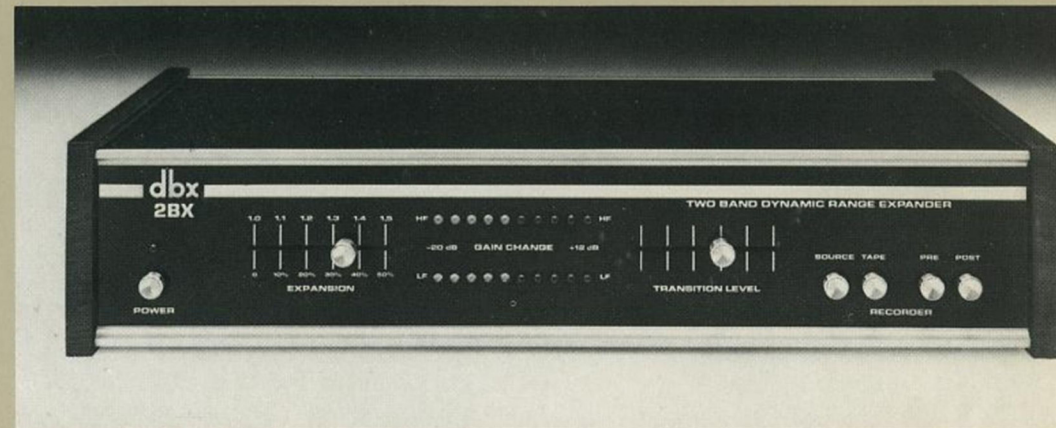
SPECIFICATIONS

EXPANSION RATIO: Continuously adjustable from 1.0 to 1.5 (0 to 50% increase), linear in decibels
DYNAMIC RANGE (peak signal to weighted background noise): 100 dB
INPUT IMPEDANCE: 50 k Ω
INPUT LEVEL (nominal): 300 mV
INPUT LEVEL (maximum): 7 VRMS
OUTPUT IMPEDANCE (designed to drive 5 k Ω or greater): 100 Ω
OUTPUT LEVEL (maximum, 20 Hz to 20 kHz): 6 VRMS
FREQUENCY RESPONSE: 20 Hz to 20 kHz ± 0.5 dB @ 1.0 expansion
EQUIVALENT INPUT NOISE (unweighted, 20 kHz bandwidth, referenced to 1 V): -85 dBV
TOTAL HARMONIC DISTORTION: 0.1% typical @ 1.0 expansion 20 Hz to 20 kHz
I.M. DISTORTION (SMPTE): 0.15% typical
POWER LINE REQUIREMENT: 117 VAC, 50 to 60 Hz (Consult Factory for Non-U.S. Line Voltages)
POWER LINE CONSUMPTION: 20 W
DIMENSIONS: 3 $\frac{3}{4}$ " H x 17 $\frac{3}{4}$ " W x 10 $\frac{1}{4}$ " D
 9.5 cm x 45.1 cm x 26.0 cm
SHIPPING WEIGHT: 8.3 lbs. / 3.8 kg
 Rack Mount Kit available as option.

1BX. Like its 3BX and 2BX counterparts, the 1BX can increase the dynamic range of music from records, tapes and radio broadcasts by a factor of up to 50%. Its RMS level detector incorporates an infrasonic filter to prevent mis-tracking caused by turntable rumble or record warp. Ten LEDs monitor upward and downward expansion and, as with the 3BX and 2BX, a transition level is provided to select the level above which the music signal is upward expanded and below which it is downward expanded. Because of its less complex circuitry, the 1BX is priced so anyone can afford the benefits of increased dynamic range. The 1BX provides a tape monitor loop to replace the one used on your receiver or preamp.

SPECIFICATIONS

EXPANSION RATIO: Continuously adjustable from 1.0 to 1.5 (0 to 50% increase), linear in decibels
DYNAMIC RANGE (peak signal to weighted background noise): 100 dB
INPUT IMPEDANCE: 50 k Ω
INPUT LEVEL (nominal): 300 mV
INPUT LEVEL (maximum): 7 VRMS
OUTPUT IMPEDANCE (designed to drive 5 k Ω or greater): 100 Ω
OUTPUT LEVEL (maximum, 20 Hz to 20 kHz): 6 VRMS
FREQUENCY RESPONSE: 20 Hz to 20 kHz ± 0.5 dB at 1.0 expansion
EQUIVALENT INPUT NOISE (unweighted, 20 kHz bandwidth, referenced to 1 V): -85 dBV
TOTAL HARMONIC DISTORTION: 0.1% typical @ 1.0 expansion 20 Hz to 20 kHz
I.M. DISTORTION (SMPTE): 0.15% typical
POWER LINE REQUIREMENT: 117 VAC, 50 to 60 Hz (Consult Factory for Non-U.S. Line Voltages)
POWER LINE CONSUMPTION: 10 W
DIMENSIONS: 3 $\frac{3}{4}$ " H x 11" W x 10 $\frac{1}{4}$ " D
 9.5 cm x 27.8 cm x 26.0 cm
SHIPPING WEIGHT: 4.5 lbs. / 2.0 kg
 Rack Mount Kit available as option.



118 DYNAMIC RANGE ENHANCER.

The Model 118 is the most versatile dynamic range enhancer available on the market today. It is a single-band linear decibel expander, a linear decibel compressor, a limiter and a peak unlimiter. You can increase or decrease the dynamic range of any program source simply by setting the adjustable threshold level and selecting the degree of expansion or compression desired.

In the compression mode, the 118 allows the user to reduce the dynamic range of music for background music applications or when making tapes for playback in automobiles. In such instances, there's often too much ambient noise to hear the quieter passages, and turning up the volume makes the loud passages too loud. By compressing the dynamic range of your tapes, you can hear the quiet passages and not overdrive your amplifier or damage your speakers on the loud passages.

The 118 includes an adjustable peak limiter/unlimiter that allows you to limit the peak level for either recording or playback purposes.



SPECIFICATIONS

EXPANSION RATIO: Continuously variable from 1.0 to 2.0

COMPRESSION RATIO: Continuously variable from 1.0 to infinity

DYNAMIC RANGE (peak signal to weighted background noise): 100 dB

INPUT IMPEDANCE: 50 k Ω

INPUT LEVEL (nominal): 300 mV

INPUT LEVEL (maximum): 7 VRMS

OUTPUT IMPEDANCE (designed to drive 5 k Ω or greater): 470 Ω

OUTPUT LEVEL: (maximum, 20 Hz to 20 kHz): 7 VRMS

FREQUENCY RESPONSE: 20 Hz to 20 kHz ± 0.5 dB

EQUIVALENT INPUT NOISE (unweighted, 20 kHz bandwidth, referenced to 1 V): -85 dBV

TOTAL HARMONIC DISTORTION: 0.1% typical @ 1.0 expansion 20 Hz to 20 kHz

I.M. DISTORTION (SMPTE): 0.15% typical

POWER LINE REQUIREMENT: 117 VAC, 50 to 60 Hz (Consult Factory for Non-U.S. Line Voltages)

POWER LINE CONSUMPTION: 5 W

DIMENSIONS: 3 $\frac{3}{4}$ " H x 7 $\frac{5}{16}$ " W x 10 $\frac{3}{8}$ " D
9.5 cm x 18.6 cm x 26.3 cm

SHIPPING WEIGHT: 5 lbs. / 2.26 kg

110 SUBHARMONIC SYNTHESIZER.

The Model 110 is a unique product that can solve one frequency response problem common to all stereo systems.

Right now, your system can't produce bass frequencies much below 50 Hz, simply because that's the limit of most records, tapes and FM signals. That means you don't get the deepest bass notes, the kind you feel as well as hear.

The Model 110 corrects that problem. Technically, what the 110 does is easily understood. It samples the low fre-

quency fundamentals of your music. Then it passes these signals through while simultaneously reproducing them a full octave lower. Both signals are then mixed back in at relative levels that you control.

Musically, what the 110 does is extraordinary. It re-creates the natural subharmonics of the original sound, making your room vibrate with a depth of bass you've never heard before – or felt – except in a live performance.

SPECIFICATIONS

DYNAMIC RANGE (peak signal to weighted background noise): 100 dB
INPUT IMPEDANCE: 47 k Ω
INPUT LEVEL (nominal): 300 mV
INPUT LEVEL (maximum): 7 VRMS
OUTPUT IMPEDANCE (designed to drive 5 k Ω or greater): 470 Ω
OUTPUT LEVEL (maximum, 20 Hz to 20 kHz): 7 VRMS
FREQUENCY RESPONSE: 20 Hz to 20 kHz \pm 1 dB
EQUIVALENT INPUT NOISE (unweighted, 20 kHz bandwidth, referenced to 1 V): -85 dBV
TOTAL HARMONIC DISTORTION: 0.1% typical, main signal channel
I.M. DISTORTION (SMPTE): 0.15%, main signal channel
POWER LINE REQUIREMENT: 117 VAC, 50 to 60 Hz (Consult Factory for Non-U.S. Line Voltages)
POWER LINE CONSUMPTION: 10 W
DIMENSIONS: 8 $\frac{3}{4}$ " H x 7 $\frac{5}{16}$ " W x 10 $\frac{3}{8}$ " D
9.5 cm x 18.8 cm x 26.3 cm
SHIPPING WEIGHT: 5 lbs. / 2.26 kg



20/20 COMPUTERIZED EQUALIZER/ ANALYZER.

The dbx 20/20 is the world's first automatic equalizing system.

It combines a microprocessor-controlled 10-band graphic equalizer, real-time analyzer, pink noise generator, sound pressure level meter and includes a calibrated microphone.

Unlike other equalizers, the 20/20 automatically adjusts for the effects of furniture, drapes, and other acoustical factors in your room. The result is highly accurate tonal balance, realistic sound, and sharp definition of every instrument.

You simply place the microphone at the desired listening position and let the computer find the precise equalization curve within 15 seconds.

And because the 20/20 has ten memory locations, you can equalize each of your favorite listening positions, then store them for recalling later at the touch of a button.

The 20/20 will even average several listening positions automatically for the best frequency response over a wide listening area.

Some of the advanced features of the 20/20 include LED readouts on all ten bands, precision switches instead of the traditional slide controls for manual adjustment, and a high-frequency rolloff curve (HFR) that automatically simulates the frequency response of a music hall.

The dbx 20/20 is the state-of-the-art in equalizers, and a must for anyone who is truly serious about high fidelity.

SPECIFICATIONS

EQUALIZER

NUMBER OF BANDS: 10
BANDWIDTH: Octave
FILTER TYPE: Fixed frequency, two pole, symmetrical "peaker-dipper", digitally controlled
CENTER FREQUENCIES: 31.5, 63, 125, 250, 500, 1 k, 2 k, 4 k, 8 k, 16 k Hz
EQUALIZATION RANGE: +14, -15dB, one band at maximum or minimum, all others centered
RESOLUTION OF SETTINGS: 1 dB
ACCURACY OF EQUALIZATION: ± 1 dB @ full boost or cut, ± 1 dB/step.
MAX INPUT LEVEL: +15 dBV
MAX OUTPUT LEVEL: +15 dBV
OUTPUT NOISE: (all filters flat) ≤ -80 dBV "A" weighted
GAIN: 0 dB
INPUT IMPEDANCE: 47 k
OUTPUT IMPEDANCE: 470 Ω
THD: .01% 20-20 kHz

ANALYZER

FILTER TYPE: Fixed frequency, two pole bandpass, $Q=2.5$
DYNAMIC RANGE: 80 dB
READOUT: 30 LED x 10 band display, 1 light per band illuminated. 30 dB range display at any one time
INPUT SOURCES: Line, Mic
PEAK HOLD: Holds the highest peak encountered until manually released

SPL METER

BANDWIDTH: @ 90 dB SPL input, 15 Hz to 20 kHz

DYNAMIC RANGE: 80 dB

DETECTOR TYPE: RMS

PINK NOISE GENERATOR

TYPE: Digital pseudo-random white noise source, with analog filtering for -3 dB/octave rolloff
ACCURACY: Follows -3 dB/octave curve over 20 Hz to 20 kHz within $\pm .5$ dB

MIC

TYPE: Electret condenser, omnidirectional
FREQUENCY RESPONSE: ± 1 dB, 20 Hz-20 kHz measured on an octave band basis (ISO centers), equalized via internal network in analyzer
CABLE LENGTH: 25'

COMPUTER

- computer memory has 10 locations for storage of equalization curves for instant recall.
- any equalization curve shown on the display may be stored.
- storage of a display automatically erases previously memorized information in that location.
- recall of any memorized curve is by pressing the memory location key.
- duration of memory is indefinite (battery back-up when power is off).
- low battery light comes on to warn of impending dead battery.
- set flat instantly returns equalizer to flat (no E.Q.) position. Accuracy of "flat" position is ± 2 dB, 20 Hz to 20 kHz.

GENERAL

DIMENSIONS: 19" W, 5¼" H, 12½" D (48.6 cm x 13.4 cm x 32 cm)

CONNECTORS: RCA type phono connectors

POWER REQUIREMENTS: 117 VAC, 50/60 Hz. Consult factory for operation on other line voltages

INPUTS: Main (from pre-amp tape output)
Tape (from tape recorder output)
Mic

OUTPUTS: Main (to pre-amp tape input)
Tape (to tape recorder input)
Pink Noise

BATTERIES: 2AA size alkaline required, supplied with unit

Specifications subject to change without notice. For full information and specifications write to dbx, Inc.



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