

# 223XL STEREO 2-WAY / MONO 3-WAY CROSSOVER

**dbx**<sup>®</sup>  
PROFESSIONAL PRODUCTS

## VISIONARY DESIGN

Let's take a look at the construction features of the dbx 223XL. As you turn the controls you will notice that these units are extremely well built. The controls exude great precision, and the feel is a solid "click". Also, when you open the box, you won't find the external power supply that accompanies most processors in this price range. That's because we know how difficult external power supplies can be to work with and even though it costs a little more, we put the high quality power supply right in the unit. All the inputs and outputs are balanced XLRs that are screwed directly to the chassis. This connection of the jacks to the chassis insures that even if someone stomps on a cable plugged into the unit, it's not going to tear up the circuit board inside. All dbx crossovers feature Linkwitz-Riley 24dB per octave filters, the professional standard. But then again, what did you expect?

Via a switch on the back panel, you first select whether you're operating your system in stereo 2-way or mono 3-way. Then you also set, on the back panel, whether or not you want to mono sum the LF (subwoofer) out. (Most systems that use a subwoofer are mono subbed to take advantage of amplifier power and because low frequencies are non-directional.) Back panel switches allow you to select the range of the crossover frequencies individually for both channels. The crossover frequency controls have a green LED that indicates when the x10 switch on the back panel is activated (we wouldn't make you check the switch position on the back every time you wonder where it's set). All these switches are on the back panel because it could be disastrous if you were to change them mid-program. On the front panel you'll notice there are LEDs that indicate whether the unit is in mono or stereo mode. Each channel has an input gain control for proper level setting. There's a recessed 40 Hz low cut (HPF) on each channel to remove unwanted low frequencies. Both the low and high outputs on each channel have a gain control ranging from  $-\infty$  to +6 dB to allow muting of individual outputs and for level matching. Also, these outputs each have phase reverse switches that will help get you out of a bind without having to reconfigure your system. These phase reverse switches may be internally reconfigured as mute switches.

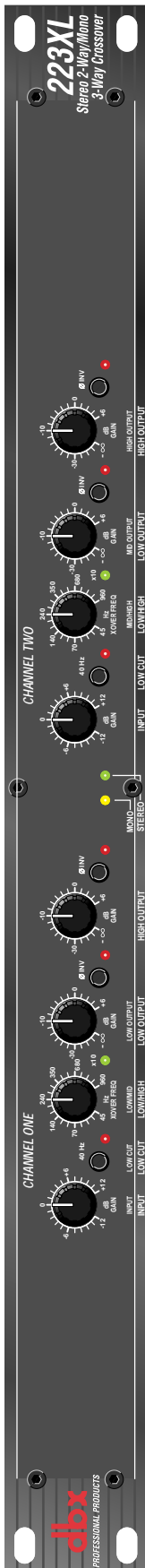
You'll get great performance, all the features you'd expect from a professional product and the knowledge that you're buying a processor from the people that have been producing the worlds finest processors for over 25 years. The technology that made us famous brings you a dbx crossover that has been tested to the highest professional standards at a price that's just too low to admit!

## FEATURES

- XLR balanced ins and outs
- Mode switch for stereo 2-way or mono 3-way operation
- Low frequency summed (subwoofer) output
- x10 range switch on both channels
- 40 Hz high pass (low cut) filter both channels
- Phase reverse switch on all outputs
- Individual level controls on all outputs
- 24dB per octave Linkwitz-Riley filters (the professional standard)
- Stereo/Mono status LEDs indicate the selected mode
- dbx 2 year parts and labor as standard
- CSA NRTL/C approved
- CE compliant

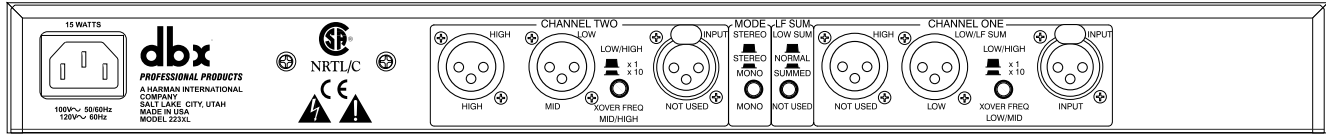
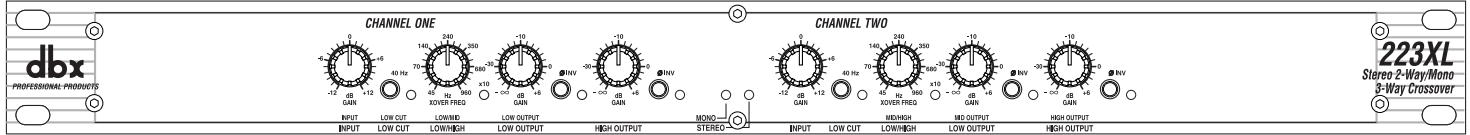
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# 223XL

## STEREO 2-WAY / MONO 3-WAY CROSSOVER



### ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The crossover shall be configurable for stereo 2-way or mono 3-way operation, each stereo channel having input gain and low and high output gain controls, a switchable low-cut filter, a variable crossover frequency control, and low and high output phase invert switches on the front panel. Rear-panel input connectors shall be XLR balanced/unbalanced with input impedance of not less than 50 k $\Omega$  balanced and 25 k $\Omega$  unbalanced and maximum input level of not less than +21 dBu. Rear-panel low and high output connectors shall be XLR impedance-balanced/unbalanced with output impedance of no more than 200  $\Omega$  balanced and 100  $\Omega$  unbalanced and maximum output level of not less than +21 dBu into 2 k $\Omega$  or greater. Input gain controls shall be variable from -12 to +12 dB and output gain controls shall be variable from  $-\infty$  to +6 dB. Each output's phase invert switch shall have an LED to indicate inverted phase and shall be internally configurable to change the invert function to a mute function. Low-cut filters shall be 12 dB/octave Butterworth type at 40 Hz, and shall be activated by recessed switches with LEDs indicating active status. Low/high frequency controls shall be variable from 45 to 960 Hz and shall be scaleable to 450 Hz to 9.6 kHz via rear-panel "x10" frequency range switches with front-panel LEDs indicating "x10" status. A rear-panel LF sum switch shall sum the pre-output gain signals of both channels' low-frequency outputs and route the combined signal to channel 1's low output and shall disable channel 2's low phase invert LED.

A rear-panel mode switch shall select between stereo and mono operation with front-panel LEDs indicating the selected mode. Mono operation shall convert channel 1's and channel 2's low/high crossover frequency controls to low/mid and mid/high controls respectively, and shall convert channel 1's low output and channel 2's low and high outputs to low, mid, and high outputs respectively, while channel 1's input, input gain, and low-cut filter shall remain active. All other functions shall be inactive and the mono mode shall disable LEDs for all inactive functions.

Frequency response shall be 3 Hz to 90 kHz or greater and signal-to-noise ratio shall be not less than 92 dB on any output in any mode. THD+Noise shall be less than 0.004% at +4 dBu and less than 0.04% at +20 dBu from 20 Hz to 20 kHz and interchannel crosstalk shall be no greater than -80 dB from 20 Hz to 20 kHz. The unit shall operate from a power source of 100VAC 50/60 Hz to 120 VAC 60 Hz for a domestic unit and 230 VAC 50 Hz for a european unit via a detachable IEC type AC cable and shall consume no more than 15 W. The size of the 1U high, full rack width unit shall be 1.75" H X 19" W X 6.9" D (4.4cm x 48.3cm x 17.5cm) with a net weight of 3.7 lbs. (1.7 kg) and a shipping weight of 5.4 lbs. (2.5 kg). The crossover shall be a dbx 223XL.

### SPECIFICATIONS

|                               |  |   |  |
|-------------------------------|--|---|--|
| <b>INPUT:</b>                 |  | <b>FUNCTION SWITCHES:</b>               |  |
| Connectors:                   | XLR  | Front Panel:                            |  |
| Type:                         | Electronically balanced/unbalanced, RF filtered            | Low Cut:                                | Activates 40 Hz Butterworth, 12 dB/octave high-pass filter, one switch per channel.  |
| Impedance:                    | Balanced > 50 k $\Omega$ , unbalanced > 25 k $\Omega$      | Phase Invert:                           | Inverts the phase at the output, one switch per output.  |
| Max Input Level:              | > +21 dBu balanced or unbalanced                           | Rear Panel:                             |  |
| CMRR:                         | > 40 dB, typically > 50 dB at 1 kHz                        | x1 / x10:                               | Multiplies the low-high (mono: low/mid and high/mid) crossover frequency range of the front-panel markings by a factor of 1 or 10, one switch per channel.                         |
| <b>OUTPUT:</b>                |  | Mode:                                   | Selects stereo 2-way or mono 3-way operation and disables all LEDs for controls that are non-functional in the selected mode.  |
| Connectors:                   | XLR  | LF Sum:                                 | Selects normal (stereo) or mono-summed low frequency operation and disables Ch 2's low output phase invert LED to indicate that this output is not operational in the LF sum mode. |
| Type:                         | Impedance-balanced/unbalanced, RF filtered                 | <b>INDICATORS:</b>                      |  |
| Impedance:                    | Balanced 200 $\Omega$ , unbalanced 100 $\Omega$            | Stereo Operation:                       | Green LED  |
| Max Output Level:             | > +21 dBu balanced/unbalanced into 2 k $\Omega$ or greater | Mono Operation:                         | Yellow LED   |
| <b>PERFORMANCE:</b>           |  | Low Cut:                                | Red LED per channel  |
| Bandwidth:                    | 20 Hz to 20 kHz, +0/-0.5 dB                                | x10:                                    | Green LED per channel  |
| Frequency Response:           | < 3 Hz to > 90 kHz, +0/-3 dB                               | Phase Invert:                           | Red LED per output (2 per channel)   |
| Signal-to-Noise:              | Ref: +4 dBu, 22 kHz measurement bandwidth                  | <b>POWER SUPPLY:</b>                    |  |
|                               | Stereo Mode: Mono Mode:                                    | Operating Voltage:                      | 100 VAC 50/60 Hz; 120 VAC 60 Hz  |
|                               | > 94 dB > 94 dB  | Power Consumption:                      | 230 VAC 50 Hz  |
|                               | Mid Output: > 93 dB  | Mains Connection:                       | 15 Watts   |
|                               | High Output: > 92 dB                                       |   | IEC 320 receptacle   |
|                               | Dynamic Range: > 114 dB, unweighted, any output            | <b>PHYSICAL:</b>                        |  |
|                               | THD+Noise: < 0.004% at +4 dBu, 1 kHz                       | Dimensions:                             | 1.75" H X 19" W X 6.9" D (4.4cm x 48.3cm x 17.5cm)   |
|                               | < 0.04% at +20 dBu, 1 kHz                                  | Weight:                                 | 3.7 lbs. (1.7 kg)  |
| Interchannel Crosstalk:       | < -80 dB, 20 Hz to 20 kHz                                  | Shipping Weight:                        | 5.4 lbs. (2.5 kg)  |
| <b>CROSSOVER FREQUENCIES:</b> |  | Note: Specifications subject to change. |  |
| Stereo Mode:                  |  |   |  |
| Low/High:                     | 45 to 960 Hz or 450 Hz to 9.6 kHz (x10 setting)            |   |  |
| Mono Mode:                    |  |   |  |
| Low/Mid:                      | 45 to 960 Hz or 450 Hz to 9.6 kHz (x10 setting)            |   |  |
| Mid/High:                     | 45 to 960 Hz or 450 Hz to 9.6 kHz (x10 setting)            |   |  |
| Filter Type:                  | Linkwitz-Riley, 24 dB/octave, state-variable               |   |  |